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Political Violence and Mental Health in Nepal:
War in Context, Structural Violence, and the Erasure of History

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An abstract of
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Abstract

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By Brandon A. Kohrt

The experience of war can have immediate and long-term consequences for the mental health of women, men, and children. Exposure to war and other forms of political violence typically occur against a backdrop of structural violence, which marginalizes populations and is a risk factor for poor mental health. The goal in this dissertation is to examine the effects of the People's War in Nepal on mental health taking into account the history of structural violence threats to mental health including caste-based and gender discrimination, poverty, and the exploitation and abuse of children. Methods drawn from anthropology, epidemiology, genetics, and endocrinology were employed to study two war-affected populations: civilian adults in a rural community and child soldiers. A three-component conceptual framework was developed to assess and model mental health: (1) *War in context* evaluates risk factors according to prewar, wartime, and postwar exposures; (2) *Vulnerability* refers to person-culture and gene-environment interactions which increase the risk of mental health problems; (3) *Heterogeneity of outcomes* demonstrates the need to examine a range of psychiatric and local categories of suffering as well as impaired functioning. Ethnopsychology-based models are especially important to address stigma in psychosocial interventions for war-affected children and adults. This conceptual framework fosters research and intervention that addresses war in the broader context of experience and prevents the erasure of history risked when exclusively investigating or treating war-related trauma.

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Acknowledgements

Special thanks to my advisor, Carol Worthman, and committee of Peter Brown, Mel Konner, and Ian Harper for their guidance, support, and instruction. They built the foundation for an intellectual world open to endless possibilities and provided me with the methodological and conceptual tools to transform those possibilities into focused outcomes that may hopefully contribute to improving the mental health of war-affected communities.

For funding support through the many years of research, thanks to the Department of Anthropology, Carol Worthman and the Laboratory for Comparative Human Biology, the laboratories of Elisabeth Binder and Kerry Ressler, Dean Lisa Tedesco and the Graduate School of Arts and Sciences, the Wenner-Gren Foundation, the NIMH National Research Service Award Program, and the IIE Fulbright Program.

Thanks to all of the research participants, their families, and their communities for making this research possible. Thanks to all of the children who participated in the research. I am grateful to Nanda Raj Acharya, Ganesh Rokaya and their families who helped make Jumla a second home. In addition to Nanda Raj Acharya, the other members of the Jumla research team included Renu Shrestha, Krishna Maya Neupane, and Makunda Chapagain.

Everyone at TPO Nepal created a collaborative and inspiring environment to conduct research and transform findings into interventions. Suraj Koirala headed the dedicated and talented research team that included Joseph Adhikhari, Manju Adhikhari, Krishna Karki, Ramesh Karki, Rohit Karki, Deepti Khati, Pitambar Koirala, Sujen Maharjan, Bindu Prasain, Pragya Shrestha, Renu Shrestha, Prami Sigdel, and Reena

Thapa. The staff members at the time of study were great facilitators and thinkers: Nawaraj Upadhaya, Em Perrera, and Ken Woods. My gratitude to Mark Jordans and Wietse Tol for their time, their thoughts, and their friendship. My debt to them cannot be put into words.

My work and life in Nepal have benefitted from intersecting with a diverse group of kind, encouraging, and brilliant people: Ganesh Bhatta and his family, Bharat, Puru, Bhim and the Regmi family, Sushila Bhaju, Geeta Manandhar, Jitman Lama, Dr. Mahendra Nepal, Dr. V.D. Sharma, Dr. Manisha Chapagain, Dr. Surendra Serchan, Dr. Nawa Raj Koirala, Jenny Brav, Sara Shneiderman and Mark Turin, Judith Pettigrew, Amanda Snellinger, Lotje Lapsi van Leeuwen, Tim Holtz, Rick Kunz, Jennifer Baldwin, Nathan Eagle, Mike Cipra, Peter Moran, Mike Gill, and the Fulbright program, and the directors and staff of S.I.T. For a decade of friendship, thanks to Kishor, Shekhar, Tirpod Dipesh, Gwara Dipesh, Helmet, Kabir, and their endless legions of motorcycle friends.

At Emory, my gratitude to Allan Levy, Mary Horton, Chuck Parkos, Kerry Ressler and the MD-PhD Program for supporting a social science dual degree program. The members of Dr. Worthman's Laboratory for Comparative Human Biology have provide invaluable assistance: Linda Cangelose, Karl Fernstrom, Paula Kincheloe, Jennifer Kuzara, Marge Hays, Christine Murphy, and Jomy Roberts. The staff of the Department of Anthropology have helped tremendously, special thanks to Sybil Bridges and Debbie Keyes. In addition to my dissertation committee, thanks for all of the intellectual support to Dan Hruschka, Ryan Brown, Craig Hadley, Matt Dudgeon, Jed Stevens, Erin Finley, Jen Kuzara, Dan Mains, Leandris Liburd, Maurita Poole, Hal Odden, and Daniel Lende.

Lastly, thanks to my family for all that they have done during the dissertation period and even more for all of the years leading up to it: Mom, Dad, Lois, Brook, Mai Thy, Barret, Dianna, Brie, TJ, Mom and Dad Chan, Ken, Elaine, Kathy, and Leah. Thanks to Bob Koenig for working on the film—and even more for the friendship. And, for teaching me to focus on the small revolutions, thanks to Christina Chan.

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Publications and Contributions for Chapters

This dissertation has been written as a series of articles. The publications comprising each chapter are listed below as well as the contributions of co-authors for each publication.

Chapter 2:

Publication: Kohrt, B. A., & Harper, I. (2008). Navigating diagnoses: understanding mind-body relations, mental health, and stigma in Nepal. *Culture, Medicine & Psychiatry*, 32(4), 462-491.

Contributions of co-authors: Both authors contributed equally to the conception, writing, and provision of data for this article.

Chapter 3:

Publication: Tol, W. A., Kohrt, B. A., Jordans, M. J. D., Thapa, S. B., Pettigrew, J., Upadhaya, N., & De Jong, J. T. V. M. (under review). Political Violence and Mental Health: A Systematic Multi-Disciplinary Review of Findings from Nepal. *Social Science & Medicine*.

Contributions of co-authors: This chapter was co-conceived by Tol, Kohrt, and Jordans. The literature search and selection of studies was conducted by Tol and Kohrt. Review of literature was equally divided among authors. Structure of the paper was determined by Tol and Kohrt. Each author contributed sections to the manuscript. Tol drafted the introduction and conclusion with significant revisions from Kohrt.

Chapter 4:

Publication: Kohrt, B. A., Speckman, R. A., Kunz, R. D., Baldwin, J. L., Upadhaya, N., Acharya, N. R., Sharma, V. D., Nepal, M. K., & Worthman, C. M. (2009). Culture in Psychiatric Epidemiology: Using Ethnography and Multiple Mediator Models to Assess the Relationship of Caste with Depression and Anxiety in Nepal. *Annals of Human Biology*, in press.

Contributions of co-authors: The chapter was conceived and written by Kohrt with data collected by Kohrt, Kunz, Baldwin, and Acharya. The conceptual framework was developed by Kohrt, Speckman, and Worthman. Statistical analyses were determined by Speckman and executed by Kohrt. Kunz, Baldwin, Upadhaya, Sharma, Nepal, and Worthman reviewed the manuscript and provided significant revisions.

Chapter 5:

Publication: Not yet submitted for publication. Collaborators: C. Worthman, D. Hruschka, R. Kunz, J. Baldwin, N. Acharya, V. Sharma, M. Nepal.

Contributions of co-authors: The chapter was conceived and written by Kohrt with data collected by Kohrt, Kunz, Baldwin, and Acharya. The conceptual framework was developed by Kohrt, Hruschka, and Worthman. Statistical analyses were determined and executed by Kohrt with supervision from Hruschka and Kohrt.

Chapter 6:

Publication: Not yet submitted for publication. Collaborators: C. Worthman, K. Ressler, E. Binder, K. Mercer.

Contributions of co-authors: The chapter was conceived and written by Kohrt with data collected by Kohrt. The conceptual framework was developed by Kohrt, Worthman, Ressler, and Binder. Statistical analyses were determined and executed by Kohrt with supervision from Worthman, Ressler, and Binder. Salivary cortisol was analyzed in the Laboratory for Comparative Human Biology (Worthman). Genetic analyses were conducted by Mercer with the laboratory support of Ressler and Binder.

Chapter 7:

Publication: Kohrt, B. A., Tol, W. A., Pettigrew, J., & Karki, R. (in press). Children and Revolution: The Mental Health and Psychosocial Wellbeing of Child Soldiers in Nepal's Maoist Army. In M. Singer & G. D. Hodge (Eds.), *The War Machine and Global Health*. Lanham, Maryland: Altamira Press.

Contributions of co-authors: The chapter was conceived by Kohrt, Tol, Pettigrew and Karki based on data collected by Kohrt and Karki. The chapter was written by Kohrt with significant revisions by Tol, Pettigrew, and Karki.

Chapter 8:

Publication: Kohrt, B. A., Jordans, M. J. D., Tol, W. A., Speckman, R. A., Maharjan, S. M., Worthman, C. M., Komproe, I. (2008). Comparison of mental health between former child soldiers and children never conscripted by armed groups in Nepal. *JAMA*, 300(6), 691-702.

Contributions of co-authors: The study was conceived by Kohrt, Jordans, and Tol. The study was conducted by Kohrt and Maharjan. Statistical analyses were conducted by Speckman. The manuscript was drafted by Kohrt, Jordans, and

Speckman with significant revisions from Tol, Maharjan, Worthman, and Komproe.

Chapter 9:

Publication: Kohrt, B. A. (in preparation). Traditional Healing and the Social Fabric: The Role of Psychosocial Interventions for Child Soldiers in Nepal. In A. L. Hinton & D. E. Hinton (Eds.), *Legacies of Violence: Symptom, Memory, and Intervention in the Aftermath of Mass Trauma*. New Brunswick, New Jersey: Rutgers University Press.

Contributions of co-authors: This is a single-authored chapter.

Chapter 10:

Publication: This chapter contains selections and material from two forthcoming publications:

1) Kohrt, B. A., Koenig, R. A., Karki, R., & Koirala, S. (in press). Nepal: Understanding war in the broader context of child psychosocial wellbeing In S. Muntasser, P. Joshi & R. Munoz (Eds.), *Children and War: The Impact of War and Terror on Children and Adolescents' Mental Health*. New York: Springer.

2) Kohrt, B. A. (under review). Stigma and Global Mental Health for Children: Anthropological Perspectives from Nepal--Invited Submission for 'In Context'. *Journal of the American Academy of Child & Adolescent Psychiatry*.

Contributions of co-authors: This is a single authored chapter with selections from the publications mentioned above with the respective co-authors.

CHAPTER 1: INTRODUCTION

War is bad for mental health. As a moral and ideological statement, this appears obvious. Yet, a review of the epidemiological literature on political violence and mental health illustrates that our research-based understanding of the relationship between political violence and mental health is far from clear. Conclusions from political violence and mental health studies are too often rooted in ideology rather than data. The complex nature and high risk environment of war and other forms of political violence contribute to our inability to employ epidemiological study designs used in other public health research. However, the limitation in the type of studies conducted does not mean that the standards applied to interpreting findings from studies of political violence should be any less rigorous than that applied to other fields of research. Without proper study designs, interpretation of findings from epidemiological research in settings of political violence is susceptible to interpretation based on assumptions rather than research. Conducting mental health interventions in post-war settings that are not grounded in well-designed and conducted research poses the risk of misuse of scarce resources or even exacerbating mental health problems.

The goal of this dissertation is to contribute to our understanding of political violence and mental health employing rigorous research approaches from an array of disciplines—with anthropology as the foundation in which other methodologies are grounded—rather than relying only on epidemiological approaches. The research moves beyond standard epidemiological approaches by employing an integrated and multidisciplinary

anthropological framework. An anthropological theoretical and methodological approach addresses shortcomings in the existing literature. This dissertation emphasizes the need to root epidemiological studies and questions in the anthropological lenses of ethnographic observation, local ethnopsychology, and biocultural pathways. Through this integrated approach, the dissertation addresses three themes: *war in context* – the mental health consequences of political violence need to be considered against the broader backdrop of personal and community history, of which war is one of many elements; *structural violence* – while the political nature of war lends itself to investigation through discrete events such as bombings, killings, and torture, the dominant determinant of mental health may be structural violence, which are ongoing processes historically rooted in economic, political, religious and other cultural institutions that differentially enrich or deprive individuals based on their membership in a specific group; and *erasure of history* – the failure to consider war in context and structural violence may ultimately lead to the erasure of history as illustrated by the suggestion that prior to war, mental health problems and other societal ills were rare in most societies.

In this dissertation, I draw upon two main studies to discuss these themes. The first study was a form of accidental anthropology. In 2000, I conducted an epidemiological study of mental health in Jumla, a rural community in northwestern Nepal. Shortly after that study, the discrete events of political violence rose suddenly and rapidly in conjunction with a Maoist revolution known as the People's War. In 2007, after the war ended, I was able to return to this community and re-interview the same individuals. Thus, I was able to compare individuals' mental health status before and after exposure to political

violence. This is one of the first prospective studies of political violence in a low income developing country. Nearly all other studies are conducted only after political violence and have no pre-conflict points of comparison. The second study was an investigation of the mental health of child soldiers. This study was unique in that it compared the mental health of child soldiers with that of civilian children living through the People's War. To date, the majority of studies of child soldiers does not include a comparison group and thus is unable to make claims about the specific exposure to association with armed groups versus general exposure to war. Thus, these two studies contribute in different ways to increasing our understanding of political violence and mental health. The Jumla prospective community research is a study of *war in context across time*, whereas the research with child soldiers is a study of *war in context across exposure*. However, it is not the epidemiological study designs alone which make these studies important contributions. Rather, it is also the anthropological integrative approach that shapes the design and interpretation of these studies.

This introduction is intended to set the stage for understanding these two studies. In this introduction, I first briefly review the epidemiology of war and mental health pointing out the potential pitfall of the erasure of history. This is followed by discussing anthropological contributions to the intersection of political violence and mental health. I then provide an exposition on the country of Nepal with special attention the issue of caste and ethnicity because these social categories reflect the fault lines of structural violence in Nepal; and caste and ethnicity were central themes in the People's War. The political history of Nepal is presented highlighting the origins of the Communist Party of

Nepal (Maoists). After providing this background, I discuss the integrative research approach including the theoretical groundings, study settings, populations, and methods. The final section of the introduction outlines the structure of the dissertation chapters. Ultimately, my goal for this dissertation is to use the example of Nepal and the People's War to help scholars and interventionists think more broadly about how to research mental health in post-conflict settings in hopes that more integrative and rigorous research will contribute to more effective interventions to improve the mental health of women, men, and children in countries plagued with structural and political violence.

Epidemiology and the erasure of history

What is the evidence base for our understanding of political violence and mental health in low and middle income countries? It is actually a rather limited group of studies due to the difficult nature of researching in settings of political violence. The W.H.O. psychiatrist K. Srinivas Murthy recently reviewed the majority of these studies. He concludes,

The exposure of large population groups, mostly having no mental health problems prior to the exposure, and the subsequent development, in a significant proportion of the population, of a variety of psychiatric symptoms and disorders represent both a challenge and an opportunity for psychiatrists. [emphasis added]

(Murthy & Lakshminarayana, 2006)

Murthy, as the quote illustrates, suggests that prior to exposure to political violence, populations have relatively minimal mental health problems and that subsequent to this political violence exposure, mental health problems can be observed in “a significant

portion of the population.” Evan Kanter, in the Levy and Sidel’s volume *War and Public Health*, cites Murthy when he writes, “The prevalence of mental disorders among civilian populations increases during wartime and in postconflict settings.” These are strong—but rather commonsensical—claims made by Murthy and by Kanter referencing Murthy. However, the conclusion Murthy draws is questionable because, in order to claim that political violence increases mental health, one would be required to assess mental health prior to and then after the exposure to war. To evaluate Murthy’s interpretation, I examined the studies in Murthy’s review.

Table 1-1 presents the key findings of fourteen studies of political violence and mental health including the studies in Murthy’s review, as well as a few more recent studies. The table presents major recent conflicts in low and middle income countries, the duration of these conflicts, and the total mortality to date. The table lists the studies conducted based on these conflicts. The study design, sample size, prevalence of mental health problems (PTSD (posttraumatic stress disorder), depression, anxiety, etc.), severity of functional impairment or disability of the population, the association of trauma severity with severity of mental health problems, and the gender ratio of women-to-men with regard to prevalence of mental health problems.

As the table illustrates, all of the studies employ cross-sectional designs and were conducted after a conflict or during ongoing conflicts such as in Afghanistan and Sri Lanka. The only study which employed more than one time point was Lopes Cardozo’s two assessments of Kosovar Albanians, but both of these measures were after the war,

which ended in 1999. Thus, none of the studies support the interpretation that mental health problems were low before war or that they increased during war.

This raises the question of what *do* these studies, taken together, suggest? First, the studies present tremendous heterogeneity in rates of mental health problems. PTSD ranges from as low as 4.6 percent among Burmese refugees in Thailand to as high as 74.3 percent among civilians and internally displaced persons (IDPs) in Uganda. Depression ranges from 5.2 percent among Eritrean refugees in Ethiopia through 67.7 percent among civilians in Afghanistan. Anxiety ranges from 9.6 percent among Eritrean refugees in Ethiopia through 72.2 percent among civilians in Afghanistan.

Although none of the studies have pre-conflict data, the majority of studies do look for an association between the severity of exposure to political violence and the severity of mental health problems as a way to approximate how the political violence may have changed mental health conditions. Eleven suggest an association between PTSD prevalence rates and severity of traumatic exposure, whereas one does not support the association. Six studies suggest an association of political violence exposure with depression prevalence rates, whereas three did not find this association. Six studies suggest an association for anxiety, whereas one did not. With the caveat that these are cross-sectional studies, the findings do support that PTSD and anxiety are more common among individuals with more exposure to traumatic events. However, the studies do not allow the reader to extrapolate this to suggesting a low mental health burden prior to exposure, as there may be confounds of other issues that predispose the individual to both

exposure to political violence and mental health problems, such as poverty, discrimination, and other forms of structural violence, which will be described below. The studies' findings are especially circumspect with relation to the association of depression with political violence traumatic events.

Table 1-1a. Summary of studies of political violence and mental health conducted in low and middle-income countries in Africa

Study	Design	Sample Size	PTSD	Depression	Anxiety	Other outcomes	Function/ Disability	Trauma Association [Odds Ratios]	Gender ratio [F:M]
AFRICA									
Algeria: Population=33 million, Conflict 1992-2002, Mortality=160,000									
de Jong et al. 2001 & 2003	Random community survey	653	37.4%	22.7%	37.2%	Somatoform=8.3% Any=60.5%	Not assessed	PTSD=traumatic events [3.14]; Depression [NS]; Anxiety [2.10]; Any Disorder [1.78]	PTSD [1.36]
Eritrea: Population=4.4 million, Conflict 1998-2000, Mortality=20,000									
de Jong et al. 2001 & 2003	Random community, refugees in Ethiopia	1200	15.8%	5.2%	9.6%	Somatoform=2.7% Any=23.6%	Not assessed	PTSD=traumatic events [4.53]; Depression [6.06]; Anxiety [3.16]; Somatoform [NS]; Any disorder [3.33]	PTSD [NS]
Liberia: Population=3.3 million, Conflict 1989-1997, 2003-2004, Mortality=200,000									
Johnson et al. 2008	Cluster survey, civilians & combatants (33%)	1660	44%	40%	Not Assessed	Not Assessed	Social dysfunction =8%	PTSD=sexual violence & deaths in household; Depression=head injury & sexual violence	PTSD [NS] Depression [1.54]
Rwanda: Population=7.7 million, Conflict 1994, Mortality=800,000									
Pham et al. 2004	Cluster survey	2091	24.8%	Not assessed	Not assessed	Support reconciliation=45-67%; Support trials=42-90%,	Not assessed	PTSD=per traumatic event [1.43]	PTSD [1.43]
Uganda: Population=31 million, Conflict 1987-ongoing, Mortality=10,000 (estimate)									
Vinck et al. 2007	Cluster survey, civilians & IDPs	2585	74.3%	44.5%	Not assessed	PTSD & depression positively correlated with endorsing violence	Not assessed	Abduction, threatened with death or injury more likely to have PTSD and depression	Not Reported

Table 1-1b. Summary of studies of political violence and mental health conducted in low and middle-income countries in Asia

Study	Design	Sample Size	PTSD	Depression	Anxiety	Other outcomes	Function/ Disability	Trauma Association [Odds Ratios]	Gender ratio [F:M]
ASIA									
Afghanistan: Population=29 million, Conflict 1979-ongoing, Mortality=greater than 1 million (estimate)									
Lopes Cardozo et al. 2004 (JAMA)	Cluster survey	799	42.2%	67.7%	72.2%	Not assessed	Social Functioning Scores (46-57)	PTSD [NS]; Depression [NS]; Anxiety [Sig.]; Social Functioning [Sig.]	PTSD [1.50]; Depression [1.24]; Anxiety [1.41]
Scholte et al. 2004	Cluster survey, Eastern Afghanistan	1011	20.4%	38.5%	51.8%	Not assessed	Not assessed	PTSD=Basic needs, Torture, displacement, kidnapping, close to death; Depression & Anxiety=basic needs, murdered family member, interrogation, bombings, kidnapping	PTSD [5.78]; Depression [7.31]; Anxiety [12.79]
Burma: Population=55 million, Conflict 1984-ongoing, Mortality=greater than 1,500 (Karenni only, estimate)									
Lopes Cardozo et al. 2004 (SSM)	Stratified random sample, Karenni refugees in Thailand	495	4.6%	41.8%	40.8%	Not assessed	Social Functioning Score (63.8)	Total trauma significant for PTSD, Depression, & Anxiety; not for Social Functioning	PTSD [2.38]; Depression [1.39]; Anxiety [2.22]
Cambodia: Population=13.8 million, Conflict 1973-1991, Mortality=3 million									
de Jong et al. 2001 & 2003	Random community	610	28.4%	11.5%	40%	Somatoform=1.6% Any=53.4%	Not assessed	PTSD [3.52]; Depression [NS]; Anxiety [NS]; Somatoform [NS]; Any disorder [1.41]	PTSD [1.66]
Palestine/Gaza: Population=1.5 million (Gaza), Conflict=Ongoing, Mortality=greater than 2,000 (Gaza only, estimate)									
de Jong et al. 2001 & 2003	Random community	585	17.8%	9.4%	13.5%	Somatoform=5.3% Any=29.1%	Not assessed	PTSD [10.03]; Depression [4.53]; Anxiety [2.58]; Somatoform [4.07], Any disorder [3.56]	PTSD [0.60]
Sri Lanka: Population=19.7 million, Conflict=Ongoing (1960s-onward), Mortality=50,000									
Somasundaram et al. 2002	Clinic population	Not available	27%	25%	26%	Somatoform=41%	Not assessed	Not reported	Not reported

Table 1-1c. Summary of studies of political violence and mental health conducted in low and middle-income countries in Europe and Central America

Study	Design	Sample Size	PTSD	Depression	Anxiety	Other outcomes	Function/ Disability	Trauma Association [Odds Ratios]	Gender ratio [F:M]
EUROPE									
Bosnia: Population=4 million, Conflict 1992-1995, Mortality=110,000									
Mollica et al. 2001	Random sample, Bosnian refugees in Croatia	534	26.3%	39.1%	Not assessed	Not assessed	25.7%	Not reported	Not reported
Kosovo: Population=2.1 million, Conflict 1998-1999, Mortality=5,700									
Lopes Cardozo et al. 2000 & 2003 (follow-up)	Cluster sample, Kosovar Albanians (follow-up)	1358	17.1% (2000), 25.0% (2003)	Not assessed	Not assessed	Hatred 89% (2000), 69% (2003)	Social function score (25-33)	PTSD=separation, murder of family, traumatic events; Social Functioning =traumatic events	PTSD [1.93]; Social Functioning [NS]
CENTRAL AMERICA									
Guatemala: Population=13 million, Conflict=1960-1996, Mortality=200,000									
Sabin et al. 2003 (JAMA)	Cross-sectional, Refugees in Mexico	170	11.8%	38.8%	54.4%	Not assessed	Not assessed	PTSD=disappearance, close to death, not total traumatic events; Depression=disappearance, total traumatic events; Anxiety=Wounded, witness massacre, not total traumatic events	PTSD [NS]; Depression [3.64]; Anxiety [NS]

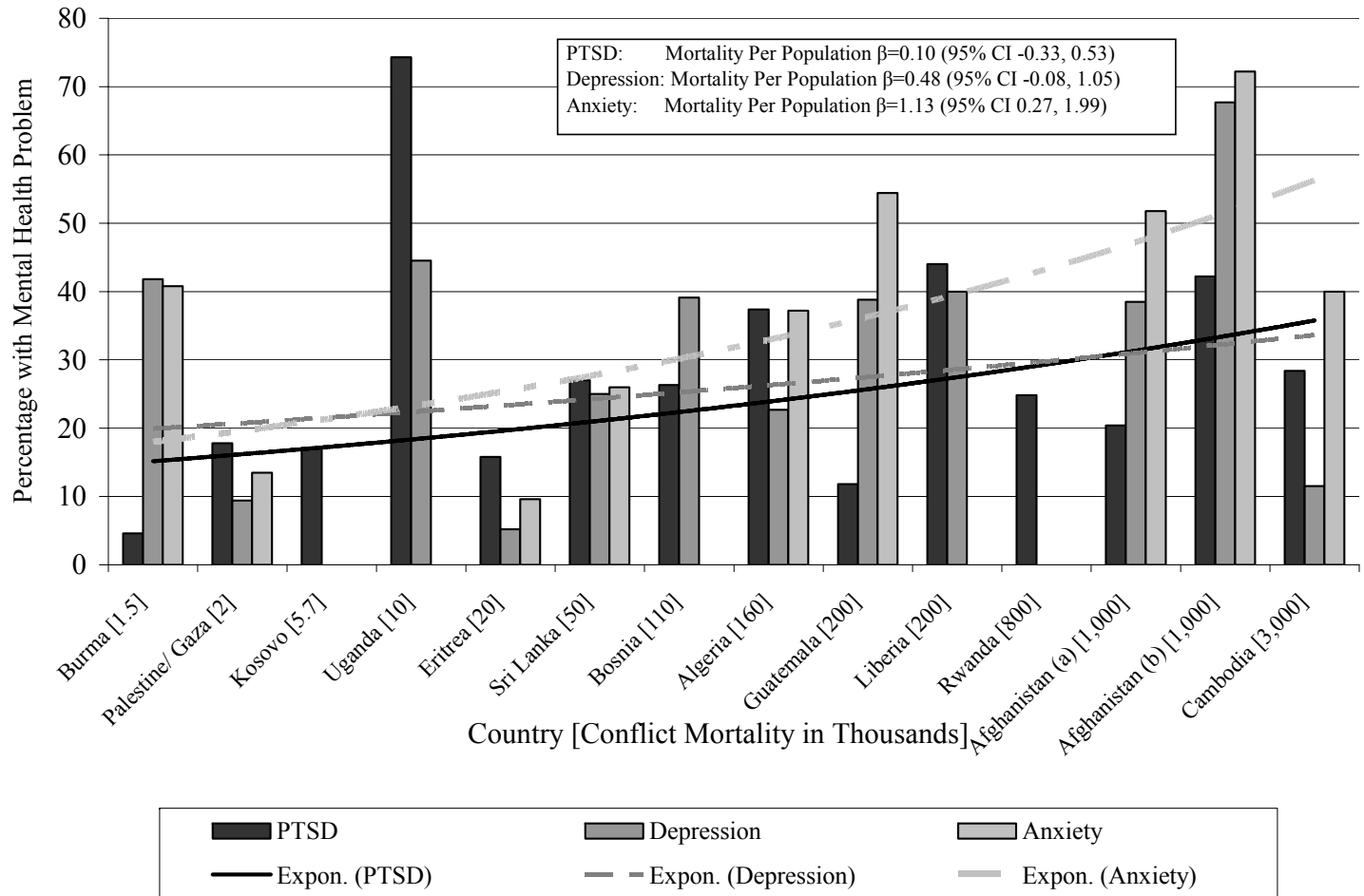


Figure 1-1. Percentage of persons with mental health problems (PTSD, Depression, Anxiety) by country. Countries are ranked along the X-axis by the magnitude of total mortality to date in the conflict (number in brackets represents thousands killed). Exponential trend lines are presented for each mental health outcome. Regression coefficients (β) are provided for regression of mortality per population controlling for years since conflict; note only anxiety is significant.

What about any trends across the studies? Figure 1 displays the association of mortality rates in each conflict with the burden of mental health problems. For PTSD, there is a weak trend toward conflicts with greater mortality rates having more persons endorse PTSD symptoms. The exception to this is Uganda, which has an extremely high PTSD prevalence but relatively low reported mortality. However, the Lord's Resistance Army war in Uganda is ongoing and lacks reliable estimates of the total casualties to date. I assessed a linear regression model with PTSD as the outcome, conflict mortality (in thousands) per population (in millions) as the predictor variable, and the duration of time since the conflict ended as a covariate (see regression coefficients in Figure 1). This model showed no significant association between mortality rates and PTSD, even after removing Uganda as an outlier from the model. In a similar model for depression, there was no significant association of depression prevalence with conflict mortality after controlling for time since the conflict ended. However, there was a significant relationship of anxiety with conflict mortality. The regression model suggests that for every thousand deaths per million persons in the population, the prevalence of anxiety increases by one percent. These are overly simplistic models that exclude major non-fatal traumas such as sexual violence and displacement. However, the findings in Table 1-1 and models in Figure 1-1 give us a more complex view of the association of political violence with mental health than the conclusions drawn by Murthy and Kanter.

Given the existing studies, one is thus left with a need to think more critically and in depth to understand the relationship of political violence with mental health and, then, to move beyond simplistic conclusions drawn more from assumptions than data. This is not

to deny that there is an association, but rather that we require more work to understand this and ultimately consider the best way to intervene and foster good mental health in post-conflict settings. I propose a simple three-part framework introduced above (1-war in context, 2-vulnerability, and 3-heterogeneity of outcomes) for re-examining the epidemiological literature on this subject and then augmenting it with anthropological studies. It is helpful to take stock of some of the anthropological approaches employed to date to understand violence.

Anthropological contributions to the study of war and mental health

Anthropological approaches to violence

Anthropologists have come to view violence and social conflict as cultural universals (Scheper-Hughes & Bourgois, 2004; Sluka, 1992, p. 19). The approach from cultural anthropology is characterized by the view that violence is “a form of institutionalized social interaction that is culturally-defined,” (Sluka, 1992, p. 24). This has ranged from functional approaches of suffering to culturally-shaped, person-centered experiences of violence (Scheper-Hughes & Bourgois, 2004). Prior to World War II, anthropologists traditionally employed structural-functionalist approaches to violence and conflict within a framework of ‘stable’ societies where conflict and warfare are mechanisms of maintaining social order (Hallpike, 1973; Sluka, 1992). After WWII, during the wars of independence from colonial rule, anthropologists, particularly Marxists, viewed conflict and warfare as a process of change overturning existing social order. During the colonial rebellion in Algeria, Fanon and Sartre (Fanon et al., 1963) argued, from a Marxist perspective, that violence is a requisite for both a new society and a new psyche to

address social stratification and colonialism. In contrast, Harris and other cultural materialists looked at warfare through its relationship to energy and resources (Divale & Harris, 1976). For example, Podolefsky (Podolefsky, 1984) identified an association between an upsurge in violence in the New Guinea highlands and changes in production secondary to colonialism's disruption of traditional trading networks (failure to use former trading routes reduced inter-tribal contact and specifically inter-tribal marriage resulting in loss of traditional dispute resolution).

In more recent cultural anthropology endeavors to war, Ferguson and Whitehead (Ferguson & Whitehead, 1992) advocate a historical perspective; for example, they illustrated that tribal groups are not inherently violent, but rather, through disruption of patterned living secondary to colonialism, violence erupts in the "tribal zone." Cohen and, more recently, Rubenstein are strong proponents of the symbolic attributes of conflict (Sluka, 1992). Similarly, Scott (Scott, 1985, 1990) employs a "meaning centered" approach that includes "symbolic... analysis of class relations and conflicts," (Sluka, 1992, p. 26). Nordstrom (Nordstrom, 1997) challenges Hobbsian notions and original structural-functionalist theories to propose that violence is a product specifically of institutions whereas the 'natural' behavior of humans is specifically creative resistance of violence. The most recent work by cultural anthropologists on violence places emphasis individual experiences rather than structural causes (Scheper-Hughes & Bourgois, 2004). Of these analyses, only two approaches touch upon psychological trauma. In *The Wretched of the Earth*, Fanon provides case studies of psychiatric patients and attributes their pathology to aspects of colonialism. However, he does not directly

link this pathology to revolutionary violence. Although some of the more recent person-centered ethnographies clearly illustrate the traumatic reactions to violence (Scheper-Hughes & Bourgois, 2004), there appears to be a hesitance to connect psychological trauma and violence in this literature.

In addition to cultural anthropologists, psychological anthropologists also have tried to identify the origins of violence and warfare. Wallace (Wallace, 1968) proposes that psychopathology, specifically the psychopathology of leaders and state administrators, undergirds violence. However, Wallace cautions that psychopathology is only one element contributing to violence. Other psychological anthropologists rely upon Freud's two psychoanalytic interpretations of aggression to explain violence (Suarez-Orozco & Robben, 2000). According to the "death instinct," individuals destroy others to avoid destroying themselves in the drive to reduce tension. Freud's (Freud, 1939) second perspective views violence as a reactive response to frustration. McCauley (McCauley, 1990) also divides aggression into two psychological processes; *instrumental aggression* that works toward a goal and *impulsive aggression* that produces satisfaction purely through the suffering of a victim, with male status and domination as key resources sought through instrumental aggression. More recently psychological anthropologists have drawn upon cultural constructs and models rather than psychological theory to explain violence. Robarchek (Robarchek, 1990), employing a case study from the Semai in Malaysia, challenges cultural materialism and sociobiology by proposing a motivational model of violence, where violence is rooted in desire and frustration. Vidal and colleagues (Vidal et al., 2003) also discuss how cultural constructs dictate the framing

and resulting execution of or abstaining from violence in South Asia by analyzing the caste differences in interpretation of *ahimsa* “the non-desire-to-cause-harm.” Hinton (Hinton, 2005) takes this approach a step further by framing the Cambodian genocide through Khmer cultural models of honor, sanctioned rage, and disproportionate revenge intersecting with Maoist/Marxist cultural models of class struggle. Highlighting the psychosocial aspects of war, Desjarlais and colleagues challenge the role of *resource control* in modern warfare (Desjarlais et al., 1995). They describe warfare, particularly warfare in low-income countries, as controlling civilians and civilian behavior. The *mind* rather than *territory* is the objective of violence. They highlight the social nature of disintegration and the role social ties in healing rather than focusing on material resources or individual psychopathology. Moreover, Kleinman and Desjarlais (Kleinman & Desjarlais, 1995, p. 183) downplay mental deviation in conflict; instead, they view violence as an issue of power more than pathology.

Anthropological endeavors into biological explanations of warfare and violence are characterized more by refutation than theoretical advancement. Anthropologists generally challenge Lorenz’s (Lorenz, 1966) hydraulic model of aggression that views aggression as a universal phenomenon without cultural variation or a constructive goal toward social order (McCauley, 1990, p. 17; Sluka, 1992). In contrast to Lorenz’s model, Halloway (Halloway, 1968) outlines an evolutionary sequence suggesting that the same neurobiological structure are for engaging in and refraining from violence. Sociobiology has been another endeavor to explain violence. Chagnon’s (Chagnon, 1997) discussion of warfare among the Yanomamö includes punishing infidelity, kidnapping women, and

rewarding successful warriors with additional reproductive opportunities. Chagnon's model exemplifies individual selection benefits at the expense of society because the Yanomamö suffer higher homicide rates (25 percent of adult deaths) than the most violent world regions today (3.4 percent of deaths are attributable to homicide in the Caribbean and Latin America (Reza et al., 2001)). Edgerton (Edgerton, 1992), although he lacks data for individual reproductive success, challenges sociobiological theories of violence by marshalling historical data from archeologist Tainter, Gebusi homicide data from Knauft, and records of the Xhosa population collapse of the mid 1800s. Recently, biological anthropologists have employed life history theory and a person-environment interaction framework to illustrate how aggression and biological traits can co-vary within a population to have important reproductive repercussions (Worthman & Brown, 2005).

One of the central themes across anthropological theories of violence is that violence does not arrive *de novo*. Rather, violence has a range of material, behavioral, and biological roots—with a number of theorists arguing for the interaction of these causal factors. While this dissertation does not attempt to advocate for or against any one of the specific theories, my goal is to focus on the context out of which political violence emerges examining these different possible causal factors. This is important because the factors which contribute political violence may also contribute to poor mental health. Below I describe the history of the People's War in Nepal to highlight some pre-war factors, primarily historical, economic, and other material factors, that may have influenced pre- and post-war mental health.

Background on Nepal and the People's War

Nepal is a landlocked country north of India and south of the Tibetan autonomous region of China, with a population of almost 28 million (see Figure 1-2). Currently, Nepal ranks 138 out of 174 countries on the human development index—near the bottom of the medium human development category (UNDP, 2007). Nepal remains as the country with least human development in South Asia. Thirty-one percent of the population lives below the poverty line. This is a reduction from the level of 42 percent a decade ago (CBS/HMG, 2004). The decrease in poverty is a reflection of the wage increases in agricultural and non-agricultural sectors, increasing urbanization, the rise in the economically active population sector, and large amount of remittances entering the country, predominantly from work in Gulf countries. However, during the same period, the Gini coefficient has increased from 0.34 to 0.41, demonstrating that increasing gap in income equality in the country with the wealthiest individuals controlling a greater percentage of the total economic resources in the country (World Bank, 2007). Nepal now has the highest income gap between rich and poor in Asia. Similarly, the population suffers from strong inequalities by region (e.g. in agricultural production), gender (e.g. in literacy), and urban versus rural areas (e.g. in infant mortality) (Government of Nepal, 2007). It appears possible to obtain Millennium Development Goals in sectors other than primary education and HIV/AIDS by the year 2015 (United Nations, 2005).

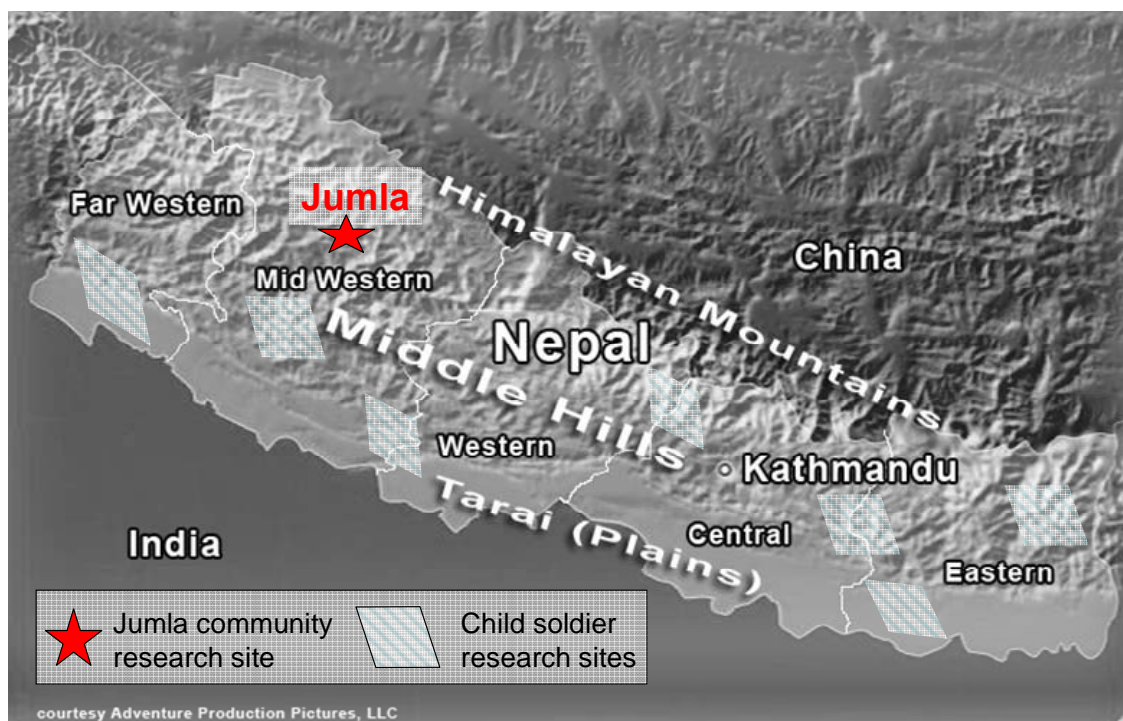


Figure 1-2. Map of Nepal with five development regions (Far Western, Mid Western, Western, Central, and Eastern) and three altitude zones (Himalayan Mountains, middle hills, and Tarai plains). The Jumla prospective community study took place in the mountainous zone of the Mid Western Development Region. The child soldier research took place in across a number of altitude zones and development regions. Supplemental research also was conducted in Kathmandu at Tribhuvan University Teaching Hospital and with various non-governmental organizations.

Caste and ethnicity

Nepal's population comprises more than 60 ethnic and caste groups (Bista & Nepal. Dept. of Publicity., 1967; Whelpton, 2005). Society is divided along multiple ethnic and caste lines. A common categorization identifies four categories of ethnic groups (See Figure 1-3):

(I) *Parbatiya or Caste-Hindus* comprise 40 percent of the population and are ranked according to caste status. This Parbatiya group controls the majority of positions of power including government, military and police, business and economics, and healthcare. The king is from this group. Parbatiya almost exclusively practice Hinduism and speak Nepali, the most common mother tongue and national language.

(II) *Newars* comprise 5.6 percent of the population. They have resided in the Kathmandu valley longer than most Parbatiya residents of the valley. Newars ruled the Kathmandu valley until they were conquered by Prithivi Narayan Shah in 1769. The mother tongue of Newars is the Tibeto-Burman language Newari. Newar religious practices cover a spectrum from Hinduism through Buddhism with most communities practicing a syncretic form of the two religions. It is not uncommon for one member of a family to identify as Buddhist and another identify as Hindu while both participating in the same practices and worshipping the same deities. Newars, after Parbatiya caste Hindus, control a significant percentage of government, economic, and healthcare positions of power.

(III) *Hill 'tribe' groups* comprise 21 percent of the population. This is the only ethnic category that does not, in general, have some form of a caste system. These hill tribe groups most likely inhabited Nepal for the longest period of time. However, they are least represented in government, economics, and healthcare, with the exception of certain groups that have considerable economic power in the country such as Sherpa (Bhotiya) businessmen and women involved in the trekking industry and ex-Gurkha soldiers who are commonly Gurung and Magar.

The mother tongues for these groups are commonly Tibeto-Burman languages. There is considerable religious heterogeneity within these hill tribes covering animistic religious practices, Buddhism, and Hinduism. Magars are often considered the most Hinduized group, whereas Rai and Limbu communities have a strong animist tradition still in practice.

(IV) *Madhesi* are groups inhabiting the southern plains of Nepal known as the Tarai (see Figure 1-1), and they comprise 32 percent of the Nepali population. The Madhesi ethnic category also has a caste hierarchy. Some Madhesi groups may identify more strongly with north Indian populations rather than with the ruling Parbatiya culture. Their mother tongues are Sanskrit derived languages similar to but distinct from Nepali. In these communities Maithali, Bhojpuri, or Tharu are the languages of interaction and business more commonly than Nepali. Madhesi populations include powerful business families, but these groups have typically been underrepresented in politics. There is also a small Muslim population.

It is important to note that the People's War and recent political changes suggest that the hegemony landscape is changing with increasing representation of Dalit, ethnic hill tribes, and Madhesi groups represented in government and other positions of power. In fact, the country's first president (a ceremonial position recently established to replace the king) appointed in 2008 is a Madhesi. However, the highest position of power, the prime minister is held by Puspha Kamal Dahal (aka Maoist Chairman Prachanda) who is a Brahman.

Major Ethnic and Caste Divisions in Nepal

<p>I. Parbatiyas/ Caste-Hindus (Nepali-speaking) [40.3%]</p> <ul style="list-style-type: none"> • High caste [30%] <ul style="list-style-type: none"> • Brahman 13% • Chhetri 17% • Low caste (Dalit) 10% 	<p>II. Newars (Newari-speaking) [5.6%]</p> <ul style="list-style-type: none"> • High caste 5% • Low caste 1% 	<p>III. Hill 'Tribes' (Tibeto-Burman languages) [20.9%]</p> <ul style="list-style-type: none"> • Magars 7% • Tamangs 6% • Rai & Limbu 5% • Gurung 2% • Bhotiya (Tibetan) 1% • Thami 1% 	<p>IV. Madhesi (Indian dialects) [32%]</p> <ul style="list-style-type: none"> • High caste 11% • Low caste 4% • Tarai 'tribes' 9% • Muslim 3%
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Figure 1-3. Major ethnic and caste divisions in Nepal. Adapted from Whelpton 2005, Table I.I, pp. 9-10.

Note: Percentages within box are percentage of total population.

While Nepali society can be divided into these four ethnic categories, the caste system is just as, if not more, important in navigating the social world. The caste system in Nepal is rooted in the India *varna* system which divides society into social rankings based on ancestral lineages (Höfer, 2004). The top of the caste system includes two main 'high caste' groups. The highest being *Brahman* (historically priests) followed by *Chhetri* (historically warriors and rulers). At the bottom of the caste system are 'untouchable' or *Dalit* castes. This caste categorization is most appropriate for the Parbatiya caste Hindu group; however, Newars and Madhesis also have caste hierarchies. Although the country has recently become a secular, federal democratic republic there is a long history of hegemonic dominance by the Hindu high castes (*Brahman* and *Chhetri*) of the other ethnic groups and *Dalit* (Whelpton, 2005). Punishment in Nepal traditionally has been disproportional based on caste status (e.g. execution for low caste accused of adultery contrasted with banishment for high caste), and inter-caste marriage was prohibited

(Kisan, 2005). The caste system also relegates certain groups of individuals to demeaning professions such as cleaning toilets and streets and carrying out funeral rites. In both law and practice, upper castes severely restricted untouchable's feeding customs, type of clothing, places of settlement, wearing of jewelry, owning of household goods, and access to education. The chapter in Section II on *caste and mental health* provides a more detailed analysis of caste groups in rural northwestern community and the association of caste status with mental health.

A term that is used increasingly within Nepal is *Janajati*, which literally means 'people's groups' but is used in the sense of 'ethnic minorities'. This is a very porous category. For some, *Janajati* can mean any group other than Parbatiya. In other context, *Janajati* is a more exclusive category referring to hill tribes; in these cases, *Janajati* tends to refer to Tibeto-Burman speaking Buddhist and animist groups. *Janajati* has also been applied to non-caste groups such as the hill tribes and Tarai tribes such as the Tharu.

Political history

The political history of Nepal, since its inception as nation state over two hundred years ago, has been far from peaceful. Organized violence has a longer history in Nepal than the Western imaginations of Nepal as *Shangri-La* (Gellner, 2003; Metz, 2003).

Historically, Nepal had been a succession of independent kingdoms. In 1769, Nepal was unified into a single country through violent subjugation by Prithvi Narayan Shah, who spread the caste system throughout the country (Kisan, 2005). The country was ruled as a feudal monarchy by the descendants of Prithvi Narayan Shah and later by hereditary

prime ministers from the Rana family (see Table 1-2). During this period known as the Rana regime, there is estimated to have been numerous rebellions against the autocratic rule; however, it is suspected that little of this revolting violence was documented (Karki & Seddon, 2003).

It was not until the 1950s that a democratic movement born out of the Indian independence movement was able to establish multiparty democracy in Nepal, with the Hindu king still maintaining final say and the ability to dissolve government (Whelpton, 2005). In 1962 King Mahendra reclaimed power, disbanded the democratically elected government, and outlawed political parties. During this period there was also a brief armed uprising in 1971 in the eastern district of Jhapa (Whelpton, 2005). In 1990, the political parties, working as a coalition, held protests throughout the country and were able to force King Birendra to share power with a democratically elected government. However, many felt that the government was too mired in corruption to be concerned with nation building (Whelpton, 2005).

Table 1-2. History of Nepal and People's War

Time Period	Event
2000 B.C.E.	Pastoralist ancestors of Indo-Aryans migrate from regions near Persia through western Nepal into Sindhu valley of modern-day Pakistan subjugating local populations and developing the caste system
200 B.C.E. – 879	<i>Licchavi age</i> -- Indo-Aryans migrate from Sindhu valley and modern-day northern India into Kathmandu valley bringing with them the Hindu caste system
1000	Beginning of Muslim invasions of northern India. Hindu groups flee north spreading throughout Nepal establishing separate kingdoms
1769	Prithvi Narayan Shah unites kingdoms to form modern day Nepal; he establishes hereditary Hindu monarchy of Shah dynasty, which is soon accompanied by hereditary Rana prime minister rule
1854	Prime Minister Jang Bahadur Rana's government creates <i>Muluki Ain</i> with the Hindu caste system becoming the civil code throughout Nepal
1949	Communist Party of Nepal is formed in India
1950	Multi-party democracy is established in Nepal
1962	King Mahendra reclaims power and outlaws political parties; political parties go underground often mobilizing through student organizations
1960s— 1970s	Communist Party of Nepal splits numerous times
1990	Multi-party democracy is established again, this time through the People's Movement; caste-based discrimination is banned in secular settings
1990	Various communist factions form Communist Party of Nepal (Unity Center)
1995	Communist Party of Nepal (Maoists) [CPN (M)] splits off from Communist Party of Nepal (Unity Center); Pushpa Kamal Dahal (aka Prachanda) is Chairman of the CPN (Maoists)

1996	CPN (M) issues 40-point demand to His Majesty's Government of Nepal; when the demand is not addressed, the People's Liberation Army (PLA) under the leadership of Chairman Prachanda begins the People's War
1996—2001	Violence is generally limited to PLA attacks on police posts; Royal Nepal Army (RNA) is not involved in conflict
2001	January -- The government forms the Armed Police Force (APF) to fight the PLA; June -- <i>Royal Massacre</i> : the majority of royal family is killed, Gyanendra becomes king after the massacre; July – The government and Maoists declare ceasefire for the first time. August – The first round of peace talks start; November – Peace talks collapse as the Maoists leave negotiations and carry out simultaneous attacks on police and army posts in 42 districts. The government responds by declaring a nationwide state of emergency and deploys the RNA against the PLA.
2002	His Majesty's Government (HMG) of Nepal institutes Terrorist and Disruptive Activities Control and Punishment Act (TADA) restricting civil liberties throughout the country, followed by massive disappearances throughout the country and widespread use of torture by government security forces; The United States Congress approves US\$12 million to train RNA officers and supply 5,000 M-16 rifles.
2005	February -- King Gyanendra dissolves parliament and enforces curbs on independent media. Scores of senior political leaders, journalists, trade unionists, human rights activists and civil society leaders arrested in the following days. Government cuts telephone and internet connections; September -- The CPN (Maoists) declares a three-month unilateral ceasefire in an attempt to forge ties with opposition political parties; November -- After negotiations, the Maoist rebels agree to work with opposition politicians as a common front against King Gyanendra's direct rule. 12-point agreement signed between the seven-party alliance and CPN (Maoists) in New Delhi.
2006	April -- Seven political parties form alliance and join CPN (Maoists) in non-violent protest against King Gyanendra; King retaliates with force using armed police against citizenry; after three weeks Gyanendra agrees to reinstate government; Girija Prasad

Koirala sworn in as prime minister, and he invites Maoists for talks; June – Chairman Prachanda arrives in Kathmandu and starts talks with Prime Minister Koirala and leaders of seven parties. The Seven Party Alliance and the Maoists sign an 8-point agreement; Chairman Prachanda makes public his first appearance after a decade in hiding; July -- Government and the CPN (Maoists) invite the United Nations for management of arms and troops; November --Top leaders of the Seven Party Alliance and Chairman Prachanda sign a landmark deal on arms management and political issues like constituent assembly, interim government and interim parliament; Prime Minister Koirala on behalf of the Seven-Party Alliance government and Chairman Prachanda sign peace accords ending the decade-long People's War.

2008 Interim government agrees to form republic and remove position of Hindu monarch; elections are held with CPN (M) winning greatest number of seats (approximately one-third); Chairman Prachanda becomes first prime minister of the republic of Nepal

Against the backdrop of the autocratic Rana regime, the Communist Party of Nepal (CPN) was founded in Kolkata, India in 1949. Reflecting splits in the Communist Party of India (Thapa & Sijapati, 2004), the 1960s and 70s saw multiple factions emerging in the CPN. The 1970s and 1980s saw the various communist factions fighting for a multi-party democracy to achieve a new people's democracy, which formed in 1990. There were various splits and reunions within the CPN following 1990 democracy as well. In 1995, one of the CPN factions identified itself as Maoist, CPN (M).

The CPN (M) was among the groups most critical of the new democracy that followed after 1990. They demanded a republic and end to the monarchy; they wanted more inclusion of women, ethnic minorities, and low caste Hindus in the government; also they

wanted to stop what they saw as the prostitution of Nepal's natural resources and human capital to India (Thapa, 2003). One of their major demands was eliminating foreign aid in Nepal, which they viewed as a combination of ineptitude on the part of donors such as the United States and elite capture of the monies from abroad (Bhattarai et al., 2005; Fujikura, 2003; Thapa, 2003). These objectives of the Maoists were the basis for the 40 point demands issued to His Majesty's Government in February of 1996.

The People's War

On February 13, 1996, after the 40 point demand was ignored by His Majesty's Government, the CPN(M) attacked police posts and a state-owned agricultural development bank thus starting the "People's War". Initially, the People's War led by Chairman Prachanda, Supreme Commander of the CPN (M), was limited to minor attacks on police posts in the Midwestern Development Region. Then a soft-drink bottling factory owned by a multi-national company was attacked and a portion of the building torched in Kathmandu. A liquor factory was blown up in Gorkha district and the office of the Small Farmer's Development Programme of the state-owned Agricultural Development Bank attacked. A landlord's house was raided at night; cash and other properties worth 1.3 million rupees seized, and loan documents worth several million rupees reportedly destroyed. However, no attacks were made on the Royal Nepal Army, and King Birendra did not use the RNA against the Maoists (Mehta, 2005; Ogura, 2004).

The violence continued to be isolated until 2001, when several factors converged to change drastically the situation. In June of 2001, the Royal Massacre occurred. The

public story was that the crown prince had killed his father, King Birendra, and the majority of the royal family before killing himself. The conspiracy theory in the bazaars and tea shops was that Gyanendra, King Birendra's younger brother, had orchestrated the massacre with the cooperation of the Royal Nepal Army (Gregson, 2002; Thapa, 2007). Gyanendra was in Pokhara at the time of the massacre, and thus his life was spared. Gyanendra's son, future Crown Prince Paras, was at the palace during the massacre but was one of the few to survive miraculously. The other major change affecting the People's War was the U.S.-led Global War on Terror beginning in late 2001 (Bhattarai et al., 2005; International Commission of Jurists, 2009; Mehta, 2005) (Roth, 2005). The two factors are believed to be associated with increased violence used by His Majesty's Government against both Maoists and civilians starting in late 2001, which was when the Royal Nepal Army was first involved in the conflict.

In November 2001, fighting began between the Royal Nepal Army and the Maoists. The RNA was supported by U.S. funds in the War on Terror (Amnesty International, 2005; Bhattarai et al., 2005; Mehta, 2005). Tactics such as disappearances, intimidation of health workers, media censorship, and torture rapidly spread throughout Nepal in 2002 under the Terrorist and Disruptive Activities Control and Punishment Act (TADA) (Pettigrew, 2001; Stevenson, 2001). TADA effectively instituted a state of emergency and ended civil liberties. Violence on both sides coevolved during this period with increasing smaller-scale acts of brutality as well as large scale battles (INSEC, 2005). Few sections of the country escaped the spreading violence.

The seizure of power by King Gyanendra, withdrawal of civil liberties, and end to democracy got the attention of the wealthy and powerful in Kathmandu. In 2006, the Maoists aligned with other political parties (the Seven Party Alliance, SPA) and the media in Kathmandu to take control from King Gyanendra. Nearly a month of non-violent protests by the citizens of Nepal—with rather violent responses by the police—eventually led Gyanendra to share power in April 2006. The alliance of the Maoists with the other political parties held together after the April non-violent movement. In November 2006, Prime Minister Koirala on behalf of the SPA government and Prachanda on behalf of the CPN (M) and PLA signed a historic peace agreement that declared an end to the decade long People's War. In total, over 13,000 people were killed during the People's War, with the majority of deaths at the hands of the Royal Nepal Army and the government's police force (Mehta, 2005). In addition to crude mortality rates, Chapter Three "Political Violence and Mental Health: A Systematic Multi-Disciplinary Review of Findings from Nepal" describes the broader impacts of the People's War, specifically decreased access to healthcare, militarization of economic relations and infrastructure development, increased psychological distress, changes in social relations in communities with stronger Maoist presence, and threats to child development.

One of the crucial issues in understanding the People's War is that the origins of the Maoist violence have deep roots in the nation's poverty, unequal division of wealth, ethnic, regional and caste discrimination, disappointment with state governance and violent state responses to the Maoist movement (see (Hutt, 2004; Thapa, 2003; Thapa &

Sijapati, 2004)). With a GDP of \$260 per year, Nepal is one of the poorest countries in the world (World Bank, 2007) and as mentioned above, this poverty, is unequally divided. Thapa with Sijapati (Thapa & Sijapati, 2004) state that the economy of Nepal has favored the urban, the rural rich, and a handful of elites. Moreover, economic and political power is centralized in the capital, with minor representation from rural regions. In addition, Nepal tops the gender inequality index in South Asia, with a higher workload for women, lower literacy, earlier average mortality, and myriad discriminatory laws (Gautam et al., 2001). These gender disparities have fueled the armed conflict, evidenced by an approximate 30 percent of the Maoist political wing comprised of women and 17 percent of the Maoist military comprised of women (Pettigrew & Shneiderman, 2004; Sharma & Prasain, 2004). Ethnic inequality, institutionalized through the Hindu caste system, is visible in the lack of representation of ethnic diversity in government positions; in 2001, 98% of people passing civil service examination were from Hindu hill groups, even though they constitute 29 % of the population (Thapa & Sijapati, 2004). After fleeting political optimism following the 1990 transition to multi-party democracy, the public has blamed the government for lack of economic growth, political instability, and institutionalized corruption (Gellner, 2003; Karki & Seddon, 2003).

In addition, widespread human rights abuses and strong repression of dissent by the state, and specific police operations have been common prior to the People's War and played a role in garnering support for the Maoist movement (Shneiderman, 2004; Thapa, 2003). For example, seventy percent of prisoners reported torture in a survey between 1994 and 1997 (Van Ommeren et al., 2002). Torture consisted of severe beating during police

custody or by the army, together with death threats, humiliation, isolation from family members and deprivation of basic needs. Specific methods included prolonged beating on the soles of the foot, severe pressure on limbs with bamboo sticks, suspension, fingernail extraction, exposure to painful substances (stinging nettles, chili peppers) in orifices/open wounds, torture with electronic wires, and sexual violence. Stevenson (Stevenson, 2001) notes that the use of torture probably intensified within the context of the Maoist insurgency. Lykke & Timilsena (Lykke & Timilsena, 2002) found evidence of torture in the mid-western Nepal, mostly in police custody.

Given all of these social problems, structural violence, and other forms of violence that pre-dated the People's War, it would be hard to believe that the population "mostly [had] no mental health problems prior to exposure" of the People's War as Murthy suggests about other conflict settings (Murthy & Lakshminarayana, 2006). Rather, it is possible that there was a significant burden of mental health problems prior to the People's War, and it raises questions as to what degree the People's War changed or increased the burden of mental health problems. Moreover, did the risk factors that contributed to poor mental health prior to the war, continue to play a dominant role after the war? These are the questions which this dissertation addresses.

Integrative research approach

Anthropological theoretical approaches

To address the issue of war in context, an integrative research approach was employed. The dissertation is theoretically grounded in four areas of anthropology. This research

employs medical anthropology as a discipline which describes the relationship between culture and health. This dissertation describes how Nepali cultures conceptualize mental health and how Nepali cultures influence the impact of political violence on mental health. Within medical anthropology, the work draws specifically upon critical medical anthropology (CMA). CMA focuses on the social determinants of health and, moreover, is concerned with change and improving the wellbeing of those most disempowered by macro-social political and economic forces (Baer, 1997; Singer, 1989, 1995). This dissertation primarily is concerned with the social determinants of mental health. Indeed, the goal is not to exclusively attend to political violence but to think more broadly about the range of social determinants and consider war in the context of these other factors. Furthermore, the intent of this research is to build a foundation of knowledge to improve mental healthcare in Nepal and other post-conflict settings. While Chapter “Children and Revolution” in Section III is the only chapter that explicitly draws upon the CMA framework of macro-social through micro-social determinants of wellbeing of child soldiers, the CMA approach is also evident in the overall conceptualization of the dissertation in terms of how political violence and mental health are researched and understood.

The next anthropological discipline employed was psychological anthropology, which as applied here has significant overlap with medical anthropology. Psychological anthropology addresses the construction of self, emotions, and behavior (Bock, 1999; Levine, 1999; Shweder, 1999; White, 1992; Worthman, 1992). For this dissertation, psychological anthropology was employed to elucidate ethnopsychological models in

Nepal. These models not only provided a framework for understanding experience, emotions, and behavior, they were additionally more important to highlight what types of conversations and topics were stigmatized versus socially acceptable. These ethnopsychological models were thus crucial for three reasons. First, the models were used to design the research and recruitment in a manner that did not stigmatize participants. By understanding ethnopsychological models, it was possible to conduct the research in an ethical manner with reduced risk of stigma. Second, the models allowed the research team to ground both qualitative discussions and quantitative surveys in local understandings of experience that ultimately provided a more complete picture of how political violence affects mental health. The third benefit of employing ethnopsychological models was to explore how the concept of posttraumatic stress disorder does or does not overlap with local categories of suffering in a way that moves beyond simple catalogues of idioms of distress. While the dissertation as a whole is rooted in this ethnopsychological understanding, Chapter Two “Navigating Diagnoses” specifically explores ethnopsychology of mental health and its relation to stigma in Nepal.

The other anthropological discipline upon which this dissertation is based was biocultural anthropology. Biocultural anthropology was ideal for this research because it emphasizes an integrative research framework both in theoretical models and methodological approaches. Thus, biocultural thinking was used to encapsulate and synthesize the other approaches employed in this research. Biocultural anthropology emphasizes the inseparability of culture and biology in human experience (Hinton, 1999; Hruschka et al.,

2005; Worthman, 1992; Worthman & Brown, 2005; Worthman & Kohrt, 2005). Culture is both shaped by and shapes biology. Human biology, particularly the neurological and endocrine systems, is the substrate upon which experience is embodied. Moreover, culture influences how these biological systems develop. As with the other anthropological disciplines, biocultural anthropology, in terms of a focus on specific biological markers, is considered specifically in one chapter: Chapter Six in Section II discusses genetic polymorphisms and hypothalamic pituitary adrenal functioning in relation to early exposure to trauma and abuse. However, because biocultural anthropology is a way of understanding and not simply a combination of methods, the biocultural approach permeates the research and the conclusions drawn.

Study sites

All research took place in Nepal (see Figure 1-2). The research included one primary field site, Jumla, in the mountainous zone of the Mid Western Development Region of Nepal. Jumla represents a rural region with poor health, educational, and economic status even in comparison with the overall low status of the country as a whole on these indicators. Jumla was chosen as a study site for this dissertation research conducted in 2007 because I had baseline data on mental health from a study of somatization and depression conducted in 1999-2000 (Kohrt et al., 2005).

I originally chose to work with this community in 1999 because of its impoverished status. Jumla has a population of 69,226 people (HMG-CBS, 2003). The majority (80.1%) of this polyethnic and multi-caste population speak Nepali, and the average

household size is 5.64 persons (HMG-CBS, 2003). Livelihood is primarily agriculture and animal husbandry with limited commerce in a small bazaar area (Bishop, 1990). Entry in and out of Jumla is only possible by foot or plane. Although there has been ongoing construction of a road to connect Jumla with the rest of the country, as of the end of 2008 it is not yet functional. The development region which contains Jumla has the second lowest school enrollment rate in Nepal and the highest gender inequality in students reaching tenth grade, only 21% are girls, compared to 79% boys (Bhatta, 2004). However, Jumla is one of the four districts in the country where girls outperform boys in the School Leaving Certificate at the end of 10th grade with a 40% pass rate for girls compared with 28% for boys (Bhatta, 2004). Jumla has nine health posts, 20 sub-health posts and one hospital nominally having three doctors, of whom only one typically resides in Jumla; however, the majority of these are not functional (United Nations, 2008). The residents of Jumla district seek health care primarily from shamanic traditional healers. The major sources of mortality in the region are respiratory-related diseases, and diarrheal diseases (Health Services Partnership, 1998). The incidence of childhood diarrhea is 146 per 1000 children under five years (United Nations, 2008). Jumla has the second highest infant mortality rate of any district in the country (United Nations, 1998).

In addition to the impoverished conditions, I also chose Jumla because of the ethnic and caste composition. As described above, Nepali society can be categorized into four groups: Parbatiya/Caste-Hindus (40% of the population), Newars (5.6%), Tibeto-Burman language speaking hill 'tribes' (21%), and Madhesi (32%). Anthropological scholarship

has a strong tradition of working with the Tibeto-Burman language speaking hill tribes: Desjarlais with Yolmo (Desjarlais, 1992, 2003), Nicoletti with Rai (Nicoletti, 2006), De Sales with Magar (De Sales, 2006), Pettigrew with Gurung (Tamu-wa) (Pettigrew, 2004), McHugh with Gurung (McHugh, 2001), Jones and Jones with Limbu groups (Jones & Jones, 1976), and Holmberg and March with Tamang (Holmberg, 1989; March, 2002). However, Holmberg (Holmberg, 2006) recently pointed out that given the extensive bibliography of anthropological research in Nepal, there has been surprisingly little work done with the dominant ethnic group: caste Hindus, who determine much of the political, economic flow of the country, including dominating the healthcare system. The exceptions have been Bennett's work with high caste Hindu women (Bennett, 1983), Cameron's work with low caste (Cameron, 1998), and Caplan's work looking at the intersection of high and low caste in a Hindu village in Western Nepal (Caplan, 1972). Nepali anthropologist-sociologists Sharma and Bista have also devoted attention to the study of caste Hindus (Bista, 1991; Sharma, 2006). Because of my interest in the healthcare system in Nepal, I thought it would be helpful to work with a Parbatiya/caste Hindu community were I could learn about cultural background of those who have come to dominate the healthcare system. Thus, I chose to work in Jumla, which is 90 percent Nepali-speaking Parbatiya/caste Hindus. In Jumla, I could study the linguistics, ethnopsychological, and stigma and presentation of mental illness. The chapters in Section II provide a more detailed description of the Jumla field site, the caste-based social structure, and the impact of the People's War on the residents of Jumla.

For the child soldier study described in Section III, research was conducted throughout Nepal (see Figure 1-2). A number of sites that represented a cross-section of the altitude zones and development regions were selected. These areas were picked based on estimates of large numbers of children conscripted from these regions. Because of security reasons, I do not identify the specific communities in which the research was conducted.

In addition, research was conducted in Kathmandu. The primary research sites in Kathmandu were Tribhuvan University Teaching Hospital and a number of nongovernmental organizations (NGOs). Interviews were also conducted with displaced persons, government leaders, and Maoists in Kathmandu.

Methods and populations

With this range of theoretical approaches and diversity of studies that comprise this dissertation it is not surprising that a variety of methods across disciplines were employed. The dissertation includes two primary populations. In Jumla, a prospective epidemiological study was conducted with a randomly sampled cohort of 300 people who participated in 2000 and again in 2007. In addition, in 2007, an additional 450 persons were recruited using a random sample design. All participants in the Jumla study were 18 years of age or older. Saliva was collected from 705 participants for genetic analysis. A salivary cortisol protocol which comprised three collections per day over three days was employed with 119 participants. Section II provides more detailed descriptions of the sampling approaches and research methods employed in the prospective Jumla study.

For the child soldier study, 142 child soldiers and 142 matched civilian children participated in the epidemiological study. In addition the qualitative section included 152 adult and child key informant interviews and 25 focus group discussions. Case studies were collected for nine children. A participatory approach, Child Led Indicators, was employed with four groups of approximately 10 children each. Section III provides more detailed descriptions of the sampling approaches and research methods employed in the child soldier research.

In addition to the epidemiological and specific qualitative techniques, *participant observation* was a staple method particularly for the experiences in the Jumla field site. Participant observation included taking part in daily activities, a range of festivals including the major Jumla Jaatra festival that lasts for one week in August, shamanic traditional healing ceremonies, and migration activities taking livestock to highland pastures for summer grazing. In addition, I employed “*observant participation*”, defined as the “use of an existing role to research an unfamiliar setting,” (Brewer, 2000). In contrast to participant observation which Brewer defines as assuming an unfamiliar role in a unfamiliar setting, *observant participation* are activities known to the individual but in a novel context. Thus, based on my training and work in mental healthcare, I engaged in *observant participation* in three primary settings. First, I worked with supervision as a medical trainee in the Department of Psychiatry at Tribhuvan University Teaching Hospital in Kathmandu. In this setting, I saw psychiatry inpatients and outpatients and was able to document their explanatory models and the approaches used by other

physicians and trainees in providing psychiatric care. Second, I assisted in providing healthcare in Jumla. This was done through a health camp in which I provided supervised psychiatric assistance. Third, I conducted observant participation through my work with the Nepali non-governmental organization Transcultural Psychosocial Organization (TPO) Nepal.

Structure of dissertation

This dissertation is structured into four sections. The first section comprises this introduction followed by two chapters providing further exposition for the context of the dissertation. Chapter Two “*Navigating diagnoses: understanding mind–body relations, mental health, and stigma in Nepal*” provides an introduction to the concepts of mental illness in Nepal grounded in Nepali ethnopsychology. This chapter introduces Nepali conceptions of self and discusses the stigma against mental illness in Nepali culture. The chapter also outlines two approaches in Nepal in which mental illness was re-mapped onto divisions of self with differing implications for stigma of mental illness. Chapter Three “*Political violence and mental health: a systematic multi-disciplinary review in Nepal*” provides a review of the existing literature on mental health and political violence in Nepal. This chapter reveals gaps in the literature on political violence in Nepal and makes a call for more multidisciplinary approaches. The chapter also highlights the need to conduct longitudinal studies and increase use of representative random samples, both of which were done in this dissertation research. This chapter sets the stage for much of the work described subsequently in this dissertation as I attempt to address some of the shortcomings in the existing literature in Nepal. The findings from this literature review

are used to flesh out the framework of “war in context”, “vulnerability”, and “heterogeneity of outcomes” for the following sections.

The second section is the study of political violence and chronic structural violence in the context of Jumla, a rural community in a mountainous district of midwestern Nepal. This section specifically addresses war in *context across time*. This section presents a prospective study with original data collection in 2000 as the Maoist People’s War was just beginning in the Jumla area and then a follow-up study in 2007 which took place after the signing of peace accords that ended the People’s War. This section employs a multidisciplinary approach. In the first part of this section, Chapter Four “*Culture in psychiatric epidemiology: using ethnography and multiple mediator models to assess the relationship of caste with depression and anxiety in Nepal*”, I describe mental health prior to the outbreak of acute political violence in Jumla. I examine caste-based disparities in mental health and the mechanisms underlying these disparities. The second part of this section, Chapter Five “*Exposure to political violence and the impact on mental health: a prospective community follow-up study of the People’s War in Nepal*”, describes the psychiatric epidemiology prospective study comparing mental health in 2000 and 2007. The third part of this section, Chapter Six “*Gene-environment interactions for FKBP5 polymorphisms and exposure to child maltreatment associated with depression, PTSD, and cortisol in rural Nepal*”, is a gene-environment interaction study of child maltreatment and FKBP5 single nucleotide polymorphisms associated with adult depression and physiological markers of this as assessed through diurnal salivary cortisol levels.

The third section of the dissertation focuses on child soldiers as a specific vulnerable group in the context of political violence. This section considers war in *context across exposure*. Due to the eleven-year length of the war, it is not possible to use the same approach as the prospective study conducted in Jumla. Moreover, there is a lack of data on children's mental health prior to the war. Therefore, a cross-sectional cohort design is used to compare children across exposures—specifically those children exposed to being part of an armed group versus those children who experienced the war as civilians. The first part of this section, Chapter Seven, "*Children and revolution: The mental health and psychosocial wellbeing of child soldiers in Nepal's Maoist army*", examines vulnerability to recruitment and psychosocial problems through the lens of critical medical anthropology. This chapter addresses macro-social and political-economic processes that lead to vulnerability for recruitment. This is followed by Chapter Eight, "*Comparison of mental health between former child soldiers and children never conscripted by armed groups in Nepal*", which is a psychiatric epidemiology study comparing the mental health of child soldiers with the mental health of children never recruited to armed groups. This is the first published study to address the mental health of child soldiers in comparison with children living through political violence who were not recruited to armed groups. The third part of this section, Chapter Nine "*Traditional healing and social interventions for children affected by armed conflict*", examines the role of traditional healing and rituals in the reintegration process of former child soldiers.

The conclusion (Chapter Ten) of this dissertation provides a synthesis of this multidisciplinary research. The two studies of Jumla (*context across time*) and child soldiers (*context across exposure*) are used to present a more complete model of war in context. The conclusion also briefly summarizes some of the major limitations in this research. Ultimately, these findings presented in this dissertation support the need to address political violence and mental health in a broader integrative research framework that is grounded in anthropological knowledge and draws upon the strengths of epidemiology, genetics, endocrinology, and other disciplines.

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**CHAPTER 2: NAVIGATING DIAGNOSES: UNDERSTANDING MIND–BODY RELATIONS,
MENTAL HEALTH, AND STIGMA IN NEPAL**

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ABSTRACT: Anthropologists and psychiatrists traditionally have used the salience of a mind–body dichotomy to distinguish Western from non-Western ethnopsychologies. However, despite claims of mind–body holism in non-Western cultures, mind–body divisions are prominent in non-Western groups. In this article, we discuss three issues: the ethnopsychology of mind–body dichotomies in Nepal, the relationship between mind–body dichotomies and the hierarchy of resort in a medical pluralistic context, and, lastly, the role of mind–body dichotomies in public health interventions (biomedical and psychosocial) aimed toward decreasing the stigmatization of mental illness. We assert that, by understanding mind–body relations in non-Western settings, their implications, and ways in which to reconstitute these relations in a less stigmatizing manner, medical anthropologists and mental health workers can contribute to the reduction of stigma in global mental healthcare.

Case one: *Naresh*¹

“We were very relieved when the psychiatrist told us that Naresh did not have a mental illness. There is nothing wrong with his *dimaag* (brain-mind),” Naresh’s mother explained to one of the authors a few weeks after she and her son visited the psychiatric outpatient department of a major hospital in Kathmandu, Nepal. Naresh, an 11-year-old boy living in Kathmandu, had been suffering from headaches, nausea, vomiting, sudden episodes of sweating and facial flush, and repeated visions of his neighbor’s corpse hanging. The family had pursued multiple forms of treatment including pediatricians, gastroenterologists, psychiatrists, a clinical psychologist, and a traditional healer. His diagnoses included intestinal parasites, posttraumatic stress disorder, and soul loss.

Naresh’s father asserted that this was a gland problem because Naresh was nearing puberty. The boy’s 18-year-old sister attributed his distress to puberty with the added explanation that, “It started when his gym teacher and his computer teacher beat him for being noisy in class. The gym teacher beat him on the head. His computer teacher beat his legs. He had bruises on his thighs.” Naresh’s mother expressed concern that her son’s condition arose from a bodily problem, specifically a bout of typhoid four months prior. She said that typhoid had weakened her son and made his *man*² (heart-mind) more sensitive. She then added that loss of his *saato* (soul or spirit) likely had played a major role, as well. He lost his soul when he went to the apartment of the neighbor who had

NOTES

¹ The names of all those represented in this article have been changed to preserve anonymity.

² *Man* (heart-mind) is italicized throughout the manuscript, in contrast to *AAA Style Guide*, to prevent confusion between English man and Nepali *man*.

committed suicide by hanging a few months earlier. The loss of his *saato* also made his *man* weak and caused him to have the visions of hanging corpses.

Naresh was uncertain about the cause of his affliction. He described his *man* as heavy, and said he would know he was recovered when his *man* felt light again.

Case two: *Kalpana*

Kalpana, aged 37, who lives several hundred kilometers outside of Kathmandu in a rural area, had fallen ill after her sister-in-law had died some years earlier. She had since visited literally dozens of healers, including *lama* and *mata* (traditional healers) who had given her multiple explanations for her illness, including witchcraft, the evil eye and various forms of *laago* (a range of supernatural forces including ghosts and spirits that befall individuals from outside the body). Her entire family had moved house at one point after it was suggested that her home had been cursed by a witch and was one cause for her illness. While these healers had offered her temporary relief from her problems, the distress always returned.

More recently, Kalpana had visited a local mission hospital and been given a diagnosis of *nasaako rog* (nerve disease) and was started on amitriptyline, a tricyclic antidepressant. It was at this point when one of the authors first met her. Kalpana expressed that her *man* (heart-mind) felt heavy and reflected the hot, heavy weather of *Chait* (April-May); as the local expression goes, *Chait laagyo*, (the month of Chait has befallen her). The hospital doctor, however, explained that her symptoms, which included bad dreams, headaches, *gyaastrik* (gastric complaints), and various forms of body ache were a result of a disease of the nerves. “Like the wires in a radio, nerves pass to all areas

of the body, and this was why,” the doctor explained, “she had so many pains.” He continued, “The medicine treated the nerve condition.”

Kalpana’s husband adamantly denied that she had *chinta* (anxiety) or any mental health problem. He reassured her continuously that her illness was nerve disease. Despite the diagnosis, Kalpana continued to believe in the supernatural explanations. For example, she told one of the authors that she did not want others to know how much better she was feeling as “some are friends, some are enemies,” indicting that the glance and bad feelings of others could make her ill again. Kalpana was intimating witchcraft, although, like many, she did not name it as such.

As her symptoms improved, however, Kalpana increasingly placed all her hopes in the medicine and the doctors who had prescribed them.

INTRODUCTION

A common theme runs through Naresh’s and Kalpana’s stories. Both individuals and their families struggled to understand their illnesses within the context of divisions of the self—the mind, body, and soul. Ultimately, both rejected the notion that their illnesses were a result of an imbalance or dysfunction of the *dimaag* (brain-mind) in order to avoid the stigma of mental illness. In both narratives, family members emphasized bodily explanations of distress and avoided connections with mental and psychological processes.

In this paper, we discuss the relationship between mind–body divisions, mental health, and stigma in the context of Nepal. We illustrate that mind–body divisions are not only a feature of the western Cartesian dichotomy but may also be central to

understandings of the self in non-Western settings. We demonstrate how everyday Nepali discourse on mind–body divisions offers a window into understanding social stigma against mental illness. We follow the cases of Naresh and Kaplana as they navigate mental healthcare with different healers reinforcing and reconstituting mind–body divisions with varying effects on stigma and seeking care. And finally, we describe two public health approaches in Nepal that redefine mental illness using local mind–body divisions to decrease stigma and increase acceptability of mental healthcare. Ultimately, we emphasize the importance of a medical anthropology of mind–body relations to understand stigma against mental illness and improve global mental healthcare.

Mind–body divisions in medical anthropology are theoretically worthwhile to understand the construction and deconstruction of self across cultural groups. Furthermore, they provide a window into the stigma of mental illness in cross-cultural settings. In their prolegomenon on the “mindful body,” Scheper-Hughes and Lock (1987) characterize Cartesian thought as based on a divide between mind and body. The mind–body distinction thus draws on a whole hierarchy of dichotomies derived from our enlightenment metaphysical inheritance: mind–body, culture–nature, emotion–rationality, tradition–modernity, etc. A growing body of literature highlights the implications of this division in the biomedical context. For example, Sinclair (1997) and Luhrmann (2000) discuss how Western psychiatrists are trained and operate in a healing profession where the body is perceived as real, but the mind, less so. There are powerful social and healing implications and a profound resultant stigma based on the division of “real” pain versus “less-than-real” pain. A person feels “real” pain when a cause is located in the body, and can be profoundly stigmatized when it is said to be “all in the mind” (Jackson 1994).

Thus, the training of physicians positions psychiatry at the margins of healthcare (Kleinman 1988; Kleinman 1995; Sinclair 1997). Ultimately, sufferers of mental illness find the "reality" of their distress questioned, and they must incur the stigma of a social and clinical label of a mental or psychological problem versus a "true" physical disease.

Whereas the Cartesian mind–body division is given primacy in explaining health in studies of biomedicine in the West, it frequently has been implied that mind–body divisions are not present in non-Western medical systems, which are characterized as philosophical traditions that emphasize holism and complimentary duality (Scheper-Hughes and Lock 1987; Wen 1998). In literature on South Asia, authors have supported the claim of mind–body holism. The renowned Indian psychiatrist N. N. Wig (1999) suggests that the mind–body division is not important in non-Western thought. Regarding Nepal, researchers have written that, “psychiatrists report high levels of conversion disorders and hysteria, reflecting the absence of a cultural distinction between mind and body,” (Tausig and Subedi 1997). In explaining higher somatic presentations among anxiety patients in Kathmandu versus Boston, Hoge and colleagues (2006) have written that, “traditional medicine in many parts of Asia do not distinguish between mind and body, making distinctions in symptom type irrelevant and increasing the likelihood that individuals will manifest psychological distress with somatic symptomatology,” (p. 964).

Our clinical and anthropological experience in Nepal suggests, to the contrary, that mind–body divisions play an important role in diverse healthcare settings and contexts of social relations. Moreover, rather than the lack of mind–body divisions, it is the very presence of such divisions and the stigma tied to mental illness based on mind–body divisions that drives emphasis on bodily presentations of psychological distress. In

a recent work on Hindu ascetics, Hausner (2007) similarly has questioned the tendency for South Asian scholarship to act as a theoretical counterpoint to the Cartesian split. She argues, to the contrary, that Hindu conceptions of body-soul dualism look very similar, and that this split is not the exclusive development of the west, arguing that “our fears of structuralism and Cartesianism may have eclipsed or precluded the cross-cultural uses of dualism as a model” (p 204). Below we explore evidence for the prominence of these mind–body divisions in indigenous Nepali ethnopsychologies, the impact of biomedicine on these divisions, and the role of mind–body divisions in the origin of and implications for mental illness stigma.

METHODS

To address mind–body divisions, mental health, and stigma in Nepal, we reviewed existing ethnographic literature on construction of the self in relation to psychological wellbeing with the results presented in part one. For part two, we relied upon our ethnographic research conducted over the past two decades in Nepal. This ethnographic work has been primarily among Nepali-speaking populations in Kathmandu and the rural districts of Palpa, Kailali, and Jumla. We reviewed our ethnographic records and interview transcripts for references to mind–body differences, mental illness, and stigma against mental illness. Both authors also iteratively reflected on the terms generated more generally in conversations with a wide range of people in Nepal, checking our emergent understanding with native Nepali speakers.

For part three, we drew upon ethnographic research, participant observation, and interviews with traditional healers, general physicians, psychiatrists, psychologists. Both

authors have studied traditional healers. One author originally worked as a physician in rural Nepal. The other author worked in the psychiatric department of a major hospital in Nepal. Both are trained in medical anthropology. Additionally, we employed cases studies and life histories of persons seeking services from different practitioners.

For part four, both authors partook in participant observation: one author with traditional healers and allopathic practitioners (1998-2000) and the other author with psychosocial organizations in Nepal (2005-2007). The traditional healer and allopathic research involved partaking in trainings of traditional healers by health organization, observing traditional and allopathic healings and encounters, as well as interviewing clients of traditional healers and allopathic practitioners (Harper 2003). The psychosocial section research involved partaking in psychosocial trainings, review of psychosocial manuals and reports for Nepali organizations, and interviews with psychosocial practitioners and clients (Kohrt 2006).

Human subjects' approval and ethical review for the studies drawn upon in this paper were obtained from the Tribhuvan University Teaching Hospital-Nepal Institute of Medicine, Nepal Health Research Council, Centre for Nepal and Asian Studies, University of Edinburgh, and Emory University Institutional Review Board.

PART ONE: MIND–BODY DIVISIONS IN ANTHROPOLOGICAL LITERATURE ON NEPAL

Anthropologists addressing conceptions of body, mind, and self in Nepal have focused primarily on Tibeto-Burman language-speaking groups with Buddhist and animistic traditions. Although these works have required book-length monographs to give a sense of conceptions of self and the associated “aesthetics of healing” (Desjarlais 1992;

Hardman 2000; Maskarinec 1995; Nicoletti 2004; Nicoletti 2006), our review here must by necessity be brief, and, therefore, it will not do full justice to these authors.

The work of McHugh (1989; 2001) among the Gurung ethnic group of Nepal challenges the notion that Western conceptions of self are more individualistic while non-Western conceptions are more social. McHugh describes how notions of self are comprised of *plah* (souls) and *sae* (heart-mind) as well as the physical body. Fright dissociates the *plah* from the body making one susceptible to illness and eventually death. The *sae* is the seat of consciousness, memory, and desire. “The [*sae* (heart-mind)] brings feeling, memory, and thought together in the body. In this place at the center of the chest, life in the world penetrates and modifies the inner self” (McHugh 2001, p. 44-45). The size of the *sae*, she suggests, determines how engaged the individual is with society. Similarly, amongst the Yolmo, another Tibeto-Burman language speaking group, the concept of *sem* has many parallels to *sae* and other concepts of heart-mind (Desjarlais 2003). Among the Yolmo, Desjarlais suggests, madness occurs when the brain fails to control the *sem* (heart-mind). Everyone’s *sem* is different, but the *klad pa* (brain) is the same; it stands above the *sem* (Desjarlais 1992, p. 57). Among the Yolmo, madness occurs from intense emotion and desire in the heart-mind with lack of adequate control of the feeling by the brain.

Among the Lohorung Rai ethnic group, individual behavior issues from desires and actions by ancestral spirits, the *saya* (soul), and the *niwa* (mind), among other forces (Hardman 2000). The *niwa* is in part responsible for keeping the *saya* high. When the *niwa* hurts, the *saya* falls (p. 258). If the *saya* falls, an individual has fatigue and depression. Nicoletti (2006) deals with the whole complex of mind–body amongst the

Kulunge Rai of eastern Nepal. Among the Kulunge Rai ethnic group, the loss of souls also causes illness. There is the “vital force” of family members. This is present in humans from the moment of birth, and abandons them only at the moment of death. Similar to the *saya* among Gurungs, “[the vital force is] usually located in the head, the vital force is capable of movement. Unlike the souls, which can leave the body, the vital force can fluctuate only between the head and the coccyx,” (p. 59). “Melancholy, apathy, emotional fragility, depression are some of the typical outer signs” (p. 60) of a fall in this “vital force.” As Nicoletti states, this vital force represents a complex reality, involving body and health, relations with tradition and invisible forces, inter-personal relations, and personal dignity.

Among Newars, the historical inhabitants of the Kathmandu Valley, there is also a complex division of the self into mind, body, and other components (Parish 1994). For Newars, the *nuga* is the seat of morality, desire, emotion, and thinking. Divinity and god dwell in the *nuga* (p. 190). The *bibek* filters the processing of the *nuga* before behavior is manifest. *Bibek* is an abstract entity encompassing the cognitive power to assure one acts responsibly (pp. 197-198). Parish's descriptions illustrate the significance of brain-mind and heart-mind in relation to the *ijjat* (social self and social status). *Lajya* is the construct used to characterize an individual's ability to filter their behaviors and maintain their *ijjat* (p. 199); it is the result of proper *bibek* functioning. *Lajya* can be glossed as social anxiety, embarrassment, or shame (cf. Shweder 1999). Individuals with insufficient *lajya* do not tailor their behavior to the social situation and do not act within the proper caste hierarchy. Individuals without *lajya* lose their *ijjat* resulting in loss of personal social status and the social status of the family. Parish describes an individual with tarnished

ijjat who states, "I am equal to dead." (p. 205). Later in the paper, we describe how mental illness can damage severely personal and family ijjat.

PART 2: THE LANGUAGE OF MIND AND BODY IN NEPAL

In contrast to the ethnographies described above, we examine mind–body discussions in the Nepali language with the majority of examples taken from areas where Nepali is the mother tongue for a significant portion of the population (the Kathmandu Valley and the districts of Palpa, Kailali, and Jumla). We have chosen to examine Nepali, as opposed to languages of ethnic minority groups, because anthropologists have neglected mind–body divisions in the Nepali language, with the exception of Hausner (2007). This reflects the general trend in Nepal and Himalayan anthropology which has focused on tribal groups to the exclusion of caste-Hindu Nepali speaking groups (Holmberg 2006). Furthermore, the Nepali language provides the hegemonic force of socialization and modernization in Nepal. Teachers in government schools instruct in Nepali; political and government discourse occurs in Nepali; and, Nepali is the language for the majority of exchanges in healthcare settings. It is important to examine mind–body divisions in the language of these institutions and groups in power because of their influence and effect on the perpetuation of stigma. Despite differences in linguistic heritage, there is also considerable semantic overlap with a number of the terms from ethnic minority groups that we have presented earlier.

Our approach to discussing mind–body dichotomies is rooted in everyday Nepali language rather than the language employed by healers. Healing practitioners represent an esoteric and limited pool of knowledge within a cultural group. In contrast, daily

language employing mind and body represents more general and widespread ethnophysiological knowledge. We follow the ideas of Lakoff and Johnson (2003), Martin (1994), and others in examining how body—and mind—metaphors are used in everyday language.

In the Nepali language and discourse, we identify five elements of the self that are central to understanding conceptions of mental health and psychological wellbeing, and subsequent stigma. These five elements are *man* (heart-mind), *dimaag* (brain-mind), *jiu* (the physical body), *saato* (spirit), and *ijjat* (social status).

1. ***Man*** – From Turner’s *A Comparative and Etymological Dictionary of the Nepali Language* (Turner 1931), we find that *man* refers to “mind; opinion, intention; feelings; *Man Garnu-* to intend, take delight; desire; *man gari* – intentionally” (p. 491).

Linguistically, in other Sanskrit-derived languages of Nepal, such as Chaudary, Tharu, Maithili, and Bhojpuri, *man* refers to the heart-mind as well (McHugh 1989). The concept is not confined to Nepal and found widely throughout South Asia and beyond. For example Ecks, from research conducted in West Bengal suggests: “Mon is the Bengali term for mind (or ‘heart–mind’), mood, affection, concentration, intention, and personal opinion. It is etymologically related to Sanskrit *manas*, Greek *menos*, Latin *mens*, and English *mind*,” (Ecks 2005, p. 247). Many common linguistic Nepali exchanges continue to reflect Turner’s earlier work. Statements connoting wants, desires, likes, and dislikes invoke *man*. *Man laagchha* means to have the heart-mind struck by something, e.g. struck by the desire to eat. *Man parchha* means to have something placed on top of the heart-mind, which refers to desiring something. Table 1 provides examples

of the use of *man* in everyday language and idioms related to emotional states and mental health.

TABLE 2-1. USE OF MAN (HEART-MIND) IN EVERYDAY NEPALI DISCOURSE

Nepali	Literal Translation	Interpretation
<i>Malaai jaana man laagchha.</i>	For me, the heart-mind is struck by going.	I would like to go.
<i>Malaai timi sanga kura garna man laagdaina.</i>	For me, the heart-mind is not struck by talking with you.	I do not want to talk with you.
<i>Tapaaailaai football man parchha?</i>	For you, is football on top of the heart-mind?	Do you like football?
<i>Manmaa kura khelne</i>	Words playing in the heart-mind	Worrying
<i>Man dukkhyo</i>	The heart-mind hurts	Sadness or suffering
<i>Manko ghaau</i>	Scar or sore of the heart-mind	Emotionally or psychologically traumatic memories
<i>Manko kushi</i>	Happiness of the heart-mind	Happiness or satisfaction

From a health standpoint, interviews and ethnographic observation suggests that the *man* is not specifically associated with illness such as when an organ becomes diseased. However, if one is too emotional and there is too much activity in the heart-mind, this can lead to physical and psychological complaints. Based on our clinical experiences and other ethnographic observations, there is not a salient tie between social stigma and function or dysfunction of the *man*. As we describe below, the maintenance of social status is the responsibility of the *dimaag*, not the *man*.

2. **Dimaag** –Turner’s dictionary (Turner 1931) suggests that *dimaag* may be derived from *dimaak*, meaning “pride, conceit” (p. 312). The *dimaag* performs different activities from the *man*, but the two elements work in coordination. The *dimaag* is the brain-mind or social-mind more than the organ encased in the skull, which is the *gidi* (physical anatomical brain). The *dimaag* is the processing of the *gidi*. The *dimaag* is the seat of thoughts as opposed to desires. The *dimaag* represents the socialized and logical decision-making mind. In addition, the *man* and *dimaag* have differing relations to the personal and collective. The *man* reflects personal workings and desires. In contrast, the *dimaag* acts in accordance with collectivity and social norms. A primary school teacher in Jumla explains,

"The *man* and the *dimaag* must work together. The *dimaag* is responsible for controlling behavior and thinking. If someone can't control his alcohol drinking, that is a *dimaag* problem. There are two types of *dimaag* problems that you can identify: first, someone who is very aggressive, and second, a person who doesn't talk to anyone else."

Table 2 provides examples of the use of *dimaag* in everyday discourse.

Interestingly, two phrases used to describe *dimaag* dysfunction employ English language terms 'crack' and 'out' even in rural parts of Nepal.

Table 2-2. USE OF *dimaag* (BRAIN-MIND) IN EVERYDAY NEPALI DISCOURSE

Nepali	Literal Translation	Interpretation
<i>Dimaag gayo</i>	His/her brain-mind is gone	Not understanding; feeling confused
<i>Dimaag khaaeko</i>	His/her brain-mind has been eaten	Irritation, frustration, and inability to concentrate
<i>Dimaag taataeyo</i>	His/her brain-mind has been heated	Irritation and anger accompanied by a hot feeling in the head
<i>Dimaag out bhayo</i>	His/her brain-mind is not present or not working.	Short spell of irrational behavior
<i>Dimaag thik chhaina</i>	His/her brain-mind is not good or not okay	Person with a history of abnormal or antisocial behavior
<i>Dimaag bigreko chha</i>	His/her brain-mind is broken or not working properly	Crazy, mad, psychotic
<i>Dimaag crack bhayo</i>	His/her brain-mind is broken or not working properly	Crazy, mad, psychotic
<i>Dimaag kharaab bhayo</i>	His/her brain-mind is broken or ruined	Crazy, mad, psychotic

Generally, these idioms refer to a state of madness, irrationality, and other unsocial behavior. These terms fall along a spectrum from temporarily irrational behavior to incurable madness/psychosis. "Dimaag *gayo*" (brain-mind is gone) refers to a transient state of not understanding or being confused. "Dimaag *taataeyo*" (brain-mind heated) refer to states that any individual can suffer from being annoyed and angered, usually from others' misbehavior. It also implies the physical sensation of the head feeling hot. When one can no longer focus on their work or make reasonable decisions, they are described as "dimaag *khaaeko*." One respondent described this state arising from doing too much work, "*Kaamle dimaag khaayo*" (Work ate [my] brain), another from

frustration with one's in-laws, "*Bhaaujule mero dimaag khaayo*" ([My] sister-in-law ate my brain).

"Dimaag out *bhayo*" connotes a temporary inability to control one's desires, such as suddenly running off with a woman or drinking alcohol excessively. A 12-year-old boy in a shelter for street children in Kathmandu had been beaten numerous times by policemen. He described, upon seeing policemen, "I can't control my urge to kill them. I will kill them. Dimaag out *bhayo*." While this is a transient state with a generally well functioning dimaag, the phrase "*dimaag thik chhaina*" refers to individuals who frequently behave in socially unacceptable ways. A young woman in Jumla uses "*dimaag thik chhaina*" to describe her 13-year-old sister:

"My father always drinks [alcohol] then comes home and beats my mother and my sister. One time he beat my sister until she was unconscious. She was in the hospital for one week. Now, *dimaag thik chhaina* [her brain-mind is not okay]. She fights with others and shouts. She sits alone at home and doesn't go out to play with other girls."

At the extreme of dimaag dysfunction is the state of being *paagal* (also *baulaahaa*) meaning crazy, mad, or, in medical terms, psychotic. *Paagal* is recognized as originating from dysfunction of the dimaag. Pach (Pach III 1998) has described how behaviors labeled as *paagal* are stigmatized resulting in economic and social marginalization. Having an individual who is *paagal* or with *dimaag thik chhaina* in the family prevents not only the sufferer from marrying, but also prevents other relatives from marrying. A saying recorded in Jumla illustrates this profound stigma: "*Marnu*

*bhandaa bahulaaune jaati.*³ [It is better to be dead than crazy.]” Madness also can be viewed as contagious. One woman in Kathmandu described how she moved her children out of her house because she was concerned they would catch madness from their father, who suffered from schizophrenia. In addition, her husband could use only specific utensils for fear that if others touched them, they also would become *paagal*.

Many symptoms of mental illness are lumped under the label of *paagal*. A psychosocial counselor in Jumla explains, "If people become *paagal* (mad) they think it is *maanasik rog* (mental illness). If people have problems such as thinking a lot, unable to sleep, unable to concentrate, they think 'maybe I am *paagal* now'." She adds that *paagal* is seen as a problem of the *dimaag*, not the *man*. "When someone is *paagal* they think, 'My *dimaag* is not at the right place. It has stopped working and will not function properly.'"

Similar to *paagal* are concepts of permanent *dimaag* dysfunction, such as the group of terms connoting "broken": *bigreko*, *khaarab*, and 'crack'. Nepali speakers view these states, like *paagal*, as incurable, permanent conditions. In Kailali district, a shopkeeper pointed to a man sitting in the dirt. He was wearing a soiled dress shirt and shorts. He was unshaven with clumps of dried mud in his disheveled hair. He spoke to himself and laughed spontaneously. The shopkeeper explains:

“His *dimaag crack bhayo* [His brain–mind is broken]. He was walking one day with his friend. Then the Maoists killed his friend right in front of him. From that day on, his *dimaag crack bhayo*. He wanders around the road. He sleeps on the

³ The saying is in the *Khas* language, which is considered to be the predecessor form of Nepali language.

road. He laughs for no reason. No one can talk to him. He used to be very intelligent and had a good education."

The crux of our perspective on mind–body divisions, mental illness, and stigma lies in the unique position that *dimaag* holds in Nepali conceptions of self. Because of the centrality of social relations in status and perceived wellbeing, any dysfunction that impairs social positioning is strongly stigmatized. The *dimaag*, as opposed to the other elements of self, is principally responsible for this regulation.

Man and dimaag interaction

Although the *man* and *dimaag* function differently, the two are connected in their operation. Perturbed activity in either alters how the other functions. An Ayurvedic practitioner in Kailali explains: "*Jasto dimaag garchha, tyastai man aauchha.*" [The heart-mind feels whatever the brain-mind does.] He gives the example of controlling one's desires to keep the *dimaag* healthy:

"Desires must be controlled. If in your *man* you want a great deal of money, you will take a loan. Then you will have very big debts and your *dimaag* will stop working. So, we should always keep our *man* peaceful. "

Any strong emotion, for example anger or love, can override the seat of rational behavior and lead to the various forms of *dimaag* malfunction or *paagal* behavior. In popular songs, there are many examples of strong emotions, which originate in the *man*, overriding the seat of rationality and social control, particularly love. "*Dil ki paagal hai*" (My heart is crazy) was a popular Hindi movie a decade ago, and the theme of love

overriding socially accepted normative behavior is one of the most common genres of popular movies.

Thus, one is not stigmatized for having socially inappropriate thoughts or desires in the *man*, rather one is stigmatized if the *dimaag* is not functioning properly to regulate these thoughts and desires.

3. **Jiu** – The physical body is a third element. Turner (1931) defines *jiu* as “life; body; person”; *jiu ko* refers to “bodily, physical,” (p. 216). Another term for the body is *sarir*, “body; figure” (p. 573). The *jiu* is the corporal body and is seen as the site of physical pain. Diseases and injuries damage this physical body. Physical suffering and pain can lead to worries in the *man*. However, the reverse pathway of the *man* affecting the *jiu* is less salient. Physical injury to the *jiu* can also damage the *dimaag*. In the case above of the young girl with an alcoholic father, the girl explained her sister's odd behavior of “*dimaag thik chhaina*” [brain-mind not functioning properly] was the outcome of physical abuse by the father.

Another linguistic category in daily life is *angha betha*. Turner defines *angha* as “limb; body; person; portion; ingredient” and *betha* as “disease; illness; trouble; misfortune.” A *mata* (traditional healer) in Palpa views *angha betha* as diseases of the body for which one should be referred to the local mission hospital. She distinguishes this from *laago* or *laag*, sickness caused by spirit possession, which is her province of treatment. This division between *laago* and *angha betha* is acknowledged widely in Palpa and significantly influences where the ill decide to go for treatment.

The jiu, unlike the dimaag, is not stigmatized in daily discourse. Individuals discuss physical suffering, including *angha betha*, in a manner that reflects its social acceptability.

4. **Saato** – Turner (1931) defines saato as “spirit; presence of mind; saato *jaanu* – the spirit to go; to be greatly frightened. From Sanskrit – *sattvaam* (n) – reality, consciousness” (p. 598). Maskarinec’s (1995) more recent translation of saato refers to “wits; awareness.” The souls are the vitality of the body. The saato has some overlap with the *aatmaa*, which Turner defines as “self, soul; reasoning faculty, mind” (p. 34). Proper functioning of the jiu is tied intrinsically to the presence of the saato, which provides the energy and vitality of life. The saato also helps prevent supernatural forces from invading the body. One of the many explanations for Kalpana's condition was such witchcraft.

Fear disrupts and dislodges the saato. When individuals become afraid, the saato is shocked out of the body, known as saato *gayo*.⁴ Traditional healers in many districts of western Nepal describe how fear easily dislodges children's souls (cf. (Desjarlais 1992). In Palpa, this happened to one of the author's two-year-old daughter, who was startled by a cat one evening and withdrew into herself. A traditional healer pronounced that her saato was lost. Her saato was recalled by a local practitioner who chanted a *mantra* (magical incantation). Similarly, visiting the site of a suicide caused Naresh to lose his saato.

⁴ A man in Kathmandu said, “We do not use *saato* as an element by itself, but rather only in the phrase of saato *gayo* (soul loss).”

Once the saato is gone the body is more susceptible to witchcraft, one can become *boksi laagyo* (struck by a witch) or *bhut laagyo* (struck by a ghost). The loss of the soul makes the body vulnerable to physical illness. Children often have saato *gayo*, which results in, or occurs concurrently with, physical illnesses such as fever and diarrhea. A *lama-jhankri* (traditional healer), who also ran a small allopathic medicine shop, was observed concomitantly treating a child both with rehydration salts for diarrhea and calling her soul back with a *mantra*. Similarly, Naresh's mother interpreted her son's weakness in terms of lost saato. Among adults as well, shocks and fears, such as seeing violence, is thought to dislodge the soul and make one vulnerable to illness. With aging, individuals begin to lose their souls and thus lose their vitality, coming closer to death (cf. Desjarlais 2003).

In addition to providing vitality to the body, the soul is affected also by the *dimaag*. Individuals who have problems with the *dimaag* cannot control their fears and worries and are thus more susceptible to losing their saato. In the case of the Jumli girl described above, whose father physically abused her, the damage to her *dimaag* also made her more susceptible to soul loss. Her sister explains,

"After my father beat my sister, her *dimaag* was not right. She would lose her saato easily. As soon as our father would begin to beat our mother, my sister's saato would go. Before she was beaten and hospitalized, her *dimaag* was okay so she didn't lose her saato so easily."

Loss of saato, like problems with *jiu* and *man*, is not as stigmatized in daily discourse as *dimaag* dysfunction is. Individuals and families can thus describe some symptoms of psychological distress, such as frightening easily or lack of energy, easy

fatigability, etc., as lost saato instead of dimaag dysfunction, and thus incur less stigmatization.

5. **Ijjat** – Turner defines ijjat as "honor, reputation" (Turner 1931, p. 40). Ijjat is the link between the individual and the social world. Ijjat refers to social status. Ijjat *paeko* refers to receiving respect. The behavior of oneself and especially one's children in a manner congruent with caste hierarchy and social norms is crucial to maintaining ijjat. When a child acts in a socially unapproved way, such as marrying out of one's caste, then for the family and the individual there is a loss of social status; this is particularly salient for the behavior of women (cf. Liechty 1996; Parish 1994). In daily discourse, idioms for damage to one's social self include ijjat *gayo* (social status is gone), *bejjat* (social shame), and *naak khatne* (to cut one's nose). As we have explained above, the mind–body divisions in Nepali have an important social significance with the dimaag specifically responsible for assuring that the processing of the *man* is coherent with social norms to maintain ijjat. The consequence of a poorly functioning dimaag is social shame and loss of ijjat for the individual and his or her family.

To conclude our discussion of mind–body divisions in daily discourse, we suggest that the model of self in Nepali has different constituents, including *man*, dimaag, jiu, saato, and ijjat. Of these elements, damage to or an abnormal dimaag has the strongest association with stigma and loss of ijjat. There are less salient connections between *man*, jiu, saato and ijjat with regard to mental illness and stigma. Below, we describe how different healers reinforce and reconstitute the divisions.

PART 3: NAVIGATING DIAGNOSES: MIND–BODY RELATIONS IN HEALING CONTEXTS

Although the general divisions of mind and body outlined above reflect public notions of what constitutes the self, the actual dividing lines and site of pathology are fluid. The divisions are context dependent, with different healers reinforcing or reconstituting the *man*, *dimaag*, *jiu*, *saato*, and *ijjat* in varied ways. It would be incorrect to say that there is a single Nepali ethnophysiology of these elements among Nepali speakers. Rather, interactions among healer, sufferer, and the sufferer’s community shape these conceptualizations. Mind-body divisions and the stigma related to dysfunction of the *dimaag* influence people’s decisions about which healers they seek for help and how they explain illness. Figure 1 illustrates a gross simplification of how healers reframe and explain suffering of their clients and their families, through the domains that healers differentially emphasize. For example, the same sufferer and his/her family may have their phenomenal distress framed by a “traditional healer” as a problem of the interrelationship between *saato* and *jiu*; while a psychiatrist may describe the suffering as a problem of the interrelationship between *dimaag* and *jiu*; and a general physician may interpret the same complaint through a focus on *jiu* alone.

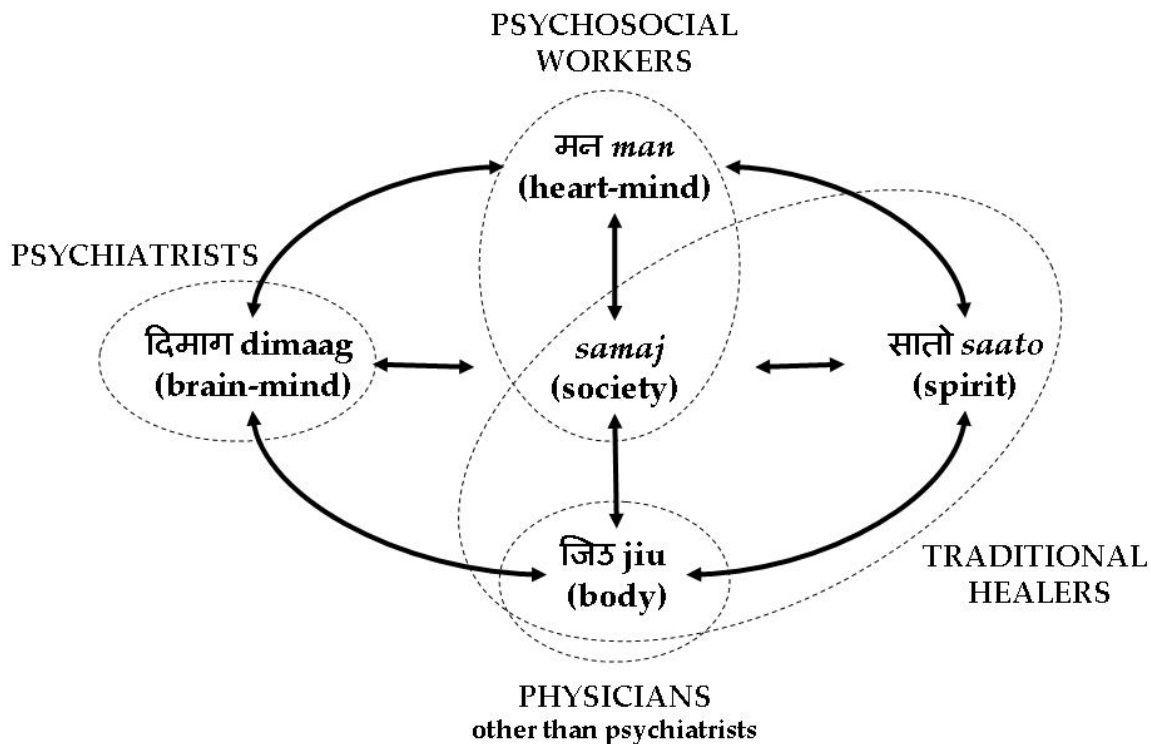


Figure 2-1. THE FRAMING OF SUFFERING BY HEALERS IN NEPAL THROUGH MIND–BODY RELATIONS.

Note: Solid arrows represent interrelations among the divisions of self. Dotted ellipses represent healing domains. For example, traditional healers often explain suffering in terms of saato, jiu and samaj (society), while psychiatrists reframe suffering according dimaag. We acknowledge that this schematic simplifies the divisions, but we do this for heuristic purposes to highlight how the primary domains of different healing disciplines reframe and reconstitute suffering. Also note that “traditional healers” encompasses a wide range of practitioners from varied ethnic and religious backgrounds and is overly simplistic; although using the category in this way orients us with medical discourse, we strategically do so for the purposes of this article.

With the range of healers available in Nepal, individuals and their families generally navigate among diagnoses by visiting a number of healers to address mental health issues. As Naresh's and Kalpana's cases illustrate, it is not uncommon to visit traditional healers and general physicians simultaneously. For those with access, psychiatrists, clinical psychologists, and psychosocial counselors are also referral points for mental health related care. Below we follow this navigation among diagnoses by describing how traditional healers, general physicians, psychiatrists, and clinical

psychologists frame mental illness (see Figure 2). The discussion of practitioners follows the hierarchy of resort for most Nepalis, i.e. traditional healers are the most prevalent practitioners (1 traditional healer per 650 persons), whereas clinical psychologists are fewest in number in the country (1 clinical psychologist per 4.5 million persons), (practitioner to population ratios based on the total population of Nepal were obtained from Kohrt 2006; Koirala 2001; Lamichanne 2007; Regmi, et al. 2004; World Health Organization 2001; and World Health Organization 2005). Thus, sufferers and their families are likely to call upon traditional healers early in the course of treatment whereas psychiatrists and psychologists are typically a final resort. However, this hierarchy of resort is dependent upon a range of issues, including class, caste and ethnicity, educational standing, economic status, etc.

1. Traditional Healers – Kalpana's and Naresh's families were not exceptions to the practice of pursuing traditional healers early in the course of illness (see Figure 2). For Kalpana's family, witchcraft was one of the many explanations for her distress and led to her visiting many traditional healers. Similarly, upon a neighbor's suggestion, Naresh's mother took him to a traditional healer. The traditional healer explained his crying and abnormal visions as the loss of *saato* resulting from visiting the site of a suicide.

As Maskarinec (1995) has argued persuasively, following Levi-Strauss (1949), traditional healers provide a narrative structure through which the ill person comes to re-experience their symptoms, and mind and body, in particular ways. Traditional healers frame sickness, including physical and mental complaints, for the sufferer as the loss of vitality through the loss of the soul, most transparent in the label of *saato gayo* (soul loss).

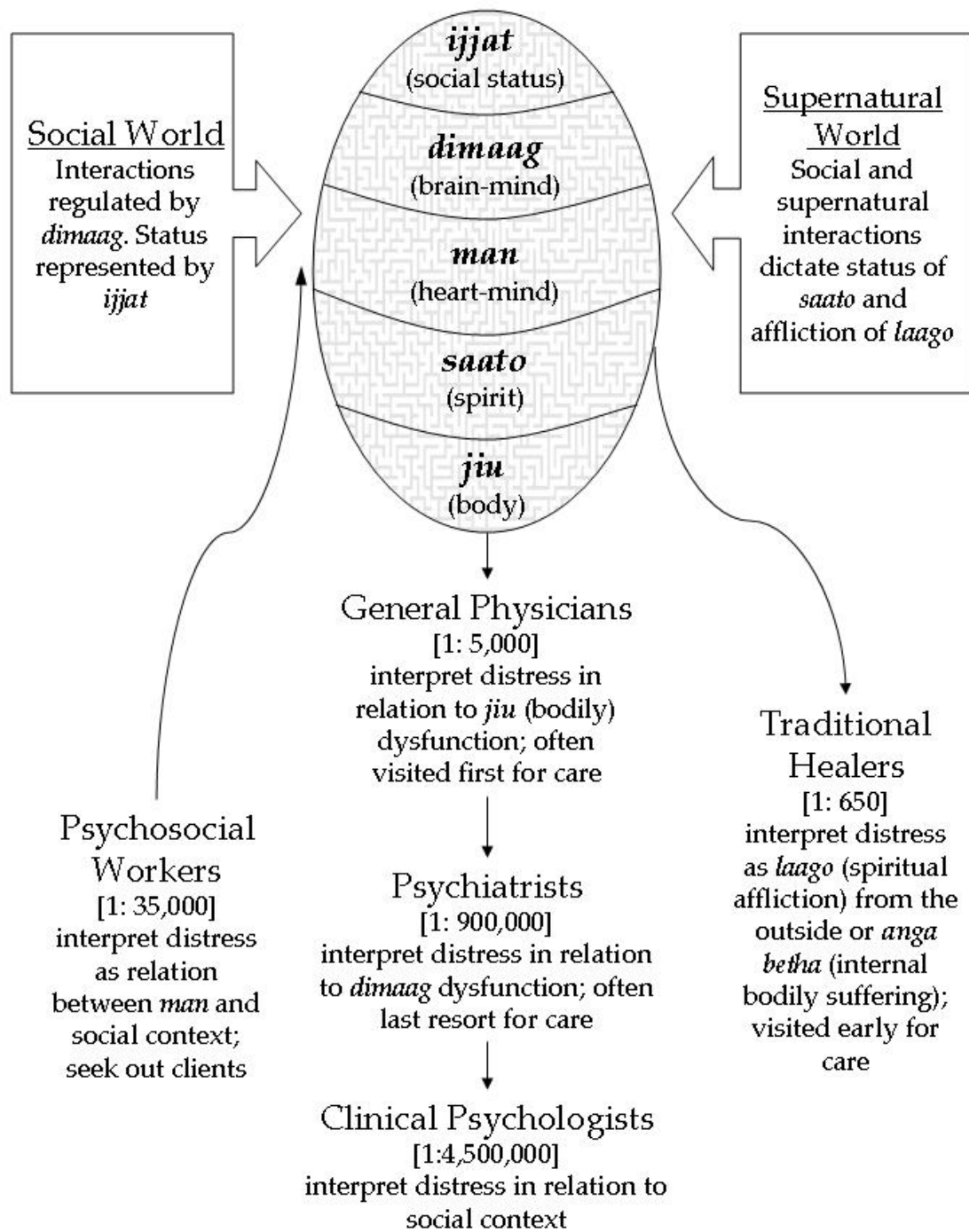


Figure 2-2. NAVIGATING DIAGNOSES: PATHWAYS OF HELPSEEKING FOR PSYCHOLOGICAL DISTRESS.

Note: Numbers in brackets represent the ratio of practitioners to population, e.g. there are 5000 people per physician in Nepal. Direction of arrows represents pathway of care, e.g. sufferers seek out traditional healers and physicians, whereas psychosocial workers seek out clients.

Traditional healers have two central elements they use to address illness: the *jiu* and the *saato*. *Angha betha* afflicts the former and *laago* afflicts the latter. Traditional healers generally deal with *laago* and witchcraft – that is, with re-aligning the relations between both humans and the spirit world. *Laago* afflicts from the outside, and ghosts and spirits affect the sufferer in various ways. *Laago* is thus part of a landscape of affliction aligned with *saato* and loss of *saato*. Sufferers described the sensation of a recalled *saato* performed by traditional healers as relief of pain with momentary *haluka* (lightness of the heart-mind) (cf. Desjarlais 1992).

The construct of *saato*, and lost *saato* with invasion by supernatural forces through witchcraft, allows a way to discuss and treat psychological distress such as fear, low mood, fatigue, and nightmares. Granted, little is known of the efficacy of traditional healing in Nepal for psychological distress and mental illness. Ethnographic accounts of traditional practices in Nepal have described a range of emotional, psychological, and social responses that suggest the potential for alleviation of suffering (Desjarlais 1992; McHugh 2001; Peters 1981). This question of the efficacy of these practices is complex – the possible subject of another paper – and would need to address the “explanatory models” (Kleinman 1980; Weiss 1997) of varied groups in the healing process, and the interpretive positions and epistemologies of the healers themselves. Although traditional healers do not deal directly with restoring *ijjat*, by focusing on *saato* there is not the damage to *ijjat* as would happen with referring to *dimaag*. Moreover, traditional healers focus on social relations thus addressing *ijjat* indirectly.

Through Nepali indigenous divisions of mind–body, traditional healers provide a space for treating psychological distress. However, through both forces of modernity and

its association with Cartesian divisions of mind–body, there are new layers of stigma placed upon traditional healing. At an ideological level, one key and overarching discourse is that development organizations, medical professionals, and the "educated" public frequently describe traditional healers as “backwards,” “superstitious,” or as “barriers” to seeking care; indeed, health workers may even view traditional healers as having mental illnesses. This stigma is evident from our experiences with Naresh and Kalpana. In the case of Naresh, despite numerous discussions in the hospital, the family did not disclose their visits to a traditional healer until we had a private meeting outside of the clinical setting. Similarly, Kalpana's husband was adamant about endorsing bodily explanations for Kalpana's distress rather than discussing witchcraft.

As part of modernization, the international development community has tried to reconstitute the role of traditional healers in the healing process as auxiliaries to biomedical care. One of the authors attended a non-governmental organization (NGO) healthcare training for traditional healers. This three-day training started as an attempt to re-orient the traditional healer's knowledge into the anatomical and physiological body; the ideological implications of this have been explored elsewhere (Harper and Maddox 2007). The idea was to get the healers to recognize the limits of their knowledge (to create “doubt” in their minds as one trainer phrased it), and for them to act as referral agents to health posts in the district. At a broader discursive level, this fed into ideas of modernity where many of these traditional healers were denigrated by the more educated as backwards and an impediment to development (Harper 2003; Ortner 1998).

Pigg has written extensively about the broader ideological and discursive dimension of emphasizing how “traditional healers” are the focus of development

interventions (Pigg 1992; 1996; 1997; 1999). She argues that they occupy the space where policy and programs can be translated into practice. These “traditional healers” are treated generically in that they deal in health, so are like us but different enough to be the object of trainings and the objects of change (Pigg 1997).

We believe that this discursive marginalization of traditional healers has also been associated with a reinforcing of the marginalization of mental health. Whereas illnesses of the body require modern biomedical doctors, *dhami-jhankri* (traditional healers) are described as having therapeutic value for *neurotic* illnesses, as they allow the patient a spiritual construct to explain the symptoms (United Mission to Nepal 1998, p. 274). This logic links mental illness with superstition and "backward" forms of healing. Moreover, Cartesian biomedicine pathologizes traditional healing through labels of mental illness. Both psychologists and psychiatrists label traditional healers who arrive as their patients with International Classification of Diseases (ICD-10) F44.3 “Trance and Possession Disorders” appearing under the Dissociative [Conversion] Disorders (WHO 2004). Psychiatrists typically medicate traditional healers with antipsychotics, and clinical psychologists help them relate their distress to social problems and stressors, and then teach the patient that psychological approaches can relieve stress.

Traditional healers are thus a part of the ideological space of development and progress, the overarching arena in Nepal where new identities and subjects are being forged; one leaves the past, and thus backwardness, behind to become modern, and thus educated and progressive. In doing so, this raises questions of the significance of *saato* in mental health and the future of traditional healing for mental health complaints. Because of development, modernization, and Cartesian hegemony, health seeking for both mental

and physical distress from traditional healers is an environment of increasing stigma. This raises the question of whether an effective emotional, psychological, and social intervention will be lost to Nepalis if traditional healing becomes less available. This is not to deny that individuals and their families continue regularly to call upon the services of traditional healers to alleviate suffering.

2. General Physicians – Currently in Nepal, sufferers and their families visit general physicians (family physicians, pediatricians, and internists) after trying home remedies and self-medicating based on pharmacist recommendations (see Figure 2). Sufferers visit general physicians with the expectation of alleviating pain, typically conceived by sufferers as a malfunction of *jiu*, *sarir*, or *angha* (the body and its parts). Individuals present to physicians with bodily complaints, wounds, diarrhea, broken bones, etc. The doctor alleviates pain through the administration of medicine, particularly shots, which families and patients frequently perceive as stronger than pills (cf. Boker 1992). Families and patients generally do not disclose issues of the *saato*, *man*, and *dimaag* to general physicians; nor do physicians in our experience encourage such discussion.

General physicians typically do not represent a stigmatized space. On the contrary, physicians represent modernity. Furthermore, from the perspective of indigenous mind–body divisions, they treat a non-stigmatized part of the self, the *jiu*. The Cartesian dichotomy central to biomedicine reinforces the valorized space of the general physician; they address "real" physical problems, rather than problems of the mind. Thus, there is not damage to the *ijjat* by visiting a general physician. When physicians do encounter mental illness, they may provide treatment without naming it as so. One

physician explained his reluctance to tell patients and their families that they have a "mental disease" such as depression. Although he identifies depression and prescribes anti-depressants, he does not tell patients the diagnosis because the families "think the worst." Husbands consider abandoning their spouses. When the patient hears, "mental disease", they "see it as the end of the world," the physician explained. Ecks (2008) describes a similar issue in Kolkata, West Bengal.

The focus on physical complaints also can lead to a reconstituting of complaints in terms of the body to the neglect of issues of the *man*, *dimaag*, *saato*, and social world. This is particularly the case with "idioms of distress" (Nichter 1981) such as *gyaastrik* (gastric complaints) (See Ecks (2004; 2005) for examples from West Bengal) and *jhamjham* (parasthesia) (Kohrt and Schreiber 1999; Kohrt, et al. 2005; Kohrt, et al. 2007). In both urban and rural areas of Nepal, *gyaastrik* has emerged as a common idiom of disease. As many people reckon that recovering from *gyaastrik* requires a life long change in diet and typically is resistant to treatment, it is a particularly feared problem. Doctors in the Palpa mission hospital and other local clinics were commonly misdiagnosing this as gastritis. Even treatment failures were explained with an emphasis exclusively on the body. One surgeon in the Palpa mission hospital claims that *gyaastrik* persists because of failure to treat the disease correctly with pharmacological "triple therapy" protocols (an antibiotic, a proton-pump inhibitor, and a histamine blocker). Here we see a complaint being viewed exclusively in the physical arena to the neglect of other elements of ethnophysiology.

A woman with similar problems to Kalpana revealed that she had had no less than four gastroscopies in a number of hospitals across Nepal after complaints of *gyaastrik*.

All of them came out normal. She was considering having a fifth, despite attempts to persuade her that this was unnecessary. The slippage of the term *gyaastrik* used in common Nepali parlance throughout much of Nepal, to the medical term “gastritis,” may be one issue in the persistent medical misunderstanding of this problem. Yet, it is partly an understanding that the hospital is the space where such physical problems are presented, combined with the stigma of being labeled with a “mental” problem that compounds the issue. The case of Naresh illustrates how the family first pursued the physical gastrointestinal complaints, and only later pursued treatment from “traditional” healers and mental health workers for potential problems in the *saato* and *dimaag*, respectively.

It is important to note here how biomedicine and its Cartesian thinking are overlaying its stigma on the preformed mind–body divisions and its concomitant stigmas. Ultimately, general physicians, biomedicine, and Cartesian dichotomies give supremacy to the *jiu* and potentially add stigma to the *dimaag* on top of the existing marginalization built into indigenous mind–body divisions.

3. Psychiatrists – As of 2004, there were only 30 psychiatrists in Nepal, and most of them were in Kathmandu (Regmi, et al. 2004); current estimates are 40 psychiatrists in the country, still concentrated in Kathmandu. However, even in an increasingly cosmopolitan capital, urban patients rarely visit psychiatrists first, except in cases of psychosis among educated families. Usually, before seeing a psychiatrist, individuals visit general physicians and traditional healers, with the former providing a referral to the psychiatrist (see Figure 2). General physicians refer to a psychiatrist when a patient does

not improve even after repeated treatments, or when patients exhibit psychotic behavior. This is a last resort because through the referral, the general physician is placing a tremendous burden of stigma on the patient and her family. From our clinical and ethnographic work, we have met many families who describe the tremendous loss of *ijjat* in bringing a family member to see a psychiatrist. Families bringing patients to the mental hospital often register the patient under false names, which later creates problems for continuity of care and follow-up. Families with more economic means will take patients to India for psychiatric treatment to minimize public exposure.

This stigma against psychiatry is rooted in the daily discourse of mind–body divisions that identify dysfunction of the *dimaag* as socially threatening and damaging. For Naresh's family, hearing that his condition was not a mental illness was a tremendous relief. The treatment and psychological counseling recommended by the psychiatrists was secondary, if not entirely insignificant, in light of hearing that Naresh's *dimaag* was normal.

The public and other physicians stigmatize psychiatrists because they deal with this "incurable" and "socially dangerous" health issue of *dimaag thik chhaina*. Many people refer to psychiatrists as "crazy doctors" and the one mental hospital in the country as "crazy prison." A hospital administrator in Kathmandu describes that the psychiatrist in his hospital is a "neuro"-psychiatrist; he explains, "It is worse to be a *baulaahaa* (crazy) doctor [a psychiatrist], than to be *baulaahaa* [a crazy person]" and that this was why we should refer to one with the prefix "neuro-." One physician explains his decision not to study psychiatry despite his interest in the subject: "For families, it is a bigger shame to have a child who is a psychiatrist than to have a child who is not a doctor at all."

One of the ways that psychiatrists deal with the stigma is to locate the pathology in the body. This is rooted in clinical training that emphasizes pharmacological rather than psychotherapeutic treatment (for accounts in Western settings see Luhrmann (2000)). One psychiatrist describes mental health as a problem of biology and emphasizes the importance of the electroencephalogram (EEG) for both its biological diagnostic acumen and its symbolic importance for giving psychiatrists status among other physicians. He was amused when interviewed, indicating that while the social issues on which we focused were interesting, they were secondary to the reality of mental illness causation, which remained firmly embodied in the chemical make up of, and other organic dysfunction of, the brain.

4. Clinical Psychology – Clinical psychology is a new and emerging field in Nepal. Naresh is one of the few people in the country who has seen a clinical psychologist. In 2004 there were five clinical psychologists in the country, only one of whom trained in Nepal (Regmi, et al. 2004). The country's leading teaching hospital began training clinical psychologists through an M. Phil. curriculum less than a decade ago. Clinical psychologists focus on neuropsychological testing and behavioral therapy. Psychiatrists refer cases to the clinical psychologist when they feel that the patient is not appropriate for pharmacotherapy or would not improve on pharmacotherapy alone (see Figure 2).

One clinical psychologist describes a tension between psychiatric and psychological intervention because patients arrive already with a diagnosis and a way of thinking about their illness crafted by the psychiatrists. The clinical psychologists try to encourage patients to think about their social situation, but this can produce a double

stigma. The first stigma is the label of mental illness and the second arises from describing the social problem, which is also socially damaging, such as alcoholism, domestic violence, sexual violence, etc. Psychoeducation is seen as central to treatment. The psychologist thus steers patients to relate problems to causes; if they can grasp the links, then they become more open. If not, they leave. Many just ask for medication. They do not believe the talking helps at all. These issues were illustrated by Naresh and his family who thought that since no medicines were given by the psychologist, they would not need any more treatment. Kalpana had no such access to clinical psychologists.

Clinical psychology also reinforces the backward–modern dichotomy in psychological wellbeing. A psychologist explained that cognitive behavioural therapy (CBT) for depressed patients needs to address their cognitive distortions and negative thoughts, but if someone says her suffering is from witchcraft, they are not reflexively modern enough for psychologists to help them. If the patient says it is witchcraft, the clinician may label the patient as psychotic. The family interprets this as being *paagal* (crazy), having a dimaag dysfunction, and ultimately losing *ijjat*.

In addition to clinical psychologists, psychosocial counsellors also are available for treatment as a part of the growing field of paraprofessional psychosocial workers (see Figure 2). In the next section, we will discuss psychosocial counselling within the framework of public health movements and stigma reduction.

PART 4: RECONSTITUTING LOCAL MIND–BODY DIVISIONS TO REDUCE MENTAL ILLNESS
STIGMA AND PROMOTE MENTAL HEALTH SERVICE USE

In Nepal, several organizations have creatively applied local mind–body relations in public health approaches that attempt to reduce the stigma of mental illness and promote use of mental healthcare services. Below, we describe two such public health approaches. In the first, mental illness is reinterpreted as *nasaako rog* (nerve disease), which is a condition of the body rather than the mind. In the second program, psychological distress is framed as *manosamajik samasya* (psychosocial problems), wherein the pathology is located between the *man* and society, rather than a dysfunction of the *dimaag*. We discuss the advances made by such programs, while also commenting on the limitations of such approaches.

The nasaako rog (nerve disease) approach

In the mid 1990s, expatriate physicians at a mission hospital in Palpa district developed mental health guidelines to translate psychological distress into a physical health model. The United Mission to Nepal⁵, which ran the hospital (Harper forthcoming), worked toward a redefinition of mental illness. Their *nasaako rog* approach focused on making psychiatric morbidity less stigmatizing and more socially acceptable by introducing the concept of "nerve disease" (United Mission to Nepal 1998, p. 272ff). A change in terminology was hoped to produce a change in social significance. *Nasaa* (in Turner's dictionary *naso* is defined as "nerve, vein, sinew," p. 370) are the

⁵ A multi-denominational protestant endeavor, The United Mission to Nepal (UMN) established a Christian Mission on the widest co-operative basis, one which by 1999 had 34 Member bodies, and 17 Affiliated Member Bodies based in the US, the UK (Scotland, England), Australia, India, Germany, Japan, Norway, Canada, Ireland, Denmark, Finland, Sweden, Switzerland, Korea, Philippines, Netherlands, Singapore (UMN 1999). For more on the history of the UMN and this hospital see Harper (forthcoming).

cords and tubes of the body, most commonly "nerve" in everyday discourse. *Nasaa* connect the dimaag to the rest of the body.

The guidelines for mental healthcare at the mission hospital first provide a brief exposition on the mind–body continuum. The advice in the guidelines is for practitioners to acknowledge the physical symptoms as real and explain them with a physical model that has meaning for the patient (United Mission to Nepal 1998, p. 272ff). In the protocols for treating *nasaako rog* (nerve disease), which were to be used by doctors and health workers, the list of common symptoms for the diagnosis of depression starts with the physical complaints, then moves onto a list of “unpleasant feelings” including not sleeping well, having a poor appetite, feeling tired, wanting to cry, feeling a loss of energy, having unpleasant dreams, feeling afraid for no reason, wanting to be alone, feeling angry, and losing enthusiasm for life. A list of triggers that may lead to the start of the nerve disease include the following: the death of a loved one; being given more responsibility than one can handle; fear of failing an exam; coping with a new marriage; going to live with a new husband and new mother-in-law and losing friends and family; a physical illness which takes time to get better; coping with an alcoholic; loneliness; lack of love, happiness or a good relationship.

The impact of this approach was experienced by Kalpana. She was coming to re-experience her condition not as witchcraft, but as a problem of the nerves, one treatable as a condition of the body with medication (a tricyclic anti-depressant). Reframing mental illness as *nasaako rog* is an example of linguistic and conceptual reframing to avoid the stigma placed upon *dimaag* and *maanasic rog* (mental illness). In addition, it was designed consciously to decrease dependence on *dhami-jhankris*. Missionary

intervention has the added ideological imperative of perceiving these practitioners as “witchdoctors”, or evil, an added overlay of this specifically Christian form of modernity. It is important to note that there also may be influences relating to historic roots of soul–body divisions in Christianity originating in Pauline interpretations of the bodily resurrection (Bynum 1995; Lindland 2005) that influence the mission’s physicians practice. However, as we did not discuss this with mission physicians, it is not addressed here.

However, one of the pitfalls of the programs such as this approach to nasaako rog, which rely upon changes in terminology, is that, without proper education, purely relocating and renaming mental illness may just open up new spaces for stigma. One must be cautious that new terms do not become new spaces for stigma to re-manifest itself. For example, without public health awareness campaigns, there is the threat that nasaako rog could become stigmatized as is dimaag dysfunction. Furthermore, the reification of nasaako rog will contribute to mental healthcare that relies predominantly on psychopharmacology to the exclusion of social and psychological supports. Finally, this approach to nasaako rog specifically targets reduction of reliance on traditional healers, which is an important form of social healing.

Psychosocial Programs

Manosamajik karyakram (psychosocial programs), as practiced in Nepal, represent another reconstituting of the mind–body division. Manosamajik is a neologism combining *man* (heart-mind) and *samaj* (society) referring to the connection between psychological and social processes. "Psychosocial" is a popular international movement

in the humanitarian field that focuses on the interaction between social and psychological factors:

The term 'psychosocial' is used to emphasize the close connection between psychological aspects of our experience (our thoughts, emotions and behavior) and our wider social experience (our relationships, traditions and culture). The two aspects are so closely inter-twined in the context of complex emergencies that the concept of 'psychosocial wellbeing' is probably more useful for humanitarian agencies than narrower concepts such as 'mental health'. (Psychosocial Working Group 2003)

In the wake of an eleven-year war between the Communist Party of Nepal-Maoists and the security forces of the Government of Nepal, NGOs in Nepal are echoing the international trend and pursuing a community psychosocial approach. In Nepal, psychosocial practitioners include community psychosocial workers (CPSWs), who have completed short courses of one to two weeks and act in various roles within NGOs, and community psychosocial counselors, who have completed four to six month courses in basic counseling skills. In the last few years alone, NGOs have produced 500-750 psychosocial workers, the vast majority of whom have completed short courses such as the CPSW training (Kohrt 2006; Lamichanne 2007). The most extensive training program involves a six-month course on basic counseling skills for para-professional psychosocial counselors (Jordans, et al. 2002; Jordans, et al. 2003a; Jordans, et al. 2003b; Jordans and Sharma 2004).

In Nepal, one of the central features of psychosocial trainings and interventions is distinguishing *manosamajik samasyaa* (psychosocial problems) from *maanasik rog*

(mental illness). As the above quote from The Psychosocial Working Group illustrates, the international division between psychosocial and mental health is that the former involves the interconnection between psychological and social experience. However, in Nepal, one of the primary differences between psychosocial and mental is the location of pathology and the relationship to stigma. For example, one counselor explains:

"People view *manosamajik samasyaa* (psychosocial problems) as *maanasik rog* (mental illness) so they feel very ashamed to come forward. They think that if they tell anyone about their problem they will be stigmatized... they will be sent out of the village... so we explain to them that what they have is not a *maanasik rog*."

The redefining of mental as psychosocial occurs through relocating pathological distress in the *man* rather than in the *dimaag*. The four key elements that psychosocial counselors claim to address are *man*, *jiu*, behavior, and relations with other people. These individuals are referred to as *manobimarshakarta* (person who advises on matters of the heart-mind). Psychosocial counselors emphasize the relationship between the *man* and society or social relations; they do not explain problems in terms of *dimaag* dysfunction. A psychosocial counselor exposed the challenge of reconstituting psychological complaints as psychosocial problems rather than mental illness symptoms:

"Paagal (madness or psychosis) is a problem of the *dimaag*. *Chinta* (worries or anxiety) is also perceived as a *dimaag* problem. People with these problems don't think they have problems with their *man*. They go to the doctor if they have a *dimaag* problem, but they wouldn't go for a *man* problem. We have a difficult

time explaining to people what a counselor does and that we are trying to help their *man*."

Whereas psychiatrists explain physical symptoms associated with psychiatric disease in terms of *dimaag*, psychosocial counselors explain the connection in terms of *man*. A psychosocial counselor explains how she struggles with psychoeducation to teach patients the relation between emotions and somatic complaints:

"We try to give a clear picture explaining that when you think a lot, your *man* gets affected, then your body gets affected and you have a headache and stomachache. Then your relations with other people get affected so that you get irritated when other people talk, or you just want to sit alone."

For Nepali psychosocial counselors, the pathogenic agent from the psychosocial framework is society and the environment. Psychosocial counselors consider clients to have psychological and emotional problems because of their lifestyle and the people around them. This approach avoids the stigma associated with discussing mental illness and *dimaag* by discussing symptoms in terms of *man*. In a study of perceptions of counseling in Nepal, Jordans and colleagues (Jordans, et al. 2007) found that 92% of beneficiaries reported that the counseling service was appropriate culturally and that stigma was not a problem related to service use. This supports the viewpoint that visiting a community counselor is not stigmatized in the same manner as visiting a psychiatrist.

Currently, few people are seeking out psychosocial care as they would a doctor or traditional healer; instead psychosocial programs identify people in need of care through community awareness programs and screening children in schools (Kohrt 2006). Ultimately, psychosocial programming, like the nerve disease approach, provides a space

for treatment of psychological distress and mental health in a manner that is less damaging to *ijjat* (social status), and thus promotes service use and compliance to treatment.

The potential limitations, however, of the implementation of psychosocial approaches in Nepal are fourfold. The first issue is the pitfall of re-labeling, as described above with reference to *nasaako rog*, wherein new terminology may become stigmatized in the same manner as *dimaag dysfunction*. With the spread of 'psychosocial' as a term referring to many problems previously classified as *dimaag dysfunction*, there is the risk that people labeled with 'psychosocial' problems also will be stigmatized. The second potential limitation is that 'psychosocial' is not taken up as a category necessitating intervention and support. This is illustrated by Naresh's case. When the family was told that Naresh had a problem with his *man*—but his *dimaag* was fine—this was interpreted by the family as an indication that he did not need professional care and thus the family did not return for additional counseling. The third potential limitation is the converse of a problem with the *nasaako rog* campaign. Wherein the "nerve disease" approach may lead to over reliance on psychopharmacology, the 'psychosocial' approach may be a barrier to mental healthcare in a medical setting. For example, the main recommendation of counseling beneficiaries in the study described above was the need for medication to be provided along with counseling (Jordans, et al. 2007). The final limitation is the lack of consensus in the definition of 'psychosocial'. For example, whereas The Psychosocial Working Group emphasizes the mutual relationship between psychological and social, most psychosocial workers in Nepal described it as a one-way street in which social problems cause psychological difficulties. This latter approach ignores the multiple and

complex pathways that contribute to psychological difficulties and the impact that psychological problems have on social processes and institutions. Moreover, the unidirectional interpretation obscures the issue that stigma arises at the *interaction* of social and psychological processes, rather than being simply a result of social processes.

CONCLUSION

Addressing the social stigma of mental illness in Nepal requires an understanding of local mind–body divisions. The *dimaag* (brain-mind) is the organ of socialization and social control. The public perceives individuals who lack socially appropriate behavior as deficient in their *dimaag* activity. Thus, *dimaag* dysfunction is tied directly to loss of *ijjat* (social honor) because the dysfunction represents an inability to abide by social norms. The exposition of mind–body discourses reveals the multiple dynamic ways in which sufferers and their families can interpret mental health distress. Help-seekers navigate among diagnoses constantly seeking a context that best fits their subjective experience of distress and the social world in which that is lived.

Our interpretation argues that the stigmatization of behaviors attributed to the mind predates the introduction of biomedicine and Cartesian duality in Nepal. The stigmatization appears to be rooted in concepts of the social implication of these behaviors: violation of social norms, especially caste hierarchy and gendered interactions. The perception of these defects as incurable further fuels the stigma, contributing to a fusion of illness with identity. This suggests, in broad strokes, that many of the fundamental features related to stigma against behaviors related to *dimaag* dysfunction in Nepal correspond to similar roots of stigma against mental illness in the West (Estroff

1981; Fink and Tasman 1992; Goffman 1963). However, the ethnopsychology of mind–body divisions explaining mental illness, the specific social violations most admonished, and specific pattern of ripple effects upon family are influenced strongly by Nepali cultures. Ultimately, there may be enough overlap between the “stigma systems” that the discrimination against mental illness in Cartesian biomedicine resonates with and augments the indigenous framework already marginalizing the mentally ill in Nepal.

Regarding future directions, it is important for medical anthropologists, psychiatrists, and psychologists to continue exploring mind–body divisions in non-Western settings. Studies of ethnophysiology in other cultures also have suggested complex frameworks for understanding bodily processes. Fox (2003) describes the divisions among heart, mind, and brain in *Mandinka* nosology. Based on her study of Naikan in Japan, Ozawa-de Silva (2006) describes how mind and body are seen as unified in health but can be separate sites of pathology. In addition, Hinton and Hinton (2002) discuss the process by which the ‘seven bodies’ of panic draw upon metaphor, the natural landscape, and sensation itself among Cambodian refugees. Furthermore, medical anthropologists and psychiatrists should look at the intersection and translations of indigenous mind–body relations and Cartesian divisions brought in through biomedicine, education, and other processes of modernity. Such intersections and translations may inadvertently exacerbate stigma and create obstacles to care for mental illness.

Finally, it is helpful to reflect again on the cases of Naresh and Kalpana. For Naresh's family, avoiding references to *dimaag* and mental illness was one of their most pressing concerns. After visiting an array of health professionals, the family was most comfortable referring to his distress in bodily terms, with his mother also invoking loss of

saato. Furthermore, although the family was relieved that Naresh did not have a dimaag problem, they did not comprehend the relevance of the clinical psychologists and a "talking cure." As we described, the *man* is not conceived as an organ of pathology which can be diseased or needs to be cured. Instead, the *man* registers when one is healthy or ill based on its lightness or heaviness. This highlights one of the limitations of the psychosocial endeavor, which focuses on *man* rather than dimaag. Because *man* is not seen as an organ susceptible to pathology, the family did not pursue further counseling for Naresh. The physicians who could alleviate Naresh's bodily pain and the traditional healer who recalled Naresh's soul were congruous with their understandings of pathology and suffering in relation to the *jiu* (body) and *saato* (spirit). Ultimately, both Naresh's and his family's *ijjat* (social status) were at stake in terms of the choice of care sought, the diagnoses they received, and the models they then endorsed. And, although *ijjat* was maintained, the lack of continued counseling raises concerns about his mental health recovery.

For Kalpana and her family, the explanation of her depressive and physical symptoms as *nasaako rog* (nerve disease) was congruent with her understanding of suffering as potentially originating from the body. The medical treatment was a salient healing based on bodily dysfunction and one in which she invested her hopes for palliation of distress. Like Naresh's, Kalpana's visits to doctors reframed idioms of distress, particularly abdominal complaints, as biological pathology. But, in neither case did the person improve with biomedical gastrointestinal treatments. Kalpana's husband, like Naresh's family, was adamant that the psychological and emotional complaints were not mental illness. The *nasaako rog* approach allowed Kalpana's husband to view the

distress as bodily nerve pathology. Ultimately, Kalpana now is relying primarily upon the psychiatric medicines for her healing. The interpretation of psychiatric distress as a bodily dysfunction in the form of *nasaako rog* may contribute to an over-reliance on these medications without the compliment of social and psychological supports to promote mental health. For example, the bodily focus does not emphasize the need for exploring broader family and social relations in Kalpana's life, even as she defines some of these through local idioms of witchcraft.

Public health workers should utilize knowledge about the interaction between mind–body divisions, mental illness, and stigma to develop creative health campaigns to reduce stigma and promote service use. However, simply renaming mental illness may create new spaces for stigmatization. What will be the public perception of *nasaako rog* and *manosamajik samasya* a decade from now in Nepal? Will the public stigmatize these terms to the same degree as *dimaag* dysfunction? Furthermore, renaming can change the health-seeking in both positive and negative directions. For example, the *nasaako rog* focus may promote psychopharmacology to the exclusion of social and psychological healing. The psychosocial focus on *man* may contribute to decreased help seeking if family members dismiss *man*-related distress as an arena to be addressed personally rather than something aided by seeking help. Medical anthropologists can be instrumental in providing the foundational knowledge for public mental health programs to target stigma. Medical anthropologists can work to identify the roots of why mental illness is stigmatized by calling upon studies of language, ethnopsychology and ethnopsychiatry, and other ethnographic tools. From this information, we can advance the scientific study

of stigma (Keusch, et al. 2006) and work toward global health programs that address not only the symptoms but also the stigma of mental illness.

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CHAPTER 3: POLITICAL VIOLENCE, PSYCHOSOCIAL WELLBEING AND MENTAL

HEALTH: A SYSTEMATIC MULTI-DISCIPLINARY REVIEW IN NEPAL

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Abstract:

Background: Mental health is an important contributor to the global burden of disease, but it receives little attention in low and middle income countries (LAMIC). Nepal is an example of a low-income country with a history of political violence typical of post-Cold War trends. The objective of this systematic review was to synthesize scientific findings on the psychosocial and mental health sequelae of political violence and its treatment in Nepal from a multi-disciplinary perspective.

Methods & Findings: We searched databases relevant to both the medical and social sciences (Medline, PsychInfo, PILOTS, Anthropology Plus, JSTOR/ Anthrosource), with the key words Nepal and violence/ armed conflict/ war/ torture/ mental health/ psychosocial/ psychological/ social/ trauma/ PTSD. Thirty-eight studies met the following inclusion criteria: (a) study contains original data or is a systematic review, (b) concerns a population in Nepal, and (c) focuses on psychosocial wellbeing/ mental health in the context of political violence. Most studies addressed the mental health of specific vulnerable groups (i.e. torture survivors, forced migrants) in the context of recent refugee crises and the Maoist armed insurgency. A smaller amount of ethnographic studies

described the impact of the Maoist insurgency on social relations. Only three treatment studies were identified.

Conclusions: Identified studies suggest that political violence affects psychosocial wellbeing and mental health through a loss of infrastructure, threats to social relations, and increased exposure to traumatic events. In specific at-risk groups, elevated rates of PTSD, depressive, anxiety, and dissociative symptoms are identified and associated with disability. However, interpretation of findings is marred by an over-reliance on cross-sectional designs and non-representative sampling. In spite of these limitations, a multi-disciplinary systematic review is helpful to provide more nuanced research and policy recommendations, especially related to a focus on specific target groups, the importance of the broader social context, and the role of PTSD. More research is needed to identify the causal mechanisms through which political violence and associated changes in the social context lead to deteriorated psychosocial wellbeing, as well as what types of interventions effectively address this.

Introduction

Political violence, a pervasive problem especially in low- and middle-income countries (LAMIC), is recognized increasingly as an important concern for public health [1], including psychosocial wellbeing and mental health⁶ [2,3]. Though mental health problems account for 11.1% of the global burden of disease in LAMIC, they are often neglected in terms of policy, intervention and research [4].

Recently, the Inter-Agency Standing Committee (IASC) developed consensus guidelines on mental health and psychosocial support in emergency settings [5]. IASC advocates interventions that address both psychological and social consequences of emergencies. The guidelines demonstrate a recognition of emergency-associated risk factors to psychosocial wellbeing and mental health beyond the experience of specific traumatic events, such as ruptures of family and community support systems, threats to income generation, and disrupted transmission of cultural traditions and values [6]. Similarly, humanitarian practice in complex emergencies has adopted the word ‘psychosocial’, to emphasize the connections between psychological and social functioning [7].

Humanitarian efforts based on current consensus therefore need to draw upon bodies of knowledge that traditionally have been associated with different academic disciplines, e.g. medical (psychiatry/ public health) and social (anthropology, psychology, political

⁶ The World Health Organization’s constitution defines ‘health’ as “as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (see e.g. [2], p. 2). Similarly, the term psychosocial is used in the humanitarian community to emphasize the close connection between psychological and social aspects of functioning [3]. Though these definitions show both terms are largely overlapping constructs, for the purpose of this systematic review we have aimed to use the terms together, unless cited work indicated a clear preference.

science) sciences. Global health workers and academicians increasingly encourage such multidisciplinary approaches [8-10].

One way to advance multi-disciplinary understanding of the relationship between political violence and psychosocial wellbeing/ mental health is to synthesize existing literature from different fields. Our aim here was to provide a multi-disciplinary systematic review of the academic literature addressing these relations in Nepal. We hoped a multi-disciplinary systematic review would (a) provide an enhanced ability to interpret medical research findings within local socio-cultural context, (b) help identify gaps in knowledge of both research traditions that could lead to new research directions, and (c) offer increased opportunities to formulate policy recommendations.

We focused on one country because this would provide an opportunity to pursue the depth of analysis needed to bring together findings from different scientific disciplines. Nepal's history of political violence exemplifies post-Cold War trends of internal conflicts fought in civilian populated areas, mostly in LAMIC [11]. Moreover, Nepal has very few mental health resources, similar to other LAMIC affected by political violence [12]. Therefore, these findings should be relevant to international practitioners and researchers. To our knowledge, this is the first systematic review that addresses political violence, psychosocial wellbeing and mental health within one country, from a multi-disciplinary perspective.

First, we provide a description of the setting and historical background of political violence in Nepal, after which the systematic review's methodology is outlined. Results of the studies identified by the review are categorized by the major incidences of political violence in Nepal, followed by treatment findings. We end the paper with a discussion of intervention and research needs in Nepal, their relevance to an international audience, and propose ways forward.

Background and setting

Nepal is a landlocked country to the north of India and the south of the Tibetan autonomous region of China, with a population of almost 28 million [13]. Its geography consists of three distinct zones from south to north: a plain region (Tarai), a hilly region in which two of its largest cities are located, and a northern mountainous region. Nepal's population comprises more than 60 ethnic and caste groups [14]. Currently, Nepal ranks 142 on the human development index - near the bottom of the medium human development category [15]. This rank conceals strong inequalities by region (e.g. in agricultural production), gender (e.g. in literacy), and urban versus rural areas (e.g. in infant mortality) [16]. Economic activity consists of agriculture (39.5%), services (39.5%), and industry (21.1%). Thirty-one percent of the population lives below the poverty line. Moreover, Nepal now has the highest income gap between rich and poor in Asia with the Gini coefficient increasing from 34.2 to 41.1 in the past decade [13].

As can be seen in Table 3-1, the political history of Nepal, since its inception as nation state, has been far from peaceful. From undocumented armed rebellions against early

autocratic rule [17], an armed insurrection in 1950, the Jhapa uprising in 1971, to the recent decade-long Maoist insurgency, organized violence has a longer history in Nepal than the Western imaginations of Nepal as *Shangri-La* [18,19]. The major situations involving political violence in Nepal are (i) the general use of political violence by state security forces throughout Nepal's history, (ii) the plight of refugees in Nepal from Tibet and Bhutan, and (iii) the recent decade-long Maoist conflict.

Origins of the armed Maoist insurgency have been attributed to poverty, unequal division of wealth, ethnic, regional and caste discrimination, disappointment with state governance and violent state responses to the Maoist movement (see [20-22]). With a GDP of \$260 per year, Nepal is one of the poorest countries in the world [13] and as mentioned above, this poverty, is unequally divided. Thapa with Sijapati [22] state that the economy of Nepal has favored the urban, the rural rich, and a handful of elites. Moreover, economic and political power is centralized in the capital, with minor representation from rural regions. In addition, Nepal tops the gender inequality index in South Asia, with a higher workload for women, lower literacy, earlier average mortality, and myriad discriminatory laws [23]. These gender disparities have fueled the armed conflict, evidenced by an approximate 30 percent of the Maoist political wing comprised of women and 17 percent of the Maoist military comprised of women [24,25]. Ethnic inequality, institutionalized through the Hindu caste system, is visible in the lack of representation of ethnic diversity in government positions; in 2001, 98% of people passing civil service examination were from Hindu hill groups, even though they constitute 29 % of the population [22]. After fleeting political optimism following the

1990 transition to multi-party democracy, the public has blamed the government for lack of economic growth, political instability, and institutionalized corruption [17,18].

Moreover, widespread human rights abuses and strong repression of dissent by the state, and specific police operations have been cited as driving conflict [21,26].

TABLE 3-1. OVERVIEW OF NEPAL'S POLITICAL HISTORY

Period	Events
1740 to 1768-9	Prithvi Narayan Shah, from the kingdom of Gorkha, conquers disparate fiefdoms, establishing the kingdom of Nepal at twice its current size.
1816	After military conflict, Gorkhali Kingdom signs a peace treaty ceding nearly half its territory to the British East India Company.
1846 to 1950	After intensified political infighting in the royal court, Rana family seizes power, and takes on an autocratic hereditary prime minister role with King from Shah family as figurehead. Rana rule comprises military despotism, forced isolation from the outside world, brutal repression of dissent, and extracting resources from the countryside.
1949	Communist Party of Nepal (CPN) founded in Kolkata, India. Communist Manifesto translated in Nepali.
1950-1	Exiled Nepalis, involved in 1947's India's independence movement, form Nepali Congress (NC). An armed insurrection by the NC with support from the fled Nepali King Tribhuvan, leads to peace negotiations brokered by India (Delhi Compromise), which ends Rana autocracy. CPN denounces the Delhi agreement.
1950	China occupies Tibet, which starts a currently ongoing flow of Tibetan refugees into Nepal and India.
1960 to 1990	King Mahendra seizes power and introduces the Panchayat system in 1962, which bans political parties. Panchayat regime increases income gaps and corruption. During this period, CPN splits numerous times, including a fraction that later (1995) becomes the CPN-M (Maoists).
1971	The government crushes an armed communist rebellion called the "Jhapa Uprising", out of which comes the second largest (moderate) political party of Nepal, the CPN-UML (United Marxist Leninist).
1974	Fourth convention of CPN; their plans include armed revolution against government, training guerillas, creating separate communist bases throughout country, and agrarian uprising.
1984-1985	One branch of CPN becomes founding member of Revolutionary Internationalist Movement (RIM), which includes Peru's Shining Path. Fifth convention of CPN (1985); Puspha Kamal Dahal alias "Prachanda" becomes general secretary of one CPN branch.
1985-1990	Government in Bhutan introduces a series of policies regarding citizenship, dress code and language favoring Drukpa ethnic group over other ethnicities. Mass demonstrations, violent struggle and subsequent government crackdown lead to exodus of Nepali-speaking Bhutanese to southern Nepal.
1990 to 1996	Parties unite and start the first People's Movement (<i>Jana Andolan</i>). Start of politically unstable multi-party democracy (e.g. twelve changes of government between 1991 and late 2002). Prachanda, preferring Mao Tse-Tung over Marx, passes resolution within CPN branch to initiate a "people's war to bring about a new revolution in Nepal".
1996-2006	On February 13 th the CPN (Maoist), attack police posts and a state-owned agricultural development bank in five districts, starting the "People's War". Maoists are successful in expansion of control, armed attacks and mobilization.
1998	Government begins police operation "Kilo Sierra 2" against Maoist insurgency; civilian death toll increases.

2000-2004	Maoists attack district headquarters: Dolpo (2000), Bajura (2001), Dang (2001), Solu-Khumbu (2001), Arghakhanchi (2002), Jumla (2002), Bhojpur (2004), Beni (2004).
2001	Majority of royal family killed. Official reports blame Crown Prince Dipendra; however, public suspicion of conspiracy by current king is widespread. A ceasefire is in place from July. In November, the government imposes a State of Emergency after a series of Maoist attacks on police and army targets. The army deployed systematically for first time and armed violence intensifies greatly.
2002 to 2005	In October 2002, King Gyanendra dismisses parliament. His installed prime minister resigns after street protests in April 2004. Maoists by now control large parts of countryside and have set up parallel administrations in a number of districts. A second ceasefire is in place from February to August 2003.
2004	Amnesty International identifies Nepal as conflict with highest number of disappearances in the world, predominantly attributed to government security force abductions and extrajudicial killings.
2005 to current	King Gyandenra assumes direct control over the state and imposes a state of emergency in February 2005. Coordinated protests by political parties and Maoists in April 2006 (<i>Jana Andolan II</i>). Political parties and the CPN(M) broker fragile peace agreement, form an interim government and declare an interim constitution. Arms are held under the supervision of newly establish United Nations Mission in Nepal. Elections for a constituent assembly are planned and subsequently postponed for May and November 2007, currently scheduled for April 2008.

For overviews of political history in Nepal see Gellner, 2003; Hoftun, Raeper & Whelpton, 1999; Karki & Seddon, 2003; Metz, 2003; D. Thapa, 2003; D. Thapa with Sijapati, 2004

Methods

To ensure inclusion of studies from both medical and social science disciplines we searched the following databases: MEDLINE (1950 – present, and in process), PsychInfo (1804 – present), PILOTS (Published International Literature on Traumatic Stress; 1871 - present), RLG’s Eureka Anthropology Plus (late 19th century - present), as well as the JSTOR, and AnthroSource (both no limitation in years) websites. Our search was performed on June 22nd 2007 with the following search terms; “Nepal + violence”, “Nepal + “armed conflict””, “Nepal + war”, “Nepal + torture”, “Nepal + “mental health””, “Nepal + psychosocial”, “Nepal + psychological”, “Nepal + social”, “Nepal + trauma”, and “Nepal + PTSD”.

All studies resulting from this search were checked on title, key words and abstract on inclusion criteria: (a) study contains original data or is a systematic review, (b) concerns a

study population in Nepal, (c) makes specific reference to political violence, and (d) focuses on mental health/ psychosocial wellbeing. Book reviews and editorials were excluded, but we did not set any exclusion criteria based on the design of studies. Only English language publications were included. Subsequently, all included studies were divided into groups representing specific target groups or disciplines, and divided over authors specialized in these disciplines.

Cross-referencing took place by examining all cited references of included studies on title, abstract and key words. Authors responsible followed a central format that ensured standardization of adherence to inclusion and exclusion criteria. The latter was checked for all studies by the first author. Finally, we asked a group of authors working on this topic in Nepal if they knew of relevant studies that could be checked for inclusion. The relevant co-authors extracted text passages from studies independently, and summarized them using a structured format. This format listed title, authors, year of publication, sources of publication, short summaries and information relevant to the review category with page numbers. Consequently, the authors together drafted a summary of findings for discussion, which formed the basis of this text.

Our searches resulted in 525 references. Out of those studies, 31 met inclusion criteria. A further seven studies were identified through cross-referencing, resulting in a total of 38 studies meeting inclusion criteria.

Table 3-2a. Characteristics of included studies – State-sponsored violence

	Study	Objectives	Methods	Findings
1	Lykke & Timilsena, 2002	Find evidence of torture in the midwestern Nepal	<u>Setting:</u> Urban centre in Western Terai region (Nepalgunj) <u>Sampling:</u> Convenience sampling <u>Participants:</u> 63 torture survivors <u>Instrumentation:</u> Clinical interviews and examinations	Most torture takes place in police custody and torture has probably taken place for decades. Main reason for torture is suspected political (Maoist) activity. Torture claimed to be severely traumatizing for survivor.
2	Stevenson, 2001	Explore the perpetration of torture and available treatment in Nepal.	<u>Setting:</u> Kathmandu <u>Sampling:</u> Convenience sampling <u>Participants:</u> Secondary data and interviews with human rights organizations <u>Instrumentation:</u> Unstructured interviews	The use of torture is a deep-rooted problem in Nepal, and has increased in association with the Maoist insurgency by both government and insurgent actors.
3	A. Shrestha, 2007	Exploring physical and psychological problems of protesters	<u>Setting:</u> Pro-democracy rallies in Kathmandu <u>Sampling:</u> Secondary data and convenience sampling at help-seeking centers (mainly hospitals) <u>Participants:</u> 1211 participants, mainly male <u>Instrumentation:</u> Not known	There was evidence for police brutality on demonstrators, with tear gas, rubber bullets, and <i>lathi</i> (stick) charges. Demonstrators sustained mainly head and neck and limb injuries. Author observed psychological complaints.
4	Van Ommeren et al, 2002b	Analyzes the activities of a specialized non-governmental organization from a public mental health perspective	<u>Setting:</u> Kathmandu, two urban centres in the Terai region <u>Sampling:</u> help-seeking <u>Participants:</u> 680 torture survivors presenting to centers in 1999 <u>Instrumentation:</u> structured clinical reporting formats	Beatings, threats and deprivation are commonly reported. Torture survivors present somatic complaints, which can often not be explained by medical investigations, as well as vegetative and affective symptoms. Though PTSD is not spontaneously mentioned the authors believe it is a useful construct for practice.

TABLE 3-2B. CHARACTERISTICS OF INCLUDED STUDIES – REFUGEE CRISES

	Study	Objectives	Methods	Findings
Tibetan Refugees				
1	Schwartz et al, 2005	Explore adverse flight events of Tibetan refugees in Kathmandu and associated distress, and resources and needs associated with these.	<u>Setting:</u> Kathmandu <u>Sampling:</u> Convenience sampling <u>Participants:</u> N=29: 5 Focus Groups and 8 Key Informants <u>Instrumentation:</u> semi-structured interviews	A majority of people reported extreme events before, during, and after flight. 76% reported “wind imbalances” for which traditional treatment is sought and available.
2	Dolma et al, 2006	Document the experiences of Tibetan refugees on their way to Nepal	<u>Setting:</u> Kathmandu reception centre <u>Sampling:</u> Convenience sampling <u>Participants:</u> 50 recent Tibetan refugees <u>Instrumentation:</u> Semi-structured interviews	Average traveling time of the refugees was 34 days, during which traumatic events were experienced, including deprivation, physical abuse and torture by authorities, and extortion by Maoist rebels.
Nepali-speaking Bhutanese Refugees				
3	Hutt, 1996	Provide a socio-historic background to the Bhutanese refugee crisis, and assess the relevance of a model on differing modes of ethnicity underlying the crisis.	<u>Setting:</u> undisclosed locations in Nepal and Bhutan <u>Sampling:</u> Convenience sampling <u>Participants:</u> Field visits/ interviews and secondary data <u>Instrumentation:</u> Unknown	The refugee crisis seems to be rooted partly in a conflict between “ethnic nationalism” advocated by Bhutanese government and “demotic nationalism” of Nepali-speaking population in Bhutan.
4	N.M. Shrestha et al, 1998	Examine the mental health impact of torture on Bhutanese refugees	<u>Setting:</u> Refugee camps in South-Eastern Nepal <u>Sampling:</u> Simple random sampling <u>Participants:</u> 526 refugee torture survivors matched to 526 non-tortured refugees <u>Instrumentation:</u> DSM III-R criteria for PTSD, HSCL-25 for anxiety and depression (rating scales)	Torture survivors show more PTSD, anxiety, and depression symptoms and somatic complaints (musculoskeletal and respiratory system-related). Torture is a significant predictor of mental health problems.
5	B. Sharma & Van Ommeren, 1998	Research was aimed at describing the psychosocial consequences of torture with Bhutanese refugees.	<u>Setting:</u> Refugee camps South-Eastern Nepal <u>Sampling:</u> Multi-flex snowball and convenience sampling <u>Participants:</u> Narrative study n=10, case-note survey n=125, and focus groups unknown <u>Instrumentation:</u> Narrative study unstructured in-	<i>Karma</i> is a common explanation for occurrence of torture, and a number of somatic idioms of distress were identified. Focus groups identified coping methods.

			depth interviews, case-notes based on reporting formats, and focus groups were topical	
6	Van Ommeren et al, 2001a	Examine the mental health impact of torture on Bhutanese refugees	<u>Setting:</u> Refugee camps in South-Eastern Nepal <u>Sampling:</u> Simple random sampling <u>Participants:</u> 89.4% of the 1052 people from the Shrestha et al (1998) study, totaling 418 tortured refugees and 392 matched non-tortured refugees <u>Instrumentation:</u> traumatic history (HTQ part I) and the CIDI (structured psychiatric interview)	Torture survivors report more posttraumatic stress disorder, persistent somatoform pain disorder, affective disorder generalized anxiety disorders, and dissociative disorders (amnesia, conversion).
7	Van Ommeren et al, 2001b	Identify risk factors for experiencing faintness and dizziness in medically unexplained illness among Nepali-speaking Bhutanese refugees	<u>Setting:</u> Refugee camps in South-Eastern Nepal <u>Sampling:</u> Convenience sampling (list of teacher) <u>Participants:</u> 68 adolescents and 66 case controls <u>Instrumentation:</u> physical examination, CIDI, structured questionnaires for traumatic events (HTQ), social support, mental disease in the family, loss, somatoform dissociation, and spiritual beliefs	Childhood trauma, pulse rate, early loss and especially recent loss predicted occurrences of unexplained medical complaints.
8	Emmelkamp et al, 2002	Examine the relations between coping, social support and psychological and somatic symptoms in Nepal	<u>Setting:</u> Refugee camps in South-Eastern Nepal & Kathmandu <u>Sampling:</u> Simple random sampling <u>Participants:</u> 75% of the Van Ommeren et al study, 2001a tortured refugees (n=315) and help-seeking sample <u>Instrumentation:</u> DSM III-R criteria for PTSD, HSCL-25, a Social Network Schedule, locally designed list of coping strategies and BSI (rating scales)	Negative coping is related to all symptom measures and received social support is related more strongly to symptoms in both samples. Total amount of coping methods used is related to anxiety and depression.
9	Van Ommeren et al, 2002a	Examine the relations between somatic complaints and psychological problems.	See Shrestha et al, 1998	Torture survivors have more somatic complaints. Posttraumatic stress symptoms, independent of anxiety and depression symptoms, predict both the number of somatic symptoms and number of organ systems involved in those complaints.
10	S.B. Thapa et al, 2003	Examine disability associated with psychiatric symptoms in tortured refugees compared to non-tortured refugees	See Van Ommeren et al, 2001a	No difference in amount of disability is found in tortured refugees compared to non-tortured refugees. Different predictors of disability are found for tortured refugees (PTSD, specific phobia, present physical disease) than for non-

			tortured refugees (physical disease, greater age, generalized anxiety).
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BSI; Bradford Somatic Inventory, CIDI; Composite International Diagnostic Interview, included the specific phobias, affective, generalized anxiety, persistent somatoform pain, posttraumatic stress, and dissociative (amnesia, conversion) modules; HSCL 25; Hopkins Symptom Checklist – 25 items; HTQ; Harvard Trauma Questionnaire

TABLE 3-2C. CHARACTERISTICS OF INCLUDED STUDIES – MAOIST INSURGENCY

	Study	Objectives	Methods	Findings
1	Pettigrew, 2001a	Describe the impact of the government's State of Emergency instituted in 2001.	<u>Setting:</u> Kathmandu and Nepalgunj <u>Sampling:</u> Convenience <u>Participants:</u> Hospital patients, doctors, human rights lawyers, and NGO workers <u>Instrumentation:</u> Ethnography	The State of Emergency forced Maoists underground resulting in the population terrorized by government security forces. Members of the public were detained (typically without charges), tortured, and killed by security forces. Medical staff were under pressure to turn over the ill and injured, suspected of being Maoists, to government security forces. Physicians were arrested for treating suspected Maoists without notifying the government.
2	Pettigrew, 2001b	Describe consequences of Maoist insurgency on daily life	<u>Setting:</u> Predominantly Tamu (Gurung) villages in Lamjung and Kaski districts <u>Sampling:</u> Convenience <u>Participants:</u> Adult villagers <u>Instrumentation:</u> Ethnography	Maoist movement through villages challenged pre-existing notions of social exchange based on gender, kinship, age, and hierarchy. Older people were reluctant to acknowledge participation of women and youth in the movement. Through participation, youth were able to realign themselves with discourse of modernity, which was previously placed in towns.
3	Boyden et al, 2002	Explore the impact of the conflict on children's psychosocial wellbeing.	<u>Setting:</u> South Asia <u>Sampling:</u> Convenience sampling and review of humanitarian agency grey literature <u>Participants:</u> Humanitarian and human rights workers <u>Instrumentation:</u> Literature review and interviews	Children are affected by armed conflict in Nepal through the separation from caregivers, witnessing the humiliation of caregivers by Maoists and government security forces, reduced access to healthcare and basic needs, and increased physical injury and disability. Psychological symptoms include extreme shock, depression, impaired concentration, and social reluctance.
4	Stevenson,	Describe the impact of the	<u>Setting:</u> Health facilities	Under the Terrorism and Disruptive Ordinance of

	2002	government's State of Emergency on the provision of healthcare.	<u>Sampling:</u> Convenience <u>Participants:</u> Health workers, government health officers, and NGO health workers <u>Instrumentation:</u> Unstructured Interviews	2001, health workers could not treat suspected Maoists and had to report them to government officers. Doctors were forced to falsify documents for the Royal Nepal Army and police when suspects were tortured to death. Individuals did not seek healthcare because of government reporting policy.
5	Berg, 2003	Describe the social changes in religious practice related to Maoist insurgency	<u>Setting:</u> Solu-Khumbu <u>Sampling:</u> Convenience <u>Participants:</u> Buddhist religious leader, local population <u>Instrumentation:</u> Ethnography	A local Buddhist religious leader emphasizes the need for tradition and religion to deal with the violent upheaval of society related to the Maoist conflict.
6	DfID, 2003	Assess situation of health workers in conflict situation	<u>Setting:</u> Countrywide (11 districts) <u>Sampling:</u> Convenience <u>Participants:</u> Health workers and violence-affected persons <u>Instrumentation:</u> Semi-structured interviews	Accessibility of health services limited during conflict, health infrastructure destroyed, and health workers attacked/ under duress.
7	Kumar, 2003	Analyze the economic impact of the conflict.	<u>Setting:</u> Countrywide <u>Sampling:</u> None <u>Participants:</u> None <u>Instrumentation:</u> Review of economic documents	The militarization of Nepali society has led national funds and international donations to be directed to security sector. Conflict has led to widened gap between rich and poor with continued economic growth for urban elite while rural populations have seen no growth in a decade.
8	Pettigrew, 2003	Describe the psychological and behavioral impact of violence committed by both sides of the conflict upon a rural community	<u>Setting:</u> Tamu (Gurung) village in mountainous region of western Nepal <u>Sampling:</u> Convenience <u>Participants:</u> Village residents, primarily women <u>Instrumentation:</u> Ethnography, Beck Anxiety Inventory	Because the village is not aligned completely with one side or the other, people are at risk of being terrorized by either side. Women have a high burden of fear associated with sleep disturbances and somatization. Women cope with the "culture of terror" through creative resistance in the form of mocking Maoists in the domestic sphere.
9	Ogura, 2004	Describe the Maoist attack on Beni in 2004 and public perceptions	<u>Setting:</u> Beni, site of a Maoist attack in 2004 <u>Sampling:</u> Convenience <u>Participants:</u> Maoists, journalists, security forces, and civilians <u>Instrumentation:</u> Unstructured interviews	Maoists used schools, with students in them, as military sites. Injured Maoists were treated within the Maoist militia rather than taken to hospitals. Women and children were part of the militia. Children were forced to provide medical care and carry supplies. Maoists forced local people to aid in the attack.

10	D. Thapa with Sijipati, 2004 (Chapter 6)	Describe the impact of the Maoist insurgency in terms of economic, developmental, human rights and social consequences.	<u>Setting:</u> Countrywide <u>Sampling:</u> None <u>Participants:</u> None <u>Instrumentation:</u> Review of secondary data	Massive monetary losses, decline in economic growth and development, and destruction of infrastructure have been associated with the insurgency. Defense spending soared in comparison with other spending. In addition, structural human rights violations and large population displacements took place. Living in Maoist areas characterized by having to pay taxes, fear and intimidation by public executions, and having to provide food/ accommodation to Maoist cadres.
11	Singh, 2004	Describe the impact of the conflict on health and healthcare	<u>Setting:</u> Countrywide <u>Sampling:</u> None <u>Participants:</u> None <u>Instrumentation:</u> Review of secondary literature	The Maoist policy of "destruction before construction" negatively impacted the country's health status through destruction of health posts and disrupting transport of medicine and vaccines. High maternal mortality and increased HIV/AIDS exemplify the poor outcomes.
12	M. Sharma & Prasain, 2004	Describe the social and political background of women that motivates them to join the Maoists	<u>Setting:</u> Prisons and conflict affected villages in Rolpa, Dang, Bardiya, Salya, and Udayapur <u>Sampling:</u> Convenience <u>Participants:</u> Maoist women and women imprisoned for association with Maoists <u>Instrumentation:</u> Unstructured interviews	Women view Maoism as an alternative social structure. Women join the Maoists because of the social, cultural, and political restrictions on their lives, e.g. escaping alcohol-related domestic violence and other violence committed by government security forces.
13	Bhattarai et al, 2005	Explore the impact of national and international terrorism on tourism and personnel in the tourism field	<u>Setting:</u> Countrywide <u>Sampling:</u> None <u>Participants:</u> None <u>Instrumentation:</u> Review of secondary data on economic changes during conflict	The failure of tourism's growth in Nepal is rooted in the same causes cited by the Maoists for their violence. The threat of terror has had a more profound impact than actual events of violence. The tourism industry has been more impacted by the global war on terrorism than incidents in Nepal's national conflict.
14	Duncan, et al., 2005	Identify risk factors for PTSD among adults in the general population exposed to Maoist rebellion political violence	<u>Setting:</u> General population <u>Sampling:</u> Convenience <u>Participants:</u> 85 adult Nepali citizens <u>Instrumentation:</u> PTSD symptom survey, Pictorial Representation of Illness and Self-Measure (PRISM)	Old age, less education, rural residence, and subjective measures of psychological proximity to political violence predicted PTSD symptom severity.
15	Kohrt, et al.,	Identify the relationship	<u>Setting:</u> Jumla district of the midwestern	Exposure to politically-related stressful life events

	2005	among depression, somatic complaints, physical pathology, and exposure to stressful life events.	mountainous region of Nepal. <u>Sampling:</u> Random sample <u>Participants:</u> 316 community residents <u>Instrumentation:</u> Beck Depression Inventory, Beck Anxiety Inventory, Stressful Life Events Rating Scale.	(fired from job for political affiliation, taking part in political activities, and loss of security in the village) was associated with more somatic complaints and depression.
16	S.B. Thapa & Hauff, 2005	Assess traumatic experiences, distress symptomatology, and factors associated with distress among Internally Displaced Persons (IDP's) in Nepal	<u>Setting:</u> Kathmandu and 6 Mid-Western districts <u>Sampling:</u> Convenience sampling <u>Participants:</u> 290 IDP's <u>Instrumentation:</u> trauma events from HTQ, HSCL-25, PCL-C, and CIDI (for validation of symptom checklists)	Most IDP's report a previous traumatic event (average 4.6 events). Validated checklists show high rates of PTSD, anxiety, and depression complaints. Personal (subjective distress, literacy, gender) and social factors (caste, evacuation) are associated with symptomatology.
17	Collins, 2006	Describe the health implications of the People's Movement II and subsequent ceasefire in 2006	<u>Setting:</u> Countrywide <u>Sampling:</u> Convenience <u>Participants:</u> Medical personnel, NGO workers <u>Instrumentation:</u> Interviews and review of secondary literature	The failure of the healthcare system is attributed to government corruption and incompetence. Social exclusion of women and Dalits has resulted in poor health outcomes. Health and development worker have neglected the role of the king's autocratic rule in contributing to poor health nationwide.
18	Ghimire & Pun, 2006	Describe the impact of the conflict on health and healthcare	<u>Setting:</u> Countrywide <u>Sampling:</u> None <u>Participants:</u> None <u>Instrumentation:</u> Review of secondary literature	Health impacted by destruction of health posts, threatening of health workers, strikes blocking transport of pharmaceuticals, increased prostitution, internal displacement, and reduced government health expenditure.
19	Singh et al, 2006	Describe the impact of the conflict on child health	<u>Setting:</u> Countrywide <u>Sampling:</u> Structured review using Google scholar, POPLINE, Medline, and humanitarian agency documents <u>Participants:</u> None <u>Instrumentation:</u> Literature review	There has been no improvement in child health since the early 1990s. Children have been affected by closures of health posts and schools, disruption of vaccine cold chains, and abductions by Maoists. Children have increased psychological distress and increased psychological presentations to health facilities.
20	Singh et al, 2007	Review documents related to conflict-related internal displacement	<u>Setting:</u> Countrywide <u>Sampling:</u> Searches through PubMed, Embase, Google Scholar, POPLINE, Eldis development gateway, Reliefweb and UNHCR/ UNDP reports. Local experts and NGO's were contacted. <u>Participants:</u> None	IDP's receive lack of attention. Recommendations include a census, assessment of basic needs situation, and collaboration between government and non-governmental agencies.

			Instrumentation: Literature review	
21	Tol et al, 2007	Explore relations between psychiatric symptoms and disability among Nepali torture survivors	<u>Setting:</u> rural settings in 4 Mid-Western districts of Nepal <u>Sampling:</u> help-seeking <u>Participants:</u> 201 torture survivors (mainly male Hindu) <u>Instrumentation:</u> PCL-C, HSCL-25 and WHODAS II	A model in which PTSD (a) directly predicts disability, and (b) indirectly predicts disability through depression and anxiety best fits the data.
22	Pettigrew, 2007	Describe the effects of the insurgency on children's daily lives	<u>Setting:</u> Predominantly Tamu (Gurung) villages in Lamjung and Kaski districts <u>Sampling:</u> Convenience <u>Participants:</u> Mainly middle-aged, middle-income Tamu women <u>Instrumentation:</u> Ethnography	A "culture of terror" is described including institutionalization of fear which affects children. Caregivers employ strategies to keep children from harm and avoid mobilization, which includes attempts to limit mobility and socializing to silence. Changed social relationships include increased mistrust and children taking on different roles because of a lack of adult men.

PCL-C; Posttraumatic Checklist – Civilian version; WHODAS II; World Health Organization Disability Assessment Schedule – 12 items

TABLE 3-2D. CHARACTERISTICS OF INCLUDED STUDIES – TREATMENT FINDINGS

	Study	Objectives	Methods	Findings
1	Van Ommeren et al, 2002b	See Above	See above	Treatment for torture survivors is described, encompassing a) case management, b) counseling services, and, c) community-based rehabilitation strategies for Bhutanese refugees.
2	Acharya et al, 2006	Review psychosocial and mental aspects of disaster preparedness policy	<u>Setting:</u> Countrywide <u>Sampling:</u> None <u>Participants:</u> None <u>Instrumentation:</u> Review of mental health policy documents and secondary data	Nepal has a high risk for disaster situations, with a weak health system and low prioritization of mental health. Psychosocial and mental aspects should be incorporated in public health and disaster preparedness policy.
3	Jordans et al, 2007	Explore perspectives of psychosocial counselors, their clients and program managers on psychosocial counseling practices, after a training program.	<u>Setting:</u> Non-governmental organizations in Kathmandu, and mixed other districts <u>Sampling:</u> Convenience and snowball sampling <u>Participants:</u> Counseling beneficiaries (N=34), counselors (N=26), and managers (N=23) <u>Instrumentation:</u> Semi-structured interviews	Clients, counselors, and managers generally present positive evaluations of psychosocial counseling, including its cultural appropriateness and satisfaction with services. Matters for improvement included lack of addressing specific needs (e.g. material, vocational, educational), need for more training and ongoing supervision.

TABLE 3-3. OVERVIEW OF EPIDEMIOLOGICAL FINDINGS

Study	Sample/ Design (N)	Mental health constructs (instrumentation)	Prevalence
Shrestha et al, 1998	Random sample of tortured Bhutanese refugees/ Case-control (n=1,052)	PTSD (DSM-III-R criteria), anxiety & depression (HSCL-25 ^a)	<u>Refugees:</u> PTSD: 3% Anxiety: 34% Depression: 14% <u>Tortured refugees:</u> PTSD: 14% Anxiety: 43% Depression: 25%
Van Ommeren et al, 2001	Random sample of tortured Bhutanese refugees/ Case-control (n=810)	Psychiatric diagnoses (CIDI)	<u>Refugees:</u> PTSD ^b : 4% Persistent pain disorder: 28% Affective disorder: 5% Generalized anxiety disorder: 6% Specific phobia: 26% Dissociative disorder: 3% <u>Tortured refugees:</u> PTSD: 43% Persistent pain disorder: 51% Depressive disorder: 8% Generalized anxiety disorder: 6% Specific phobia: 22% Dissociative disorder: 18%
Kohrt et al, 2005	Random sample of general population in Jumla/ Cross-sectional (n=316)	Anxiety (BAI ^c), Depression (BDI), local idiom of distress (<i>jhum-jhum</i> self-report)	<u>General population:</u> Anxiety: 28% Depression: 30% <i>Jhum-Jhum</i> : 42%
Thapa & Hauff, 2005	Convenience sample of Internally Displaced Persons/ Cross-sectional (n=290)	PTSD (PCL-C ^d), anxiety & depression (HSCL-25)	<u>IDP's:</u> PTSD: 53% Anxiety: 81% Depression: 80%
Tol et al, 2007	Convenience (help-seeking)/ Cross-sectional (n=201)	PTSD (PCL-C), anxiety & depression (HSCL-25)	<u>Torture survivors:</u> PTSD: 60%

			Anxiety: 86% Depression: 81%
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^a The HSCL-25 was later validated by Thapa & Hauff, 2005

^b 12-month prevalence is reported for all psychiatric diagnoses

^c The BDI and BAI were validated against a clinical diagnosis

^d The PCL-C and HSCL-25 were validated against local corresponding syndromes and a CIDI diagnosis

Results

State Sponsored Violence

The Gorkhali, Rana & Panchayat eras through the present (1740–2007)

No studies were identified that addressed psychosocial wellbeing and mental health during or after government-sponsored violence from the unification of Nepal to the Panchayat years (1769 through 1990), even though the Rana years were considered exploitive and physically violent. More recently, Nepali torture survivors have received specific attention from researchers. Though Nepal is a signatory to the United Nations Convention Against Torture, Lykke & Timilsena [27] found evidence of torture in the Mid-West of Nepal, mostly in police custody (see Table 3-2 for an overview of all included studies). Seventy percent of prisoners reported torture in a survey between 1994 and 1997 [28]. Torture consisted of severe beating during police custody or by the army, together with death threats, humiliation, isolation from family members and deprivation of basic needs. Specific methods included prolonged beating on the soles of the foot, severe pressure on limbs with bamboo sticks, suspension, fingernail extraction, exposure to painful substances (stinging nettles, chili peppers) in orifices/open wounds, torture with electronic wires, and sexual violence. Stevenson [29] notes that the use of torture probably intensified within the context of the Maoist insurgency. Using clinical files, Van Ommeren and colleagues [28] described the consequences of torture on the health of survivors presenting to the clinics of a specialized torture rehabilitation organization. They stated that most of the complaints involved somatic pain, most of which cannot be explained medically, as well as affective and vegetative symptoms (sleep disturbance, loss of appetite, and weakness).

The April 2006 uprising

Only one exploratory study has documented psychosocial and mental health consequences of the large-scale demonstrations in April 2006 [30]. Using secondary data, Shrestha described police-perpetrated physical assault during the demonstrations and suggests that this had somatic and psychological consequences.

Refugees in Nepal

The Tibetan refugee crisis (1950 – now)

Only two published studies have addressed the Tibetan refugee crisis in which an approximate 20,000 Tibetan refugees have settled in Nepal since the 1950's and yearly 25,000 refugees pass through Nepal on their way to India. These were qualitative inquiries, one into the experiences of refugees in a transit center on their way to Nepal, and the other a pilot study assessing psychosocial needs in the settled refugee community. Dolma and colleagues reported experiences such as arrest, torture, extortion, harassment and physical hardship (hunger, illness) in a narrative study among 50 recent Tibetan refugees to Nepal [31]. Tibetan refugees living in Kathmandu typically employed Buddhist and Tibetan medical practices to treating illness, including wind (Tibetan *lung*) imbalances, which can present as mental distress and can be caused by traumatic stressors or the refugee experience [32].

The Bhutanese refugee crisis (1990 – now)

Another refugee crisis erupted with the expulsion of Bhutanese citizens of Nepali ethnic origins from Bhutan. This occurred in the early 1990's under ethnic nationalist policies by the Bhutanese government [33]. A qualitative study with Bhutanese refugees living in Nepal identified a number of somatic idioms of distress and coping strategies (e.g. performing worship, visiting a traditional healer, and singing songs) in this population [34]. In addition, it was noted that focus group participants placed mental health problems in a larger category of distress that included socio-economic concerns.

Two epidemiological studies were done with Bhutanese refugees tortured during this crisis. Both were matched-controlled studies, involving roughly the same participants (Table 3-3 summarizes all epidemiological findings). The studies documented higher amounts of (mental) health problems in tortured compared to non-tortured refugees, especially somatic, PTSD, anxiety, and depression complaints and somatoform pain and dissociative disorders [35,36]. Further examination of a sub-group of the study by Shrestha and colleagues showed a central relationship between somatic concerns and PTSD complaints [37]. In addition, Emmelkamp and colleagues found relations between negative coping methods, identified in the mentioned qualitative research, as well as social support with symptoms [38]. Further analyses on data collected by Van Ommeren and others revealed that although tortured refugees have more mental health problems, they do not show more disability than non-tortured refugees. Predictors of disability for torture survivors were PTSD, anxiety and physical disease [39].

The Maoist armed insurgency (1996 – 2006)

Reviewing the literature on the conflict between Maoists and government security forces, we identified five major impacts on the general population: (a) decreased access to healthcare, (b) militarization of economic relations and infrastructure development, (c) increased psychological distress, (d) changes in social relations in communities with stronger Maoist presence, and (e) threats to child development.

Numerous studies describe *reduced access to health care* [40-43] including impoverished children's healthcare [44,45]. Maoists destroyed health infrastructure by bombing health posts [41,45]. They also stole medications from pharmacies and suppliers. In addition, their closure (Nepali: *bandha*) of roads and businesses across the country through strikes and other protests prevented the transport of needed medical supplies [41,42].

Government policies stopped the provision of medical care through a directive issued during the State of Emergency in 2001. The directive stated that all health professionals were to deny treatment to suspected Maoists to security forces. Health professionals who did not report alleged "terrorists" were at risk of imprisonment [41,43,46]. The lack of confidentiality and arbitrary detention by security forces of people seeking healthcare led to a reduction of help-seeking at medical facilities [43,47]. Ultimately, the general lack of security exacerbated the rural urban divide in provision of healthcare with 40% of doctors now working in Kathmandu where 15% of the population resides [40].

The *militarization of economic relations and infrastructure* is exemplified by stagnation of human development in Nepal [44,48]. Both the government and Maoists sidelined human development; the government through its "security first" approach [48] and the

Maoists through their ideology of "destruction before construction" [47]. The government increasingly directed funding towards military spending [22,49]. Social development such as education and healthcare became restricted to those who could pay for it out of pocket. This resulted in an increasing gap between rich and poor. In 2003, the bottom 20% of the population subsided of 3.7% of the national income, while the top 10% monopolized 50% of the wealth [48]. Tourism, the third largest industry, also decreased dramatically due to both the internal conflict and the global war on terror [49].

Regarding the perceived *increase in psychological distress*, doctors at a rural hospital reported increased presentations of psychological complaints during the conflict period despite the overall decrease in hospital presentations for fear of referral to security forces [45]. Similar observations were made by health professionals in other areas, including urban areas [41]. Pettigrew [50] has described the fear among rural women living in a community frequented by Maoists and the security forces. Non-aligned villagers could be accused of aiding the opposite side and severally punished. Villagers were forced to feed Maoists traveling through villages, which placed them at risk for accusations by security forces of being involved in rebel activity. Pettigrew adds that villagers believe that the souls of those who have died violently without proper funeral rites wander through the hills and valleys and potentially disrupt the wellbeing of the living. This fear manifests as sleep disturbances and chronic illness characterized by somatic complaints such as headaches. Duncan and colleagues [51] found that, among the general population, older age, less education, residing in rural areas, and a subjective measure of psychological closeness to political violence predicted more PTSD symptomatology.

Two specific groups at risk of developing psychological problems have been studied. Thapa and Hauff's [52] work focused on the estimated 200,000 internally displaced people (IDP's) who received inadequate attention from governmental and non-governmental agencies [53]. Their survey in seven districts showed that almost all IDPs had experienced at least one trauma (mean=4.6, SD=1.9). Rates of PTSD, depression and anxiety symptoms were 53,4%, 80,7% and 80,3% respectively, measured by culturally-validated and adapted instruments. Feeling miserable on arrival at a new place was associated with depression, anxiety and PTSD symptoms. Illiteracy was associated with anxiety whereas female gender, and being aged 41-50, was associated with depression symptomatology. Experiencing greater than 3 traumatic events was associated with PTSD whereas evacuation after a weeklong preparation and "low" caste appeared as protective factors for PTSD [52].

Moreover, a study with individuals tortured during the Maoist insurgency (by both sides in the conflict) conducted in rural mid-western Nepal aimed at elucidating the relationships between psychiatric symptoms and disability through structural equation modeling. In this study, PTSD symptoms were central in explaining disability findings: directly, as well as indirectly through anxiety and depression [54].

Fourthly, the *conflict changed social relations in affected communities*. Negative social changes were described such as social networks being constricted due to increasing suspicion of others [55]. Positive social changes were described by a group of women

who joined the Maoists and were able to overturn traditional patriarchal oppression and escape situations of domestic violence and state-perpetrated sexual violence. Similarly, women assumed roles traditionally restricted to men [25]. Pettigrew [50] observed an increased sense of agency among rural youth because they felt that joining the Maoists made them more 'modern', a category of identity previously restricted to urban youth. Increased attention to traditional religious practices was also observed in reaction to the threatened communal bonds, specifically religious leaders in the Everest region called for a revitalization of Tibetan Buddhist practices [56].

The Maoist rebellion also *threatened child development* through a number of pathways. Children were impacted through forced separation when caregivers were killed or abducted. Also, children were forced to watch the humiliation of adults by Maoist insurgents, often consisting of violent harassment of teachers and caregivers [44,57]. Berg [56] describes the public beating of the Hillary Secondary School headmaster by Maoist cadres. There is anecdotal evidence which suggests that in certain parts of the country young women's marriages were arranged at increasingly earlier ages to evade recruitment by Maoists [46]; the conflict may have also increased children's use of violence [44]. Also, boys took on adult male roles, as men fled to safety and work outside the village [57]. Maoists have forcibly recruited children to care for the wounded and transport the injured and dead [58]. Children lived in fear of violent battles on school grounds and abductions by Maoists to attend indoctrination programs or to be trained as child soldiers [45,47]. Pettigrew [57] described how children "learned to be silent" as caregivers attempted to socialize them not to interact or speak with strangers.

The consequences of the Maoist insurgency on the general population must be evaluated in light of other difficulties. Pettigrew [57] notes that conflict-related problems of villagers in Maoist-affected areas in central Nepal should be viewed in the context of pre-existing hardship, including poverty and the general difficulties of rural life in remote villages. Similarly, Kohrt and colleagues [59] found that somatic complaints and depressive symptoms were tied strongly to age, lack of education, poverty, female sex, family stress, and financial stress in addition to political stress.

Treatment findings

We only identified three studies focusing on treatment of psychosocial and mental health problems in populations exposed to political violence. Two studies described actual interventions and one reviewed treatment policy. The first study described a treatment package given to 680 torture survivors within a one-year period [28]. This largely clinic-based care provision consisted of the following three components; (1) intake, assessment and assigning of case-manager; (2) multi-disciplinary case discussions and treatment planning; (3) provision of service package, with eclectic counseling and psychiatric referral as the core psychosocial services. The second study described the perspectives of direct and indirect beneficiaries of psychosocial counseling for children and young adults that have been survivors of trafficking for sexual exploitation and other high-risk situations [60]. The studied intervention, problem solving and supportive counseling, consisted of non-specific therapeutic elements, such as empathy, intercultural sensitivity and basic communication skills, with structured steps that aimed to reduce both stressor-

induced symptoms of distress as well as problem situations. The research showed most beneficiaries to be satisfied with the service, which they considered culturally appropriate. The third study concerned a review of existing mental health policies with regard to disaster preparedness [61]. The authors called for a "comprehensive community-based psychological intervention" that covers the following areas: social interventions, psychological interventions, community mental health services, and disaster preparedness. As noted in the study described above by Schwartz and colleagues [32], individuals affected by political violence often seek traditional healing such as Tibetan medicine.

Discussion

This systematic review aimed at synthesizing the literature on political violence, psychosocial wellbeing and mental health in Nepal, from a multi-disciplinary perspective. We aimed for our review to (a) provide an enhanced ability to interpret medical research findings within local socio-cultural context, (b) help identify gaps in knowledge of both research traditions that could lead to new research directions, and (c) offer increased opportunities to formulate policy recommendations. Below we summarize our findings in terms of three major areas where medical and social science findings can complement each other, using examples from the specific setting of Nepal.

First, a purely biomedical focus has been criticized because it isolates specific incidences of political violence exposure in the relationship of political violence with psychosocial wellbeing and mental health, e.g. exposure to bombing, combat experience, or sexual

violence [62,63]. In Nepal, the most methodologically robust studies – those employing random sampling and case controls – found higher prevalence rates of a number of psychiatric disorders in tortured refugees compared to non-tortured refugees [35,36]. However, tortured refugees did not show more disability than non-tortured refugees, and disability was related to different risk factors [39]. In addition, the social science literature written in the context of the Maoist insurgency suggests a number of political violence-associated risk factors for mental health in the larger social context (deteriorated economic and health infrastructure, changed community relations), implying the need to look beyond specific exposure-types. Similarly, Kohrt and colleagues' study showed the importance of other vulnerability factors besides political violence exposure, such as poverty, gender, and age [59]. Moreover, the social science findings point toward positive social changes in addition the psychosocial damage of political violence. These findings touch upon the larger unanswered question of the specific causal role of political violence exposures versus the influence of other social, economic, and health factors (which may or may not be indirectly related to political violence) on deteriorated or improved psychosocial wellbeing and mental health. That question is essential for policy makers to be able to predict if addressing social risk factors will lead to improvements in wellbeing and functioning. Unfortunately, most of the findings synthesized here employed cross-sectional designs. Without longitudinal designs it is impossible to isolate the specific impacts of political violence as compared to other stressors like poverty and the difficulties of life in remote communities.

Based on these findings we draw two main recommendations. First, we do not advocate for the development of parallel health care systems limited to specific at-risk groups, such as forced migrants and torture survivors, because (a) disability rates did not differ between tortured and non-tortured refugees, (b) the risk of stigmatization of these groups, and (c) the identified need for capacity building of the general Nepali mental health system [61]. Primary health care workers could be trained to address the specific mental health consequences associated with certain forms of exposure to political violence, for example the identified association between somatic symptoms and PTSD among torture survivors [37], within their general health care practice. Second, we advocate for policy makers to initiate primary prevention efforts aimed at reducing risk factors in the larger social context, such as deteriorated health and economic infrastructure, (negatively) changed communal relations, and above described threats to child development, though their relation with psychosocial wellbeing has not been robustly confirmed.

Second, biomedicine has been criticized for its specific focus on PTSD and other psychiatric disorders described in international classification systems when determining the mental health consequences of political violence [9,64]. Our multi-disciplinary findings partly confirm this critique and partly nuance the sometimes all-or-nothing nature of this debate. Rather than a single focus on PTSD symptoms, studies in this review associate exposure to political violence with heightened rates of a range of psychiatric symptoms [35,36,51,52,54,59]. In addition, studies show the importance of context-specific presentations of ill health that fall outside the scope of international psychiatric classification. For instance, *karma* was a common way to explain the

occurrence of torture in Bhutanese refugees [34]. Moreover, in torture survivors, medically unexplained pain and specific somatic idioms of distress are central to illness experience [28]. In the general population, *jhum jhum*, a form of parasthesia (numbness/tingling), is an idiom of distress related to depression with psychological as well as physical origins, such as diabetes, arthritis, and alcohol-related neuropathy [59]. In addition, Tibetan refugees often explained psychological distress in terms of ‘wind imbalance’ [32]. On the other hand, in torture survivors PTSD symptoms were most important in predicting disability [54]. In other words, though our findings disqualify a single focus on PTSD symptoms as an outcome of political violence, they also warn against ‘throwing the baby out with the bathwater’ in terms of shifting completely away from PTSD as a condition that may validly encapsulate suffering and disability in non-Western cultural settings. Internationally, a similar warning has been sounded regarding the shift in humanitarian attention to the social context (the psychosocial movement), which risks the neglect of care for those with pre-existing mental health disorders [65]. We suggest that policy-makers base their decisions on which mental health problems to prioritize based on their relation with disability, and the possibility to address risk factors associated with these mental health problems. Moreover, in line with standard public mental health practice [3], policy makers should prioritize mental health problems that are of community concern, e.g. specific idioms of distress.

Third, straightforward introduction of psychosocial and mental health treatment from high-income settings has been mentioned as a risk for the neglect and possible undermining of existing ways of dealing with distress [63,64]. Findings in this review

show that locally identified coping methods and social support are associated with mental health of torture survivors [38]. Moreover, studies suggest the popular uptake of religious healing methods [32,56]. More generally, studies not included in this review discuss the wide uptake of shamanic healing practices in Nepal [66], in accordance with the global popularity of non-allopathic medical care [67]. However, as generally in low- and middle-income countries [68], there is a large gap in our identified literature on what constitutes effective practice for populations living in situations of political violence. Future research efforts should examine the efficacy of current practices, both evidence-based treatments from high-income settings as well as existing healing practices, to inform policy makers.

In conclusion, a systematic review of the scientific literature addressing political violence and its relations with psychosocial wellbeing showed a small but emerging body of research evidencing both psychological and social impacts of political violence. A multi-disciplinary systematic review was helpful to complement biomedical findings and nuance research and policy recommendations related to the role of specific exposure types, the importance of the broader social context, and the role of PTSD. In general, the research field needs to move beyond convenience sampling and cross-sectional designs. More research is needed to identify the causal mechanisms through which political violence and associated changes in the social context lead to deteriorated psychosocial wellbeing, as well as what types of interventions effectively address this.

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**CHAPTER 4: CULTURE IN PSYCHIATRIC EPIDEMIOLOGY: USING ETHNOGRAPHY AND
MULTIPLE MEDIATOR MODELS TO ASSESS THE RELATIONSHIP OF CASTE WITH
DEPRESSION AND ANXIETY IN NEPAL**

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Abstract

Background: Ethnic and caste-based disparities in mental health are poorly understood.

Aim: To identify mediators underlying caste-based disparities in mental health in Nepal.

Subjects and methods: A mixed methods ethnographic and epidemiological study of 307 adults (*Dalit/Nepali*, n=75; high caste *Brahman* and *Chhetri*, n=232) assessed with Nepali versions of Beck Depression (BDI) and Anxiety (BAI) Inventories.

Results: BDI scores greater than cutoff included 103 (33.7%) participants: Dalit/Nepali 50.0%, high caste 28.4%. BAI scores above cutoff included 85 (27.7%) participants: Dalit/Nepali 50.7%, high caste 20.3%. Ethnographic research identified four potential mediators: stressful life events, owning few livestock, no household income, and lack of social support. The direct effect (not transmitted through these mediators) of caste was 1.08 (95% CI -1.10—3.27) on depression score and 4.76 (95% CI 2.33—7.19) on anxiety score. All four variables had significant indirect (mediation) effects on anxiety, and all but social support had significant indirect effects on depression.

Conclusion: Caste-based disparities in mental health in rural Nepal are mediated by poverty, lack of social support, and stressful life events. Interventions should target these areas to alleviate the excess mental health burden born by Dalit/Nepali women and men.

Introduction

One of the major challenges in population health is understanding the mechanisms by which cultural disparities in mental health arise. Culture comprises a “shared system of learned norms, beliefs, values and behaviors that differ across populations defined by region, nationality, ethnicity, or religion,” (Hruschka and Hadley in press). With cultural groups including such a diversity of social categorizations, it is no surprise that studies of cultural differences in mental health have produced varied results. Prevalence rates of depression in the United States do not consistently differ between African Americans and Americans of European descent (Williams and Williams-Morris 2000). Religion plays a role in prevalence, severity, recidivism, and presentation of mental illness (Koenig 2001). In addition, studies of torture survivors and refugees have shown lower prevalence of psychopathology among Buddhist practitioners compared with members of other religions (Holtz 1998; Mollica et al. 2002; Shrestha et al. 1998). With regard to nationality, the World Health Organization's recent global effort of cross-national research studies have revealed disparate rates between and within world regions (Kessler et al. 2008). And, prevalence rates across nations in these studies do not consistently coincide with poverty, education, physical health morbidity, or other human development indices, despite each of these factors being risks for poor mental health (c.f. Das et al. 2007).

There is a tremendous array of mechanisms proposed to explain cultural differences in mental health. Genetic differences have been suggested. However, the genetic risk factors for mental health problems appear to be similar across racial and ethnic groups rather

than differing between them (Binder et al. 2008; Binder et al. 2004; Lekman et al. 2008). Poverty and livelihood insecurity, in contrast, has shown tremendous variation across groups, especially between high and low income countries (Das et al. 2007). Within low income countries, livelihood insecurity has been associated with common mental disorders (Hadley and Patil 2006; Hadley and Patil 2008). Moreover, relative poverty in terms of lacking idealized material goods has been associated with depression (Dressler et al. 1998). This issue may be related to community level factors such as census tract poverty (Krieger et al. 2005). In addition to these structural inequities, social inequities such as discrimination and social marginalization are another source of poor mental health (Ahmed et al. 2007; Williams et al. 2003). Social support and lack thereof also have been associated with mental health outcomes (Balaji et al. 2007 Vilhjalmsson, 1993 #9367). Lastly, all of these factors are related to exposure to stressful and traumatic life events, another contributor to group disparities in mental health (Kendler et al. 2004; Williams and Jackson 2005).

All of the above are potential mediators of cultural disparities in mental health. Mediation refers to “the process by which some variables exert influences on others through intervening or mediator variables,” (Preacher and Hayes 2008). Mediation is central to the issue of cultural disparities in mental health because cultural categories (e.g. African American race, Hispanic ethnicity, Hindu religion, South African nationality, or first generation immigrant status) may be associated with differences in mental health in some context, but these categories in and of themselves are not seen as the causal factors. Rather it is through some mediator such as lack of access to economic opportunities,

greater exposure to violence, poorer physical health, or lack of social support that a certain group is at greater risk of mental health problems (c.f. Koenig 2001 for mediators of religion's influence on mental health). However, as one can intuit from the range of possible mediators, it is unlikely that any single factor determines the causal relationship between a cultural group and mental health outcomes. Instead, it is more realistic to propose that multiple factors mediate cultural differences.

Multiple mediator models allow for specific testing of pathways through numerous mediators rather than older methods that simply examine reduction in effect estimates with the inclusion of culture-related variables, for example (Lannin et al. 1998). Analytic techniques to explore multiple mediators have advanced rapidly with most standard statistical software packages now able to run such analyses employing user-friendly macros (Preacher and Hayes 2008). However, to date, there has been a dearth of studies exploring cultural group differences in global mental health using tests of multiple mediators.

The unique contribution of this study was to explore the cultural category of "caste" which despite being a central marker of identity in South Asia has received little attention in the global mental health literature. In addition, this study employs tests of multiple mediators to assess simultaneously a range of possible mechanisms underlying caste-based disparities in mental health. Based on a long-running research program in Nepal, the study is unique in its capacity to bring together ethnographic and epidemiologic modes of analyses. This study relies upon ethnographic work to identify potential

mediators of caste-based disparities in mental health. The study provides a foundation for future studies of caste and mental health in South Asia, and, more generally, it lays out ethnographically-grounded steps epidemiology approaches to assess multiple pathways by which certain cultural groups may be at greater risk of psychiatric morbidity.

History of Caste in South Asia and Jumla

This study took place in Jumla, a mountainous district in northwestern Nepal. The caste system in Nepal is rooted in the India *varna* system which divides society into social rankings based on ancestral lineages (Höfer 2004). Figure 1 depicts the caste structure in Nepal. The top of the caste system includes two main ‘high caste’ groups *Brahman* (historically priests) and *Chhetri* (historically warriors and rulers). At the bottom of the caste system are ‘untouchable’ or *Dalit* castes. In Nepal, high caste Brahman and Chhetri dominate politics, education, and business while Dalit historically are marginalized from positions of power. In the district of Jumla, where this study took place, the population of 69,226 persons includes 9.5% *Brahman*, 63.1% *Chhetri*, and 17.8% *Dalit* (HMG-CBS 2003).

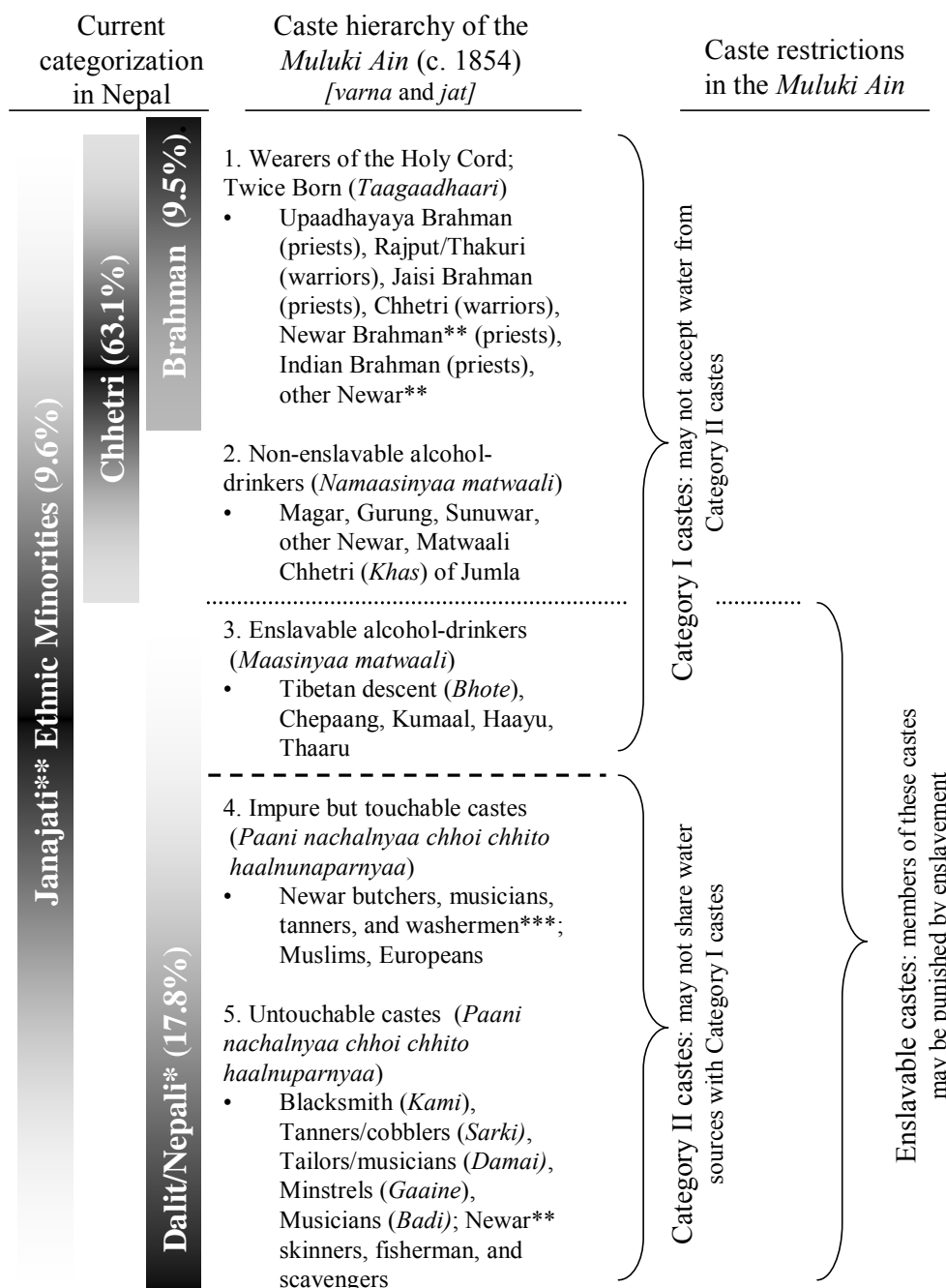


Figure 4-1. Caste hierarchy in Nepal according to current categorization and codified at the time of the *Muluki Ain* (1854).

Notes: Percentages in parentheses refer to Jumla district population percentage per 2001 census. *Persons from Dalit/Nepali castes in Jumla preferred to be identified as ‘Nepali’. **Newar as a whole are considered a *Janajati* (ethnic minority) group; however, there is a caste system within Newar subclassifying them at different levels of the Hindu hierarchy. ***Newar in the fourth level of the caste hierarchy are treated comparably to Dalit/Nepali in level five, however, they also are considered *Janajati*. (Figure adapted from Höfer 2004:9-10)

Understanding the history of caste in Jumla and throughout South Asia helps to illuminate the political economy of poverty and inequity manifested as caste classification. And, this history suggests point of entry for understanding how caste may relate to risk factors that influence mental health. Cross-cultural research on racial and ethnic inequality in health is lacking from research settings outside the United States (Gravlee and Sweet 2008). Caste is a prominent social category throughout much of South Asia and, like race and ethnicity, is viewed as both a social position and a biological category based on descent. The global community has grossly neglected the issue of caste-based discrimination (Human Rights Watch 2001). Even United Nations human rights' documents fail to specifically identify caste-based discrimination as a human rights violation (Bob 2007). Moreover, as with race and ethnicity, it is challenging to dissect caste from other factors such as class, economic status, social status, educational attainment, occupation, political affiliation, and the experience of discrimination (Brown 1975; Mencher 1974).

In South Asia, 'caste' is one of many markers of identity. The English term 'caste' derives from Portuguese 'casta' referring to purity, birth, and difference (Kisan 2005:5). The origin of the caste system is attributed to Indo-Aryans pastoralists. These pastoralists migrated to the Indian subcontinent from the Iranian plateau approximately 2000 B.C. Whether Indo-Aryans had a caste system prior to their invasion of South Asia remains uncertain (Kisan 2005:12). Some pastoralists settled in the middle hills of western Nepal in what is now Jumla (Höfer 2004:8; Sharma 2006; Whelpton 2005:8). This settler group, referred to as *Khas* worshipped *Masta* deities not part of the Hindu pantheon (Sharma

2006); in contrast to the Hindu caste hierarchy, the early *Khas* religion has been described as an “egalitarian cult” and eventually became Buddhist in orientation (Whelpton 2005:30).

While some of these migrating pastoralists settled in the Himalayan foothills, others continued into the Indus river valley of modern day Pakistan, where they encountered and subjugated the local populations (Kisan 2005). Increasing social complexity that accompanied the transition from pastoralist to agrarian society in the Indus valley and enslavement of locals gave rise to the caste system, known as *varna* (2005:12-13). The *Rig Veda* Hindu religious text (1500-1000 B.C.) reveals the historical roots of caste-inequity based on three privileged Indo-Aryan classes (priests, jurors and businessmen, and farmers) and one slave class composed of the indigenous groups (2005:15).

During the Manusmriti period (200B.C.—300A.D.) these categories became the Hindu *varna* rankings of *Brahman* (priests), *Kshatriya* (rulers and warriors), *Vaishya* (businessmen and farmers) and *Shudra* (laborers). Punishment was based on caste status (e.g. execution for low caste accused of adultery contrasted with banishment for high caste), and inter-caste marriage was prohibited (Kisan 2005:17). Also during this period, a fifth *varna*—‘untouchables’—became codified (Kisan 2005:30). Untouchables were relegated to demeaning professions such as cleaning toilets and streets and carrying out funeral rites (2005:31). In both law and practice, upper castes severely restricted untouchable’s feeding customs, type of clothing, places of settlement, wearing of jewelry, owning of household goods, and access to education (2005:35-39).

During this same time period, Hindu Indo-Aryans migrated into southern Nepal and the area of Kathmandu beginning the Licchavi age of Nepali history (200B.C.—879A.D.). Society was stratified into four *varna* and 18 *jat* ‘descent groups’ (Kisan 2005:48; Whelpton 2005:8). It was not until the Muslim invasions of northern India that began around 1000 A.D. that Hindu Indo-Aryans fled into the area of Jumla. These Hindu rulers from northern India (Rajputs) and their low caste laborers and servants established independent kingdoms and classified local groups into different levels of the caste hierarchy depending on their intensity of Hindu practices (Kisan 2005:49; (Whelpton 2005:9). The Rajputs inter-married with *Khas* women of Jumla, and incorporated *Khas* into the upper castes (Höfer 2004:8; Whelpton 2005:11).

In 1769, Nepal was unified into a single country through violent subjugation by Prithvi Narayan Shah, who spread the caste system throughout the country (Kisan 2005:55). In 1854, the Rana Prime Minister Jang Bahadur Rana created the *Muluki Ain* (see Figure 1), the most comprehensive legal document for caste-based social control in Nepal (Höfer 2004). The caste system outlined in the *Muluki Ain* reflected the social practices of regions of the country dominated by high caste Hindus. It is likely that the *Muluki Ain* reflected 19th Century caste relations in Jumla, and, in part, continues to reflect them today. One of the interesting features of the *Muluki Ain* is the influence of the *Chhetri* (Nepali warrior/ruler class comparable to *Kshatriya*) who comprised 60 percent of the authors and signers of the document (Höfer 2004). As can be noted in Figure 1, the

Chhetri combined the Brahman and Chhetri castes together at the top of the hierarchy rather than placing them at separate levels.

There is little record indicating contestation of caste subjugation in India or Nepal prior to the 20th Century when a rights movement championing untouchables grew in strength during India's independence movement (Bob 2007). The term *Dalit* rather than 'untouchable' was advocated in the movement by B.R. Ambedkar, an untouchable and the author of the Indian Constitution. *Dalit* (from Sanskrit *dal*) literally means "shattered; over-burned, suppressed; squeezed; stepped-upon; kneaded; ground-down; shamed by being required to bow to someone else's feet; or silenced through suppression," (Kisan 2005:6). *Dalit* activists made considerable advances throughout South Asia and continue to struggle against caste-based restrictive legislation as well as the neglect of the United Nations (Bob 2007; Human Rights Watch 2001). In addition to the burgeoning *Dalit* rights movement, there has also been considerable scholarship in India to uncover the experience of caste subjugation by *Dalit* groups (Brown 1975). For example, Mencher's work (Mencher 1974) has shown that whereas upper castes interpret the system as religious doctrine, *Dalit* persons navigate the caste system by economic necessity.

Dalit rights rhetoric also moved across India's northern border into Nepal. In 1963, the *Muluki Ain* of Nepal's King Mahendra heralded the beginning of a change from 'ascribed' (i.e. hereditary status dictated by one's ancestral lineage) to achieved (i.e. based on education, occupation, and wealth accomplished by an individual in his/her lifetime) status in Nepali society and increasing rights for *Dalit* (Höfer 2004:1). However,

it was not until the 1990 Constitution of Nepal that caste-based discrimination was explicitly banned (Kisan 2005:64). Nevertheless, Dalit continue to be marginalized throughout Nepal with violent reactions by upper caste Hindus when Dalit attempt to visit temples, use public water taps, or participate in religious ceremonies (2005:65). Recently, Maoist revolutionaries violently fought for equal rights of marginalized ethnic groups and lower castes (Lawoti 2003). Currently, Dalit is a contested social category with activists and nongovernmental organizations working to increase Dalit social mobility.

It is against this backdrop of millennia of subjugation and relatively recent challenges to the caste system that we sought to assess the impact of caste status on mental health. Few researchers have explored the relationship between caste and mental health in South Asia. In a study conducted during the 1970s in India, mental health problems were identified more frequently among upper castes compared with lower castes (Nandi et al. 1979). A recent study in Nepal found that somatic complaints related to depression were more common among low caste groups (Kohrt et al. 2005). In contrast, mental health problems were higher among upper castes internally displaced because of the Maoist People's War (Thapa and Hauff 2005).

Methods

Ethnographic methods

We chose ethnographic methods to determine how caste was locally defined and the perceived relationship of caste with mental health. Ethnography was used to determine if the castes constituted different groups either through differences in “learned norms, beliefs, values and behaviors,” (Hruschka and Hadley in press). Additionally, we identified factors that differed among castes and were perceived to be associated with psychological distress. The factors that met these criteria were then evaluated in the multiple mediation models.

Ethnography comprised participant observation in Jumla which included attendance at rituals and festivals, traditional healing ceremonies, political meetings, and summer migration to highland pastures, combined with unstructured community observation conducted over a yearlong period in 2000. At that time a subset of participants (n=65) were selected to complete semi-structured interviews addressing mental and physical health, life stressors, and the influence of caste on wellbeing. Medical histories and physical evaluations were conducted to identify the influence of physical factors on mental health presentation (Kohrt et al. 2005). Additional participant observation was conducted in 2007 including work at the district hospital, health camps, and community outreach. Two of the authors, natives of Jumla, reviewed the ethnographic results and hypotheses to be tested in the epidemiological analysis.

Epidemiology study design and population

This was a cross-sectional study with random sampling of one adult per household. The sample was recruited for a psychiatric epidemiology study of depression and somatization from February through August 2000 (Kohrt et al. 2005). It is important to note that this study was conducted prior to mass Maoist violence in the area, which began in late 2001. Prior to the study, there had been no major attacks by Maoists in the study area. The study location included a bazaar (semi-urban) region and contiguous rural areas of Jumla. All participants were 18 years of age or older and were read a consent form. Consent was recorded with a signature for literate or a thumbprint for illiterate participants. The Department of Psychiatry at Tribhuvan University Teaching Hospital/Institute of Medicine in Kathmandu provided consultation prior to and during the assessment and gave final approval for the study. Caste was assessed through self identification. The main exposure variable was caste and the outcome variables were depression and anxiety.

Study instruments

Beck Depression Inventory (BDI) and *Beck Anxiety Inventory (BAI)* – These 21-item scales were used to assess depression and anxiety symptoms over the prior two weeks. Items are scored 0-3 with an instrument range of 0 to 62. Both scales have been validated for use in Nepal (Kohrt et al. 2002; Kohrt et al. 2003): area under the curve (AUC), which captures the amount of correctly classified persons in this case for moderate depression or anxiety, was 0.919 (95% CI 0.878—0.960) for the BDI and 0.847 (95% CI 0.789—0.906) for the BAI; internal reliability was also high, BDI Cronbach's $\alpha=0.90$ and BAI $\alpha=0.90$. Based on clinical validation of the BDI in Nepal, a score of 20 or higher

suggests moderate depression with the need for mental health intervention (sensitivity=0.73, specificity=0.91). On the BAI, a score of 17 or higher indicates moderate anxiety with the need for intervention (sensitivity=0.77, specificity=0.81). Two-week test-retest reliability Spearman-Brown coefficients for the BDI were 0.84 and for the BAI were 0.88.

Stressful Life Events Rating Scale for Cross Cultural Research (SLERS) – Individuals reported both the frequency (number of times an event occurred in the past 12 months) of stressful life events with the SLERS (Zheng and Lin 1994). This instrument consists of nine subscales: academic events (3 items, e.g. failed exam, left school), intimate partner events (8 items, e.g. got married, fighting with spouse, spouse ran away, extramarital affair), health events (11 items, e.g. spouse death, child death, severe illness, pregnancy, miscarriage), family events (9 items, e.g. child cannot find work, child eloped, fighting with relatives, parents fighting), work events (5 items, e.g. cannot find work, not satisfied with work, fired from work), financial events (9 items, e.g. salary decreased, lost property, took a mortgage, lost livestock, crop shortage), social relationship events (7 items, e.g. disgraced in public, broken relationship with friend, criticized by others), environmental events (5 items, e.g. natural disaster, village more polluted), and political events (7 items, e.g. took part in political activities, lost job from political affiliation). Greater frequency of stressful life events (SLEs) as assessed by the SLERS is associated significantly with locally-defined psychosomatic complaints in Nepal (Kohrt et al. 2005).

Social support was assessed with nine questions assessing if support was available in the following areas: care when sick, going to the bazaar or store, providing basic necessities, lending money or other financial assistance, fixing broken equipment and maintenance (e.g. kitchenware, ploughs, radio), domestic chores and work, getting advice, preparing and cooking food, and child care. These items were summed to provide a score of 0 to 9, with 9 indicating support available in all of the areas. Internal reliability, as assessed by Cronbach's alpha, was 0.87.

Demographics assessed included self-reports of gender, age, monthly household income (recorded in Nepali rupiyaa; at the time of the study US\$1=70 rupiyaa), and number of livestock (e.g. water buffalo, cows, and goats).

Analytic strategy

The ethnographic study suggested caste differences in psychological distress. Moreover, prior analyses with this sample revealed caste differences in prevalence of psychosomatic complaints (Kohrt et al. 2005), and other studies in Nepal have shown caste differences in mental health (Thapa and Hauff 2005). Based on the ethnographic work, it was suggested that the observed caste differences could be the results of less access to financial and livelihood resources, less diversity of social support, and greater exposure to stressful life events among members of Dalit/Nepali castes compared with persons in the Brahman and Chhetri high castes.

Our two analytic goals were: (i) to quantify the relationship of caste and the mental health outcomes (BDI and BAI); and (ii) to evaluate the possible roles of household income, number of livestock, social support, and SLEs as mediators of the relationship between caste and mental health.

Our analytic strategy had four major steps, which were carried out in parallel for both outcomes: (1) conduct descriptive statistical analyses (2) determine possible roles for covariates (confounders, mediators), (3) evaluate possible confounders of the caste effect on the outcome, and (4) evaluate possible mediators of the caste-mental health relationships. Our overall approach was based on comparison of multiple linear regression models.

Crude statistical analyses

We examined scatter plots of continuous variables (age, total SLEs, livestock, household income, number of types of social support) with the outcomes to determine if there were linear relationships. Variables were categorized based on examination of the plots and ethnographic knowledge of meaningful cut points. SLEs scores were split into four categories based on number of events experienced in the past year: 0 through 9, 10 through 14, 15 through 20, and 21 or more. Income was dichotomized as either “no income” or “some income,” social support was dichotomized as “four or less types of social support” or “5 or more types of social support,” and livestock was dichotomized as “6 or less animals” or “7 or more animals.” We grouped caste into two categories:

Dalit/Nepali castes, and “high caste”, which includes Brahman and Chhetri based on the salient social division common throughout Nepal.

Odds ratios with 95% confidence intervals were used to assess the strength and statistical significance of association for caste with other categorical variables. Simple linear regression was used to assess the strength and statistical significance of associations for covariates (including caste) and the two mental health outcomes.

Covariate roles

We considered two possible roles for variables included in the analysis: mediator and confounder. Diagrams of causal relationships were used to visualize possible variable roles. We defined a possible confounder as a variable that (a) is associated with the exposure (caste) either in the data or in theory, but for which the exposure is not a plausible cause, and (b) is theoretically a causal risk factor for the outcome. We considered a strong association between the variable and the outcome in the unexposed (i.e. high caste group) as data-based support for (b). If failure to control for such a variable distorted the effect estimate for caste, then the variable was considered to be a confounder.

We defined a possible mediator as a variable that theoretically lies in the causal pathway from the exposure (Dalit/Nepali caste) to the mental health outcome. Figure 2A shows a diagram of a causal association between an exposure (X) and outcome (Y). In this diagram, c represents the “total effect” of X, or the effect of X when not accounting for

mediation. Figure 2B shows a simple mediation model, in which one mediator (M) lies on the causal pathway from X to Y. The “direct effect,” represented by c' , is the effect of the exposure that is not explained by M. The “indirect effect,” or the effect of the exposure that is explained by the mediator, the product of the effect of X on M (represented by a) and the effect of M on Y (represented by b). We will also call the effect of M on Y (represented by b) a “direct effect” if it has no mediator in the models being considered. The indirect effect also can be conceptualized as the difference between the total effect and the direct effect ($c - c'$).

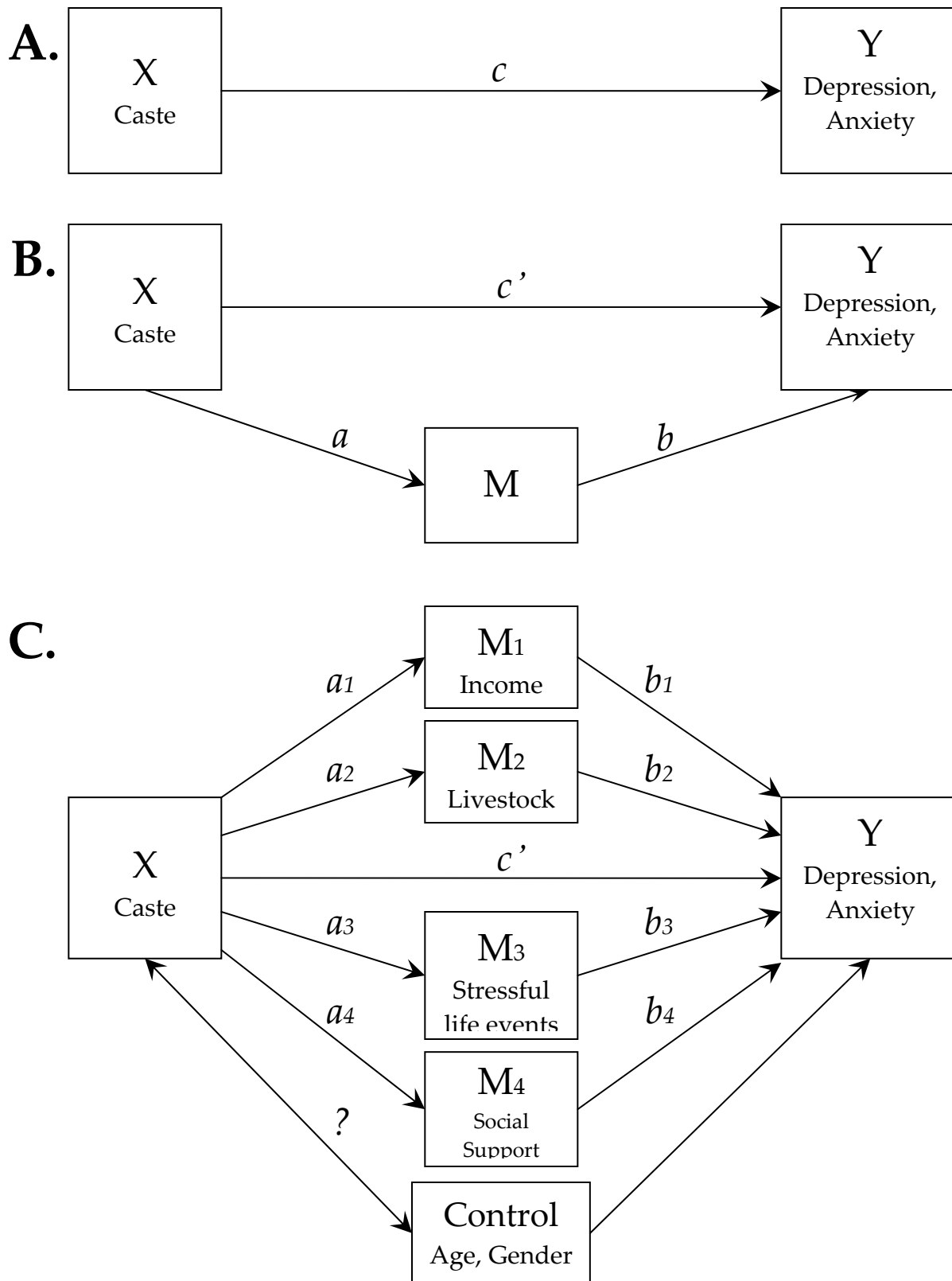


Figure 4-2. Illustration of multiple mediation design with 4 mediators and 2 controls.

(A) Unmediated model: X (caste) affects Y (mental health outcome). (B) Simple mediator model: X affects Y and M is the a single mediator. (C) Multiple mediators: X is hypothesized to exert indirect effects on Y through M₁ (income), M₂ (livestock), M₃ (stressful life events), and M₄ (social support). Path a_i represents the effect of X on the proposed mediator M_i. Path b_i is the effect of M_i on Y. Specific indirect effects are $a_i * b_i$. Total indirect effects represent the sum of specific indirect effects and equals $(c - c')$. Adapted from Preacher and Hayes, 2008.

The distinction between a confounder and a mediator is based solely on theoretical knowledge of causal relationships. Assumptions about causal relationships were based on our own ethnographic research and literature review. We considered an independent predictor to be a covariate associated with the outcome but not a confounder or mediator, and we did not include any variables that were believed *a priori* to be independent predictors. We did not require statistically significant crude exposure-covariate or covariate-outcome associations in order for a variable to be considered a possible confounder or mediator.

In this study, age and gender were considered possible confounders of caste effects on both depression and anxiety. The variables chosen as putative mediators were income, livestock, social support, and SLEs. These variables were chosen based on the ethnographic work described in the ethnographic findings section and because these were factors that varied between high castes and Dalit/Nepali castes, and these factors were associated with mental health outcomes. Figure 2C shows the causal diagram including all possible confounders and mediators.

Evaluation of confounding

We used a backwards elimination strategy for assessment of confounding (c.f. Frazier et al. 2004; Kleinbaum et al. 1982). Each potential confounder (age and gender) was removed individually from a model with the exposure and all potential confounders as independent variables. If the point estimate for caste effect changed by more than ten percent, the variable was considered to be a confounder (Kleinbaum et al. 1982). For each outcome, the regression model including caste and confounders was used as the “base model” for mediation analysis. Age and gender were found to be confounders for depression and not for anxiety; however, we retained the variables for both outcomes to keep the “base models” for mediation analysis similar.

Evaluation of mediation

We used a regression-based approach to mediation analysis with bootstrap estimation of indirect effects. Bootstrapping is a non-parametric technique for obtaining parameter estimates by numerous resamplings of the data. We used Preacher and Hayes’ INDIRECT macro for SPSS, which calculates bootstrap estimates of indirect effect for models with one or more mediators (Preacher and Hayes, 2008, see <http://www.comm.ohio-state.edu/ahayes/macros.htm> for macro). The macro also can include covariates that are not considered to be mediators. Execution of the INDIRECT macro provides bootstrap confidence intervals for the total indirect effect, the indirect effect of specific mediators (or the “specific indirect effect”), and comparisons (contrasts) between the specific indirect effects of mediators. Direct effects for caste and other covariates (including confounders, mediators, and independent predictors) are estimated by OLS regression.

For further reading on mediation analysis, we recommend a recent review by MacKinnon and colleagues (MacKinnon et al. 2007).

All statistical analyses were performed in SPSS v.16.0 (SPSS Inc. 2007).

Ethnographic results

Identification of caste differences: One of the ethnographic goals was to determine the local salience and categorization of caste. When asked about caste classification in Jumla, most respondents described four groups: Brahman, Chhetri, *Janajati* (ethnic minority groups many of whom are not Hindu), and Dalit. There was consensus among groups in identifying and labeling members of Brahman and Chhetri castes, e.g. individuals who self-identified as Brahman were also labeled by members of other castes as Brahman. Brahman and Chhetri residents referred to Dalit as *Dom* (a local label for low caste laborers), Dalit, or by their specific *jat* (descent group) such as *Kami* or *Saarki*. Dalit did not use the word Dalit to self-identify but rather labeled themselves by their specific *jat*. Many also used the term *Nepali* which denotes low caste. The term *Nepali* included the same groups as those identified as Dalit by others. Therefore, we use the term *Dalit/Nepali* to describe this group as it incorporates both the preferred self-labeling of the group and the label commonly used by activists and dominant castes. *Janajati* were excluded as group because of their small sample in this study.

Gender as confounder/independent risk factor: We found that both high and Dalit/Nepali caste women described greater mental health problems compared with men. Both groups described this in relation to male relatives' abuse of alcohol. Many Dalit/Nepali women reported that their husband's alcohol dependence led to domestic violence, marital rape, and losing the little income families earned from labor. Although alcohol consumption is prohibited in the Brahman caste, upper caste women also suffered domestic violence related to alcoholic husbands and sons. Both Dalit/Nepali and upper caste women described reproductive health stresses associated with mental health problems. Women described being forced to bear many children to increase their labor resources. Women emphasized the stress of polygamy. Wealthy men married multiple wives, and these wives competed for resources. Life stressors related to control of women in relation to caste purity. Girls were married at early ages to assure their virginal status. These women described being married as early as nine years old and suffering marital rape before puberty. This resulted in elderly men having wives ranging in age from ten to fifty years old. Upper caste widows could not remarry. The combination of early age of marriage for girls and large disparities in age between husbands and wives led to upper caste girls being widowed as early as ten years old and then being treated as childless burdens on surviving family members. These findings suggested that female gender was associated with increased stress. We hypothesized that gender would have an independent risk factor for poor mental health as both Dalit/Nepali women and high caste women reported greater distress than men in their caste groups.

Age as confounder/independent risk factor: Age also appeared to be an independent risk factor as elderly members of both Dalit/Nepali and high castes described greater life distress compared with younger groups. Self-worth was strongly connected with productivity and once older men and women could not work in the fields or do other labor, younger family members regarded them as “useless mouths to feed.” Elderly adults in Jumla, which some considered being older than 40 years old, reported feeling that they were worthless burdens on their children and they were just waiting to die. Moreover, elderly respondents described the suffering from physical health problems accumulated over a lifetime of physical labor and lack of medical care.

Livelihood insecurity as mediator: Poverty and livelihood insecurity appeared to differ among castes and relate with psychological distress. Dalit/Nepali reported lower economic status and more insecurity compared with high caste participants. The vocations of Dalit/Nepali place them in a position of livelihood insecurity. The Dalit/Nepali vocations of blacksmith, tailor, cobbler, washer, and musician require exchange of services with other castes for food. They are more insecure than upper castes with land and livestock. “We have no property so we have to work for Brahman. Then Brahman eat our labor,” a Dalit/Nepali explained. Markers of poverty most commonly described were availability of cash household income and number of livestock. More high caste participants described having a member of the household who was an officeholder and received cash salary. Household cash income was necessary to access healthcare, education, and purchase basic necessities in case of food shortage and crop failure. Cash income also allowed for social status displays such as hosting festivals,

extravagant weddings, and other public presentations of wealth. Livestock were identified as an important social marker and source of livelihood stability from historical times through the present. Livestock provided dairy products, meat, and labor such as ploughing. Because of these factors, we selected monthly household cash and number of livestock as potential mediators of the relationship of caste with mental health.

Social support as mediator: Social support was another factor related to mental health. People described the importance of social networks for access to labor during harvest seasons, care for children, obtaining financial loans, providing care or transport when a family member was ill, and loaning or repairing household and farming goods. Social support networks were also extremely important in traveling to bazaars and urban centers and bringing back needed items. Because individuals traveled rarely outside of Jumla, it was very useful to have social supports who journeyed to urban centers to procure household goods and medicines. High caste persons described having a wide diversity of social supports in terms of *aphno manchhe*—people who were considered to be reliable and ready to assist whenever called upon. They described how the providing of social support to other high caste individuals increased one's social status. In contrast, providing social assistance to Dalit/Nepali persons was not seen as beneficial because it was a one-way path; Dalit/Nepali persons did not have the resources to return the favor at a later date. Dalit/Nepali also said that there was a lack of support among Dalit/Nepali castes because of stratification within the Dalit/Nepali groups. Based on these findings, we selected material social support as a potential mediator of the relationship between caste and mental health. Another issue was that the common migration of Dalit/Nepali men to

India for work decreased the material social support available to others in their extended family. Migrating for work meant that fewer men were available to assist others in the Jumla. Numerous older Dalit/Nepali men described concern over their emigrated adult children, “I will have to work until my last breath if my son does not return.” Another man reported that all six of his sons were working in India, but he rarely received money.

Stressful life events as mediator: Based on the descriptions above, it is not surprising that caste groups differed in reports of exposure to stressful life events and that these events were associated with psychological distress. Dalit/Nepali reported that they were more vulnerable to injury because of their work in manual labor, and they complained of greater health problems. They also described losing their parents to illness when they were children. Dalit/Nepali participants reported that they felt more vulnerable to stressful political and security events. They felt the police, army, and political officials could exploit and persecute Dalit/Nepali persons with impunity. High caste participants echoed some of the stressors related to poverty reported by Dalit/Nepali but to a lesser degree. Thus, we included exposure to stressful life events as a potential mediator.

Education excluded from mediator list: We also asked about education in relation to caste and mental health. It did not have a clear association with castes. Dalit/Nepali participants described not being able to attend school because of discrimination by other groups, although they suggest that this has improved for the current generation. There were also restrictions upon upper castes for access to education. Young adult Brahman women described distress from not being able to obtain an education because it was seen

as spoiling women before marriage. One Brahman man described not attending school because his grandfather would not allow him to study where Dalit/Nepali children also studied. Based on this finding, the meaningfulness of education as a descriptor was questionable, and education was not selected as a potential mediator.

Epidemiologic results

A total of 316 persons participated: 79 Brahman, 153 Chhetri, 9 Janajati, and 75 Dalit/Nepali. The sample included 186 men (60.6%). All Janajati individuals were women. Due to the small sample size and gender-bias of the Janajati group, they were excluded from analyses. Demographics of the sample are provided in Table I. From herein, all caste comparisons are between Dalit/Nepali and high caste (which includes Brahman and Chhetri castes).

Table 4-1. Crude associations of caste, covariates and mental health outcomes (n=307).

	Covariate association with caste				Covariate association with mental health outcomes			
	Dalit/Nepali (n=75)	High Caste ¹ (n=232)	Dalit/Nepali vs. High Caste		Depression (BDI)		Anxiety (BAI)	
	No. (%)	No. (%)	OR (95% CI) ²	p-value	β (95% CI) ³	p-value	β (95% CI) ³	p-value
<i>Gender</i>								
Female	17 (22.7)	104 (44.8)	0.36 (0.20—0.66)	.001	3.15 (1.09—5.20)	.003	4.21 (1.99—6.42)	<.001
Male	58 (77.3)	127 (55.2)	1 [Ref.]		[Ref.]		[Ref.]	
<i>SLEs</i>								
0-9 events	11 (14.7)	63 (27.2)	1 [Ref.]		[Ref.]		[Ref.]	
10-14 events	24 (32.0)	94 (40.5)	1.46 (0.67—3.20)	.34	2.11 (-0.422—4.64)	0.10	2.41 (-0.24—5.07)	.08
15-20 events	19 (25.3)	53 (22.8)	2.05 (0.90—4.70)	.09	4.67 (1.84—7.50)	.001	6.84 (3.88—9.81)	<.001
21+ events	21 (28.8)	22 (9.5)	5.47 (2.28—13.13)	<.001	8.56 (5.29—13.84)	<.001	11.75 (8.31—15.18)	<.001
<i>Income</i>								
No income	49 (65.3)	91 (39.2)	2.92 (1.70—5.03)	<.001	5.47 (3.51—7.42)	<.001	5.87 (3.74—7.99)	<.001
Any income	26 (34.7)	141 (60.8)	1 [Ref.]		[Ref.]		[Ref.]	
<i>Livestock</i>								
0-6 animals	66 (88.0)	127 (54.7)	6.06 (2.88—12.74)	<.001	3.75 (1.68—5.81)	<.001	3.52 (1.26—5.78)	.002
7+ animals	9 (12.0)	105 (45.3)	1 [Ref.]		[Ref.]		[Ref.]	
<i>Social Support</i>								
4 or less types	21 (28.0)	31 (13.4)	2.52 (1.34—4.74)	.004	2.67 (-0.03—5.37)	.05	4.47 (1.54—7.38)	.003
5 or greater types	54 (72.0)	201 (86.6)	1 [Ref.]		[Ref.]		[Ref.]	

¹High caste includes Brahman and Chhetri castes.²Logistic regression used to assess crude association of caste with covariates. High Caste is reference group.³Simple linear regression coefficients (β) of covariates for mental health outcome scores (treated as continuous variables).

Unadjusted analyses

Dalit/Nepali were less likely than high castes to be female (OR=0.36, 95% CI = 0.20, 0.66). The mean age of Dalit/Nepali was 39.32 years (SE 1.61, SD 13.92), and the mean age of high castes was 33.68 years (SE 0.78, SD 11.87), with mean age difference of 5.64 years (95% CI 2.10, 9.18). Dalits were more likely than high castes to have 21 or more SLEs (OR=5.47, 95% CI 2.28, 13.13), with a reference of 0 to 9 events. Dalits were also more likely to have no income (OR=2.92, 95% CI 1.70, 5.03), less livestock (0 to 6 animals) (OR = 6.06, 95% CI 2.88, 12.74), and four or less types of social support (OR = 2.52, 95% CI 1.34, 4.74).

All potential confounders and mediators were associated significantly with depression and anxiety outcomes, see Table I. Age associated positively with depression ($\beta=0.30$, 95% CI 0.23, 0.38) and anxiety ($\beta=0.19$, 95% CI 0.10, 0.27). Women had higher scores compared with men for depression ($\beta=3.15$, 95% CI 1.09, 5.20) and anxiety ($\beta=4.21$, 95% CI 1.99—6.42). Similarly, greater SLEs, less income, and fewer livestock were associated with depression and anxiety ($p<.05$). Fewer types of social support was associated with anxiety ($p=.003$) but was not significant for depression ($p=.05$).

Our first analytic goal was to quantify the relationship of caste and the mental health outcomes. Dalit/Nepali participants had a greater burden of depression and anxiety compared with high caste participants, see Table II. The mean total BDI and BAI scores were greater for the Dalit/Nepali group when assessing continuous outcomes (BDI:

Dalit/Nepali mean=19.98, SD=9.71, high caste mean=15.03, SD=8.51; BAI: Dalit/Nepali mean=18.11, SD=11.39, high caste mean=10.69, SD=8.57).

We also assessed binary outcomes (depressed vs. not and anxious vs. not) using validated Nepali cutoff scores. Dalit/Nepali participants were more likely than high caste participants to be above the BDI cutoff score for depression intervention (OR=2.51, 95% CI 1.47, 4.31) and above the BAI cutoff score for anxiety intervention (OR=4.04, 95% CI 2.32, 7.04). When stratifying by gender, 75.0% of Dalit/Nepali women compared with 40.4% of high caste women were above the depression cutoff. For men, 43.1% of Dalit/Nepali was above the depression cutoff compared with 18.8% of high caste men. For anxiety, 70.6% of Dalit/Nepali women were above the cutoff compared with 33.7% of high caste women. And, 44.8% of Dalit/Nepali men were above the anxiety cutoff compared with 9.4% of high caste men. We present the binary outcomes only to allow comparison of prevalence rates with other settings; for all subsequent analyses in this paper we employ the continuous outcomes.

Table 4-2. Depression and anxiety by caste (n=307).

	Mental health continuous outcomes			Mental health categorical outcomes		
	Mean total score (95% CI)	t-statistic ¹	p-value	No. (%) above cutoff ²	Odds Ratio (95% CI) ³	p-value
<i>Depression (BDI)</i>						
High Caste ⁴ (n=232)	15.03 (13.93—16.13)	4.23	<.001	66 (28.4)	1.00 [Ref.] 2.51 (1.47—4.31)	.001
Dalit/Nepali (n=75)	19.98 (17.75—22.22)			37 (50.0)		
Total sample (N=307)	16.24 (15.23—17.25)			103 (33.7)		
<i>Anxiety (BAI)</i>						
High Caste ⁴ (n=232)	10.69 (9.58—11.80)	5.18	<.001	47 (20.3)	1.00 [Ref.] 4.04 (2.32—7.04)	<.001
Dalit/Nepali (n=75)	18.11 (15.49—20.73)			38 (50.7)		
Total sample (N=307)	12.50 (11.39—13.61)			85 (27.7)		

¹Independent t-tests were used to compare continuous scale mean scores between High Caste and Dalit/Nepali caste.

²Validated Nepali cutoff scores indicating moderate or severe distress and need for mental health intervention are 20 or greater for the BDI (Kohrt et al. 2002) and 17 or greater for the BAI (Kohrt et al. 2003).

³Mantel-Haenszel odds ratio estimate and Wald confidence intervals with High Caste as the referent group.

⁴High Caste includes Brahman and Chhetri castes.

Exposure to specific categories of stressful life events varied by caste, with Dalit/Nepali participants reporting more health, family, financial, environmental, and political stressful life events (see Table III). In contrast, high caste participants reported more academic stressful events. All of the stress categories except work events were associated to depression. All of the stress categories were associated with anxiety except social relationship stressors.

Table 4-3. Crude associations of number of stressful life events (SLEs) by category with caste and mental health outcomes (n=307).

	Covariate association with caste				Covariate association with mental health outcomes			
	Dalit/Nepali (n=75)	High Caste ¹ (n=232)	Dalit/Nepali vs. High Caste ²		Depression (BDI)		Anxiety (BAI)	
	Mean (SD)	Mean (SD)	Mean difference (95% CI)	p-value	β (95% CI) ³	p-value	β (95% CI) ³	p-value
<i>Stressful life events</i>								
Academic events	0.08 (0.35)	0.17 (0.34)	-0.08 (-0.17—0.02)	.09	-5.53 (-8.41— -2.66)	<.001	-3.30 (-6.44— -0.15)	<.001
Romantic relationships	0.20 (0.36)	0.14 (0.21)	0.06 (-0.02—0.15)	.15	9.15 (5.22—13.07)	<.001	12.91 (8.79—17.04)	<.001
Health events	0.25 (0.31)	0.14 (0.21)	0.12 (0.04—0.19)	.003	9.59 (5.56—13.61)	<.001	15.54 (11.40—19.68)	<.001
Family events	0.51 (0.47)	0.31 (0.21)	0.20 (0.09—0.31)	.001	6.72 (4.06—9.39)	<.001	8.71 (5.89—11.53)	<.001
Work events	0.31 (0.59)	0.19 (0.29)	0.07 (-0.02—0.26)	.09	2.30 (-0.33—4.92)	.09	4.58 (1.78—7.38)	.001
Financial events	0.39 (0.35)	0.27 (0.29)	0.04 (0.04—0.20)	.003	6.56 (3.37—9.74)	<.001	8.41 (5.02—11.80)	<.001
Social relationships	0.19 (0.25)	0.16 (0.27)	0.03 (-0.04—0.09)	.46	4.28 (0.37—8.19)	.03	1.94 (-2.30—6.17)	.37
Environmental events	0.73 (0.61)	0.55 (0.28)	0.18 (0.03—0.32)	.02	3.14 (0.60—5.67)	.02	3.50 (0.77—6.23)	.01
Political events	0.23 (0.25)	0.15 (0.27)	0.09 (0.02—0.15)	.02	5.15 (1.39—8.91)	.007	9.38 (5.79—13.69)	<.001

¹ High caste includes Brahman and Chhetri castes.² Independent samples t-tests used to assess crude association of stressful life events with caste.³ Simple linear regression coefficients (β) of stressful life events category with mental health outcome scores.

Total, direct, and indirect effects of caste

Adjusting for age and gender, the total effect of Dalit/Nepali caste on depression score was 4.33 (95% CI 2.21, 6.45) (Model 1, Table IV). The total effect of Dalit/Nepali caste on anxiety was 7.86 (95% CI 5.48, 10.23). Adjusting for age, gender, and potential mediators (SLEs, livestock, income, and social support), the direct effect of Dalit/Nepali caste on depression was 1.43 (95% CI 0.52, 2.35) and 2.67 (95% CI 1.66, 3.69) on anxiety.

Our second analytic goal was to evaluate the possible roles of household income, number of livestock, social support, and SLEs as mediators of the relationship between caste and mental health. The total indirect effect of the four mediators considered was 3.25 (95% CI 2.13, 4.49) on depression and 3.10 (95% CI 1.83, 4.71) on anxiety. SLEs had a significant specific indirect effect on depression (0.72, 95% CI 0.24, 1.48) and anxiety (3.10, 95% CI 1.83, 4.71). Number of livestock had a significant specific indirect effect for depression (1.47, 95% CI 0.75, 2.36) and anxiety (0.81, 95% CI 0.10, 1.61). Level of income had a significant specific indirect effect on depression (0.77, 95% CI 0.26, 1.64) and anxiety (0.49, 95% CI 0.01, 1.25). Social support had a significant specific indirect effect on anxiety (0.45, 95% CI 0.07, 1.21). There were no significant contrasts between the mediators, meaning that no mediator had a significantly greater indirect effect than any other mediator for either depression or anxiety. All presented indirect effect estimates are bootstrap-based with percentile confidence intervals that are analogous to 95% confidence intervals.

Table 4-4. Direct and indirect effects for Dalit/Nepali caste versus High Caste on depression and anxiety scales (n=307).

	Depression (BDI total score)	Anxiety (BAI total score)
	Effect ³ (95% CI)	Effect ³ (95% CI)
<i>Model 1¹: total caste effect (without mediators)</i>		
Caste (Dalit/Nepali vs. High Caste [ref])	4.33 (2.21—6.45) ³	7.86 (5.48—10.23) ³
Gender (Female vs. Male [ref])	4.51 (2.67—6.35)	5.88 (3.83—7.94)
Age (year increase)	0.29 (0.22—0.36)	0.15 (0.07—0.23)
<i>Model 2²: direct effects</i>		
Direct effects of caste and covariates/potential confounders		
Caste ⁴ (Dalit/Nepali vs. High Caste [ref])	1.08 (-1.10—3.27)	4.76 (2.33—7.19)
Gender (Female vs. Male [ref])	3.93 (2.20—5.66)	5.45 (3.53—7.38)
Age (year increase)	0.30 (0.23—0.36)	0.15 (0.07—0.22)
Direct effects of potential mediators		
SLEs (4 ordinal levels vs. lowest SLEs [ref])	1.43 (0.52—2.35)	2.67 (1.66—3.69)
Livestock (0 thru 6 animals vs. 7 or more animals [ref])	3.90 (2.09—5.70)	2.14 (0.13—4.15)
Income (no income vs. any income [ref])	2.85 (1.02—4.67)	1.83 (-0.20—3.85)
Social support (0 thru 4 types vs. 5 or more types [ref])	1.97 (-0.28—4.21)	3.09 (0.59—5.59)
<i>Model 2²: indirect (mediation) effects</i>		
Total indirect effect	3.25 (2.13—4.49) ⁵	3.10 (1.83—4.71) ⁵
Specific indirect effects ⁵		
SLEs (4 ordinal levels vs. lowest SLEs [ref])	0.72 (0.24—1.48)	1.35 (0.60—2.37)
Livestock (0 thru 6 animals vs. 7 or more animals [ref])	1.47 (0.75—2.36)	0.81 (0.10—1.61)
Income (no income vs. any income [ref])	0.77 (0.26—1.64)	0.49 (0.01—1.25)
Social support (0 thru 4 types vs. 5 or more types [ref])	0.29 (-0.03—1.00)	0.45 (0.07—1.21)

¹Model 1: Covariates/independent variables are caste, age, Gender.²Model 2: Covariates/independent variables are caste, age, Gender, and the potential mediators (stressful life events, livestock, income, and social support).

³Effects for Model 1 and for direct effects in Model 2 are OLS linear regression coefficients with Wald confidence intervals.

⁴This is the “direct effect” of caste, or the effect of caste not attributable to the mediators that are included in the model.

⁵Indirect effects for Model 2 are bootstrap point estimates with 2.5th and 97.5th percentile confidence intervals, analogous to 95% confidence intervals. Number of bootstrap resamples=5000.

These results indicate that the effect of Dalit/Nepali caste on both depression and anxiety is partially mediated by the mediators that were considered. Each of the mediators considered had a significant specific indirect effect, meaning that each was a statistically significant mediator when including the other three mediators in the model.

Direct effects of covariates

In the models with caste, gender, and age (Model 1, Table IV), female gender was associated with higher BDI ($\beta=4.51$, 95% CI 2.67, 6.35) and higher BAI ($\beta=5.88$, 95% CI 3.83, 7.94). This association remained in the full models (Model 2, Table IV), with effects of 3.93 (95% CI 2.20, 5.66) and 5.45 (95% CI 3.53, 7.38) for depression and anxiety, respectively. In the full models, increasing category of SLEs was associated with higher depression score ($\beta=1.43$, 95% CI 0.52, 2.35) and higher anxiety score ($\beta=2.67$, 95% CI 1.66, 3.69). Similarly, livestock had statistically significant direct effects on depression or anxiety in the full models. Income only had a statistically significant direct effect for depression, and social support only had a statistically significant direct effect for anxiety.

Discussion

This study examined possible mechanisms underlying caste differences in mental health outcomes. Dalit/Nepali castes have considerably greater prevalence of depression and anxiety when compared with high castes. The association of caste with depression was mediated by exposure to stressful life events, number of livestock, and household

income. When considering these mediators, the direct effect of caste on depression was not significant. This suggests that much of the caste disparity in depression can be explained by the processes of poverty and livelihood insecurity, as measured by low income and lack of livestock, and greater exposure to stressful life events. The relationship of these risk factors with depression is not novel (Desjarlais et al. 1995; Kessler et al. 2008). However, what is surprising is that these mediators alone were able to explain the majority of the association of Dalit/Nepali caste with depression.

Stressful life events, number of livestock, household income, and social support were mediators of the association between caste and anxiety. In contrast to depression, the direct effect of caste on anxiety (i.e., the effect when controlling for mediators) was statistically significant and of a clinically meaningful magnitude. This suggests that there was a large amount of influence of caste on anxiety not explained by these mediators, which raises the question: What are the other possible mediators for the relationship between caste and anxiety? Two possible mediators are acute discrimination and history of economic status; the former we did not assess, and we only assessed current economic status rather than livelihood stability over time. Ultimately, the different findings for depression and anxiety support the continued exploration of them as independent—although often comorbid—disorders, despite claims that the distinction between these disorders in international settings is “not clinically valid” (Patel 2001).

One of the dramatic findings was the high prevalence rate of depression (33.7%) and anxiety (27.7%) in the sample as a whole. Psychiatric epidemiology in Nepal has been

extremely limited; one other study found a prevalence rate of 18.4% of any mental disorder in a rural community (Subedi et al. 2004; Tausig et al. 2004). This was a *Janajati* (not caste-Hindu) group on a motorable road in a tourist region with a greater human development index than Jumla. Our prevalence rates are also higher than the 12-month prevalence rates observed in the WHO World Mental Health Surveys (Kessler et al. 2008), for example, depression and anxiety rates: South Africa (9.8%, 15.8%), Nigeria (1.1%, 4.2%), and Columbia (6.9%, 13.5%). However, these studies showed regional variation with some areas having a third greater prevalence rates of depression and anxiety. Given that Nepal ranks considerable lower than these countries on human development indices, and that Jumla is in the area of Nepal that ranks the lowest in the country, our prevalence rates may reasonably estimate levels of *moderate* depression and anxiety.

A unique contribution of this research was the use of ethnographically informed multiple mediator models to test and explore the association of caste with mental health. We also note that we used a confounding assessment method that is commonly used in epidemiological studies (the “change-in-estimate” criteria), and a mediation analysis approach that is popular in the social sciences literature (estimation of the indirect effect). These approaches are similar in that both are based on changes in the magnitude of the exposure effect that occur when including a possible confounder or mediator in the model. As we have noted, decisions about whether or not a variable should be considered a possible confounder or a possible mediator should be based on theory of causal pathways. Some social science researchers suggest using the same analytical

method to assess both confounding and mediation (MacKinnon et al. 2000; Preacher and Hayes 2008), and perhaps this issue should be explored in the future.

Many mediation studies use regression-based approaches (MacKinnon et al. 2002), and we explored using a regression-based method that addresses some drawbacks of traditional regression-based approaches. Preacher and Hayes' INDIRECT macro for the bootstrap estimation of multiple mediation effects has several strengths. First, simulation studies have shown that bootstrap estimation compares favorably with distribution-based estimation or significance tests for simple mediation models (i.e. one mediator), especially for small sample sizes or when the mediator is a binary variable (MacKinnon et al. 2004; Shrout and Bolger 2002). Bootstrapping also has been advocated for when a regression-based approach is used to evaluate multiple mediators (MacKinnon et al. 2007; Preacher and Hayes 2008). Another strength of the INDIRECT macro is that it allows for the inclusion of control variables. In the presence of confounding, a model that does not control for the confounder gives a biased estimate of the exposure effect. Therefore, it is desirable to control for confounders when assessing mediation of the exposure. In our study, mediation analyses that excluded the confounders yielded different estimates of indirect effect from the analyses controlling for confounders. A third strength of the INDIRECT macro is its ability to estimate indirect effects in a multiple mediator model. One of the popular regression-based mediation analysis approaches, the "causal steps" method (Baron and Kenny 1986) is not applicable to multiple mediation models. Other regression-based approaches for multiple mediator analysis have been described but, in the view of these authors, are more difficult to implement and also are based on

distribution assumptions that may not be met. Lastly, the macro is available for use in common statistical analysis software (SAS and SPSS).

An alternative mediation analysis method for handling multiple mediators is structural equation modeling (SEM). SEM would have several advantages over the method we employed: the capability to model latent variables or measurement error, and the capability to compare models using global fit tests. We feel that a regression-based approach is easier to interpret for readers not well-versed in mediation analysis, but SEM may be useful analytic tool for future studies.

In addition to our main analyses of interest, this study also revealed that caste is just one of a number of risk factors for poor mental health in rural Nepal. Female gender was a strong predictor of poor mental health. Women described experiences of domestic violence and stressful events related to intimate partners. This is consistent with global mental health research which shows women at greater risk of psychological distress across cultures and world regions (Das et al. 2007; Desjarlais et al. 1995). In addition to gender, age was a strong independent risk factor for anxiety and depression. Subedi and collaborators (Subedi et al. 2004) also have identified aging as a important risk factor for mental illness in Nepal; as well as in other low income settings across the world (Das et al. 2007). One of the surprising findings was the inverse association of academic stressful events with depression and anxiety. This is most likely a result of academic stress events being more common among younger participants, those pursuing higher education, and those with better financial standing—all factors that likely contribute to better mental

health. Our failure to find ethnographic support for education as a potential causal factor for poor mental health also has been observed in Bosnia, Indonesia, Mexico, and India (Das et al. 2007).

An important caveat for the interpretation of these results is the possibility of reverse causation, or the situation in which the dependent variable, in this case mental health status, may affect the independent variables. It is possible that mental health status can affect economic status, exposure to stressful events, and amount of social support, in which case we cannot make the assumptions of causality that are necessary for the consideration of these variables as mediators. In our ongoing work with this population, we will be exploring this issue through longitudinal studies, which provide temporal sequence and thus more information for inferences regarding causality.

Ultimately, we are left with the challenge of how to improve the mental health in Nepal, especially for Dalit/Nepali women and men. From a mental health perspective, we would argue that concrete actions could be taken to address the mediators of poor mental health. This could be done through income generation and microcredit programs especially for Dalit/Nepali women, through promoting inclusion of Dalit/Nepali women and men in civil service and government jobs, through making healthcare available locally and providing economic support for transport to medical care in urban centers, and through harm reduction in migratory labor with mechanisms developed for earnings out of the country to benefit relatives in Jumla. In addition, the damaging effects of caste-based social inequity should encourage the United Nations and other bodies developing global

human rights policy to eradicate caste discrimination and its mediating sequelae. However, this study also demonstrates the need to address the overall high rate of depression and anxiety in rural Nepali communities by providing support to other risk groups such as the elderly and women. Reduction of depression and anxiety in rural Nepal requires multisectoral interventions that address social marginalization, structural support, and mental health services.

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**CHAPTER 5: EXPOSURE TO POLITICAL VIOLENCE AND IMPACT ON MENTAL HEALTH: A
PROSPECTIVE COMMUNITY FOLLOW-UP STUDY OF THE PEOPLE'S WAR IN NEPAL**

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Abstract

Context: There are increasing studies of the mental health and psychosocial impact of war and other political violence in low and middle income countries. However, to date, no studies in these regions have been able to compare severity of mental health problems during or after political violence with levels prior to the outbreak of war. Without studies that compare mental health pre- and post-conflict in low resource areas, it is difficult to determine the effects of conflict on mental health and determine the best approaches for intervention.

Objective: The goal of the study was to determine the impact of political violence on mental health by comparing levels of depression and anxiety among a cohort of individuals before and after a civil war in Nepal.

Design, Setting, and Participants: The study employed a prospective design assessing a cohort of randomly sampled adults in a community in rural Nepal with data collection in 2000 prior to the outbreak of political violence and again in 2007 after the signing of peace accords. 316 adults participated in the pre-conflict assessment and 298 (94%) of these were followed-up for the post-conflict assessment in 2007. Of the remaining

original participants, 12 (3.8%) died, 5 (1.6%) were lost to follow-up, and one refused to participate in the follow-up.

Main Outcome Measures: Depression and anxiety were assessed with validated Nepali versions of Beck Depression and Anxiety Inventories (BDI and BAI) in years 2000 and 2007. Exposure to stressful life events in the past year was assessed with the Stressful Life Events Rating Scale in years 2000 and 2007. Posttraumatic stress disorder (PTSD) was assessed with the PTSD Checklist-Civilian version in 2007. Exposure to political violence was assessed in 2007 with a locally-developed measure of major traumatic events in the People's War.

Results: From the pre-conflict (year 2000) to post-conflict (year 2007) periods, the prevalence of depression increased from 30.9% to 40.6%, and anxiety increased from 26.2% to 47.7%. Prevalence of post-conflict PTSD was 14.1%. Pre-conflict depression and anxiety were positively associated with the disorders at post-conflict assessment. The increase in depression prevalence was attributable to aging of the cohort ($p < .001$) and daily stressful life events ($p < .001$), but not to exposure to political violence ($p = .60$). In contrast, exposure to political violence partially explained the increase in anxiety, with a dose-response effect of political violence exposures ($p = .02$). Post-conflict PTSD was associated positively with age and inversely with pre-conflict anxiety. Effect modification by sex or pre-conflict mental health was not supported ($p < .01$).

Conclusions: The prevalence of depression and anxiety increased from pre-conflict to post-conflict assessment. However, only the increase in anxiety rates was associated in a dose-response pattern with political violence exposures. Also, there was no evidence for greater vulnerability of women or persons with pre-conflict mental disorders for post-conflict mental health problems. This suggests the need for post-conflict mental health interventions to address other risk factors for poor mental health in addition to war trauma.

Introduction

War, terrorism, and other forms political violence are considered serious threats to mental health (de Jong et al. 2001; de Jong 2002; Pedersen 2002; Mollica et al. 2004); Cross-sectional epidemiological studies in Afghanistan (Lopes Cardozo et al. 2004), Kosovo (Lopes Cardozo et al. 2000), Rwanda (Bolton et al. 2002; Pham et al. 2004), Nepal (Van Ommeren et al. 2001; Thapa and Hauff 2005), and other areas of political violence (de Jong et al. 2001) report high prevalence rates of depression, anxiety, and PTSD among survivors of political violence, with prevalence rates of these disorders ranging from 40-80%, with some studies reporting rates near 100%.

However, the pathway and relative contribution of political violence to poor mental health is poorly understood. While many studies report an association of political violence exposure with mental health problems, some major studies have not found consistent outcomes across common mental health disorders. For example, despite high rates of depression, anxiety, and PTSD symptoms among nondisabled adults in Afghanistan, greater trauma exposure was only associated with anxiety symptoms, not with depression or PTSD symptoms (Lopes Cardozo et al. 2004). Among Guatemalan refugees, greater number of traumatic events associated with depression and anxiety, but not PTSD (Sabin et al. 2003).

One of the main challenges of understanding the impact of political violence on mental health is the range of other social problems in low- and middle-income countries that often precede and are common after war such as chronic poverty, lack of healthcare,

gender-based violence, and other human rights violations. It has been difficult to disentangle the influence of political versus these chronic societal problems on mental health because of the lack of baseline pre-conflict data and need for prospective studies of exposure to political violence. Whereas high levels of mental health problems alone demand attention and intervention, more detailed prospective research of political violence can help to identify the specific influence on mental health. More detailed knowledge of the impact of political violence versus other chronic social problems can lead to better-informed interventions in post-conflict settings with scarce resources (IASC 2007).

There are a number of reasons that prospective studies are needed to study mental health and political violence in low and middle income countries. First, post-conflict cross-sectional studies do not tell us about the degree of increase in type and severity of mental health problems related to political violence exposure. Even prior to the outbreak of acute violence, there may be a high burden of mental health problems. For example, in many low and middle income countries where the majority of political violence occurs, there is poor healthcare, endemic poverty, gender-based violence, and other human rights violations that may threaten mental health (Pedersen 2002). Thus, post-conflict mental health services would need to account for these factors in addition to war trauma, and it would be important to determine the relative contribution of these different risk factors. Another reason for prospective studies is to investigate the issue of vulnerable groups. Researchers have suggested that certain groups are more vulnerable to the effects of conflict, for example, women, children, the elderly, and the mentally ill (McKay 1998;

Barnett 1999; Lopes Cardozo et al. 2004; Scholte et al. 2004; Murthy and Lakshminarayana 2006). However, without prospective studies, it cannot be determined if high rates of mental health problems among these groups are related to differential impact of political violence or from other chronic social risk factors.

There have been a growing number of follow-up and longitudinal studies that consider the change in mental health status of survivors of political violence from low- and middle-income countries. However, these are predominantly studies that first begin tracking individuals after conflict exposure (Thabet and Vostanis 2000; Mollica et al. 2001; Boothby 2006; Carlsson et al. 2006; Chou 2007; Mollica et al. 2007). These studies are crucial to help to elucidate recovery from political violence trauma over time; however, they still do not address the issue of to what degree political violence increases mental health problems above and beyond other risk factors in low- and middle-income countries.

This is a prospective study assessing mental health of a cohort of individuals before and after a period of political violence in Nepal. The goal of the study is to determine if there are changes in depression and anxiety levels from the pre- to post-conflict period.

Second, can any change in mental health status be attributed to exposure to political violence after controlling for aging and exposure to non-political violence chronic stressors such as poor healthcare, financial and livelihood instability, and family and intimate-partner related stressful life events? Third, are women or people with prior

mental health problems more vulnerable to negative mental health effects of political violence?

Methods

Setting

Nepal is a landlocked country to the north of India and the south of the Tibetan autonomous region of China, with a population of almost 28 million (World Bank 2007). Its geography consists of three distinct zones from south to north: a plain region (Tarai), a hilly region in which the capital Kathmandu lies, and a northern mountainous region (Himalaya). Nepal's population comprises more than 60 ethnic and caste groups (Whelpton 2005). Currently, Nepal ranks 142 out of 174 on the human development index--near the bottom of the medium human development category (UNDP 2007). This rank conceals strong inequalities by region (e.g. in agricultural production), gender (e.g. in literacy), and urban versus rural areas (e.g. in infant mortality).

In 1996 the "People's War" between the Communist Party of Nepal (Maoists) and government security forces began. Maoists described the war as an agrarian revolution for the rights of poor communities, women, and ethnic minorities. Maoists claim to have targeted their violence at high-caste oppressors, landowners, corrupt politicians, alcoholics, perpetrators of domestic violence, and security forces. In eleven years of combat, more than 13,000 people were killed, with the majority of these deaths perpetrated by government security forces (Mehta 2005). During the conflict more than 200,000 people were displaced, thousands of children were recruited into armed groups,

torture was widely used by both parties, and there was serious destruction to the healthcare infrastructure (Stevenson 2001; Singh 2004, 2005; Singh et al. 2007; Tol et al. 2007). In November 2006 peace accords were signed between Maoists and the government of Nepal, with the Maoists being incorporated into the government. In 2008 (after this study was completed) Prachanda, supreme commander of the Maoists, became prime minister.

This study took place in Jumla, a mountainous district in northwestern Nepal (see Figure 1); it is one of 75 districts in Nepal. Jumla has a population of 69,226 people (HMG-CBS 2003). The majority (80.1%) of this polyethnic and multi-caste population speak Nepali, and the average household size is 5.64 persons (HMG-CBS 2003). Livelihood is primarily agriculture and animal husbandry with limited commerce in a small bazaar area (Bishop 1990). Entry in and out of Jumla is only possible by foot or plane. Although there has been ongoing construction of a road to connect Jumla with the rest of the country, as of the end of 2008 it is not yet functional. Jumla is in the development region that has the second lowest school enrollment rate in Nepal and the highest gender inequality in students reaching tenth grade, only 21% are girls, compared to 79% boys. However, Jumla is one of the four districts in the country, where girls outperform boys in the School Leaving Certificate at the end of 10th grade with a 40% pass rate for girls compared with 28% for boys (Bhatta 2004).

Jumla has nine health posts, 20 sub-health posts and one hospital nominally having three doctors, of whom only one typically resides in Jumla; however, the majority of these are

not functional (United Nations 2008). The residents of Jumla district seek health care primarily from shamanic traditional healers. The major sources of mortality in the region are respiratory-related diseases, and diarrheal diseases (Health Services Partnership 1998). The incidence of childhood diarrhea is 146 per 1000 children under five years (United Nations 2008). Jumla has the second highest infant mortality rate of any district in the country (United Nations 1998).



Figure 5-1. Jumla, Nepal.

Note: Research study site in the mountainous region of the Midwestern Development Region; district headquarters elevation 2375 meters.

The “People’s War” officially began in February 1996. However, there were no reported war-related attacks in study area around Jumla bazaar prior to the study in the spring of 2000. Before the outbreak of violence between Maoists and security forces in Jumla, there was a long history of violence by army and police against the local citizens, including sexual violence against local women, dating back through the Rana and later Panchhyat periods from the 1800s. When the conflict began, the first forms violence was beatings and public humiliation of alcoholics, gamblers, and perpetrators and domestic violence. This typically occurred in areas remote from the bazaar center, which housed the police and army forces. In 2000, prior to the study period, there was an attack on a remote police station a day’s walk from Jumla bazaar. Also, in early 2000, Maoists bombed the house of a politician in Jumla.

The first major Maoist attack in the Jumla bazaar area was the assault on the police station and army post on November 14, 2002. During this assault, the governments Chief District Officer, 33 policemen, and 4 army soldiers were killed (Ogura 2004). Twice as many Maoists are estimated to have been killed in the attack. Local residents described bullets perforating walls and bomb blasts destroying some houses. The day after the attack, the bazaar area was strewn with blood, bodies, and body parts, according to residents. Maoists seized control of houses around the bazaar to hide and to provide medical care to their injured combatants. In other battles in Jumla bazaar, the telecommunications tower was destroyed by Maoists, hampering the phone contacts with outside world, with phone communication only recently restored in late 2007. Torture and abductions was also widely used by both sides. In a widely publicized case in 2004 a

journalist in Jumla was detained and tortured for 90 days by the Nepal government. Local residents also reported abductions and torture of citizens suspected of Maoist activity or sympathy.

During the armed conflict in Jumla life was affected in a number of ways. Maoist looting, government blockades, security checkpoints, and other activities restricted the transportation and availability of food and interrupted public life, including access to medical care such as urgent transport of pregnant women and immunizations. In many places, health posts, public communication service centers, and suspension bridges were destroyed by the Maoists, further debilitating access to food and other essential items (Watchlist 2005). Schools were closed in most areas and used for Maoist training or recruitment activities.

Study design and population

This was a prospective study with random sampling of one adult per household. Adults participated in the study at two time points: first in 2000, which was prior to major Maoist attack on the bazaar area, and again in 2007 after the signing of a ceasefire between the Government of Nepal and the Communist Party of Nepal (Maoists). The study location included the district headquarters which included the bazaar and adjacent village development committees. The sample originally was recruited for a psychiatric epidemiology study of depression and somatization from February through August 2000 (Kohrt et al. 2005). In 2000, all participants were 18 years of age or older and were read a consent form. Consent was recorded with a signature for literate participants or a

thumbprint for illiterate participants. Participants did not receive any compensation for their participation. The Department of Psychiatry at Tribhuvan University Teaching Hospital/Institute of Medicine in Kathmandu provided consultation prior to and during the assessment and gave final approval for the study.

Follow-up was conducted in 2007. Coordinating with the original research staff, the locations of the participants from 2000 were identified and recorded. Individuals still residing in Jumla were interviewed. Then, information was obtained on those no longer residing in Jumla, but living within Nepal. Research assistants traveled to other districts and Kathmandu to recruit the original participants who had relocated. All follow-up interviews were conducted in 2007-2008, which was after signing of the peace accords and before the April 2008 elections. In cases of participants who died in the interim from 2000 to 2007, the cause, age, and year of death was recorded. All individuals provided verbal consent. Literate participants were compensated with pens and notebooks.

Illiterate participants were compensated with household cleaning supplies. The complete protocol was approved by the Institutional Review Board of Emory University, Atlanta, USA. Within Nepal, the study protocol was approved by Nepal Health Research Council, with modifications approved by Tribhuvan University Teaching Hospital/Institute of Medicine.

Instruments

The 21-item *Beck Depression Inventory* (BDI) and *Beck Anxiety Inventory* (BAI) were used to assess depression and anxiety symptoms over the prior two weeks. The same

scale was used in 2000 for the pre-conflict assessment and in 2007 for the post-conflict assessment. Items are scored 0-3 with an instrument range of 0 to 62. Both scales have been validated for use in Nepal (Kohrt et al. 2002; Kohrt et al. 2003): area under the curve (AUC) 0.919 (95% CI 0.878—0.960) for the BDI and 0.847 (95% CI 0.789—0.906) for the BAI; internal reliability (Cronbach alpha), BDI $\alpha=0.90$ and BAI $\alpha=0.90$. Based on the clinical validation of the BDI in Nepal, a score of 20 or higher suggests the need for mental health intervention (sensitivity=0.73, specificity=0.91). On the BAI, a score of 17 or higher indicates need for intervention (sensitivity=0.77, specificity=0.81). Test-retest reliability Spearman-Brown coefficients for the BDI were 0.84 and for the BAI were 0.88.

The 17-item *PTSD Checklist-Civilian Version* (PCL-C) is a rating scale for assessing PTSD symptoms in contexts where administration of a structured interview schedule is not feasible (Weathers et al. 1993). The PCL-C assesses PTSD both as a DSM-IV disorder and as a continuous construct and can assess PTSD symptom severity within the past week. The measure has good psychometric properties both in Western populations (Weathers et al. 1994) and in Nepal (Tol et al. 2007). The PCL-C has been validated for us in Nepal with a cut-off score of 50 or above indicating need for intervention (Thapa and Hauff 2005). For the sample in this study, internal reliability (Cronbach's alpha) was 0.83. Test-retest reliability Spearman-Brown coefficient was 0.82. Participants only completed the PCL-C in 2007; pre-conflict PTSD assessments are not available for this population.

The 64-item *Stressful Life Events Rating Scale for Cross Cultural Study* (SLERS) was used to assess exposure to daily stressors over the prior 12 months (Zheng and Lin 1994). In the pre-conflict study, participants recorded the stressful life events that occurred in 1999-2000. In the post-conflict study, the participants completed the same scale for the immediate prior 12 months in 2006-2007. It is important to note that the prior 12 months assessed in the 2007 follow-up included the months since the signing of peace accords in November 2006. Individuals reported both the frequency (number of times an event occurred in the past 12 months) and the intensity (0-4 scale for degree of impact on life: “no distress” to “extremely distressing”) of stressful life events with the SLERS. This instrument consists of nine subscales: academic events (3 items, e.g. failed exam, left school), intimate partner events (8 items, e.g. got married, fighting with spouse, spouse ran away, extramarital affair), health events (11 items, e.g. spouse death, child death, severe illness, pregnancy, miscarriage), family events (9 items, e.g. child cannot find work, child eloped, fighting with relatives, parents fighting), work events (5 items, e.g. cannot find work, not satisfied with work, fired from work), financial events (9 items, e.g. salary decreased, lost property, took a mortgage, lost livestock, crop shortage), social relationship events (7 items, e.g. disgraced in public, broken relationship with friend, criticized by others), environmental events (5 items, e.g. natural disaster, village more polluted), and political events (7 items, e.g. took part in political activities, lost job from political affiliation). Greater frequency of stressful life events (SLEs) as assessed by the SLERS is associated significantly with locally-defined psychosomatic complaints in Nepal (Kohrt et al. 2005). Stressful life event frequencies were summed, and individuals were coded into quartiles (0-12, 13-18, 19-26, >26).

Based on focus-group discussions, key informant interviews, and review of documents about the conflict in Jumla, a *Political Violence Scale* was developed to assess exposures to conflict-related traumatic events during the conflict period. Two of the authors who are natives of Jumla reviewed the political violence questionnaire for content and comprehensibility. Additionally, thirty Jumla residents independently reviewed the list to confirm that events were considered ‘traumatic’ by local standards and severely affected individual lives. Lastly, we removed items that were more subjective in assessment, (e.g. reduced access to healthcare, impaired ability to meet daily needs during conflict). Of the 32 proposed items, the final instrument included 14 items that were considered severe and could be answered in an objective fashion. The items used in the final analyses 1) include house searched by armed group, 2) forced to feed or shelter armed group, 3) property damaged in battle, 4) forced into political involvement by armed group, 5) threatened by armed group for political involvement, 6) domestic violence perpetrated by family member in armed group, 7) sexual violence perpetrated by armed group, 8) witnessing someone beaten by armed group, 9) witnessing someone killed by armed group, 10) witnessing bomb explosion, 11) family member abducted by armed group, 12) family member tortured by armed group, 13) family member killed by armed group, and 14) displaced due to conflict. We did not ask participants to specify the perpetrating group (i.e. Maoists, government police, or Nepal Army) because of safety concerns regarding retaliation. These items were scored 0-2, with ‘0’ referring to no exposures, ‘1’ indicating exposure, and ‘2’ indicating more frequent or greater exposures. For these analyses, we dichotomized the results to ‘0’ no exposure and ‘1’ any exposure. We

summed the total number of types of exposure (0 to 14) and categorized this into quartiles based on frequency distribution (0-3, 4-5, 6-7, >7).

Interviews were conducted in participants' homes in an area with only the interviewer and participant present. Interviews lasted 60-90 minutes. Interrater reliability was evaluated with the intraclass correlation coefficient (ICC); average ICC 0.995 (95% CI 0.993—0.996). Participants with high levels of psychological distress were followed-up by the study's principal investigator and referred for mental health support.

Statistical Analyses

There were four goals for statistical analyses:

(1) To determine if there were baseline (year 2000) characteristic differences between those who did and did not participate in the follow-up. This was done using chi-square for categorical and ANOVA for continuous outcomes comparing the three groups of those who participated in the follow-up study, those who died before the follow-up study, and those who were lost to follow-up or refused to participate.

(2) To determine if there were crude changes in depression and anxiety prevalence between pre- and post-conflict study periods. This was done by comparing mean values with paired t-tests and categorical mental health outcomes (above vs. below cutoff scores for BDI and BAI) using Mantel-Haenszel odds

ratios. It is important to note that the term 'pre-conflict' was employed to refer to the data collection period in 2000 because this was prior to any Maoist attacks in the study area. However, as described above there had been sporadic incidences of political violence in the surrounding area prior to the study period.

(3) To determine if there were crude associations of post-conflict mental health status (depression, anxiety, and PTSD) with dichotomized (experienced yes vs. no) political violence exposures or stressful life events. This was done using Mantel-Haenszel odds ratios.

(4) To determine if post-conflict mental health (depression, anxiety, and PTSD) was associated with political violence exposure when controlling for pre-conflict mental health, age group, and exposure to stressful life events. This was done using multivariate logistic regression models. Within these models, differential vulnerability of women or persons with pre-conflict mental disorders to political violence-related mental health problems was assessed with tests of effect modification. To accomplish this goal, Kleinbaum and colleagues' (Kleinbaum et al. 1982) framework for assessing effect modification was employed with a cutoff of $p < .01$ to identify interactions (Frazier et al. 2004). A multivariate logistic regression model was created with all variables of interest: sex, age group (seven-year blocks of age groups), stressful life events in the prior 12 months (divided in quartiles of exposure frequency), political violence exposure (divided in quartiles of exposure frequency), and pre-conflict mental health (above vs. below cutoff).

The interaction terms of interest were added to these full models: ‘sex times political violence’ and ‘pre-conflict mental health times political violence’.

Insignificant interactions were removed sequentially (Kleinbaum et al. 1982).

Because neither of the interactions of interest was significant, analyses were not stratified. Thus, the association of political violence with post-conflict mental health was determined in the full model outlined above, without interactions.

P-values less than 0.05 were considered statistically significant unless otherwise noted.

Statistical analyses were performed with SPSS v.16.0 (SPSS Inc. 2007).

Results

Of the original 316 participants in the pre-conflict study in 2000, 298 (94%) participated in the follow-up post-conflict study (see Table 1). Of these follow-up participants, 266 (89.3%) were still living in Jumla, and 32 (10.7%) had moved to other districts in Nepal during the conflict period. Twelve (3.8%) of the original 316 participants were deceased. Of the remaining six persons (1.9%) who did not participate, one refused participation and the other five were lost to follow-up. Deceased persons were more likely to have been unskilled laborers, older, more depressed, and more anxious than those who did not die during the 7 years between the pre- and post-conflict assessment. One of these persons died in cross-fire between Maoists and the Nepal Army. The other eleven died from health problems, most commonly respiratory disease. There were no significant differences between the other six persons who did not participate and those who did participate in the follow-up study.

Table 5-1. Baseline characteristics of participants (pre-conflict, year 2000)

	Total original participants (N=316)	Follow-up participants (n=298)	Deceased at follow-up (n=12)	Lost to follow-up (n=6)		
Categorical characteristics, No. (%)					Chi-square	p-value
Sex						
Men	183 (57.9)	168 (56.4)	10 (83.3)	5 (83.3)	5.06	.08
Women	133 (42.1)	130 (43.6)	2 (16.7)	1 (16.7)		
Caste						
Brahman	79 (25.0)	75 (25.2)	2 (16.7)	2 (33.3)	14.00	.03
Chhetri	153 (48.4)	149 (50.0)	2 (16.7)	2 (33.3)		
Dalit/Nepali	75 (23.7)	65 (21.8)	8 (66.7)	2 (33.3)		
Janajati	9 (2.8)	9 (3.0)	0 (0)	0 (0)		
Religion						
Hindu	313 (99.1)	295 (99.0)	12 (100.0)	6 (100.0)	0.18	.91
Other	3 (0.9)	3 (1.0)	0 (0)	0 (0)		
Education						
None	139 (44.0)	127 (42.6)	8 (66.7)	4 (66.7)	6.97	.32
Class 1-5	30 (9.5)	28 (9.4)	2 (16.7)	0 (0)		
Class 6-10	69 (21.8)	66 (22.1)	2 (16.7)	1 (16.7)		
SLC +	78 (24.7)	77 (25.8)	0 (0)	1 (16.7)		
Marital Status						
Single	39 (12.3)	37 (12.4)	2 (16.7)	0 (0)	1.18	.88
Married	275 (87.0)	259 (86.9)	10 (83.3)	6 (100.0)		
Widowed	2 (0.6)	2 (0.7)	0 (0)	0 (0)		
Occupation						
Unemployed	2 (0.6)	2 (0.7)	0 (0)	0 (0)	23.51	.001
Unskilled labor	11 (3.5)	7 (2.3)	3 (25.0)	1 (16.7)		
Farmer	219 (69.3)	209 (70.1)	5 (41.7)	5 (83.3)		
Office/Business	84 (26.6)	80 (26.8)	4 (33.3)	0 (0)		
Household Income						
None	142 (44.9)	130 (43.6)	9 (75.0)	3 (50.0)	7.47	.28
Rs. 1-2000	58 (18.4)	58 (19.5)	0 (0)	0 (0)		
Rs. 2001-4000	57 (18.0)	54 (18.1)	2 (16.7)	1 (16.7)		
Rs. 4000+	59 (18.7)	56 (18.8)	1 (8.3)	2 (33.3)		
Continuous characteristics, mean (95% CI)					F-statistic	p-value
Age, y	34.91 (33.52—36.30)	33.88 (32.55—35.20)	58.67 (54.01—63.32) ^a	38.50 (19.13—57.87)	26.41	<.001
Family size, members	5.83 (5.53—6.14)	5.78 (5.46—6.10)	6.42 (4.92—7.91)	7.33 (3.48—11.18)	1.20	.30
Stressful life events in past	15.49 (14.11—16.88)	15.42 (13.99—16.85)	17.08 (8.77—25.40)	15.83 (1.69—29.98)	0.10	.90

year						
Depression, BDI	15.86 (14.85—16.86)	15.53 (14.52—16.53)	25.00 (17.92—32.07) ^a	14.00 (2.72—25.28)	6.61	.002
Anxiety, BAI	12.32 (11.24—13.41)	11.95 (10.87—13.03)	22.00 (13.55—30.45)	11.67 (0.75—22.58)	6.23	.002

Abbreviations: CI, confidence interval; SLC, School Leaving Certificate, Rs, Nepali Rupiyaa (USD\$1=Rs.65); BDI, Beck Depression Inventory, BAI, Beck Anxiety Inventory

^a Dunnet C post-hoc test, follow-up participants and deceased participants differed significantly.

Table 5-2. Pre-conflict (year 2000) and post-conflict (year 2007) demographics (N=298)

	Pre-conflict demographics (year 2000)	Post-conflict demographics (year 2007)		
Categorical characteristics, No. (%)			McNemar Chi-square	p- value
Education				
None	127 (42.6)	110 (36.9)	31.46	<.001
Class 1-5	28 (9.4)	50 (16.8)		
Class 6-10	66 (22.1)	36 (12.1)		
SLC +	77 (25.8)	102 (34.2)		
Marital Status				
Single	37 (12.4)	14 (4.7)	24.06	<.001
Married	259 (86.9)	266 (89.3)		
Widowed	2 (0.7)	18 (6.0)		
Occupation				
Unemployed	2 (0.7)	4 (1.3)	5.50	0.36
Unskilled labor	7 (2.3)	7 (2.3)		
Farmer	209 (70.1)	188 (63.1)		
Office/Business	80 (26.8)	99 (33.2)		
Household Income				
None	130 (43.6)	72 (24.2)	40.04	<.001
Rs. 1-2000	58 (19.5)	83 (27.9)		
Rs. 2001-4000	54 (18.1)	45 (15.1)		
Rs. 4000+	56 (18.8)	98 (32.9)		
Continuous characteristics, mean (95% CI)				
Family size, members	5.78 (5.46—6.10)	5.83 (5.53—6.14)	Paired t-test	p- value
Stressful life events in past year				
Academic	0.42 (0.31—0.53)	0.30 (0.17—0.43)	-1.65	.10
Intimate partner	1.26 (1.03—1.49)	1.61 (1.31—1.91)	2.00	.05
Health	1.76 (1.46—2.05)	1.92 (1.72—2.12)	0.91	.36
Family	3.12 (2.74—3.50)	4.91 (4.51—5.30)	7.15	<.001
Work	1.08 (0.87—1.30)	1.21 (0.94—1.48)	0.74	.46
Financial	2.62 (2.30—2.94)	4.52 (4.16—4.87)	8.13	<.001
Social relationships	1.16 (0.96—1.36)	1.50 (1.23—1.77)	2.09	.04
Environmental	2.95 (2.72—3.17)	2.01 (1.76—2.26)	-5.55	<.001
Political	1.17 (0.96—1.38)	1.24 (1.03—1.44)	0.50	.62
Total SLEs	15.42 (13.99—16.85)	19.21 (18.01—20.42)	4.20	<.001

Abbreviations: CI, confidence interval; SLC, School Leaving Certificate, Rs, Nepali Rupiyaa (USD\$1=Rs.65); BDI, Beck Depression Inventory, BAI, Beck Anxiety Inventory; SLEs, stressful life events

Among 298 participants who did participate in the pre-conflict and post-conflict assessment, there were significant changes in socioeconomic status over the seven year period (see Table 2). The individuals reached higher educational standing. Many of the single participants married, and 16 participants were widowed during that time period. Household income increased especially at the highest ends of the income spectrum and fewer households had no cash income. There was no change in distribution among occupations. The number of total stressful life events that occurred in the 12 months prior to the post-conflict study was significantly greater than the number of events that occurred in the 12 months prior to the pre-conflict assessment. Post-conflict family, financial and social relationship stressful exposures were greater in the post-conflict period. Environmental stressful exposures were reduced in the post-conflict period.

Mental health status worsened considerably between the pre-conflict and post-conflict assessment (Table 3). Of 298 individuals who participated in pre- and post-conflict assessments, 121 (40.6%) were above the depression cutoff at the post-conflict assessment compared with 92 (30.9%) at the pre-conflict assessment. Of the follow-up participants, 57 (19.1%) retained depression case status and 142 (47.7%) retained non-case status across both assessment periods. Thirty-five (11.7%) individuals were above cutoff at the pre-conflict period were not longer cases. And, vice versa, there were 64 (21.5%) individuals who went from non-case to depression case status. The difference in anxiety between assessments was even greater with 142 (47.7%) above the cutoff at the post-conflict period compared with only 78 (26.2%) at the pre-conflict period. More than half of the participants retained their anxiety status across the two time points: 129

(43.3%) remained non-cases and 51 (17.1%) remained cases. Twenty seven (9.1%) went from cases to non-cases whereas there were 91 (30.5%) new cases of anxiety were observed between pre- and post-conflict assessment. PTSD was assessed only at the post-conflict time period. The mean score on the PCL-C was 40.11 (95% CI 39.18—41.03). Based on the validated cutoff score of 50 or greater, 42 participants (14.1%) met criteria for PTSD.

Table 5-3. Crude mental health and stressful life event exposure pre-conflict and post-conflict (N=298)

	Mean (95% CI)	Paired t-test	p- value	Above cutoff, No. (%)	OR (95% CI)	p- value
Depression (BDI)						
Pre-conflict (year 2000)	15.53 (14.53—16.52)	4.84	<.001	92 (30.9)	1 [Reference]	<.001
Post-conflict (year 2007)	18.12 (17.29—18.96)			121 (40.6)	3.61 (2.16—6.04)	
Anxiety (BAI)						
Pre-conflict (year 2000)	11.95 (10.88—13.02)	7.95	<.001	78 (26.2)	1 [Reference]	<.001
Post-conflict (year 2007)	16.77 (15.82—17.71)			142 (47.7)	2.68 (1.56—4.59)	

Abbreviations: CI, confidence interval; OR, odds ratio; BDI, Beck Depression Inventory, BAI, Beck Anxiety Inventory

Because of the duration of 7 years between the pre- and post-conflict assessment, we visually inspected if the increase in depression and anxiety could be attributed to aging alone (see Figure 2). At the pre-conflict measurement in year 2000, depression showed a positive association with age. Thus, one would expect the 7-year aging process to produce an increase in depression levels for the participants as individual age regardless of conflict-based exposures. As Figure 2 illustrates, the increase from year 2000 to 2007 can be explained by this aging of the cohort, rather than political violence exposure. Levels of depression are not higher than would be expected given aging. In contrast, the increase in anxiety cannot be explained by aging alone (also Figure 2). In many of the age groups, anxiety levels are greater than would be expected given aging alone. Similarly, the increase in stressful life events between year 2000 and 2007 can be explained primarily in accordance with aging of the cohort (see Figure 3). We also graphed post-conflict PTSD levels (also Figure 3).

The crude association of stressful life events in the past 12 months with post-conflict mental health outcomes was assessed. For post-conflict depression, the following stressful events were associated significantly: academic events (OR=0.15, 95% CI 0.04—0.50); health events (OR=2.16, 95% CI 1.21—3.84), family events (OR=2.88, 95% CI 1.27—6.53), financial events (OR=3.60, 95% CI 1.44—8.99), and environmental events (OR=1.69, 95% CI 1.02—2.81). For post-conflict anxiety, significant stressful events in the prior 12 months included academic events (OR=0.26, 95% CI 0.10—0.65), intimate partner events (OR=2.31, 95% CI 1.44—3.69), family events (OR=3.37, 95% CI 1.54—7.41), and financial events (OR=4.04, 95% CI 1.70—9.59). For post-conflict PTSD,

significant stressful events in the prior 12 months were health events (OR=2.68, 95% CI 1.01—7.09) and social relationship events (OR=2.26, 95% CI 1.16—4.42).

Participants experienced a range of exposures to political violence (Table 4). House searched by armed group was the most common exposure, experienced by 256 (85.9%) of participants. Witness beatings and killings by armed groups were also common, 71.5% and 78.5% respectively. The rarest exposure was the killing of family member experienced by 14 (4.7%) persons. Regarding political violence exposure, significant crude associations with post-conflict depression included domestic violence (OR=3.70, 95% CI 1.47—9.29) and sexual violence (OR=3.69, 95 % CI 1.55—8.80). Significant crude associations with post-conflict anxiety included forced to feed militia (OR=1.78, 95% CI 1.05—3.03), forced political involvement (OR=1.83, 95% CI 1.04—3.20), and exposure to bomb explosion (OR=2.04, 95% CI 1.26—3.32). For PTSD, sexual violence was the only significant association (OR=3.84, 95% CI 1.58—9.30).

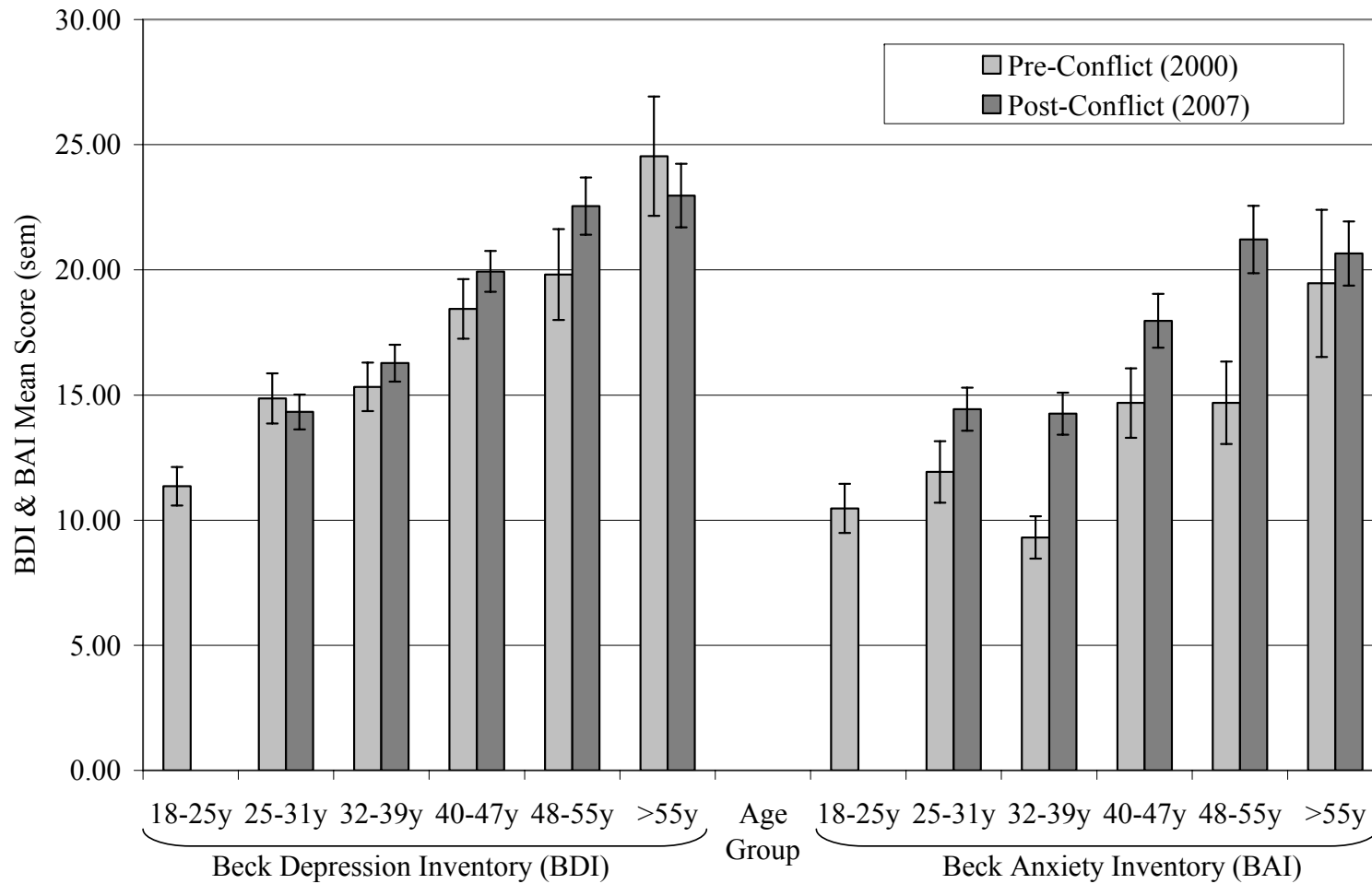


Figure 5-2. Beck Depression Inventory and Beck Anxiety Inventory mean scores by age group. Light bars represents mean levels of all persons in the designated age group pre-conflict (year 2000) and dark bars represent mean levels of all persons in designated age group post conflict (year 2007). Mean scores are only available for the below 18-25 years age group for 2000 because the post-conflict sample was all 25 years or greater during the 2007 follow-up. Error bars represent standard error of the mean.

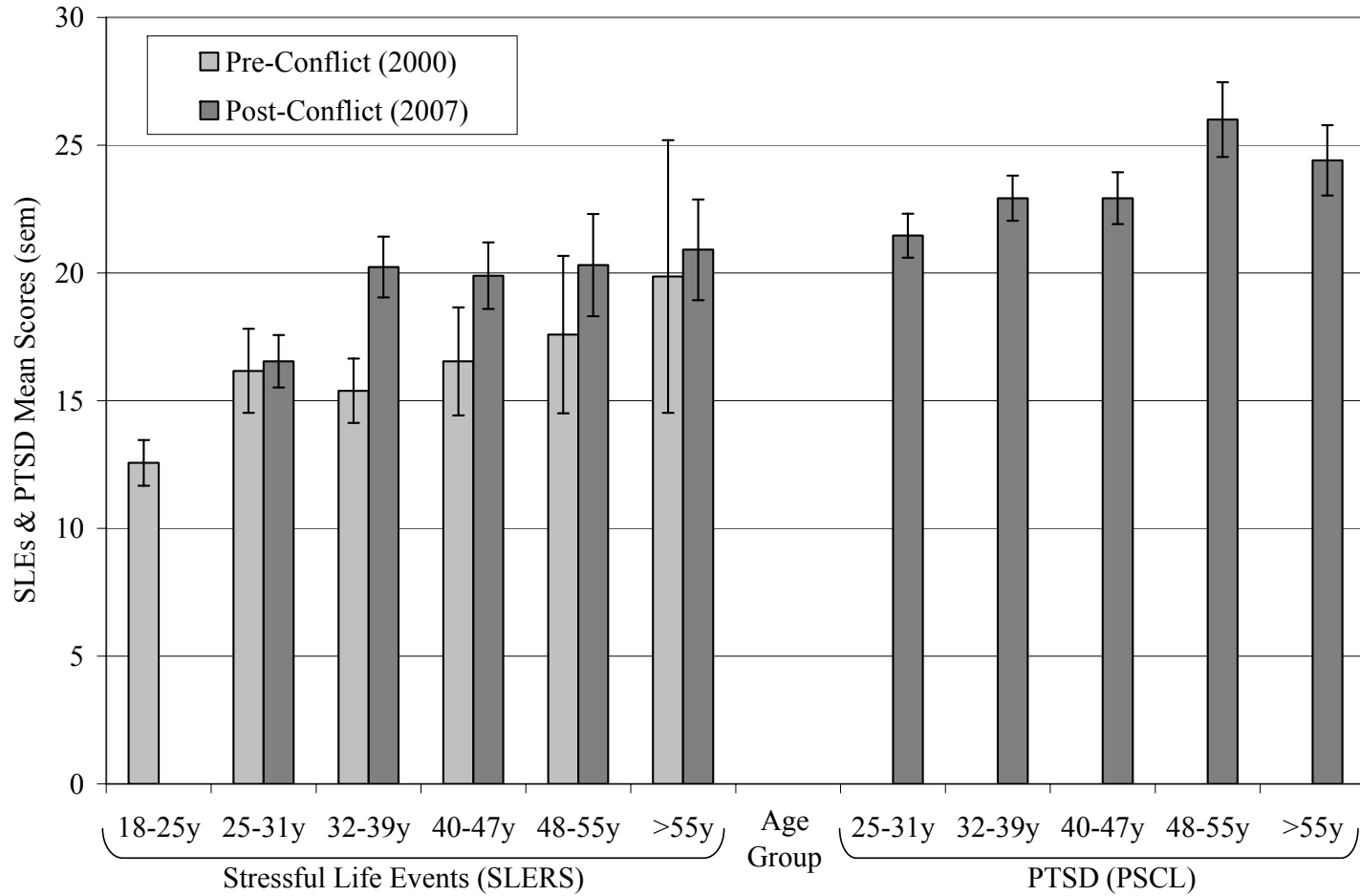


Figure 5-3: Stressful life events in prior 12 months (SLERS, stressful life events rating scale) and PTSD symptoms (PSCL, PTSD Symptom Checklist) mean scores by age group.

Light bars represents mean levels of all persons in the designated age group pre-conflict (year 2000) and dark bars represent mean levels of all persons in designated age group post conflict (year 2007). Mean scores are only available for the below 18-25 years age group for 2000 because the post-conflict sample was all 25 years or greater during the 2007 follow-up. Data on PTSD was only collected post conflict in year 2007. Error bars represent standard error of the mean.

Table 5-4. Exposure to political violence and crude odds ratios for post-conflict (year 2007) mental disorders (N=298)

	No. (%)	Depression (BDI)	Anxiety (BAI)	PTSD (PCL-C)
		OR (95% CI)	OR (95% CI)	OR (95% CI)
House searched by armed group ^a	256 (85.9)	0.72 (0.37—1.38)	1.77 (0.90—3.49)	1.25 (0.46—3.39)
Forced to feed and shelter armed group	220 (73.8)	0.98 (0.58—1.65)	1.78 (1.05—3.03)	1.35 (0.62—2.97)
Property damaged in battle	35 (11.7)	0.97 (0.47—2.00)	1.76 (0.86—3.61)	0.76 (0.26—2.29)
Forced into political involvement by armed group	64 (21.5)	1.18 (0.67—2.06)	1.83 (1.04—3.20)	0.57 (0.23—1.42)
Threatened by armed group for political involvement	121 (40.6)	0.52 (0.32—0.84)	1.27 (0.80—2.03)	1.11 (0.58—2.16)
Domestic violence perpetrated by family member in armed group	23 (7.7)	3.70 (1.47—9.29)	1.22 (0.52—2.86)	2.34 (0.87—6.33)
Sexual violence perpetrated by armed group	26 (8.7)	3.69 (1.55—8.80)	1.31 (0.59—2.94)	3.84 (1.58—9.30)
Witnessing someone beaten by armed group	213 (71.5)	0.65 (0.39—1.07)	1.03 (0.63—1.71)	1.33 (0.62—2.83)
Witnessing someone killed by armed group	234 (78.5)	1.00 (0.57—1.75)	1.44 (0.82—2.52)	1.43 (0.60—3.40)
Witnessing bomb explosion	191 (64.1)	0.81 (0.50—1.31)	2.04 (1.26—3.32)	0.71 (0.37—1.38)
Family member abducted by armed group	37 (12.4)	0.58 (0.28—1.23)	1.18 (0.60—2.36)	1.84 (0.78—4.36)
Family member tortured by armed group	75 (25.2)	1.04 (0.62—1.77)	1.09 (0.65—1.85)	1.60 (0.79—3.22)
Family member killed by armed group	14 (4.7)	1.10 (0.37—3.26)	1.10 (0.38—3.23)	1.71 (0.46—6.42)
Displaced due to conflict	34 (11.4)	0.76 (0.37—1.64)	0.74 (0.36—1.54)	1.36 (0.53—3.51)

^a 'Armed group' can refer to either government forces (Nepal Army and Armed Police Force) or Maoist forces (People's Liberation Army).

Table 5-5. Multivariate logistic regression for post-conflict mental health outcomes (N=298)

	Post-conflict depression (BDI, year 2007) ^a			Post-conflict anxiety (BAI, year 2007) ^b		Post-conflict PTSD (PSCL, year 2007) ^c	
	No. (%)	OR (95% CI)	p-value	OR (95% CI)	p-value	OR (95% CI)	p-value
Sex							
Male	168 (56.4)	1 [Reference]	<.001	1 [Reference]	<.001	1 [Reference]	.23
Female	130 (43.6)	4.37 (2.29—8.31)		3.42 (1.81—6.45)		1.64 (0.73—3.67)	
Age							
25-31y	83 (27.9)	1 [Reference]	<.001	1 [Reference]	<.001	1 [Reference]	.02
32-39y	77 (25.8)	0.93 (0.42—2.07)		0.70 (0.34—1.46)		1.22 (0.39—3.89)	
40-47y	64 (21.5)	1.98 (0.89—4.42)		1.55 (0.73—3.29)		1.47 (0.45—4.84)	
48-55y	42 (14.1)	5.73 (2.27—14.45)		5.18 (2.04—13.14)		5.49 (1.70—17.69)	
>55y	32 (10.7)	10.82 (3.76—31.17)		6.73 (2.36—19.22)		3.21 (0.90—11.40)	
Stressful life events							
0-12	82 (27.5)	1 [Reference]	<.001	1 [Reference]	<.001	1 [Reference]	.06
13-18	76 (25.5)	2.63 (1.13—6.11)		3.62 (1.62—8.07)		1.03 (0.29—3.60)	
19-26	74 (24.8)	3.92 (1.68—9.17)		4.00 (1.78—8.99)		3.02 (1.01—9.09)	
>26	66 (22.1)	6.49 (2.64—15.99)		6.04 (2.59—14.09)		2.94 (0.96—8.96)	
Political violence events							
0-3	75 (25.2)	1 [Reference]	.60	1 [Reference]	.02	1 [Reference]	.11
4-5	85 (28.5)	1.58 (0.72—3.45)		2.29 (1.06—4.95)		0.74 (0.24—2.30)	
6-7	92 (30.9)	1.03 (0.45—2.37)		2.63 (1.15—6.05)		2.46 (0.87—6.98)	
>7	46 (15.4)	1.29 (0.50—3.37)		4.26 (1.63—11.10)		1.60 (0.50—5.18)	
Pre-conflict depression (BDI, year 2000)							
No	202 (69.1)	1 [Reference]	.004	N/A		1 [Reference]	.68
Yes	92 (30.9)	2.50 (1.35—4.64)		1.20 (0.51—2.78)			
Pre-conflict anxiety (BAI, year 2000)							
No	220 (73.8)	N/A		1 [Reference]	.02	1 [Reference]	.01
Yes	78 (26.2)			2.10 (1.11-3.96)		0.25 (0.09—0.72)	
Constant		1.16	.38	1.71	.003	0.11	<.001

Abbreviations: OR, odds ratio; CI, confidence interval; BDI, Beck Depression Inventory; BAI, Beck Anxiety Inventory; PSCL, PTSD Symptom Checklist

^a Model includes all variables shown except pre-conflict anxiety.^b Model includes all variables shown except pre-conflict depression.^c Model includes all variables shown.

The association of political violence with post-conflict mental health was then assessed in multivariate logistic regressions controlling for age group, stressful life event exposure, and pre-conflict mental health. Effect modification was assessed by adding the interactions of 'sex times political violence' and 'pre-conflict mental health times political violence' to the full multivariate regression model. All interactions were not significant for depression (sex interaction, $p=0.60$; pre-conflict depression interaction, $p=0.66$), anxiety (sex interaction, $p=0.22$; pre-conflict anxiety interaction, $p=0.51$). Interactions were then removed from the models to assess political violence and covariates. This suggests that sex or pre-conflict mental health status did not modify the effect of political violence exposure on depression or anxiety. For PTSD, when all interactions were in the model, the pre-conflict depression interaction with political violence was significant (sex interaction, $p=0.21$; pre-conflict anxiety interaction, $p=0.16$; pre-conflict depression interaction, $p=0.03$). When the non-significant interactions were removed from the PTSD model, the 'depression times political violence' interaction dropped to $p=0.02$ but did not go below the $p<0.01$ recommended cutoff, thus analyses were not stratified.

In the complete model (Table 5), significant associations for post-conflict depression are female sex, age, stressful life events in the past twelve months, and pre-conflict depression. However, political violence was not significantly associated. In contrast, all risk factors were significant in the full model for anxiety: female sex, age, stressful life events, political violence, and pre-conflict mental health. Exposure to political violence showed a dose response effect upon post-conflict anxiety; the second quartile had 2.29

greater odds compared to the referent first quartile, the third quartile had 2.63 greater odds compared to the referent, and the top quartile had 4.26 greater odds. Age and stressful life events also had dose-response effects on both depression and anxiety. For PTSD, only age and pre-conflict anxiety were significant; pre-conflict anxiety inversely associated with post-conflict PTSD.

Discussion

This is the first study, to our knowledge, prospectively following individuals through a violent conflict in a resource poor, low income country. The study demonstrates that although we observed an increase in depression and anxiety prevalence in the community over a seven-year period of political violence, only the increase in anxiety was associated with exposure to political violence. In contrast, the increase in depression was associated with aging of the population and exposure to daily stressors in the past year but not with level of political violence. Whereas rates of depression and anxiety were both high—endorsed by more than two-fifths of the population, PTSD prevalence was 14.1%, considerably lower than that observed in other settings of political violence. PTSD was associated with greater age and inversely associated with pre-conflict anxiety levels.

The rate of all three disorders (depression, anxiety, and PTSD) was similar that observed in eastern Afghanistan in 2003: 38.5%, 51.8%, and 20.4% respectively (Scholte et al. 2004). The depression rate was also similar to that observed in postwar Uganda of 44.5% (Vinck et al. 2007). And, the rate of PTSD was similar to that observed among Kosovar Albanians (17.1%) following the war in Kosovo (Lopes Cardozo et al. 2000) and ten

percent less than rate observed among survivors of the Rwandan genocide (Pham et al. 2004). The rate of PTSD was considerably lower than that observed among internally displaced Nepalis (53.4%) assessed during the conflict in 2003 using the same instrument (Thapa and Hauff 2005) and lower than the PTSD prevalence observed in other settings, e.g. 74.3% in Uganda (Vinck et al. 2007). These findings were similar to the pattern of association observed among nondisabled adults in Afghanistan wherein traumatic exposure associated with anxiety, but not depression or PTSD (Lopes Cardozo et al. 2004).

We failed to find support for unique vulnerability to the mental health effects of political violence among women or persons with pre-conflict mental disorders. However, of the range of political violence exposures, domestic and sexual violence were most strongly associated with poor mental health outcomes, primarily for depression. This reflects the devastating impact of gender-based violence seen in other war settings (McKay 1998; Amowitz et al. 2002; Johnson et al. 2008), and highlights the need to prioritize gender-based violence in post-conflict mental healthcare.

This study supports the need to consider levels of mental health problems prior to exposure to acute political violence or other complex emergencies. There is increasing evidence that the mental health impacts of war are not inevitable, but rather intimately related to the social, economic and cultural conditions that precede and follow violent conflict (Porter and Haslam 2005).

Elevated rates of mental health problems may be associated with structural violence such as poverty, discrimination, and lack of access to healthcare and education, and related exposures to chronic daily stressors associated with these positions of social inequality. For example, in this study exposure to stressful life events in the past year was a strong predictor of both depression and anxiety. Considering these issues may reveal that political violence is certainly not the only and possibly not even the most powerful influence on mental health. This is in no way to diminish the emphasis placed upon the suffering caused by political violence, but rather to raise attention of the equally damaging forces of chronic social injustice that erode mental health in the form of the ongoing burden of financial, familial, and health-related stressful life events.

This study has a range of limitations which need to be considered. Firstly, as with most settings of political violence, it is difficult to specify what qualifies as ‘pre-conflict’ mental health. The year 2000 assessment occurred just as violence was increasing around Jumla and was a few years after the Maoists declared war. That said, this study still provides useful insight as the pre-conflict assessment was before any attacks actually occurred in the study area. Second, PTSD was not assessed in 2000 which raises questions about the change throughout the conflict period. Third, the original sample was slightly biased toward male participants. Lastly, social support and other measures of resilience were not collected at both time points to shed light on protective factors.

One of the questions is the longer term trajectory of mental health problems among Nepalis in Jumla and other communities. This study was conducted in 2007-2008 prior to

the Maoists winning democratic elections and Prachanda, supreme commander of the Maoists, becoming prime minister. It will be important to follow if this has a stabilizing effect on the country and psyche reducing anxiety levels or if they will remain high.

The study has a number of implications for mental health promotion. This study highlights the need to address exposure to stressful life events through poverty reduction programs, better healthcare, and prevention of gender-based violence, as well as care for survivors of gender-based violence. This could reduce significantly the high burden of depression and anxiety. Treatment of conflict-related gender violence is also crucial. Moreover, addressing these chronic social problems may not only reduce mental health problems, but may also reduce violent conflict. In the case of Nepal, chronic structural and gender inequities were used a rallying cry by Maoists to recruit men, women, and children into their military force (Karki and Seddon 2003; Hutt 2004).

For political violence exposures, care measures to reduce anxiety are crucial. Community-based measures that have been used elsewhere, such as group interpersonal psychotherapy (Bolton et al. 2003), could play an important role in rebuilding trust and social cohesion that may reduce anxiety. Lastly, for some individuals, more intensive clinical mental healthcare is required, such as for the individuals with PTSD and chronic depression. The findings presented here reinforce the call in Global Mental Health (Chisholm et al. 2007) to scale-up mental health services in Jumla, throughout Nepal, and in other low- and middle-income countries.

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CHAPTER 6: GENE-ENVIRONMENT INTERACTIONS FOR FKBP5 POLYMORPHISMS AND EXPOSURE TO CHILD MALTREATMENT ASSOCIATED WITH DEPRESSION, PTSD, AND DIURNAL SALIVARY CORTISOL LEVELS IN A COMMUNITY POPULATION IN RURAL NEPAL

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Abstract:

Context: There is increasing evidence for the role of hypothalamic pituitary adrenal (HPA) axis genetic polymorphisms in adult mental disorders, both as direct main effects such as for treatment outcomes and in interaction with childhood trauma.

Objective: The goal of this study was to assess the role of the HPA axis-related single nucleotide polymorphisms (SNPs) in the FKBP5 gene both as direct effects and in interaction with childhood maltreatment on depression symptoms, posttraumatic stress disorder (PTSD) symptoms, and diurnal salivary cortisol levels among a South Asian population.

Design, Setting, and Participants: A cross-sectional study of 705 South Asian adults in a rural community setting in Nepal exposed to high levels of political violence. Of these participants, 119 completed the salivary cortisol collection protocol.

Main Outcome Measures: *Psychiatric phenotype:* Depression was assessed with the Beck Depression Inventory-Ia (BDI), a tool validated for use in Nepal. PTSD was assessed with the PTSD Checklist-Civilian Version (PCL-C). *Environmental exposure:* Childhood maltreatment was assessed with the Childhood Trauma Questionnaire (CTQ). BDI symptom scores also were evaluated separately for somatic symptoms (7 items) and cognitive items (14 items). To control for other traumatic and stressful exposures, participants completed the Traumatic Events Inventory (TEI) for adult lifetime trauma, and the Stressful Life Events Rating Scale (SLERS) for stressful life events in the past 12 months. *Genotype:* Four FKBP5 SNPs were genotyped: rs3800373, rs9296158, rs1360780, and rs9470080. The number of copies (0, 1, or 2) for a three SNP risk haplotype ‘CAT’ for rs3800373, rs9296158, and rs1360780 was also assessed. *Salivary cortisol:* Diurnal salivary cortisol was assessed with three collections per day (waking, 30 minutes after waking, and 7pm) over three days totaling nine collections per person.

Results: *Main effects:* We identified main effects for FKBP5 SNPs rs3800373 and rs9296158 and the risk haplotype on BDI total score ($p=0.01$, 0.03 , and 0.03 respectively), when controlling for ethnicity. Additionally, we identified main effects for all FKBP5 SNPs on somatic depression symptom severity (rs3800383 $p=0.005$; rs9296158 $p=0.008$; rs1360780 $p=0.04$; rs9470080 $p=0.04$). The only main effect for cognitive depression symptoms was rs3800373 ($p=0.04$). Greatest symptom severity was among rs3800373 risk group=CC; rs9296158 risk group=AA; rs1360780 risk group=TT; rs9470080 risk group=TT. There were no main effects for PTSD symptom severity.

Interaction effects: We identified an interaction effects for one FKBP5 SNPs with childhood maltreatment for total BDI scores (rs9296158 $p=0.02$). We identified

interaction effects for three FKBP5 SNPs with childhood maltreatment for cognitive depression symptoms scores (rs3800373 $p=0.01$; rs9296158 $p=0.009$; rs1360780 $p=0.02$; CAT risk haplotype $p=0.03$). We identified no interaction effects for somatic depression symptom scores or PTSD. *Cortisol:* There was no main effect of FKBP5 risk haplotype on diurnal salivary cortisol levels. There were significant interaction effects by risk haplotype on exposure to child maltreatment, depression severity, and PTSD severity on diurnal cortisol levels. Among persons with one or two copies of the FKBP5 risk haplotype, child maltreatment was associated with lower cortisol at 30 minutes after waking, depression—especially cognitive depression symptoms—were associated with lower cortisol throughout the day, and PTSD was associated with higher waking cortisol. Among persons with no copies of the CAT risk haplotype, there were no differences in cortisol level by child maltreatment, depression severity, or PTSD severity.

Conclusion: These findings suggest that FKBP5 genotype may be related to subtypes of depression and PTSD with specific HPA profiles. Individuals who carry the risk haplotype of FKBP5 appear more responsive and sensitive to environmental context compared with those who do not carry the risk haplotype. FKBP5 may be particularly central in developmentally sensitive, hypocortisolemic psychopathology suggestive of atypical depression.

INTRODUCTION

As we increasingly uncover the gene-environment interactions that underlie psychopathology, it is encouraging to think of improvements that can be made in the prevention and treatment of psychiatric disorders. The goal of this study is to add to the growing literature on the interaction of genetic variation with exposure to childhood maltreatment in the activity of the hypothalamic pituitary adrenal (HPA) axis and the pathogenesis of depression and posttraumatic stress disorder (PTSD). Moreover, this study explores these issues in a low income country, a setting that has traditionally been under-addressed in mental health research but carries a tremendous burden of risk factors for mental disorders and psychosocial distress (Patel & Sumathipala, 2001; Saxena et al., 2006).

The significance of the HPA axis in mental health is becoming increasingly apparent. HPA axis abnormalities and their association with childhood maltreatment have received special attention in understanding the pathogenesis and potential treatments for depression and PTSD (Bremner & Vermetten, 2001; Heim et al., 1998; Shea et al., 2007; Yehuda, 1998). However, findings are often contradictory. In depression, increased HPA activation as represented by elevated levels of corticotrophin releasing hormone (CRH), adrenocorticotrophic hormone (ACTH), and cortisol have been proposed as underlying psychopathogenesis (Holsboer, 2000). Moreover, exogenous glucocorticoids produce symptoms of depression (Murphy, 1991). However, studies of depression also have found low diurnal levels of cortisol compared with normal controls especially for atypical depression and somatic/fatigue-related disorders (Heim et al., 2000; Tops et al., 2008).

Findings in PTSD studies are equally complex. Hypocortisolism has been suggested as a risk factor for PTSD (Delahanty et al., 2005; Yehuda, 2002). In contrast, some studies of PTSD have observed hypercortisolism (Pico-Alfonso et al., 2004; Rasmusson et al., 2001). However, a recent meta-analysis of PTSD and cortisol has suggested that low cortisol has only been observed under certain contexts and is not universally present across the disorder (Meewisse et al., 2007). Lastly, studies of early exposure to trauma and HPA functioning have suggested that sexual abuse and self-report of childhood trauma are associated with basal hypocortisolism (Brewer-Smyth & Burgess, 2008; Heim et al., 2001; Shea et al., 2007). Hypocortisolism in children may be a risk factor for psychopathology resulting from developmental conditions of neglect and abusive care (Gunnar & Donzella, 2002; Gunnar & Vazquez, 2001). However, others have found an association between low socioeconomic environments and elevated cortisol among children (Lupien et al., 2000).

The range of findings in part may reflect differences in methodology and study populations. However, the variety also points toward multiple complex pathways underlying both depression and PTSD. This would not be surprising given the variety of permissive, suppressive, stimulatory and preparative effects in which cortisol is implicated (Sapolsky et al., 2000). Indeed, Chrousos and Gold have suggested that there is not a unitary cortisol profile for depression (Chrousos, 1998; Gold & Chrousos, 2002). Instead, they propose that melancholic depression displays a pattern of hyperactivation of the HPA axis whereas atypical depression, which is actually the more common subtype,

is associated with hypoactivation of the HPA including ACTH deficiency and hypocortisolism.

The growing body of literature on gene-environment interactions in mental illness supports such a focus on heterogeneity in pathogenesis. For example, there is lack of support for single genes with direct main effects on HPA functioning or the disorders of depression and PTSD. Rather, genetic polymorphisms are associated with greater vulnerability or resilience in the context of stressful life events (Caspi et al., 2003; Kendler et al., 2005) or early childhood trauma (Binder et al., 2008; Bradley et al., 2008). Different gene-environment interactions may explain in part why a variety of HPA profiles may be associated with depression and PTSD rather than universal hyper- or hypo-activation theories for mental disorders. Indeed, research on the HPA axis has shown that behavioral and psychological correlates of HPA profiles vary by environmental and social context (Worthman & Brown, 2005). Taken together, this illustrates the need to examine the interaction of genetic polymorphisms and environmental variation in association with HPA profiles and vulnerability to psychopathology with a focus on multiple pathways rather than single universal psychopathogenesis.

One of the genetic candidates for uncovering multiple pathways for depression and PTSD is the glucocorticoid receptor co-chaperone, FKBP5. This binding protein is an hsp90 co-chaperone affecting protein folding for cytoplasmic glucocorticoid receptors. Glucocorticoid levels induce FKBP5 expression *in vitro* and *in vivo* via an “intracellular

ultra-short negative feedback loop” (Binder et al., 2004; Vermeer et al., 2003). When glucocorticoids bind, FKBP4 replaces FKBP5 to enable translocation of the cortisol-glucocorticoid receptor complex to the nucleus and ultimately DNA transcription (Davies et al., 2002). FKBP5 reduces responsiveness to glucocorticoid activity; overexpression of FKBP5 in New World primates has been associated with glucocorticoid resistance (Westberry et al., 2006). FKBP5 is also an immunophilin that binds immunosuppressive drugs related to activation of the NK-kappa-B pathway, and overexpression of FKBP5 has been associated with less response to chemotherapy agents and increased cell growth (Jiang et al., 2008).

FKBP5 polymorphisms play a role in depression phenotypes with regard to lifetime recurrence and treatment response (Binder et al., 2004). FKBP5 single nucleotide polymorphisms were associated with both a greater frequency of depression episodes across the lifetime and more rapid responses to pharmacological intervention. These specific SNP genotypes were CC for rs3800373, TT for rs1360780, and AA for rs4173916. In a study with a smaller sample of 179 depressed inpatients, heterozygotes at rs3800373 and rs1360780 included the greatest percentage of responders to antidepressants (Kirchheiner et al., 2008). In the STAR*D sample, rs1360780 was associated significantly with depression case status when comparing outpatients with non-depressed controls (Lekman et al., 2008). The heterozygote at this marker (TC) was more common in cases whereas CC was more common in controls. In the same study, rs14713916 associated with remission upon citalopram treatment; specifically AA and AG were more likely to be remitters than GG. Neither SNP was associated with number

of prior depression episodes. However, two other studies have failed to demonstrate a treatment response difference by FKBP5 polymorphisms (Papiol et al., 2007; Tsai et al., 2007).

These FKBP5 SNPs, both among homozygous and heterozygous carriers, are associated with stronger correlations between level of childhood trauma and adult PTSD. High levels of childhood trauma show the greatest severity of PTSD symptoms, based on a study with urban, poor African American non-psychiatric outpatients exposed to high levels of childhood and adult trauma (Binder et al., 2008). In contrast, homozygous individuals lacking the any copies of these polymorphisms did not display a strong correlation of childhood trauma and adult PTSD.

Studies also have demonstrated the variation in HPA markers by FKBP5 polymorphisms. The individuals with these genotypes displayed greater FKBP5 protein levels, including a stronger correlation between FKBP5 mRNA levels and cortisol compared with other genotypes, and lower ACTH response to the combined dexamethasone suppression/corticotrophin releasing hormone (CRH) stimulation challenge (Binder et al., 2004). However, cortisol levels did not differ among genotypes despite persons with depression having greater cortisol levels compared with non-depressed controls. Binder and colleagues have described this as more tightly controlled associations between cortisol and FKBP5 variants.

With regard to other FKBP5 studies, 68 healthy subjects underwent the Trier Social Stress Test (TSST), (Ising et al., 2008). Individuals with the GG marker at rs3800373, TT at rs1360780, and AA at rs4713916 showed less recovery of cortisol after the TSST, i.e. their cortisol levels were greater than individuals with other genotypes one hour after conclusion of the TSST. Moreover, individuals with GG at rs3800373 also displayed greater anxiety during recovery on the second TSST. In another study, both anxiety severity and levels of FKBP5 mRNA changed across the menstrual cycle; however, there was no correlation of anxiety levels and FKBP5 (Kinouchi et al., 2008).

Taken together, these studies suggest that FKBP5 through its activity in the HPA axis may contribute differently to mental disorders based on interaction with environmental exposures, particularly childhood maltreatment. The current study sought to add to this growing literature by assessing FKBP5 SNPs, self-reports of depression and PTSD symptoms, exposure to childhood maltreatment, and diurnal salivary cortisol levels. This study was conducted with a community sample of adults in rural Nepal, a low income country with a great burden of risk factors for mental disorders and a nascent mental healthcare infrastructure in need of research to develop evidence-based treatment approaches (Regmi et al., 2004). Moreover, South Asians represent an ethnic group underrepresented in gene-environment psychiatric research; the ethnic diversity of studies to date has been limited to individuals of European-descent and African Americans.

Another of the areas that has not been addressed in prior studies is the relationship of FKBP5 variants to somatic complaints related to mental disorders compared with

psychological and cognitive symptoms. One of the issues that has been raised in studying depression, especially with populations such as the elderly and those suffering from chronic diseases, has been the potential bias introduced by elevated somatic complaints (Kohrt et al., 2005; Kurzthaler et al., 2001; Martens, 2001; Teresi et al., 2001). Because FKBP5 is associated with the HPA axis, FKBP5 polymorphisms could contribute to increased fatigue and disturbances in appetite, weight gain, and sleep. Moreover, specific cognitive features of depression, specifically rejection sensitivity, were associated with hypocortisolism (Tops et al., 2008). Thus, because of potential symptomatic differences related to the HPA profiles and a research setting in area of the world with a high burden of physical disease, we deemed it necessary to explore somatic and cognitive features of depression separately in addition to total combined symptoms.

Another unique contribution of this study is to explore the interactions of genetic polymorphisms with child maltreatment specifically in an environment of high political violence. Much of the world's population, however, lives in settings of chronic political violence, which may influence the contribution of childhood maltreatment to adult psychiatric symptom severity. Thus, this study will investigate if childhood maltreatment displays an interaction effect even in a community that has recently experienced eleven years of civil war.

With these contributions in mind, the first goal of this study was to evaluate whether FKBP5 haplotypes had direct effects on adult depression and PTSD. The second goal was to evaluate whether there was an interaction effect of FKBP5 haplotypes with childhood

maltreatment on depression and PTSD symptom severity. For depression, we also evaluated whether main effects and interaction effects differed between somatic and cognitive depression symptoms. The third goal was to determine if there were interaction effects of FKBP5 haplotypes with child maltreatment, depression, or PTSD on diurnal cortisol levels.

METHODS

Setting

Nepal is a landlocked country with a population of almost 28 million positioned north of India and south of the Tibetan autonomous region of China (World Bank, 2007).

Currently, Nepal ranks 142 out of 174 countries on the human development index--near the bottom of the medium human development category (UNDP, 2007). From 1996 the Communist Party of Nepal (Maoists) waged an agrarian revolution against the government of Nepal in which 14,000 lives were lost. During the conflict more than 200,000 people were displaced, thousands of children were recruited into armed groups, torture was widely used by both parties, and there was serious destruction to the healthcare infrastructure (Singh, 2004, 2005; Singh et al., 2007; Stevenson, 2001; Tol et al., 2007). Peace accords were signed in 2006, and the Maoists were elected to head the first post-conflict government in 2008.

This study took place in Jumla, a mountainous district in northwestern Nepal (see Figure 1). Jumla has a population of 69,226 people (HMG-CBS, 2003). The majority (80.1%) of this polyethnic and multi-caste population speak Nepali. The population includes three

main Hindu caste groups (9.5% *Brahman*, 63.1% *Chhetri*, and 17.8% *Dalit/Nepali*) and a number of *Janajati* ethnic minority groups (9.6%), (HMG-CBS, 2003). Livelihood is primarily agriculture and animal husbandry with limited commerce in a small bazaar area (Bishop, 1990). Entry in and out of Jumla is only possible by foot or plane. Jumla is considered one of the more remote regions of the country and ranks near the bottom of the human development indices for the nation. Jumla has the second highest district infant mortality rate and is in the region with the highest maternal mortality rate in the country (United Nations, 1998). The incidence of childhood diarrhea is 146 per 1000 children under five years (United Nations, 2008). The major sources of mortality in the region are respiratory-related diseases, and diarrheal diseases (Health Services Partnership, 1998). The district nine health posts and one hospital; however, these are rarely staffed (United Nations, 2008). The residents of Jumla district seek health care primarily from shamanic traditional healers.

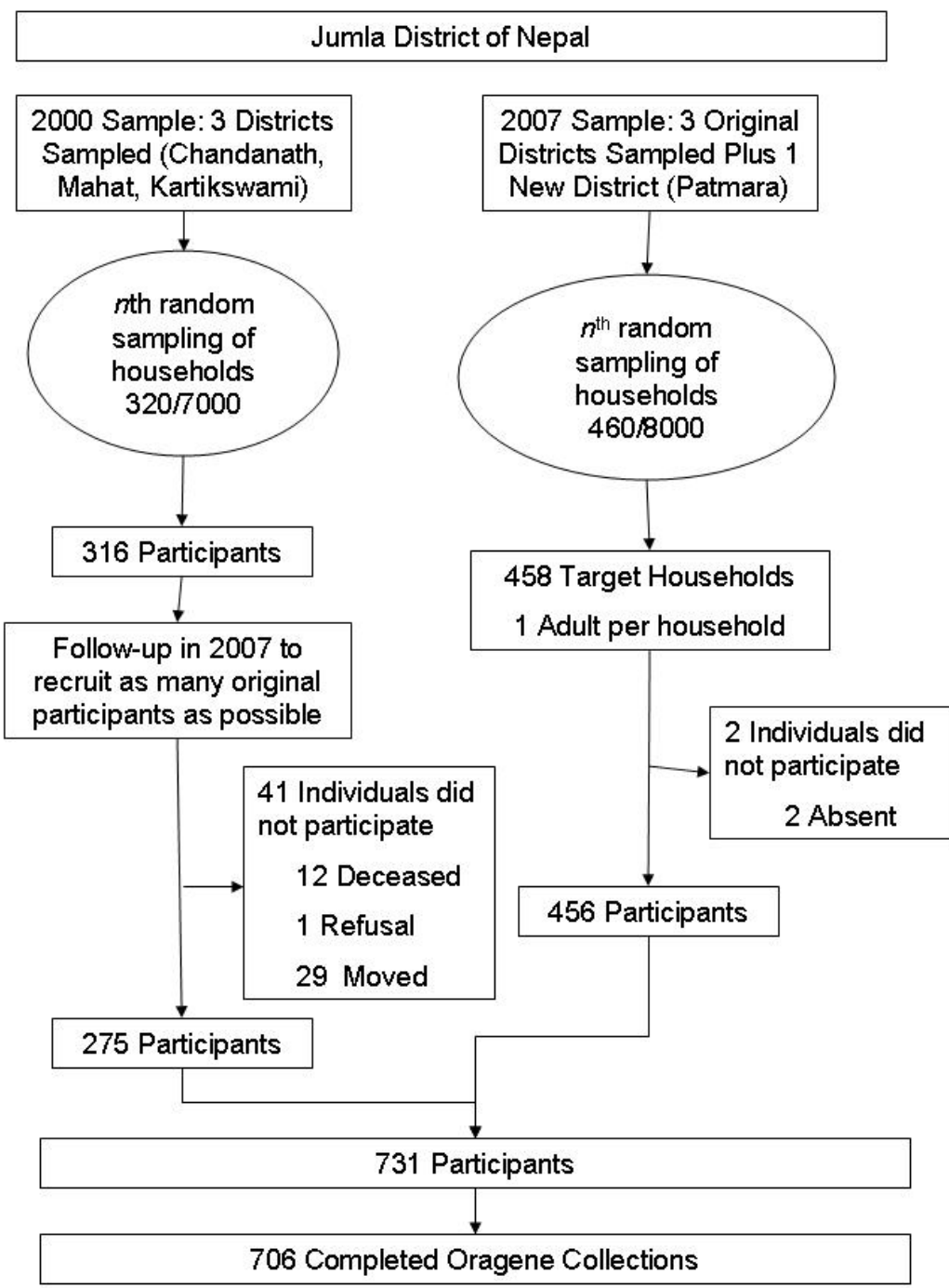
Figure 6-1. Study site: Jumla, Nepal



Sample

A cross-sectional random community sampling design was employed to recruit one adult per household (see Figure 2). This study is part of larger prospective community study of mental health in Jumla. The study comprises two groups: participants who entered the study in 2000 and those who entered in 2007. All saliva collections and phenotype measurements reported here were taken from 2007 through 2008.

Figure 6-2. Recruitment



Participants who entered the study in 2000 were part of community psychiatry epidemiology study of depression and somatization (Kohrt et al., 2005). At the time 316 adults (one per household) were recruited randomly from 3 contiguous village development committees (VDCs) in Jumla district (Chanda Nath, Kartik Swami, and Mahat Gaau). Of the original 316 participants in the pre-conflict study in 2000, 298 (94%) participated in the current follow-up post-conflict study. Of these follow-up participants, 266 (89.3%) were still living in Jumla, and 32 (10.7%) had moved to other districts in Nepal during the conflict period. Twelve (3.8%) of the original 316 participants were deceased. Of the remaining six persons (1.9%) who did not participate, one refused participation and the other five were lost to follow-up. In 2007 the 266 follow-up participants still residing in Jumla provided saliva samples for genetic assessment and were included in the present analyses. The second set of participants was recruited in 2007. New participants were sampled in the three previously included VDCs as well as adding one additional contiguous VDC (Patmara).

Recruitment was conducted using n^{th} random sampling of households. The most recent census data for the total population, total number of households, and sex and age distribution were used to determine recruitment strategy across VDCs and within the household, with one adult recruited per household. The spatial distribution of households was mapped by research assistants drawing every household per VDC. Houses were then numbered on maps to determine the n^{th} households to approach for recruitment. Women and men were recruited from odd and even number households respectively. An age chart

was developed for randomization of age selection in the household. Prior to visiting the household, research assistants were aware of the target sex and age for recruitment. If there were a person in the home meeting those criteria upon arrival, he or she was given the opportunity to participate in the study. If there were a person meeting the criteria residing in the household but not available at the time, the house was visited two more times at hours convenient to meeting that person. If there were no persons in the household meeting the sex and age criteria or if the potential participant was not met after three household visits, the researchers approached the next adjacent house until they found a household with a person meeting these criteria.

The sample included four main ethnic/caste groups considered to be an admixture of Aryan, Indo-Dravidian, and Mongolian ancestry: high Hindu caste Indo-Aryan groups (*Brahman* and *Chhetri*), a low Hindu caste Indo-Aryan group (*Dalit/Nepali*), and Tibeto-Burmese language speaking, primarily Buddhist, Mongolian-descent, ethnic minority groups (*Janajati*). Caste/ethnicity was recorded based on self-report.

All follow-up interviews were conducted in 2007-2008, which was after signing of the November 2006 peace accords that ended the People's War and before the April 2008 elections. Interviews were conducted in participants' homes in an area with only the interviewer and participant present. Interviews lasted 60-90 minutes. Participants with high levels of psychological distress were followed-up by the study's principal investigator and referred for mental health support. All individuals provided verbal consent. Literate participants were compensated with pens and notebooks. Illiterate

participants were compensated with household cleaning supplies. The complete protocol was approved by the Institutional Review Board of Emory University, Atlanta, USA. Within Nepal, the study protocol was approved by Nepal Health Research Council, with modifications approved by Tribhuvan University Teaching Hospital/Institute of Medicine.

Measures

The 21-item *Beck Depression Inventory* (BDI) was used to assess depression symptoms over the prior two weeks (Beck et al., 1961). Items are scored 0-3 with an instrument range of 0 to 62. The scale has been validated for use in Nepal (Kohrt et al., 2002): area under the curve (AUC) 0.919 (95% CI 0.878—0.960). Based on the clinical validation of the BDI in Nepal, a score of 20 or higher suggests *moderate* severity and need for mental health intervention (sensitivity=0.73, specificity=0.91). We used three continuous outcomes based on BDI scores: the full 21 item total, a subset of seven somatic items, and a subset of fourteen cognitive and psychological items. Each of the continuous outcomes had good internal reliability (21 items, Cronbach α =0.90; 7-item somatic subscale, α =0.77; 14-item cognitive subscale α =0.87). Two week test-retest reliability Spearman-Brown coefficients for the BDI were 0.84. The BDI has demonstrated good external validity with stressful life events and local idioms of distress in this community in Nepal (Kohrt et al., 2005). Interrater reliability was evaluated with the intraclass correlation coefficient (ICC); average ICC 0.995 (95% CI 0.993—0.996).

The 17-item *PTSD Checklist-Civilian Version* (PCL-C) is a rating scale for assessing PTSD symptoms in contexts where administration of a structured interview schedule is not feasible (Weathers et al., 1993). The PCL-C assesses PTSD both as a DSM-IV disorder and as a continuous construct and can assess PTSD symptom severity within the past week. The measure has good psychometric properties both in Western populations (Weathers et al., 1994) and in Nepal (Tol et al., 2007). The PCL-C has been validated for us in Nepal with a cut-off score of 50 or above indicating need for intervention (Thapa & Hauff, 2005). For the sample in this study, internal reliability (Cronbach's alpha) was 0.83. Test-retest reliability Spearman-Brown coefficient was 0.82.

The brief version of the *Childhood Trauma Questionnaire* (CTQ) was used to assess child maltreatment (Bernstein & Fink, 1998; Bernstein et al., 2003). It includes items of neglect and physical, emotional, and sexual abuse. We used the total score of the scale coded as quartiles (0-31, 32-35, 36-40, and greater than 41).

The *Traumatic Events Inventory* (TEI) was used to assess lifetime history of adult trauma (Schwartz et al., 2006; Schwartz et al., 2005). We excluded items of childhood trauma on this scale from our analyses because they were assessed through the CTQ. Trauma types included natural disasters, serious accident or injury, sudden life-threatening illness, military combat, assault with a weapon, assault without a weapon, witness of a murder of friend or family member, and forced sexual contact after 14 years of age. Inclusion of the TEI allowed us to control for the high level of adult trauma experienced during the

Maoist People's War. We coded the sample into four quartiles based on level of exposure (no events, 1 event, 2-3 events, or 4 or more events across the lifetime).

The 64-item *Stressful Life Events Rating Scale for Cross Cultural Study* (SLERS) was used to assess exposure to daily stressors over the prior 12 months (Zheng & Lin, 1994). Individuals reported both the frequency (number of times an event occurred in the past 12 months). This instrument includes academic, intimate partner, health, family, work, financial, social relationship, environmental, and political stressors. Greater frequency of stressful life events (SLEs) as assessed by the SLERS is associated significantly with locally-defined psychosomatic complaints in Nepal (Kohrt et al., 2005). Stressful life event frequencies were summed, and total scores were coded into tertiles (0-14 events, 15-22 events, 23 and more events).

Saliva collection

Saliva was collected into Oragene saliva kits (DNAGenotek, Ottawa, Ontario, Canada). The protocol began with individuals rinsing their mouths with water. Then within 3 to 5 minutes, then began chewing Parafilm to facilitate saliva production. After saliva was collected in the Oragene kits and stored in a cool dry place before being shipped to Kathmandu and from Kathmandu to Emory University, Atlanta, USA. Four FKBP5 SNPs were genotyped: rs1360780, rs3800373, rs9296158, and rs9470080. Saliva for genotyping was collected on 705 individuals. Genotyping was completed for 682 individuals.

From the 705 individuals, a subset of 120 individuals was selected randomly for participation in diurnal saliva collection for cortisol analysis. Of these person, 119 completed the collection protocol. These individuals took part in a 3-day collection protocol. Individuals provided saliva samples at waking, 30 minutes after waking, and evening (approximately 7pm). This resulted in nine samples per participant, totaling approximately 1071 cortisol samples. Participants were instructed neither to eat or drinking anything one hour prior to collection, nor to they brush their teeth during the interim between the waking and 30 minute collections. Three trained research assistants conducted all collections arriving at individuals houses prior to waking to assure fidelity of collection times and procedures. Collection tubes were treated with sodium azide to prevent breakdown of cortisol during the period of storage in Jumla, transport to Kathmandu, then shipment to the United States, which required between 3 to 6 weeks in total for time from collection until freezing in the Laboratory for Comparative Human Biology, Emory University, Atlanta.

Statistical analyses

The main goals of the statistical analyses were to determine (i) if FKBP5 SNP genotypes or risk haplotype have main effects on depression or PTSD; and (ii) if FKBP5 SNP genotypes or risk haplotype interact with exposure to child maltreatment to influence adult depression or PTSD; and (iii) if the FKBP5 risk haplotype interacts with childhood maltreatment, depression, or PTSD in predicting diurnal salivary cortisol levels. The outcomes of interest for analyses were total BDI score, somatic BDI subscale, cognitive

BDI subscale, and total PCL-C score. The total CTQ score was used to evaluate level of child maltreatment.

Based on linkage disequilibrium analyses, we chose to include FKBP5 haplotype models in addition to individual SNPs. Because of the greatest missing data for rs9470080 and the weakest correlation of rs9470080 with other SNPs, we employed a 3 SNP haplotype which included rs3800373, rs9296158, and rs1360780. Individuals were coded as having two copies, one copy or no copies of the risk haplotype (CAT) with risk being defined as the SNPs showing greatest antidepressant treatment response, most frequent lifetime depression episodes, and showing the strongest correlation between child trauma and adult PTSD (Binder et al., 2008; Binder et al., 2004). For the salivary cortisol analyses, we dichotomized the groups at 0 copies versus 1 or 2 copies of the risk haplotype for the salivary cortisol analyse because of the small sample size for the salivary cortisol protocol, the low frequency of the 2 copy risk haplotype, and the presence of a study which demonstrated that heterozygotes may behave similarly with homozygous risk genotypes (Kirchheiner et al., 2008).

Because little is known about genetic variation related to caste and ethnic diversity of South Asian populations, we also included caste as a dummy variable in the analyses. In our previous work, we have shown that caste status is associated with differential exposure to stressful life events and social support and with differential burden of depression and anxiety.⁷ Specifically, the Dalit/Nepali caste bears the greatest burden of depression in Jumla and also suffers the greatest frequency of stressful life events and

⁷ Based on paper examining caste and mental health outcomes for *Annals of Human Biology*.

lowest availability of social support. Thus, because of risk and psychopathology stratification, caste and ethnicity capture important markers of experience in addition to putative genetic difference. In addition to controlling for caste/ethnicity in our models, we also did separate analyses for Chhetri caste alone because the Chhetri caste comprised the majority of the total sample (63.2%).

(i) To determine main effects, we employed general linear models that included the FKBP5 haplotypes, which were coded using genotypic or haplotype dummy variables. We controlled for covariates of interest by placing them in the model as well. The covariates included sex, age, childhood maltreatment (CTQ), adult lifetime trauma (TEI), stressful life events in the past year (SLERS), and ethnicity. We tested this for four outcomes: BDI total score, somatic and cognitive BDI subscales, and PCL-C total score. This was tested for each of the four FKBP5 SNPs and risk haplotype.

(ii) To assess interaction effects, we followed the same steps employing the full model of genotypes and covariates with the addition of the childhood trauma by SNP or by haplotype interaction in general linear models. This was also tested for all three BDI and one PCL-C outcomes.

(iii) To determine the interaction of the FKBP risk haplotype with childhood maltreatment, depression, and PTSD on diurnal salivary cortisol, we employed mixed models analyses that can account for both within and between individual differences.

Statistical analyses were performed with SPSS v.16.0 (SPSS Inc., 2007).

RESULTS

Demographics: 706 persons completed the Oragene saliva collection protocol. One person refused participation in the study. Of the 706 Oragene collections, 682 were genotyped. The demographics of the sample are provided in Table 1. The study was sex balanced, (49.1% female). Mean age of the sample was 37 years (SD 13 years). *Chhetri* was the most common self-reported caste (63.2%). There were similar numbers of participants from *Brahman* (16.1%) and *Dalit/Nepali* (17.4%) castes. Ethnic minority *Janajati* groups comprised 3.2%; this included *Newar*, *Gurung*, and other Tibeto-Burman language speaking groups.

Table 6-1. Sample demographics

Demographics	No. (%) of participants
Sex	
Male	347 (50.9)
Female	335 (49.1)
Ethnicity/Caste	
Brahman	110 (16.1)
Chhetri	431 (63.2)
Dalit/Nepali	119 (17.4)
Janajati	22 (3.2)
Education	
None	306 (44.9)
Grade 1-5	101 (14.8)
Grade 6-10	146 (21.4)
School Leaving Certificate and above	134 (18.9)
Marital Status	
Unmarried	64 (9.4)
Married	571 (83.7)
Widow/widower	44 (6.5)
Divorced	3 (0.4)
Occupation	
Unemployed	18 (2.6)
Manual labor	11 (1.6)
Farmer	474 (69.5)
Office holder	179 (26.2)
Household monthly income	
None	172 (25.2)
Rs. 1-2000	243 (35.6)
Rs. 2001-4000	100 (14.7)
Rs. 4000+	167 (22.5)
Mean (SD)	
Age (years)	37.0 (13.0)

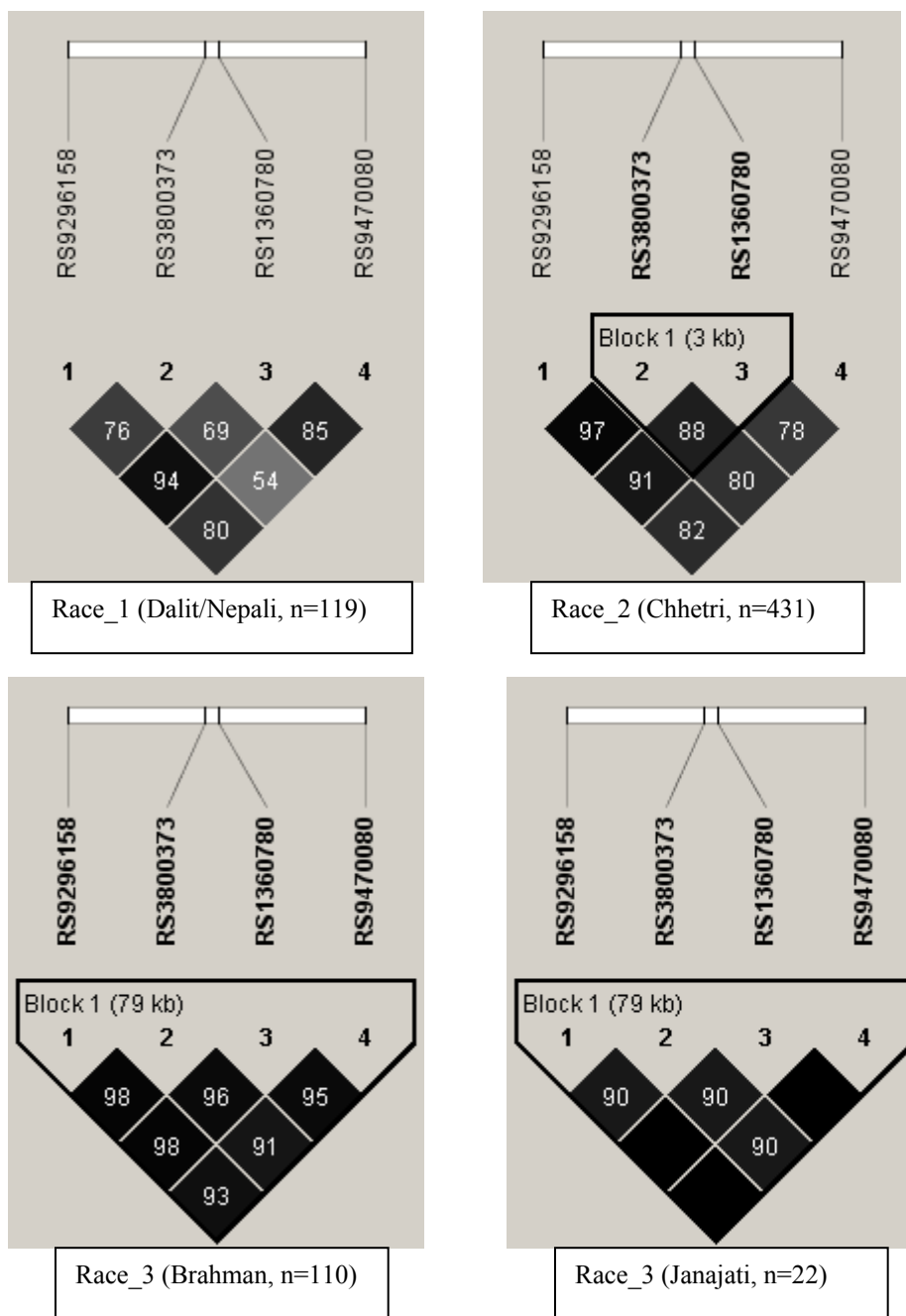
Genotype frequency: Among the four SNPs, one homozygous and the heterozygous genotype each comprised slightly less than half of the sample, with the other 'risk' homozygous group (approximately 66 participants) comprising approximately one tenth of the sample: rs1360780 (CC 46.4%, CT 44.6%, TT 9.0%), rs3800373 (AA 47.7%, AC 42.6%, CC 9.7%), rs9296158 (GG 45.5%, AG 44.5%, AA 10.0%), and rs9470080 (CC 49.3%, CT 40.7%, TT 10.0%), (See Table 2).

Table 6-2. FKBP5 SNPs frequencies by caste/ethnicity

FKBP5 SNP	Position	Location	Genotype	No. (%)	No. (%) by Caste/Ethnicity				
					Dalit	Chhetri	Brahman	Janajati	
rs3800373	35650460	3' UTR	CC	66 (9.7)	11 (9.2)	42 (9.8)	12 (10.9)	1 (4.5)	
			AC	289 (42.6)	43 (36.1)	183 (42.8)	50 (45.5)	13 (59.1)	
			AA	324 (47.7)	65 (54.6)	203 (47.4)	48 (43.6)	8 (36.4)	
rs9296158	35675060		AA	68 (10.0)	12 (10.1)	43 (10.0)	12 (10.9)	1 (4.5)	
			AG	303 (44.5)	52 (43.7)	188 (43.7)	51 (46.4)	12 (54.5)	
			GG	310 (45.5)	55 (46.2)	199 (46.3)	47 (42.7)	9 (40.9)	
rs1360780	35715550	Intron	TT	61 (9.0)	11 (9.2)	36 (8.4)	13 (11.8)	1 (4.5)	
				CT	304 (44.6)	51 (42.9)	191 (44.4)	50 (45.5)	12 (54.5)
				CC	316 (46.4)	57 (47.9)	203 (47.2)	47 (42.7)	9 (40.9)
rs9470080	35754410		TT	65 (10.0)	10 (9.0)	42 (10.1)	12 (11.3)	1 (4.5)	
			CT	266 (40.7)	43 (38.7)	163 (39.4)	48 (45.3)	12 (54.5)	
			CC	322 (49.3)	58 (52.3)	209 (50.5)	46 (43.4)	9 (40.9)	

Based on the linkage disequilibrium R^2 plots for FKBP5 by ethnicity/caste, we found that the Brahman group showed the greatest correlation among SNPs (See Figure 3). Among Chhetri, SNPs were strongly correlated with the exception of rs9470080. Among Dalit participants, SNP inter-correlations were the lowest. The number of participants by caste with the 0, 1, and 2 copies risk haplotypes respectively were Dalit 67 (56.3%), 43 (36.1%), 9 (7.6%); Chhetri 210 (48.7%), 186 (43.2%), 35 (8.1%); Brahman 48 (43.6%), 50 (45.5%), 12 (10.9%); Janajati 9 (40.9%), 12 (54.5%), 1 (4.5%).

Figure 6-3. Linkage disequilibrium R^2 plots for FKBP5 by ethnicity/caste



Mental health phenotype: BDI scores were concentrated around moderate depression severity (mean=18.44, SD=7.62). Of the total sample, 282 persons (41.3%) were above the depression cutoff for moderate severity with need of some mental health intervention. The mean PCL-C score for PTSD symptoms was 40 (SD=8); 87 (12.8%) of participants were above the cutoff score indicating need for intervention. Mean depression and PTSD scores did not differ by caste/ethnicity: BDI (Dalit M=19.86, SD=6.62; Chhetri M=18.33, SD=7.63; Brahman M=17.76, SD=8.34; Janajati M=16.32, SD=8.04), $F=2.27$, $p=.08$; PTSD (Dalit M=40.09, SD=6.59; Chhetri M=39.79, SD=8.48; Brahman M=39.50, SD=8.77; Janajati M=37.91, SD=10.24), $F=0.46$, $p=0.71$.

Main effects: We identified main effects ($p<.05$) for total BDI score with rs3800373, rs9296158, and the 3 SNP haplotype when controlling for sex, age, caste/ethnicity, childhood maltreatment, adult trauma, and stressful life events in the past 12 months (see Figure 4, see Table 3). For somatic depression symptoms, we identified main effects ($p<.05$) for all FKBP5 SNPs and the 3 SNP haplotype controlling for the same covariates. The only significant main effect for cognitive symptoms was for rs3800373. For the Chhetri only analyses, the somatic depression main effect was also significant. There were no significant main effects for PTSD.

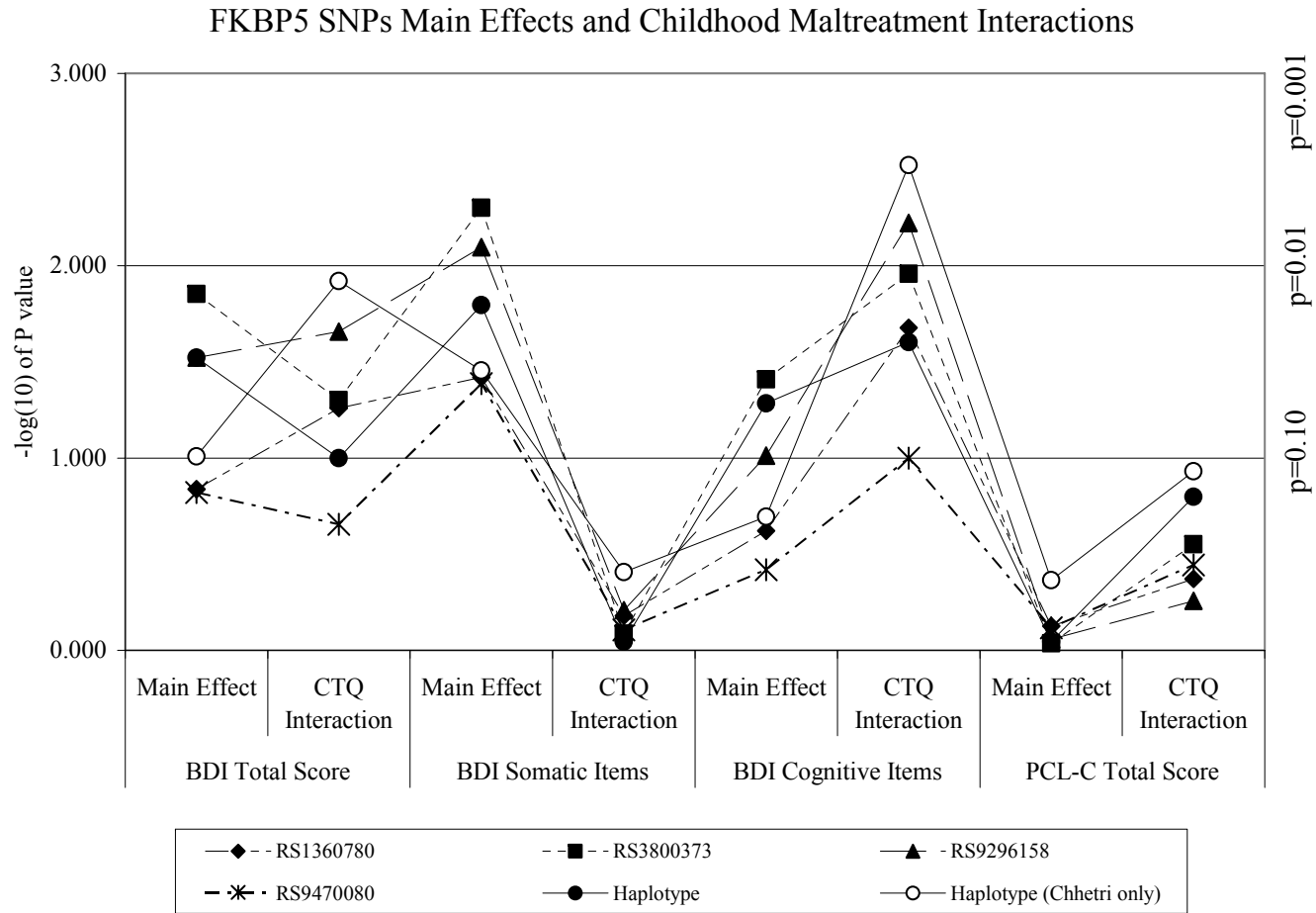


Figure 6-4. P-values for FKBP5 SNP main effects and interaction with child maltreatment (CTQ score quartiles) for BDI total score, BDI somatic symptoms, BDI cognitive symptoms, and PTSD symptoms. Note: P-values are based on general linear model controlling for sex, age, lifetime adult trauma (TEI quartiles), stress exposure in past year (SLERS tertiles), and caste/ethnicity. Interaction models also include main effects for FKBP5 SNP and CTQ quartiles. (N=682)

Table 6-3. General linear models (GLM) for 3 SNP risk haplotype (CAT) for depression with genotype main effect and gene-environment (childhood maltreatment) interaction, including all ethnic groups (N=680)

	No.	Total BDI Score				Somatic BDI Score		Cognitive BDI Score	
		Main Effect ^A		Interaction ^B		Main Effect ^A		Interaction ^B	
		β (95% CI)	p-value	β (95% CI)	p-value	β (95% CI)	p-value	β (95% CI)	p-value
Sex									
Male	343	Ref.		Ref.		Ref.		Ref.	
Female	334	5.44 (4.41–6.46)	<.001	5.38 (4.35–6.40)	<.001	1.70 (1.28–2.12)	<.001	3.69 (2.97–4.42)	<.001
Age									
18-33 years	295	Ref.		Ref.		Ref.		Ref.	
34-43 years	187	1.90 (0.71–3.08)	<.001	2.01 (0.82–3.19)	<.001	1.56 (1.08–2.05)	<.001	0.42 (-0.41–1.25)	<.001
44+ years	195	4.72 (3.54–5.91)		4.95 (3.76–6.13)		2.66 (2.18–3.15)		2.24 (1.41–3.07)	
Childhood Maltreatment (CTQ Score)									
0-31	204	Ref.		Ref.		Ref.		Ref.	
32-35	163	0.24 (-1.10–1.59)	.001	2.67 (0.75–4.59)	.005	-0.04 (-0.59–0.51)	.048	2.19 (0.84–3.54)	.001
36-40	168	1.45 (0.08–2.82)		2.40 (0.37–4.29)		0.49 (-0.07–1.05)		1.67 (0.25–3.10)	
41+	142	2.68 (1.24–4.11)		3.29 (1.06–5.53)		0.58 (-0.01–1.17)		2.54 (0.97–4.11)	
Adult Lifetime Trauma (TEI Score)									
0 events	148	Ref.		Ref.		Ref.		Ref.	
1 events	215	2.74 (1.37–4.11)	<.001	2.66 (1.29–4.02)	<.001	1.11 (0.54–1.67)	<.001	1.57 (0.61–2.53)	.004
2-3 events	190	2.81 (1.41–4.21)		2.75 (1.35–4.15)		1.22 (0.64–1.79)		1.56 (0.57–2.54)	
4+ events	124	3.67 (2.02–5.32)		3.59 (1.94–5.24)		1.91 (1.23–2.59)		1.71 (0.55–2.87)	
Stressful life events in past year (SLERS score)									
0-14 events	247	Ref.		Ref.		Ref.		Ref.	
14-22 events	229	2.71 (1.50–3.91)	<.001	2.76 (1.56–3.96)	<.001	0.83 (0.34–1.33)	<.001	1.19 (1.07–2.75)	<.001
23+ events	201	4.59 (3.27–5.92)		4.59 (3.27–5.91)		1.22 (0.68–1.77)		3.37 (2.44–4.29)	
Caste/Ethnicity									
Chhetri	429	Ref.		Ref.		Ref.		Ref.	
Dalit	119	-1.44 (-2.80–-0.08)	.04	-1.30 (-2.66–-0.06)	.08	-0.64 (-1.20–-0.09)	.004	-0.68 (-1.64–-0.27)	.40
Brahman	110	-1.13 (-2.48–-0.21)		-1.10 (-2.45–-0.24)		-0.58 (-1.13–-0.03)		-0.53 (-1.48–-0.42)	
Janajati	22	-2.51 (-5.26–-0.24)		-2.14 (-4.92–-0.65)		-1.52 (-2.64–-0.40)		-0.71 (-2.67–-1.25)	
FKBP5 3 SNP Haplotype									
0 copies	333	Ref.		Ref.		Ref.		Ref.	
1 copy	290	-0.83 (-1.83–-0.17)	.03	2.63 (-0.37–5.63)	.10	-0.09 (-0.50–0.31)	.016	2.21 (0.10–4.33)	.053
2 copies	57	1.44 (-0.35–3.23)		-0.04 (-2.98–2.92)		0.98 (0.25–1.71)		0.02 (-2.07–2.10)	
Interaction CTQ times Genotype									
		N/A ^C		See Figure 5 ^D	.040	N/A ^C		See Figure 5 ^D	.03

- A. Main effect models include all variables shown: sex, age, CTQ quartiles, TEI quartiles, TEI tertiles, political violence quartiles, and SNP genotype.
- B. Interaction models include all main effects from Model A plus the interaction of FKBP5 genotype and CTQ quartiles.
- C. Interaction not included in main effect Model A.
- D. Regression coefficients not reported for interaction cells, see Figures 5 for BDI means by genotype and severity of child maltreatment.

Interaction effects: When controlling for ethnicity and other covariates, only rs9296158 had an interaction effect with child maltreatment on total BDI score ($p=.02$). Among the Chhetri only group, the 3 SNP haplotype had a significant interaction for BDI total score ($p=.01$). All of the SNPs and haplotype analyses had a significant interaction with child maltreatment for cognitive depression symptoms except rs9470080. For interaction effects, we found that at low levels of childhood maltreatment both homozygous groups had significantly greater symptom scores compared with heterozygotes (see Figures 5 and 6). For the middle two quartiles, there were no group differences. At the highest quartile of childhood maltreatment, the homozygous risk group was greater than the other homozygous group and heterozygous group, which did not differ between themselves. Neither SNPs nor the haplotype had an interaction effect for somatic depression symptoms. There were no significant interactions for PTSD either.

Depression by FKBP5 Risk Haplotype and Childhood Maltreatment

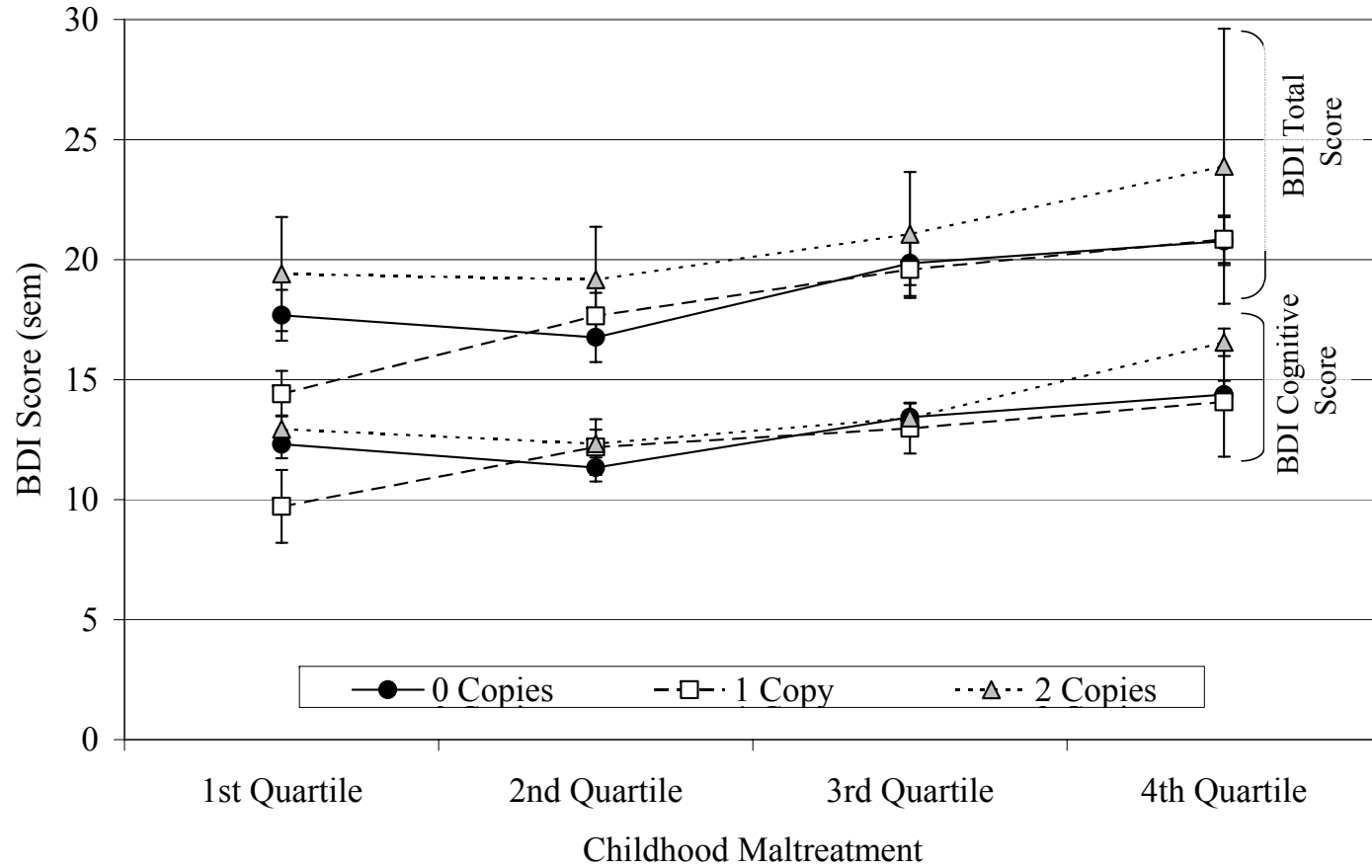


Figure 6-5. Depression mean scores (error bars represent standard error of the mean) for BDI total score and BDI cognitive score by number of copies of FKBP5 three SNP risk haplotype by level of child maltreatment (CTQ quartiles).

Note: Means are adjusted for sex, age, lifetime adult trauma (TEI quartiles), stress exposure in past year (SLERS tertiles), and ethnicity. (N=682)

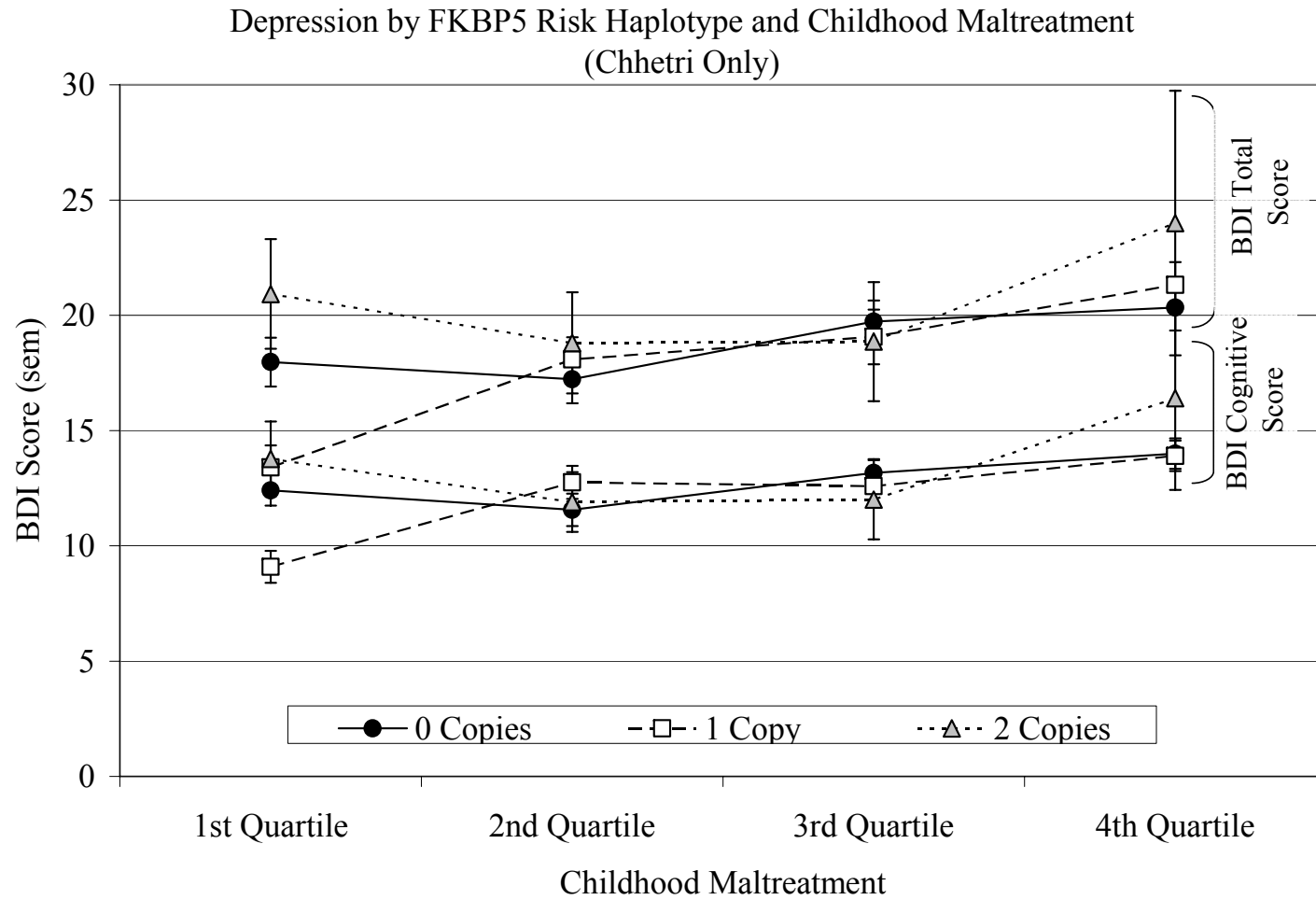


Figure 6-6. Model including only *Chhetri* castes of depression mean scores (error bars represent standard error of the mean) for BDI total score and BDI cognitive score by number of copies of FKBP5 three SNP risk haplotype by level of child maltreatment (CTQ quartiles).

Note: Means are adjusted for sex, age, lifetime adult trauma (TEI quartiles), stress exposure in past year (SLERS tertiles), and ethnicity. (N=430)

We also assessed Pearson correlation strength comparing individuals with no risk haplotype copies to individuals with one or two copies of the haplotype (see Table 4). Individuals with 1 or 2 copies of the risk haplotype displayed stronger correlations between environmental exposures (childhood trauma, adult trauma, and stressful life events in the past year) and symptom severity (total depression severity, cognitive depression symptoms, somatic depression symptoms, and PTSD symptoms) compared with individuals who had no copies of the risk haplotype.

Table 6-4. Pearson correlations by number of copies of FKBP5 three SNP risk haplotype

	Childhood Trauma		Adult Traumatic Events		Stressful Life Events in Past Year	
	Correlation, <i>r</i>	p-value	Correlation, <i>r</i>	p-value	Correlation, <i>r</i>	p-value
BDI total score						
0 copies	0.224	<.001	0.115	.04	0.206	<.001
1 or 2 copies	0.315	<.001	0.238	<.001	0.326	<.001
BDI cognitive score						
0 copies	0.225	<.001	0.06	.30	0.203	<.001
1 or 2 copies	0.321	<.001	0.182	.001	0.281	<.001
BDI somatic score						
0 copies	0.176	.001	0.182	.001	0.167	.002
1 or 2 copies	0.235	<.001	0.281	<.001	0.233	<.001
PTSD score						
0 copies	0.126	.02	0.260	<.001	0.260	<.001
1 or 2 copies	0.205	<.001	0.387	<.001	0.364	<.001

*Cortisol analyses:*⁸ We assessed the influence of FKBP5 haplotypes on diurnal cortisol levels as measured at waking, 30 minutes plus waking, and in the evening (approximately 7pm) over three days on 119 participants. For the current analyses, we used the average log value of cortisol across three days of the waking, 30 minute, and evening values. Log cortisol values were evaluated in separate GLMs for waking, 30 minutes, and evening. In

⁸ Please note that current analyses were done using GLM with means. I plan to use mixed models for final analyses.

each of the models, we included covariates known to affect cortisol levels: sex, age, tobacco consumption, and menstrual status, as well as ethnicity. We found no main effects of FKBP5 risk haplotypes on natural log cortisol values at waking ($p=.68$), 30 minutes after waking ($p=.73$), or evening ($p=.92$).

In the cortisol model with *child maltreatment*, we found a significant interaction between FKBP5 haplotype and level of child maltreatment in predicting cortisol levels at 30 minutes after waking (See Table 5 and Figure 7). Among persons with 1 or 2 copies of the risk haplotype, higher levels of child maltreatment were associated with lower mean log cortisol at 30 minutes. There were no differences at waking or evening. Because of the interaction finding, we then examined the effect estimate of child maltreatment on log cortisol 30 minutes after waking in a GLM that contained only the FKBP5 risk haplotype group, and this was strongly significant ($p=0.001$) suggesting that among persons with one or two copies of the risk haplotype, child maltreatment is significantly related to lower cortisol levels 30 minutes after waking (see Table 6).

Table 6-5: GLM of cortisol (natural log) at waking, plus 30 minutes, and evening in model with **child maltreatment and FKBP5**

	No.	Waking		Plus 30 minutes		Evening	
		β (95% CI)	p-value	β (95% CI)	p-value	β (95% CI)	p-value
Age		-0.01 (-0.03-0.02)	.89	0.02 (-0.01-0.04)	.13	0.01 (-0.01-0.03)	.47
Sex							
Male	58	Ref.	.77	Ref.	.24	Ref.	.73
Female	60	0.07 (-0.38-0.51)		0.24 (-0.16-0.63)		0.08 (-0.36-0.51)	
Ethnicity							
Chhetri	45	Ref.	.09	Ref.	.40	Ref.	.18
Dalit	22	-0.44 (-0.98-0.11)		-0.02 (-0.51-0.47)		-0.15 (-0.67-0.38)	
Brahman	48	-0.38 (-0.82-0.07)		-0.25 (-0.65-0.14)		-0.47 (-0.90-0.05)	
Janajati	3	0.78 (-0.43-1.99)		0.43 (-0.54-1.51)		-0.29 (-1.45-0.89)	
Tobacco consumer							
No	70	Ref.	.10	Ref.	.33	Ref.	.22
Yes	48	-0.36 (-0.79-0.07)		-0.19 (-0.57-0.20)		-0.26 (-0.68-0.16)	
Menstrual status							
Mid-follicular to early luteal	93	Ref.	.13	Ref.	.01	Ref.	.26
Pre-menstrual & menstrual	25	-0.44 (-1.02-0.13)		-0.66 (-1.18- -0.15)		-0.32 (-0.87-0.24)	
FKBP5 3 SNP Haplotype							
0 copies	56	Ref.	.53	Ref.	.31	Ref.	.82
1 or 2 copies	62	0.13 (-0.26-0.51)		0.86 (0.14-1.59)		0.04 (-0.33-0.42)	
Childhood maltreatment							
Bottom CTQ tertile	34	Ref.	.40	Ref.	.62	Ref.	.24
Upper two-thirds CTQ	84	0.19 (-0.25-0.64)		0.55 (-0.13-1.23)		0.26 (-0.17-0.69)	
Interaction							
All other groups				Ref.			
High CTQ and 1 or 2 FKBP5 risk copies		NS		-1.31 (-2.15- -0.47)	.003	NS	

NS - Interaction was dropped from analyses when not significant.

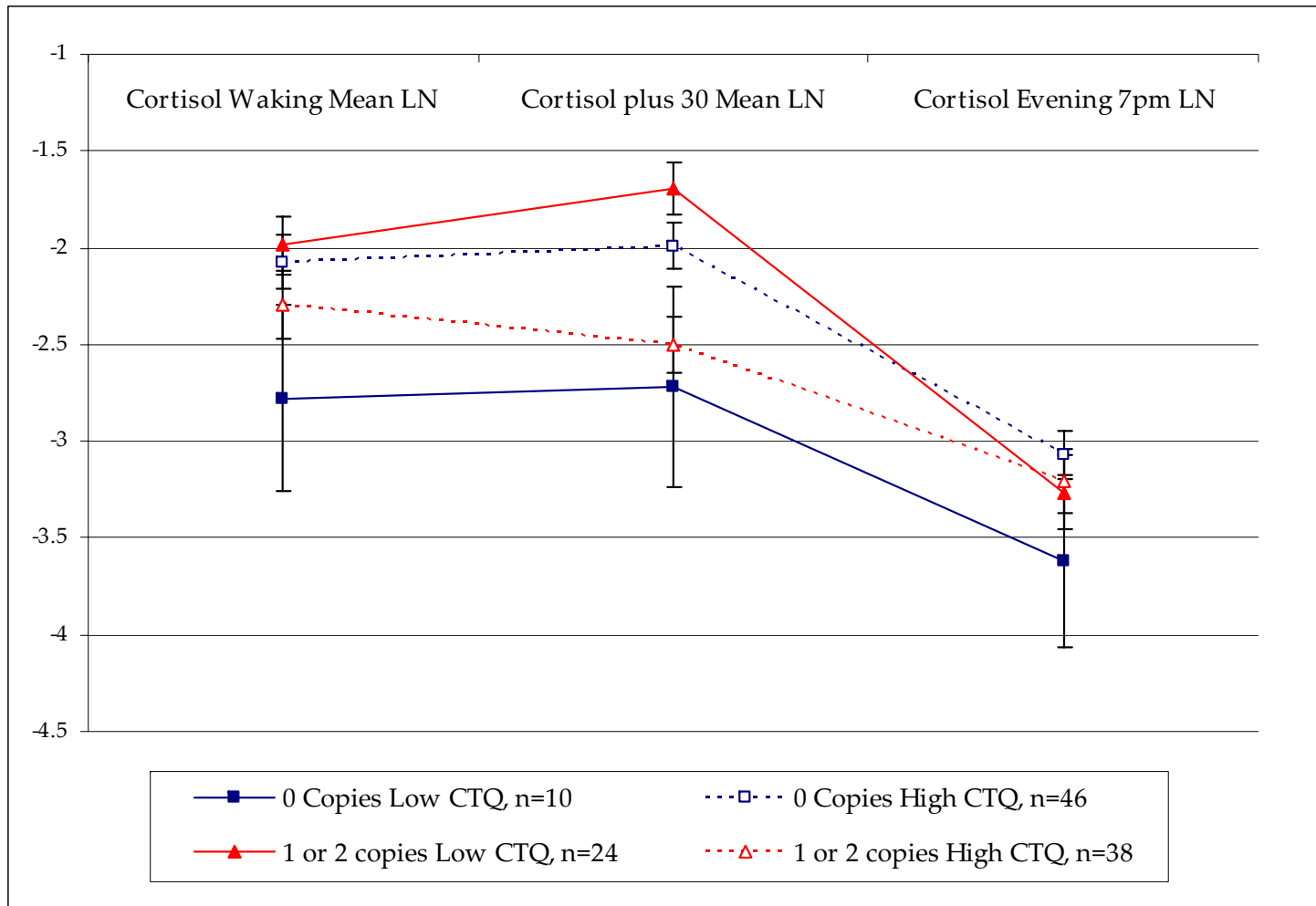


Figure 6-7: Diurnal salivary cortisol by child maltreatment and FKBP5 haplotype.

Log cortisol (error bars SEM) measured at waking, 30 minutes after waking, and evening (approximately 7pm). Four groups represent high and low child maltreatment status (lower CTQ third versus upper two thirds) and FKBP5 3 SNP haplotype (no copies versus 1 or 2 copies). Note the significant inverse relationship: among those with 1 or 2 copies of the risk haplotype, greater child maltreatment is associated with lower cortisol and flatter diurnal rhythm; in contrast, among those with 0 copies of the risk haplotype, greater child maltreatment is associated with higher diurnal cortisol.

Table 6-6: Association of child maltreatment and psychiatric symptom severity with log cortisol levels across the day among only persons with one or two copies of the FKBP5 3 SNP haplotype (n=62)

	No.	Waking		Plus 30 minutes		Evening	
		β (95% CI)	p-value	β (95% CI)	p-value	β (95% CI)	p-value
Child Maltreatment							
Bottom CTQ tertile	24	NS		Ref.		NS	
Upper two-thirds CTQ	38			-0.83 (-1.30— -0.36)	.001		
Total Depression							
Total BDI score < 20	39	Ref.		Ref.		Ref.	
Total BDI score \geq 20	23	-0.52 (-1.08—0.05)	.07	-0.49 (-1.00—0.03)	.07	-0.65 (-1.20— -0.09)	.02
Cognitive Depression							
Cognitive BDI score < 16	44	Ref.		Ref.		Ref.	
Cognitive BDI score \geq 16	18	-0.62 (-1.29—0.03)	.06	-0.77 (-1.35— -0.19)	.01	-0.71 (-1.36— -0.05)	.03
PTSD							
PCL-C score < 40	39	Ref.		NS		NS	
PCL-C score \geq 40	23	0.63 (0.12—1.15)	.02				

Note: All estimates are controlling for age, sex, tobacco consumption, menstrual status, and ethnicity.

NS – Interaction not significant in full model so it was not tested in FKBP5 risk haplotype only models here.

In the cortisol model with *depression*, we found that among persons with 1 or 2 copies of the risk haplotype, high BDI scores were associated with lower diurnal cortisol (See Table 7 and Figure 8). The interaction was weak at waking and 30 minutes after waking, but it was significant for the evening measure. We also conducted separate analyses for somatic and cognitive depression symptoms. There were no significant interactions ($p > .10$) for somatic symptoms and FKBP5 risk haplotype on cortisol levels. However, cognitive depression symptoms and FKBP5 risk haplotype showed significant interactions at all collection times: waking ($p = 0.05$), 30 minutes after waking ($p = 0.02$), and evening ($p = 0.01$), (See Figure 9). As with the child maltreatment model, we then examined among FKBP5 risk haplotype carriers the effect estimate of depression and cognitive symptoms in separate GLMs on cortisol levels (see Table 6). For the total depression score, there was a significant effect on cortisol at the evening collection ($p = 0.02$), with depressed individuals having lower evening cortisol among risk haplotype carriers. For cognitive symptoms, the effect estimate was significant for both 30 minutes after waking and the evening collections, with higher cognitive depression scores associated with lower cortisol among risk haplotype carriers.

Table 6-7: GLM of cortisol (natural log) at waking, plus 30 minutes, and evening in model with depression and FKBP5

	Waking			Plus 30 minutes		Evening	
	No.	β (95% CI)	p-value	β (95% CI)	p-value	β (95% CI)	p-value
Age		0.01 (-0.02—0.03)	.82	0.02 (-0.01—0.04)	.10	0.01 (-0.01—0.04)	.18
Sex							
Male	58	Ref.	.70	Ref.	.41	Ref.	.49
Female	60	0.09 (-0.39—0.58)		0.19 (-0.26—0.63)		0.16 (-0.30—0.62)	
Ethnicity							
Chhetri	45	Ref.	.14	Ref.	.34	Ref.	.19
Dalit	22	-0.37 (-0.90—0.17)		-0.19 (-0.68—0.30)		-0.07 (-0.59—0.44)	
Brahman	48	-0.34 (-0.78—0.10)		-0.23 (-0.63—0.18)		-0.45 (-0.87—0.02)	
Janajati	3	0.78 (-0.47—2.03)		0.67 (-0.47—1.82)		-0.37 (-1.56—0.82)	
Tobacco consumer							
No	70	Ref.	.13	Ref.	.31	Ref.	.33
Yes	48	-0.33 (-0.75—0.10)		-0.20 (-0.59-0.18)		-0.20 (-0.61—0.20)	
Menstrual status							
Mid-follicular to early luteal	93	Ref.	.15	Ref.	.006	Ref.	.26
Pre-menstrual & menstrual	25	-0.42 (-0.99—0.15)		-0.74 (-1.27— -0.22)		-0.31 (-0.86—0.23)	
FKBP5 3 SNP Haplotype							
0 copies	56	Ref.	.94	Ref.	.49	Ref.	.55
1 or 2 copies	62	0.35 (-0.15—0.85)		0.20 (-0.26—0.65)		0.28 (-0.20—0.75)	
Depression							
Total BDI score < 20	68	Ref.	.55	Ref.	.57	Ref.	.19
Total BDI score \geq 20	50	0.21 (-0.37—0.79)		0.21 (-0.33-0.74)		0.12 (-0.44—0.67)	
Interaction							
All other groups		Ref.		Ref.		Ref.	
High BDI and 1 or 2 FKBP5 risk copies		-0.67 (-1.43—0.09)	.08	-0.64 (-1.33—0.06)	.07	-0.77 (-1.50— -0.05)	.04

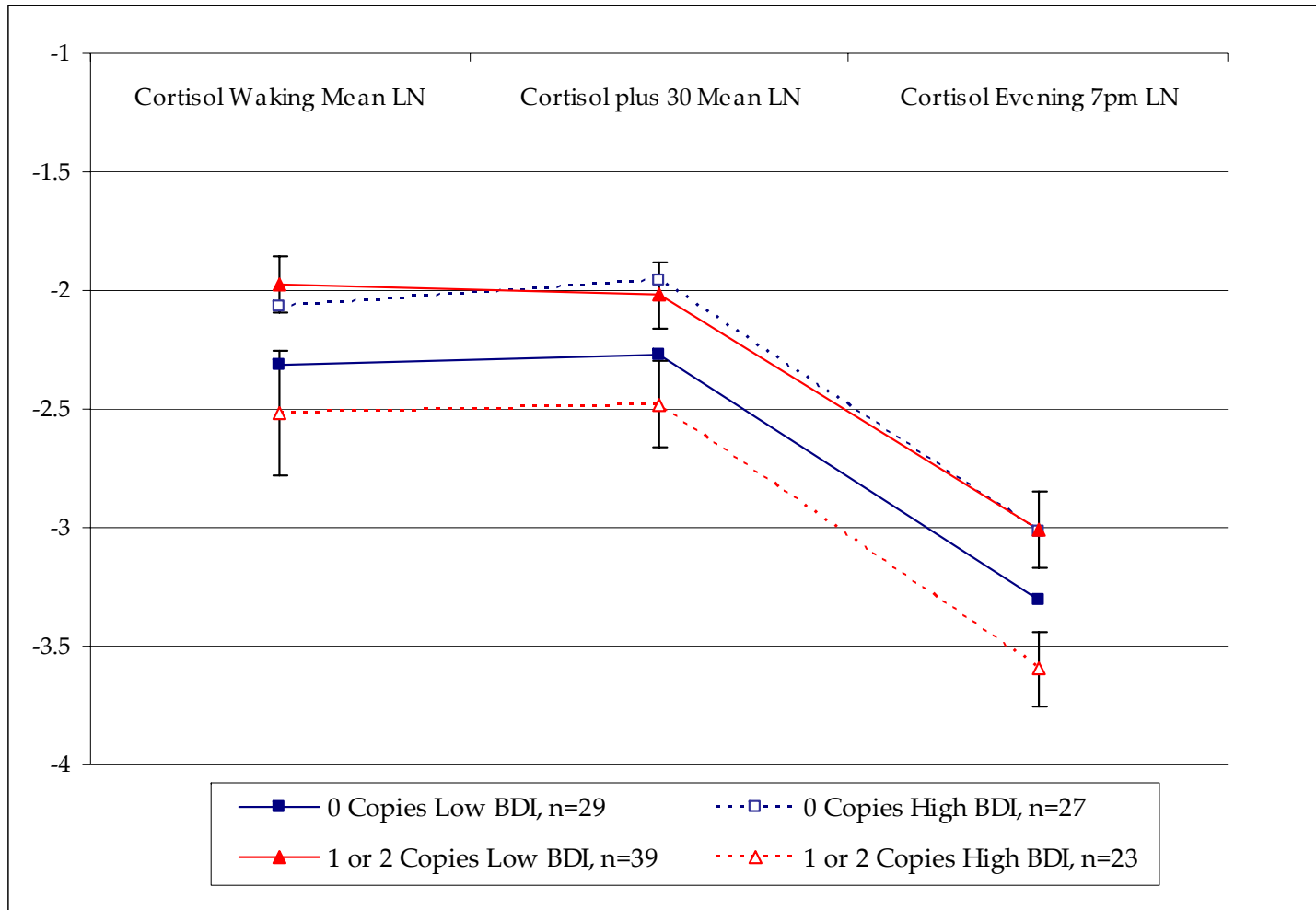


Figure 6-8: Diurnal salivary cortisol by depression and FKBP5 haplotype.

Log cortisol (error bars SEM) measured at waking, 30 minutes after waking, and evening (approximately 7pm). Four groups represent above and below BDI cutoff score for intervention (total BDI ≥ 20) and FKBP5 3 SNP haplotype (no copies versus 1 or 2 copies). Note that among individuals with 1 or 2 copies of the risk haplotype, those with depression have lower cortisol levels.

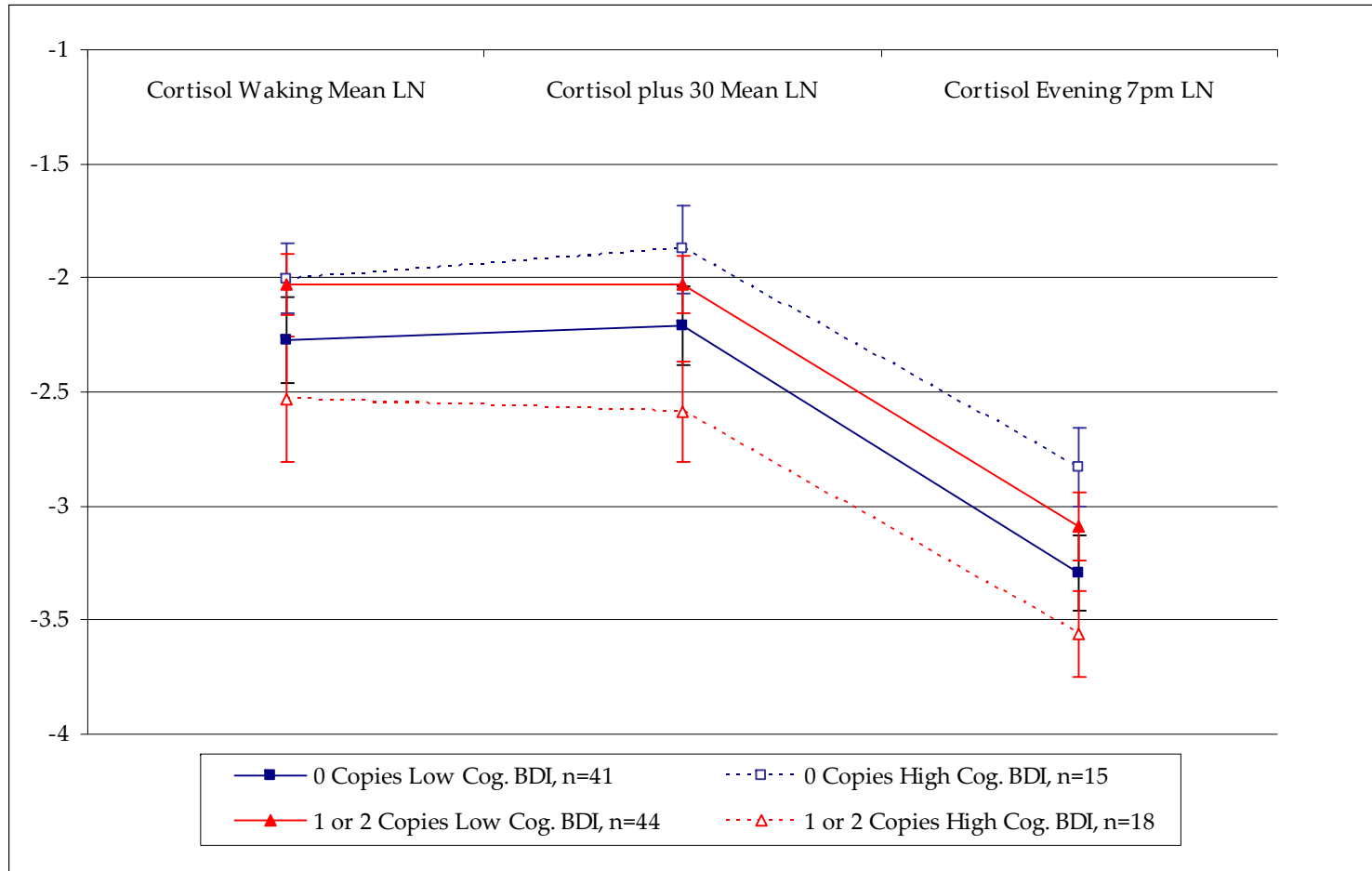


Figure 6-9: Diurnal salivary cortisol by cognitive depression and FKBP5 haplotype.

Log cortisol (error bars SEM) measured at waking, 30 minutes after waking, and evening (approximately 7pm). Four groups represent low and high cognitive depression symptom scores (cognitive BDI ≥ 16) and FKBP5 3 SNP haplotype (no copies versus 1 or 2 copies). Note that among individuals with 1 or 2 copies of the risk haplotype, those with greater cognitive depression symptoms have lower cortisol levels.

PTSD showed the opposite association of depression with FKBP5 risk haplotypes.

Among persons with the risk haplotypes, PTSD was associated with greater waking cortisol levels (See Table 8 and Figure 10). The interaction was significant for the waking time period, but no differences were seen for the 30 minutes post-waking collection or for the evening collection. In a separate GLM with FKBP5 risk haplotype carriers only, we then examined the effect of PTSD on waking log cortisol values (see Table 6). We found that greater PTSD scores were associated with higher concentration of cortisol at waking.

Table 6-8: GLM of cortisol (natural log) at waking, plus 30 minutes, and evening in model with **PTSD and FKBP5**

	No.	Waking		Plus 30 minutes		Evening	
		β (95% CI)	p-value	β (95% CI)	p-value	β (95% CI)	p-value
Age		-0.01 (-0.03—0.02)	.78	0.02 (-0.01—0.04)	.15	0.01 (-0.01—0.03)	.32
Sex							
Male	58	Ref.		Ref.		Ref.	
Female	60	-0.09 (-0.35—0.52)	.70	0.16 (-0.25—0.58)	.43	0.07 (-0.36—0.51)	.74
Ethnicity							
Chhetri	45	Ref.		Ref.		Ref.	
Dalit	22	-0.33 (-0.88—0.22)		-0.20 (-0.71—0.32)		-0.13 (-0.67—0.41)	
Brahman	48	-0.33 (-0.76—0.11)	.12	-0.24 (-0.65—0.17)	.29	-0.47 (-0.90— -0.04)	.19
Janajati	3	0.89 (-0.32—2.10)		0.70 (-0.43—1.83)		-0.32 (-1.51—0.87)	
Tobacco consumer							
No	70	Ref.		Ref.		Ref.	
Yes	48	-0.31 (-0.73—0.11)	.15	-0.21 (-0.60—0.19)	.30	-0.20 (-0.61—0.21)	.34
Menstrual status							
Mid-follicular to early luteal	93	Ref.		Ref.		Ref.	
Pre-menstrual & menstrual	25	-0.52 (-1.08—0.05)	.07	-0.79 (-1.31— -0.26)	.004	-0.35 (-0.90—0.20)	.21
FKBP5 3 SNP Haplotype							
0 copies	56	Ref.		Ref.		Ref.	
1 or 2 copies	62	-0.16 (-0.63—0.31)	.17	-0.06 (-0.40—0.29)	.74	-0.02 (-0.38—0.34)	.92
PTSD							
Total PCL-C score < 40	74	Ref.		Ref.		Ref.	
Total PCL-C score \geq 40	44	-0.05 (-0.62—0.51)	.40	0.08 (-0.29—0.44)	.69	-0.09 (-0.48—0.29)	.64
Interaction							
All other groups		Ref.					
High BDI and 1 or 2 FKBP5 risk copies		0.65 (-0.11—1.42)	.09	NS		NS	

NS - Interaction was dropped from analyses when not significant.

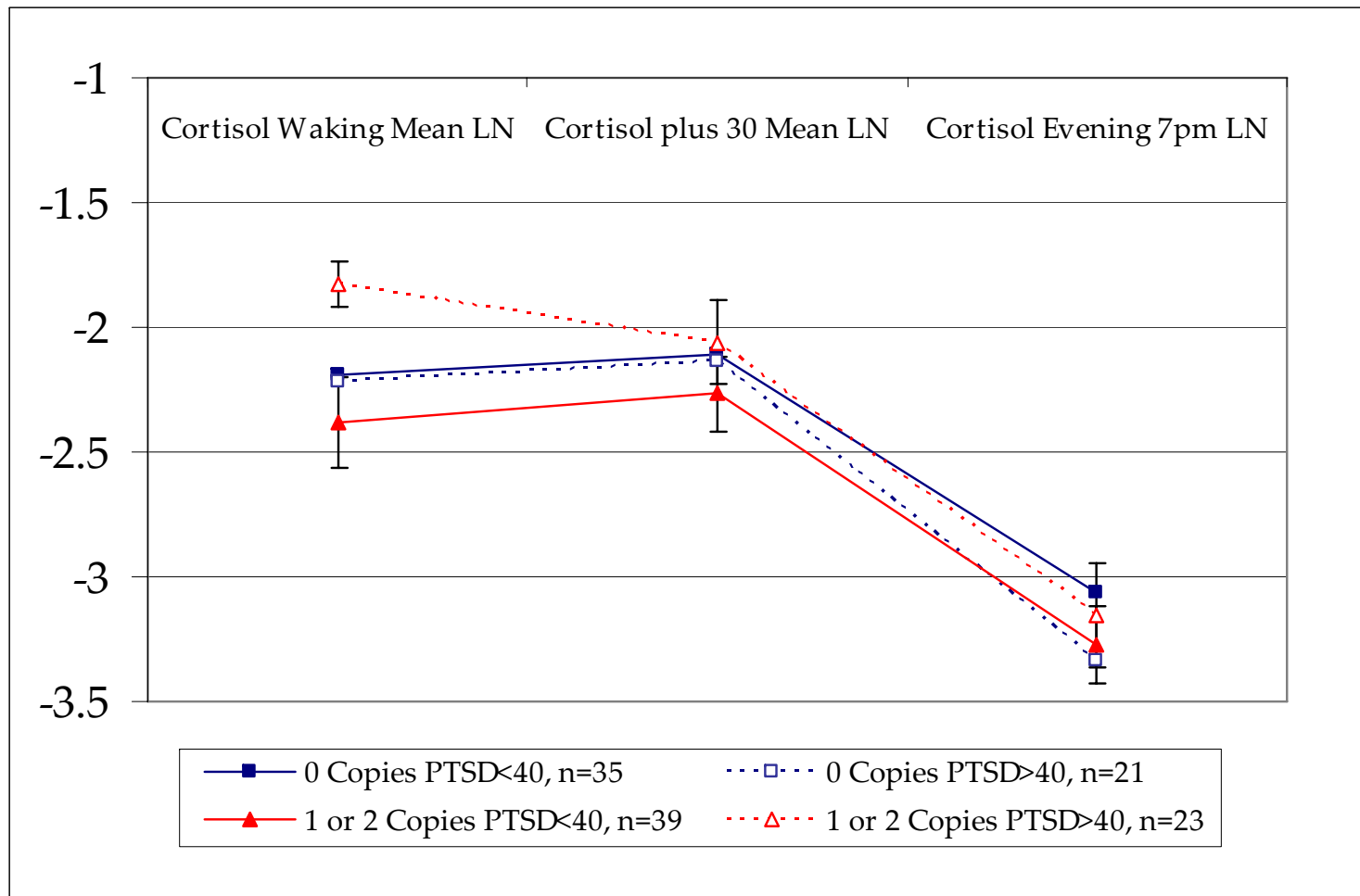


Figure 6-10: Diurnal salivary cortisol by PTSD and FKBP5 haplotype.

Log cortisol (error bars SEM) measured at waking, 30 minutes after waking, and evening (approximately 7pm). Four groups represent high and low PTSD symptom scores (low PTSD < 40 PCL-C total score; high PTSD \geq 40 PCL-C total score) and FKBP5 3 SNP haplotype (no copies versus 1 or 2 copies). Note that among individuals with 1 or 2 copies of the risk haplotype, those with PTSD have higher waking cortisol levels.

The other significant covariate for cortisol levels was menstruation. Controlling for sex, women in the late luteal (pre-menstrual) and early follicular (menstrual) phase had lower cortisol compared with women in the mid-follicular and early luteal stage.

DISCUSSION

The goals of this study were, first, to determine if FKBP5 SNPs had main effects on depression and PTSD symptoms and second, to determine if the interaction of FKBP5 SNPs and exposure to child maltreatment were associated with differences in depression and PTSD symptoms. We evaluated the main effects and interactions against total depression and PTSD symptoms as well as somatic and cognitive depression subscales. We found main effects for FKBP5 SNPs on depression symptom. These effects were most significant for somatic depression symptoms. These results suggest that FKBP5 risk haplotypes may have direct effects on the level of somatic symptoms such as being easily fatigued, difficulty in physical work activities, and disruptions in sleep, appetite, and weight. We found that FKBP SNPs interacted with level of childhood maltreatment in risk for adult depression. This was most significant for cognitive depression symptoms; greater severity in cognitive symptoms (social withdrawal, self-blame/accusation, and self-hatred) is observed with interaction effects of FKBP5 SNPs and childhood maltreatment. Effect sizes for individual SNPs were most significant for rs3800373 and rs9296158. The three SNP risk haplotype (CAT) was also significant, especially when examined in the Chhetri caste only. No interactions were significant for PTSD symptoms.

Our third goal was to examine the relationship of FKBP5 risk haplotypes with diurnal cortisol levels. We found that individuals who carried no copies of the risk haplotype did not differ in cortisol profiles. In contrast, individuals who carried 1 or 2 copies of the FKBP5 three SNP risk haplotype (CAT) showed significant differences in cortisol profiles based on exposure to child maltreatment and symptom severity of depression, cognitive/psychological depression, and PTSD. Among risk haplotype carriers, greater childhood trauma associated with lower cortisol 30 minutes after waking compared to risk haplotype carriers with low exposure to childhood trauma. Risk haplotype carriers with greater depression symptom severity displayed lower cortisol throughout the day, especially in the evening, compared with risk haplotype carriers who did not have high depression scores, and this was even greater when cognitive/psychological symptoms were examined separately. Lastly, FKBP5 risk haplotype carriers with PTSD displayed greater salivary cortisol upon waking compared with risk haplotype carriers that did not have elevated PTSD scores. Among individuals who carried no copies of the FKBP5 risk haplotype, there were no differences in diurnal salivary cortisol.

Taken together, these findings suggest a more sensitive or responsive phenotype associated with carriers of FKBP5 risk haplotypes. The groundbreaking research with FKBP5 initially demonstrated that these carriers were more responsive to pharmacological treatment (Binder et al., 2004; Kirchheiner et al., 2008; Lekman et al., 2008). Then it was demonstrated that FKBP5 risk carriers were more sensitive to childhood trauma as a risk factors for adult PTSD (Binder et al., 2008). Our study adds to this picture of FKBP5 risk carriers and increased sensitivity. We found that FKBP5 risk

carriers were more sensitive to both the absence and presence of childhood maltreatment on adult depression, especially cognitive symptoms. Moreover, childhood maltreatment appears to produce different adult basal cortisol set points among the sensitive FKBP5 carriers, but among non-carriers there was no difference in adult cortisol levels based on childhood maltreatment.

Our findings suggest that FKBP5 is part of pathway related to environmental sensitivity, hypocortisolism, and generally elevated somatic symptoms. This is consistent with our growing understanding of a suite of disorders that appear to have a common pathway involving hypocortisolism: atypical depression, seasonal affective disorder, chronic fatigue syndrome, fibromyalgia, somatization, and general mood dysregulation (Chrousos, 1998; Heim et al., 2000; Juruena & Cleare, 2007; Van den Bergh et al., 2008). The hypocortisolism that underlies these disorders may be the result of developmental insults. A number of studies have shown hypocortisolism related to elevated CTQ scores (Shea et al., 2007; Yehuda et al., 2001) and as common risk in developmental settings of neglect and abuse (Gunnar et al., 2002; Gunnar et al., 2001).

We propose that the depression profile we observed in this Nepali population among FKBP5 risk carriers overlaps with the literature on atypical depression. Fries and collaborators put forward that hypocortisolism reflects of psychopathologies, such as atypical depression, with increased environmental sensitivity (Fries et al., 2005). Moreover, they propose that atypical depression involves amplification of stress response features, such as somatic complaints including increased weight and appetite,

hypersomnia, and leaden paralysis. Gold and Chrousos (Gold et al., 2002) describe hypocortisolism as characteristic of atypical depression whereas hypercortisolism may be more common in melancholic depression. In addition, atypical depression is associated with environmental-responsivity and specific somatic symptoms. Moreover, atypical depression is typically least symptomatic in the morning and worsens throughout the day, which reflects the increasing cortisol differences we observed in the depressed FKBP5 risk carrier group here.

Thus, FKBP5 may be a key player involved in a pathway characterized by hypocortisolism, environmental responsivity, and somatic symptomatology, and specifically in the pathology of atypical depression. FKBP5 is an ideal candidate for influencing this pathway because of its role in tightly regulating the influence of cortisol on glucocorticoid receptor activity (Binder et al., 2004; Jiang et al., 2008; Westberry et al., 2006). Moreover, FKBP5 polymorphisms may also mediate differences in treatment responsiveness between atypical and melancholic depression. In contrast, depression among FKBP5 non-carriers may be more consistent with melancholic or other forms of depression. For example, Kirchheiner and collaborators found that bipolar disorder was more common in the AA genotype for rs3800373 (part of non-risk haplotype in our study) whereas treatment response was greater for C carriers at this SNP, which was in the risk haplotype in our study. Thus, bipolar disorder may be one of many forms of depression that do not fit with the FKBP5-responsive profile.

Whereas the findings regarding FKBP5, hypocortisolism, and depression fit rather well with our understandings of atypical depression, our findings regarding PTSD are more difficult to interpret. We failed to replicate the findings of increased sensitivity for PTSD among FKBP risk carriers who experienced childhood trauma (Binder et al., 2008).

Furthermore, when comparing the PTSD group with the non-PTSD group among FKBP5 risk haplotype carriers, we saw the opposite effect with elevated morning cortisol. The existing literature on PTSD and cortisol shows contradictory associations with elevated cortisol, low cortisol, and null findings. A recent meta-analysis of PTSD and basal cortisol levels revealed that low cortisol is only associated with PTSD in specific comparisons (Meewisse et al., 2007): i) differences have not been consistently found in morning levels, only in the afternoon; ii) differences are limited to female-only studies, males do not show a difference; iii) differences are limited to sexual and physical abuse, they are not observed in persons exposed to war, refugee, or various traumas; and iv) differences are only observed when the control group are persons without PTSD not exposed to trauma, among trauma-exposed non-PTSD control groups, differences have not been observed. Thus, our study does not meet the criteria put forth by Meewisse and colleagues under which one would expect hypocortisolism differences in the PTSD group. However, our study is consistent with the finding about type of trauma. In our group, exposure to childhood physical and sexual abuse associated with lower cortisol.

A number of other studies have also observed elevated HPA markers associated with PTSD (Bremner et al., 1997; Pico-Alfonso et al., 2004; Rasmusson et al., 2001). One study of war-affected civilians, which is comparable in some ways to our study

population, also found elevated cortisol levels (Sabioncello et al., 2000). Moreover, in a low-income community, elevated cortisol was associated with recent trauma among women, but there was not an association with more distant traumas and cortisol levels (Young et al., 2004). In this Nepal sample, trauma—especially the recent war—may be proximate enough to appear as elevated cortisol, but this could change with time. Future studies investigating cortisol and PTSD are necessary to examine the interactions of FKBP5 status, trauma type, and sex; moreover, these studies should include both trauma-exposed and non-exposed controls.

The unique contributions of this study include demonstrating the interaction effect in a previously unstudied population, South Asians. Moreover, the study demonstrates that even in the presence of high exposure to recent political violence, child maltreatment continues to have an important effect on adult psychopathology. Lastly, the study illustrates that environmental exposures may have different effects on the type of psychopathology symptoms depending upon genetic risk factors, specifically FKBP5 risk haplotypes and vulnerability to atypical depression. It would be useful in future studies of treatment response to explore if FKBP5 polymorphisms are associated with improved treatment response for a specific disorder subtypes or symptom clusters.

Regarding treatment implications, this study supports the need to expand studies of clinical responsivity and FKBP5 polymorphisms to persons suffering from depression in South Asian communities. In addition, it will be important to see if the FKBP5 treatment effects seen in antidepressant pharmacological studies could be observed in non-

pharmacological interventions which play an important role in global mental health services in low income settings where clinicians are unavailable, such as Jumla (Bolton et al., 2007; Patel et al., 2007; Tol et al., 2008). Lastly, based on the gene-environment interactions observed in this study, we advocate for interventions focusing on the prevention of child abuse and support for child abuse survivors as a crucial step toward reducing the adult burden of mental illness, especially in low income countries where legislation and survivor support programs are lacking. Alongside increasing clinical services and access to pharmacological interventions, prevention of child maltreatment should be a priority area in the growing global mental health movement.

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**Chapter 7: Children and Revolution: The Mental Health and Psychosocial
Wellbeing of Child Soldiers in Nepal's Maoist Army**

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“I was thirteen years old when I joined the Party,” Asha, a girl from a Dalit “untouchable” Hindu caste in southern Nepal, said describing how she became associated with the Maoist People’s Liberation Army (PLA). “I was born into a poor family.” She pointed to a few pounds of cornmeal and then the one buffalo outside her thatched hut, “We just have this much, nothing more.” She continued, “I was a very good student [but] after I took my exams for fifth grade my parents told me: ‘We are very poor, we have no money so you have to leave school and take care of your brothers and sister.’... Then, I left school.” Asha’s parents had forced her to leave school after fifth grade so that they could send her brothers to school.

Maoist women frequently visited Asha’s home and told her to join them rather than stay at home doing nothing. They told her that Maoist woman and men were equal, and they promised her an opportunity to continue her studies if she joined the PLA. A few months later, Asha attended a Maoist cultural program and was impressed by the rhetoric, “Both sons and daughters should be treated equally, the Maoist leaders said. Husbands and wives should work together, too... From that day, I didn’t want to go back to my house.” Believing that the Maoists were her only option for a future beyond domestic servitude, Asha, a slight girl of barely over four feet tall, left home to join the armed struggle.

During her time with the Maoists, Asha states that she was well treated and the leaders encouraged her interest in art, enlisting her talents in painting propaganda signs. She only encountered one battle but also saw a number of comrades killed. After more than one year in the PLA, Asha returned home for a brief visit to see her family. Upon arrival her mother immediately married her to a man from a distant community to prevent her from returning to the Maoists. She was fourteen and he was 22-years-old.

Asha describes her marriage as endless abuse and suffering. She was raped throughout the marriage by her husband and beaten by her in-laws. After two years of this abuse, Asha attempted suicide. Her father-in-law caught her hanging from the ceiling. He cut her down, handed her the rope, and said, "Go home and kill yourself." Then, he kicked her out of the house. Asha now lives once again with her mother. She wept concluding her life story, "Maybe if I hadn't joined the Maoists, my parents wouldn't have forced me to marry, and I wouldn't have had such a life of suffering. At thirteen years old, what do you know? You just don't understand," (Koirala 2007; Koenig and Kohrt 2009).

Background

One of the most pressing issues in global conflict is the exploitation of children as combatants by armed groups. An estimated 300,000 children across the globe are members of state militaries and other armed groups (UNICEF 2003:4). The 2007 Paris Principles refer to child soldiers as "children associated with armed forces or armed groups" (CAAFAG) meeting the following criteria:

Any person below 18 years of age who is or who has been recruited or used by an armed force or armed group in any capacity, including but not limited to children, boys and girls, used as fighters,

cooks, porters, messengers, spies or for sexual purposes. It does not only refer to a child who is taking or has taken a direct part in hostilities, (UNICEF 2007:7).

Following this characterization, we define ‘children’ as individuals less than eighteen years of age. However, we acknowledge that local definitions of ‘children’ vary within and between cultural groups. Although armed groups used children throughout history, the widespread availability of small arms has made it physically possible for children to participate in a more lethal manner and thus be of greater value to armed groups (Wessells 2006).

The Hollywood image and those that some organizations employ to raise funds to support intervention programs for former child soldiers depict rogue armed groups violently tearing children away from idyllic family settings (Wessells 2006). The story continues that these haphazard militias shatter children’s lives through the dehumanizing experiences of war, drugs, and crime. The child soldiers are imagined as severely disabled from the effects of psychological trauma. The final goal for recovery and rehabilitation is then seen as the return to and reunification with one’s family. Although these portrayals do reflect actual cases, the situation of child soldiers is far more varied and complex (Betancourt et al. 2008; Wessells 2006).

Contexts that promote recruiting children into armed groups are the result of larger national and international processes that produce local vulnerability. In many instances, gross poverty, gender and ethnic discrimination, and legacies of state-sponsored violence create circumstances in which children voluntarily join armed groups. Asha, in contrast to the typical media representation of child soldiers, voluntarily joined a highly organized revolutionary force which claimed to practice gender equality (cf.

Pettigrew and Shneiderman 2004; Yami 2007). Moreover, she considered the return home to be the most damaging part of her life, not her involvement in an armed group.

Research that pursues a more realistic and nuanced picture of child soldiers and the political, social, and economic processes that drive recruitment of minors is crucial for two reasons: first, to develop the most effective policy and advocacy to end the conscription of children into armed forces, and second, to address the mental health and psychosocial needs of child soldiers. While it might be assumed that removing a child from an armed group is the best approach, it is not a panacea to assure psychosocial wellbeing. The very focus of *re-integration* programs operates with an assumption that former child soldiers were previously *integrated* into their communities. In reality, some child soldiers join armed groups because they feel excluded from society (Kohrt, et al. in press). Moreover, the tremendous variation in exposure to traumatic events during involvement with armed groups and in resilience among child soldiers throws into question whether psychological trauma is a universal response (Wessells 2006).

We employ a critical medical anthropology (CMA) framework to analyze child soldier psychosocial wellbeing. First, we examine the social determinants in an ecological-transactional model of child development (Bronfenbrenner 1979) as they contribute to involvement with armed groups, the types of participation and exposure within an armed group, and the experiences upon return to the community. Within this, we explore the unbalanced agency of child soldiers' experiences in which they risk their lives for what is often only a small gain in independence and agency. We interweave the ecological-transactional social determinants with the CMA framework categories of the macro-social level political economy through micro-social level immediate social ties.

We conclude with implications of our findings to improve mental health and psychosocial support of former child soldiers.

Theoretical Approach

The CMA social determinants of health model (Baer, et al. 2003) and the ecological-transactional model of child development of Bronfenbrenner (1979) are complementary frameworks. Within the CMA theoretical model, the *macro-social level* represents the institutions, structure of social relationships, and processes that drive socially-patterned experience. This level, known as the macrosystem in the ecological-transactional model, includes economic, manufacturing, and corporate institutions that dictate employment availability which create niches of poverty (Cicchetti and Lynch 1993). In the work of Baer, Singer, and Susser (2003), elements of the macro-social level include corporations and the medical-industrial complex.

The *intermediate social level* represents the institutions that translate global and national processes into regional variations in experience. The intermediate social level, also described as the exosystem, comprises the “formal and informal social structures that make up the immediate environment in which children and families function,” such as neighborhoods, social support groups, and employers (Cicchetti, et al. 2000: 697). In the CMA model this includes hospitals, pharmaceutical companies, and community clinics (Baer, et al. 2003).

The *micro-social level* is the domain of immediate experience, which in transaction with the individual, shapes experience through the amount of agency and/or resources an individual mobilizes. Belsky (1980) considers this level, named the

microsystem in Bronfenbrenner's scheme, the family environment. Cicchetti, Toth, and Maughan (2000) extend "the conceptualization of the microsystem to include any environmental setting that contains the developing person," including the home, school, and workplace. Baer, Singer, and Susser (2003) define the micro-social level as the interactions within the healthcare system between patients and physicians, medical translators, and nurses.

The *individual level* reflects children's different histories, personalities, and psychobiological states. This ontogenetic development examines how developmental history and genetic composition contribute to behavior and health through interactions with the social and physical environment (Cicchetti and Lynch 1993).

Many researchers have employed the ecological-transactional model to understand the wellbeing of children exposed to violence (cf. Belsky 1980; Cicchetti and Lynch 1993), including political violence (cf. Betancourt 2005; Tol, et al. 2009). We propose that the synthesis of this ecological-transactional approach with the CMA social determinants model elucidates the multi-causal reasons for why children are recruited into fighting forces as well as the psychosocial consequences of being a child soldier.

Setting

Nepal is a landlocked country north of India and south of the Tibetan autonomous region of China, with a population of almost 28 million. Currently, Nepal ranks 142 on the human development index—near the bottom of the medium human development category (UNDP 2007). This rank conceals strong inequalities by region (e.g., in agricultural production), gender (e.g., in literacy), and urban versus rural areas (e.g., in

infant mortality) (Government of Nepal 2007). Thirty-one percent of the population lives below the poverty line. Moreover, Nepal has the highest income gap between rich and poor in Asia with the Gini coefficient having increased from 0.34 to 0.41 in the past decade (World Bank 2007). Nepal's history represents a legacy of political, economic, and cultural processes that have marginalized large sectors of the population who recently have become the backbone of the Maoist revolution.

Nepal's population comprises more than 60 ethnic and caste groups. Although the country recently has become a secular federal democratic republic there is a long history of hegemonic dominance by the Hindu high castes (*Brahman* and *Chhetri*) of minority ethnic groups (*Janajati*, who are predominantly Buddhist and shamanist) and also of those deemed to be low caste (*Dalit*). Although some of Nepal's ethnic groups have rejected caste ideology, no group has remained uninfluenced by it. Some suggest that this Hindu hegemony is being overturned in modern Nepal, as the polyglot society becomes more inclusive, which in part reflects the impact of the Maoist movement (Thapa with Sijapati 2004).

Nepal was unified as a Hindu monarchy in 1769. Against the backdrop of the autocratic Rana regime, the Communist Party of Nepal (CPN) was founded in Kolkata, India in 1949. Reflecting splits in the Communist Party of India (Thapa with Sijapati 2004: 23), the 1960s and 70s saw multiple factions emerging in the CPN. The 1970s and 1980s saw the various communist factions fighting for a multi-party participation to achieve a new people's democracy (Hachhethu 2002; 2003; Hoftun, et al.1999: 238). This was achieved in 1990 when Nepal became a multiparty democratic Hindu monarchy. In 1991 the Communist Party of Nepal (Unity Center-Ekata Kendra) was

established with Puspha Kamal Dahal (Prachanda) as General Secretary. Shortly afterwards, in January of 1991, the United People's Front of Nepal (UPFN) was formed with the objective of participating in elections. The Unity Center was to be the revolutionary underground front while the UPFN was the political front of same party. The Unity Center brought together several Maoist communist parties including the CPN (Mashal) led by Prachanda, the CPN (Fourth Congress) led by Nirmal Lama, the Proletariat Workers Organization led by Ruplal Bishwakarma, and a splinter group of the CPN (Masal) led by Babu Ram Bhattarai. The CPN (Unity Center) rejected the November 1990 constitution promulgated by the king, referring to it as an inadequate basis for a genuine democracy. They continued to demand a constituent assembly with a plan for drafting a new democratic constitution and eventually the formation of a People's Republic of Nepal (Karki and Seddon 2003). The CPN (Unity Center) participated in the 1991 general election under the persona of the UPFN with Babu Ram Bhattarai as co-coordinator. The UPFN won nine seats and became the third largest party in parliament. Following the election, however, many communist leaders increasingly became skeptical about the potential for success on a parliamentary route. In 1994, CPN (Unity Center) divided into two parties: the CPN (Unity Center) and the Maoist party CPN (M). The former participated in the mid-term election in November 1994, while the latter Maoist party headed by Prachanda boycotted the elections. The UPFN also split with a group led by Bhattarai supporting Prachanda and the other group supporting the CPN (Unity Center). The electoral commission refused to recognize the UPFN faction led by Bhattarai.

In January 1996, Babu Ram Bhattarai through the UPFN presented a 40-point demand on behalf of CPN (M) to the Nepali government headed by the Nepali Congress party leader Sher Bahadur Deuba. The points dealt largely with rectifying economic and social injustice, abolishing monarchy, and establishing a constituent assembly, and have been described by several non-partisan commentators in terms such as, “reasonable and not dissimilar in spirit to the election manifestos of mainstream parties” (Thapa with Sijapati 2004:53). The UPFN insisted that if no progress was made towards fulfillment of the demands by 17 February 1996, they would have no choice but to resort to armed struggle against the existing state. When these demands were not addressed, the CPN (M) went underground and immediately began its agrarian revolution. On February 13, 1996, (four days before expiration of their deadline) the CPN (M) declared a People’s War in Nepal, issuing a leaflet that called on the people of Nepal to “March along the path of the People’s War to smash the reactionary state and establish a new democratic state.” Violence commenced with the CPN (M) attacking police posts and a state-owned agricultural development bank.

Over 13,000 people were killed during the People’s War, with the majority of deaths at the hands of the Royal Nepal Army and the government’s police force (Metha 2005). The war officially ended in November of 2006, when the CPN (M) signed a peace treaty with the government, which led to the inclusion of the CPN (M) in the national government. During the April 2008 elections, the CPN (M) won a relative majority and now occupies the major posts in the Government of Nepal.

During the war, children were recruited into the CPN (M)'s People’s Liberation Army (PLA) and the Royal Nepal Army (which became the Nepal Army in 2006) as

soldiers, sentries, spies, cooks, and porters (Human Rights Watch 2007). Local groups estimate that at the conclusion of the war approximately 9,000 members—one-third of the PLA—comprised fourteen to eighteen year olds with 40 percent being girls (Human Rights Watch 2007), an even greater percentage of PLA soldiers now over the age of eighteen years likely had joined before they were eighteen. Ten percent of the Royal Nepal Army during the conflict was below the age of eighteen (Singh 2004).

Methods

In our research, we employed a mixed-methods study with qualitative and quantitative tools to understand the mental health and psychosocial consequences of children's participation in armed groups. Three of the authors (Kohrt, Karki, Tol) working with a Nepali NGO Transcultural Psychosocial Organization (TPO) Nepal conducted a study in 2007 of mental health and psychosocial needs among former child soldiers reintegrating into civilian communities. The qualitative component of the larger study included participatory approaches (with a technique known as Child Led Indicators (CLI) in which children developed their own psychosocial indicators of distress and wellbeing), narrative focus group discussions (N=25 groups) with children and community members, key informant interviews (N=152) with children and community members, and case studies (N=8) of child soldiers. Study participants were identified through local nongovernmental organizations involved in child protection (for a full description of the study selection process see Kohrt et al. 2008). We highlight three of these case studies in our analysis (*pseudonyms are used for all child case studies presented*).

Data were gathered by a Nepali research team employed by TPO Nepal with a background in field research who received a month-long training on qualitative and quantitative data collection as well as on the ethics of research with vulnerable children. All interviews were translated into English and analyzed using Atlas.ti with a codebook developed by three independent coders (intercoder agreement: percent agreement 0.90, Cohen's κ 0.82). The qualitative data were further contextualized by drawing on Pettigrew's long-term ethnographic research in central Nepal which dates back to 1990 (Pettigrew 1995, 1999, 2003, 2004, 2007; Pettigrew and Shneiderman 2004). An additional source of information was interviews conducted for the ethnographic documentary film *Returned: Child Soldiers of Nepal's Maoist Army* (Koenig and Kohrt 2009), which were reviewed employing the codes developed for the primary study.

The quantitative psychosocial epidemiological study was an assessment of 142 child soldiers and 142 matched children who were never conscripted by armed groups (Kohrt, et al. 2008). We employed instruments developed in Nepal—some developed by former child soldiers—or adapted for use in Nepal using a standardized transcultural translation process. The final instrument list included the Depression Self Rating Scale (DSRS) (Birlson 1980, 1981), Child Posttraumatic Stress Scale (CPSS) (Foa, et al. 2001), Strengths and Difficulties Questionnaire (SDQ) (Goodman, et al. 2000), Child Hope Scale (CHS) (Snyder, et al. 1997), and Child Function Impairment (CFI) (Tol, et al. under review). Quantitative data were analyzed using descriptive statistics and regression models employing general equation estimation with SPSS 15 and SAS 8 analytic software (Kohrt, et al. 2008).

Experiences of Child Soldiers

Joining the People's Liberation Army

As described in the opening to the chapter, Asha identified herself as voluntarily joining the Maoists. At the age of thirteen, she joined for the opportunity to pursue an education and also to escape poverty and gender discrimination in the home. The two cases presented below depict other motivations for children to become Maoists. Raj, also a Dalit, is a boy from the western hills of Nepal who was conscripted at fourteen-years-old. Shova, a Chhetri (high caste) girl from the southern plains of farwestern Nepal, joined at thirteen-years-old and spent three years with the PLA:

Raj: In 2003... my father was plowing his field. Maoist boys and girls and their commander came and started beating my father so badly that he almost died. My father was innocent, but they said he had spoken against the Maoists... I was so helpless. I could not do anything for my father because I was scared that the Maoists would kill me. My father lost consciousness. The Maoists came into our house and threatened to kill my father if I did not go with them. I told them that I wanted to continue my schooling, but they did not listen to me. I was forced to go with them... I was only fourteen at that time. They took me... and I started training in their army, ('Raj' from Kohrt and Karki 2007).

Asha: I was thirteen years old. I was a very shy girl who wouldn't speak with people other than my mother... In our village, people used to come to ask my hand in marriage even when I was very young. Even a mention of marriage gave me a headache. I hated it! I wanted to avoid marriage in any way possible... I have a slightly older friend in the village. Against her will, her father married her off at a young age. She was miserable. She often said she would go to India or join the Maoists. She would die there, if need be. At least, she would be free from marriage. Like her, liberation was what I needed. At the time, many Maoist activities used to take place in our village. We would often attend them. I liked their cultural program. Very entertaining! What a

wonderful life—I would often think—I would have if I became a Maoist. I would get to travel a lot and wouldn't have to be forced into marriage. Besides, I would also have a lot of friends!
(‘Shova’ from Adhikari and Shrestha 2007).

Experiences during participation in armed groups

The experiences of children during their association with the Maoist forces varied tremendously. While some children were in the military wing, children also were cooks, porters, spies, sentries, messengers, and performers in Maoist propaganda cultural programs. In our study, we found that children assumed multiple roles within the Maoist forces: 21 percent of the children conscripted by Maoists were part of the PLA, 47 percent were cooks, 35 percent were porters, 54 percent were sentries, 12 percent were spies, and 39 percent took part in cultural programs (total percentage is greater than one hundred because of assuming multiple roles). However, as the cases below illustrate, the role alone did not determine a child's experience during association with the Maoists. Rather each child was impacted differently based on the interaction of the personal life history, which they brought into their identity as a soldier, combined with variation in exposure and opportunity during participation.

Asha described her experience with the Maoists as generally positive. She especially enjoyed the opportunity to engage her artistic talents:

Asha: They taught me painting and writing. I distributed papers, printed pamphlets, and painted slogans throughout the villages. They liked me. They treated me well... They taught me how to deliver speeches. They would encourage me to speak like them... We had to do some exercises in the morning. They didn't tell us anything about the Party's principles. They would tell me to speak with everyone the way they did, (‘Asha’ from Koenig and Kohrt 2009).

Raj reported a very different experience. During his involvement, a young comrade accidentally shot Raj in the leg. In another battle, Raj's friend was killed. The most painful memory from his war experience was his inability to give water to this dying friend:

Raj: When I was with the Maoist armed forces, there were clashes from both sides and I feared all the time that I might get killed by the government army... We had four young girls with us. They were new to our group. When we were going to another village, the government army surprised us. They captured us and took two young girls from our group. They raped them, cut them with knives, poured chili powder in their wounds, and then killed them. We ran away, otherwise they would have killed us, too... Many of my friends were dying, but I was so helpless that I could not do anything for them... I still get scared and sweat when I think of that day. I especially remember one friend who asked for water on that day... I cannot do any work if I think of that day. I get very disturbed and want to be just by myself in a quiet place. I need to keep myself busy to forget about that day... When I think of those events, I still get very scared. I do not even want to think about those for a second, ('Raj' from Kohrt and Karki 2007).

Shova, in contrast to Raj, presents an account of initial difficulties which were overcome through her perseverance. And, ultimately, the experience allowed her to find an identity as an activist for women's rights:

Shova: At first, I felt lonely because I didn't have friends. I couldn't mingle with people. Soon after, however, 15-16 other girls from my village also came to the Party. So eventually things were alright. At the beginning, I couldn't speak much, but slowly I improved... They didn't allow us to sit idle. Whenever there were at least two to four people, we used to practice our oratory skills. One person would play the chairperson, the other the guest, the third the audience, and the fourth, the speaker... They got me involved in the women's organization. There, my job was to mobilize women... Although I didn't miss home too much, I often regretted dropping out from school. While traveling for work, sometimes we would clash with the state military. In one battle, twenty

five of our friends had died, and over a thousand were injured ... But as time passed, I adapted to the environment and gained a lot of political knowledge. Then I became actively involved in uniting women, ('Shova' from Adhikari and Shrestha 2007).

Experiences of return to and reintegration into the civilian community

As described in the introduction, the abuse Asha suffered at the hands of her husband and in-laws after returning from the Maoists eventually led to a suicide attempt and being kicked out of her husband's house. Asha now lives in her parents' two-room hut but has little life beyond that. She describes that it is difficult to talk with or be with others. Asha says that these problems started after she was married and abused by her husband and his family. She wants to live alone:

Asha: I didn't feel like coming home either. My mother told me that I made a mistake by leaving my husband. I always get nightmares. I feel as if somebody is threatening to kill me. I feel as if someone is yelling at me. I find myself terrified at times, but don't know why. Nowadays, I am passing time by doing household work, weeping, and thinking too much. I have no friends, and the friends I used to have do not talk with me. I think my life is worthless. Some people say that I am an unnecessary burden for my mother. Society does not try to understand my feelings. Why has god written such a fate on me? ('Asha' from Koirala 2007).

Raj, similarly, describes difficulties after returning home. He struggles with his inability to obtain employment, which he attributes to his caste status—a statement that echoes Maoist rhetoric about caste-based exclusion from economic opportunities. In addition, Raj, who is a traditional shamanic healer (*dhami-jhanki*), says that he is afflicted by uncontrollable possessions and can no longer heal people after his activities with the Maoists:

Raj: Just yesterday, villagers were having a discussion about giving me a guard job in the community forest near my house, but they rejected my request for the position. I thought that if I would have that work, I would earn some money, and it would help me to run my family. They did not hire me because I am Dalit... People do not give us an opportunity to participate in village activities because we are low caste... When I was with the Maoists, I had to carry dead bodies and I started being possessed in a way I could not control, (Kohrt and Karki 2007).

Shova, in contrast, describes positively her life after returning despite some regrets. She reports how she uses her newfound talents for speech-making and mobilization on behalf of the historically mainstream communist party, the Communist Part of Nepal (United Marxist Leninist Party) (CPN [UML]):

Shova: First of all, I lost my education. I joined the Party when I was thirteen, at a time when I should have been going to school. ... My friends who continued their studies have done well. But because I dropped out early, I feel I have lost an important part of my future. To do any job, one needs a good education or knowledge of English, both of which I lack. So when I think of my future, I feel sad... [However,], the community here is very supportive. Although I had shocked them initially by joining the insurgency, they said I had done a good thing by returning home at last. They encouraged me to go back to school. They said I should do good things now that I was back. ... Although they were not able to help me in material terms, they have given me their emotional support. The Maoists used to come back for me time and again, but my elder brother always stood in my defense and sent them away empty handed. 'My sister doesn't need your salary,' he would tell them. 'You were the ones to ruin her, so let us help her now!' ... I have become capable of mobilizing women politically. For that reason, and also because I am able to speak up for women's rights, I have become a leader of the District Women's Organization of the UML, ('Shova' from Adhikari and Shrestha 2007).

Child soldiers experiences in broader context

The case narratives of Asha, Raj, and Shova illustrate the variation in experiences of child soldiers. The challenge, then, is to place these experiences in broader social, cultural, economic, and political context.

Push and pull factors

The social determinants that drive children to join armed groups are known as “push factors” (Somasundaram 2002). The macro-social level push factors involved in these cases include discrimination and marginalization resulting from a feudal legacy concentrating wealth and political power among local elites based in Kathmandu, gender based discrimination, and the marginalization of low castes and ethnic minorities (see Figure 7-1). This has deprived many groups of education and full participation in the political process (Thapa with Sijapati 2003). At the intermediate social level, push factors include the failure to enforce child protection policies such as the ban on child marriages and the destabilization of communities by government security forces through widespread state-sanctioned human rights violations (Lykke and Timilsena 2002). Micro-social level factors included local manifestations of the above reflected in local historical political and ethnic tensions (cf. Shneiderman 2003) and other experiences of marginalization.

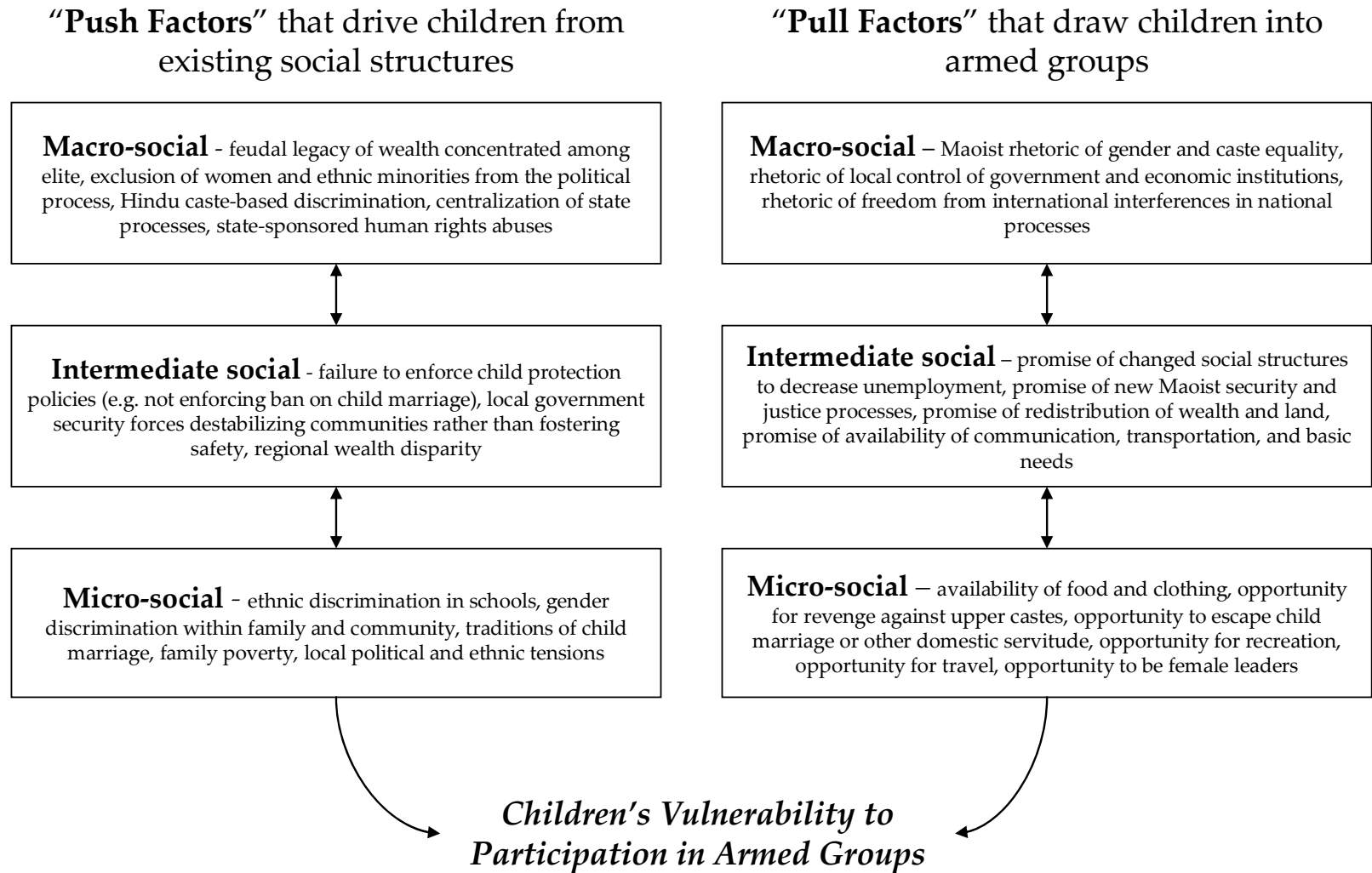


Figure 7-1. Social determinants of child conscription in armed groups.

Maoist recruitment strategies, i.e. “pull factors”, draw upon individual experiences that occur within a specific micro-social context. For example, the women’s Maoist group that recruited Asha presented the macro-social ideology of gender equality as an escape from her home situation. Shova also saw the Maoists as an escape from the ill-fate of being forced into an arranged marriage as a teenager. In Shova’s case, her friendship was probably an important micro-level factor. For children that were exposed to sexual violence at the hands of police or army, joining the Maoist army afforded an opportunity to take revenge upon the perpetrators and to work toward a new country where there would be a Maoist-led security and justice system. For children who wanted to be part of the political process, joining the Maoists was a pathway that would result eventually in a government post in the ‘New Nepal’ society. One of the more powerful elements of Maoist recruitment, however, was simply the promise of a good time in which children could travel the country singing and dancing or learning karate. The Maoists channeled these recreational tasks into cultural propaganda programs. Thus, Maoist recruitment met individual drives that reflected macro-social forces within a micro-social context.

The positionality of a child in relation to these push and pull factors has important consequences for psychosocial wellbeing. For Asha and Shova, the push factors focused on escaping repressive environments for girls. And, the pull factors were opportunities for women to assume roles of power and autonomy within the Maoists. In contrast, Raj did not describe push factors driving him away from his home and village. Instead, it was the acute and violent pull factor of the Maoists threatening to kill his father. Thus, mental health problems for Raj were personally attributed to the association with the Maoists.

Whereas for Asha, her mental health problems are not described in relation to time spent with the Maoists.

Furthermore, the amount of power and agency at that the micro-social level of a family dictates susceptibility to Maoist pull factors. In our larger sample, we found that children who report being forcefully conscripted generally are those in the most vulnerable positions due to the marginalization of their families in the broader community context. Forcibly recruited children were distinguished from voluntary recruits by higher levels of family poverty. Among the poorest families, giving up a child was seen as the only option to meet Maoist demands. A resident of western Nepal explained, “Those who have money have to give them cash, those who have food have to give them rice, those who have clothes have to give them clothes, and those who have nothing have to give them one member of their family” (quoted in Ogura 2004:123-24).

These findings illustrate that participation, whether it be self-reported as voluntary or forced, of children within armed groups follows a predictable pattern based on the restriction of power and agency from the macro-social all the way to the individual level in Nepali society. Understanding of these power differentials is a first step to considering how to reduce the vulnerability of children to conscription in armed groups.

Unbalanced agency

While push and pull factors interpreted in light of macro-social through individual processes helps to elucidate the process of recruitment, we propose the term “unbalanced agency” to understand the experience of child soldiers during association with armed groups and consequent impact on wellbeing. Unbalanced agency refers the discrepancy

between the benefits children gain through participation in armed groups and the risks associated with this engagement. Many children we interviewed described some form of positive aspects about association with the Maoists. However, these came at the cost of loss of life or limb.

The benefits of participation described by Asha and Shova, and echoed by other child soldiers, highlighted “learning to speak better.” Children also described the benefits of being able to travel around the country, to learn more about Nepal, its people, and its history. Both the rhetorical skills and travel throughout the country represented agency within with the socio-political realm. For many, this was the first time they felt part of larger socio-political processes from which they had been excluded in their communities. Children could engage in political debates and display knowledge of the country outside their village; these were traits previously monopolized by elite males. It was a pathway of connecting with modernity, which had been previously the province of urban youth (Donner, forthcoming; Pettigrew 2003; c.f. Ganesh 2005; Harvey 1996; Inda 2005). The presence of these and other benefits may explain, in part, why child soldiers did not differ from never-conscripted children in our study on measures of positive psychosocial wellbeing. Child soldiers and never-conscripted children had the same levels of hope (a measure addressing children’s ability to think of and exercise solutions to problems encountered) and pro-social behavior (a measure addressing children’s positive social interaction with others).

Despite some degree of reported increased agency attributed to being a Maoist soldier, this autonomy was far from complete. Although there may have been less gender and caste-based restrictions, overall daily actions were dictated by Maoist commanders,

not by children's individual wishes. Whereas 54 percent of child soldiers said they joined voluntarily, only seventeen percent of the child soldiers said they had control over their daily actions within the Maoists. Many children who joined voluntarily later felt disillusioned when the rhetoric of empowerment and freedom did not match the reality inside the People's Liberation Army. And, nearly all children forcibly conscripted did not report increased personal agency; they felt they were used as "slave laborers."

The greatest imbalance in agency associated with joining the Maoists was the threat to life. Raj's account demonstrates the serious risks associated with being a child soldier. Moreover, although the majority of children—both civilians and soldiers—were exposed to life-threatening events during the war, the burden was considerably greater among child soldiers (Kohrt, et al. 2008). Child soldiers on average were exposed to 2.54 life-threatening events compared with 1.44 events for civilian children. All children conscripted by the Maoists reported at least one traumatic event; 51 percent took part in combat, 56 percent experienced bombings, 29 percent witnessed or perpetrated violent deaths, and 29 percent witnessed, suffered, or perpetrated torture. This greater exposure to trauma played a major part in the mental health and psychosocial differences between child soldiers and never conscripted children. Child soldiers had greater depression and posttraumatic stress symptoms, general psychological difficulties, and impaired daily functioning (Kohrt, et al. 2008). As mentioned in the introduction, before one interprets this as a general pathological effect for child soldiers as a group, it is important to stress that we found that the psychosocial difficulties generally concentrated among those with a high trauma burden, i.e. those who experienced the most exposure to life threatening events.

In sum, at best, children repositioned themselves outside the structure of their families and communities, and replaced that social landscape with a highly regimented Maoist army's structure. In other words, although engagement with the Maoists did provide a sense of agency with macro-, intermediate-, and micro-social processes, these often minimal changes in agency came at the threat to personal functioning through increased exposure to traumatic events and greater post-war dysfunction. Importantly, as we describe below, it is not traumatic exposures alone but also the experience upon return to the community that influences mental health.

(Re)integration

When children return to the community, they encounter a shift in inter-relationships of agency and power. They came back from a Maoist revolutionary world with different conceptualizations of social hierarchy and power divisions to communities that adopted these conceptualizations in different degrees—some resisting changes, some adopting them. For girls, this was most profound at the family level. Some families were able to accommodate an increased sense of agency and gender equality among girls. We found that this was most acceptable among ethnic minority groups who had a greater sense of gender equity compared to Hindu caste groups. But families varied, even within Hindu castes, for example, different levels of education and access to political and economic power resulted in different beliefs. Some families, such as Shova's politically active family, were able to provide opportunities for Shova to move from the micro- to macro-social level by engaging in women's mobilization. However, for girls in traditional families there was significant conflict between the family's and the girl's

models of gender equality and agency, which resulted, as with Asha, in high levels of psychosocial distress. School is also an area in which newfound child agency is contested. Many teachers actively forced returned child soldiers to sit on the floor rather than on benches with the other children. Teachers taunted former soldiers, “Hey little Maoist, where is your army?”, or called them “murderers” and “killers”.

Involvement with the Maoists challenged prescribed inter-caste social interactions. Community and family members often framed the difficulty to accept former child soldiers in their communities in terms of the Hindu concepts of pollution (*jutho*) and purity (*choko*). The concept of ritual purity dictates where a person resides in the caste—and thus social—hierarchy. Community members stated that child soldiers became ritually polluted through putative involvement in activities such as entering the house of a lower caste, eating with a different caste, interacting with menstruating women, eating beef, carrying dead bodies, and sexual activity. Raj considered himself polluted because he carried dead bodies. Asha, Shova, and many other girls, in contrast, saw the Maoist experience as challenging the traditional notions of purity-based discrimination, and they rejected these modes of thinking and behaving when returning to the community.

The reception and experience in the community upon return has dramatic psychosocial consequences. Former child soldiers who described their families, friends, teachers, and neighbors as supportive and caring had low levels of psychosocial distress. This was particularly evident in ethnic minority communities. In contrast, children returning to more conservative Hindu communities described high levels of discrimination and maltreatment. These difficulties produced high levels of psychosocial

distress even among individuals with low levels of traumatic experience during participation with the Maoists. One of the surprising findings of this research was that the distinction of voluntarily versus forced association did not predict differences in mental health and psychosocial wellbeing (Kohrt, et al. 2008).

The success of reintegration of former child soldiers depends partly on the compatibility of non-traditional, Maoist revolutionary attitudes towards gender and caste inequality of returning children with the varying attitudes of the families and communities to which they returned. In other words, what the revolution set out to do—to affect changes at the macro-social level—actually resulted in children returning to contested power relations at the intermediate- and micro-social levels with differing effects on their wellbeing.

Nepal's Maoist conflict in the context of the War on Terror

Before moving to the conclusions and recommendations, it is worthwhile to consider another macro-social factor related to the People's War in Nepal. While we have discussed macro-social issues at the national level, it is also important to reflect upon global macro-social processes. The U.S. War on Terror has been associated with increased violence and human rights in conflicts throughout the world beginning in late 2001 (International Commission of Jurists 2009). Amnesty International (2005) suggested that the U.S. War on Terror provoked increased violence worldwide, particularly through the use and condoning of torture, which, for example, was employed readily by the Nepali government against Maoists or those accused of being Maoists (Lykke and Timilsena 2002). After 2001, both the U.S. and U.K. gave US\$20 million

each to the government of Nepal to combat the Maoist threat; the U.K. restricted the use of its funds to non-lethal activities whereas the U.S. did not (Metha 2005:67). Bhattarai and colleagues also associate the U.S. actions with increased malignancy of the Nepal conflict:

Emboldened by the U.S. support, apparently provided within the framework of its global 'war on terrorism,' the [Nepali] State intensified its counterattacks against Maoist insurgents... With its confidence greatly boosted by huge amounts of military aid and the US commitment, the [Nepali] government hardened its position, intensifying its counteroffensive against the Maoists. [This led to the government's] ineffectual and violent response, (Bhattarai et al. 2005).

Metha (2005) points out that the majority of casualties in the conflict were the result of Royal Nepal Army attacks from air. These were conducted with helicopters provided by India, the United States, Russia, and Poland (2005:66-68) with a technique adopted from U.S. military activities in Afghanistan known as *Tora Bora*, which is free-fall delivery of mortar bombs from helicopters (Metha 2005:17). Metha suggest that this technique and the foreign-donated technology that made it possible drastically escalated the civilian casualties of the war. Bhattarai and colleagues (2005) also suggest that the War on Terror contributed to greater violence in the Nepal conflict. The recent report by Mary Robinson and the International Commission of Jurists, which investigated the transformation of the U.S. War on Terror into a global human rights crisis, also suggests that U.S. actions contributed to a climate wherein the monarchy of Nepal could grossly infringe on the civil liberties of its people:

In Nepal, armed activities by the Communist Party of Nepal (Maoist) started in 1996. Yet in November 2001, new terrorist legislation justified by the global context of counter-terrorism was passed, and the Maoists were formally designated (at home and abroad) as a terrorist organization, (International Commission of Jurists 2009:31).

Maoist organizations were termed as terrorist organizations and the definition of terrorist acts was so ambiguous anything and everything was covered under the definition. [...] Civilians, lawyers who were working for the detainees and even judges were considered as terrorists and the military detained them. So society became silent. Human rights activists and lawyers providing legal aid to detainees were threatened by both the security forces and Maoists as well, (Mandira Sharma quoted in International Commission of Jurists 2009:134)

Although associations of the Bush administration's War on Terror with the human rights violations committed by the Nepal monarchy and security forces against Maoists and innocent civilians increasingly are being demonstrated, further information is needed to identify if and how this contributed to widespread recruitment of children into armed groups.

Conclusions and Recommendations: Implications for mental health and psychosocial support of former child soldiers

Employing the CMA framework to discuss the experience of child soldiers led to elucidation of the factors that make children in Nepal vulnerable to recruitment. Moreover, the CMA framework helps to trace the origins of mental health and psychosocial problems among child soldiers, which as it turns out, are not universal to all children and are as related to conditions before and after the war as they are to war related trauma. In more traditional psychiatric epidemiology of war, analyses tend to focus on specific traumas or cumulative burden of trauma in predicting PTSD (cf. Miller, Kulkarni & Kushner 2006). Although such an approach may identify specific clinical

treatments needed for individuals, that type of research does not illuminate how broader interventions could reduce vulnerability to traumatic events. In contrast, the CMA approach discussed here traces the pathway of vulnerability all from the individual experience up to larger political economic processes. Thus, this type of research sets the stage for recommendations and implications across a number of tiers from clinical care to national and international policy. In addition, such identification of contextual influences on mental health provides opportunities to conceptualize social interventions to improve health and wellbeing, a possibly cost-effective strategy in societies with very little mental health infrastructure.

To prevent recruitment of child soldiers, interventions at the national macro-level are needed to promote the inclusion of children's issues and voices. These efforts would be helpful if they could contribute to narrowing the gap between returning child soldiers' and communities' differing conceptions of power distribution. In Nepal the media organization Search for Common Ground is helping to facilitate children's voices being heard on radio and through other media. Other recent events have provided an opportunity for children's participation in the political process, such as the constitutional assembly and recent elections. Moreover, through dialogue with policy makers, advocacy is needed for increased child protection to tackle abuses such as forced child marriage and child conscription in armed groups, as well as further capacity building of local institutions concerned with human rights protection, which currently often take place in a culture of impunity (International Center for Transitional Justice & Advocacy Forum 2008). Further initiatives are required whereby children's voices could be incorporated in planning, designing and monitoring, and evaluation of child protection programs.

At the macro-social level, there also needs to be interventions to address the issues of poverty, ethnic discrimination, gender discrimination, protection of human rights, and decentralization of power. Caste-discrimination specifically is an area that desperately requires attention. Caste discrimination played a major role in Maoist recruitment tactics and in determining which families were most vulnerable to exploitation by Maoists. Caste-based dependencies have also been reported to play a role in continued violence following the peace agreement in the south of Nepal (Hattlebak 2007) despite the fact that elimination of caste-based discrimination was high on the Maoist agenda. If there were more non-violent alternatives to reducing caste-disparities in wellbeing, low-caste children may not be as vulnerable to violence and exploitation in the future. In our work with adults in a rural community in western Nepal, we found that addressing caste-based differences in access to income generating opportunities and reducing exposure to stressful life events could eliminate the caste-disparities in rates of depression, which were two times greater in low caste groups (Kohrt, et al. 2009). At the intermediate social level the main priorities should be local enforcement of child protection (such as enforcing the child marriage ban), promoting local safety and security, and distribution of wealth between rich and poor to curb the ever increasing income gap. With regards to the latter, Deraniyagala (2005) has shown that economic grievances were a driving factor in the Maoist rebellion, and that economic imbalances (partly caused by uneven development efforts) intensified conditions for violence against the state.

Currently, macro-social intervention at the international level is lacking for the case of child soldiers in Nepal. Policy and advocacy is needed to reduce small arms trade

which makes child soldiers more appealing, and to reduce the provision of large arms to militaries, such as the Nepal Army who, along with Maoists, was associated with torture, ‘disappearances’ and other human rights violations, including torture of children. With recent efforts by the U.S. Obama administration to redress the human rights violations which characterized the Bush presidency, it will be important to observe how this impacts or fails to impact human rights protection in other regions, such as South Asia. In addition, national and international changes in economic policy and practice are required to improve equity. Economic links between Nepal’s natural resources and international businesses are operated almost entirely through the Kathmandu elite (Bhattarai, et al., 2005). With a Maoist-led government now in place, it also will be worthy to observe if they fulfill their promises to have more directly local benefits in areas which house these resources. Moreover, there should be continued international political pressure to encourage a more representative government inclusive of women, low castes, and ethnic minorities. Already, the Maoists have included more government officials from these groups than any other Nepali political party. Inclusion by itself, however, is not enough, there is an urgent need to increase the active participation of these groups in government.

In the current context, it is also essential that international political pressure is emphasized to ensure a transitional justice process that allows for the involvement and participation of children and young people. Government consensus should be forged to ensure effective inclusion of child protection and participation in the Truth and Reconciliation Bill. A clear and meaningful mechanism for children to express their political rights and citizenship is needed to supplant the system of child exploitation by political groups in Nepal and throughout South Asia. International pressure and

monitoring bodies, such as the 1612 U.N. Task Force, can foster enactment of child-centered legislation and assure that political and legal processes in Nepal meet international standards. Ratification of a treaty banning landmines is an example of legislation that would protect children who often have been victims of landmines and other improvised explosive devices during and after the conflict. Children continue to suffer morbidity and mortality by unexploded devices, many of which have been found around schools. As the new government moves forward, an important step will thus be ratification of the Mine Ban Treaty with full adherence to treaty provisions and further assurances to sign and ratify the Convention on Certain Conventional Weapons, Protocol V on Explosive Remnants of War.

Interventions at the micro-social level should promote local pathways to optimize the psychosocial wellbeing of children. One way to do this is through facilitating dialogues in which community members are encouraged to think about the processes by which children become child soldiers. In Nepal there are numerous arenas to do this whether it is through community based organizations (mothers' groups, women's groups, youth clubs, child clubs, etc.), street drama programs, or dialogues ritualized in theatrical song and dance. Rather than focusing on blaming children, this approach should foster discussions in which individual instances of child conscription are tied to larger social processes in the community and country. This form of discussion may help to evoke possible micro- or macro-social initiatives to improve the wellbeing of children. Ultimately, at the micro-social level, activities should promote empowerment of local groups rather than top-down approaches that embody the marginalization process which Maoists have been able to exploit.

At the individual level, one possible goal is to promote a sense of efficacy and empowerment of children in ways other than through participation with armed groups. Interventions that help children feel that they are influencing other aspects of the ecological system—in a nonviolent manner—may contribute to building a society where children are less vulnerable to recruitment. This could be through the representation of individuals under eighteen years of age in community activities such as in community forest management, micro-finance initiatives, and adolescent health programs, as well as local political representation and activities. Education is crucial to this as it builds skills that contribute to community participation, health status, and employment opportunities. In addition, helping children develop vocations (such as tailoring, driving, electronic repair, and journalism) to be economically self-sufficient when they reach adulthood could reduce the lure of involvement in armed groups. Similarly, nonviolent forms of community and political engagement need to be fostered through peace committees, local peace initiatives, and child right's activism committees. In sum, children can be active agents for social changes and for this children's participation in reconciliation and peace-building initiatives should be prioritized.

Identifying contextual determinants of mental health, e.g. differences in (re)integration pathways, also holds direct consequences for programs which are aimed at promoting the psychosocial wellbeing and mental health of former child soldiers. Currently, such programming has been divided by a non-productive rift between an individually-focused psychiatric paradigm versus a contextually-focused psychosocial paradigm. Application of an ecological and CMA approach has the potential to integrate such efforts, by demonstrating the importance of considering former child soldiers'

wellbeing within its larger social context. Identifying pathways through which individual health gets affected, can aid in prioritizing target areas (e.g. areas where traditional notions and Maoist notions are likely to clash), target groups (e.g. girls in conservative Hindu areas), and types of interventions (e.g. attending to psychosocial distress for those exposed to traumatic events, as well as facilitating integration efforts in families and schools).

Ultimately, researchers, interventionists, and policy makers need to address the broader political, economic, and cultural determinants of child conscription into armed groups to both improve former child soldiers' mental health and to work toward ending the recruitment of children into armed groups. CMA is one tool to help guide these researchers, interventionists, and policy makers as they take up the charge to guard the rights of children such as Asha, Raj, and Shova against exploitation by armed groups. Mental health is intrinsically a social determined process and thus requires interventions that follow the pathway of vulnerability from individual cases through to broader macro-social determinants of wellbeing.

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Chapter 8: Comparison of mental health between former child soldiers and children never conscripted by armed groups in Nepal

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Abstract

Context: Despite child soldiers being considered in need of special mental health interventions, there is a lack of studies investigating the mental health of child soldiers compared with civilian children in armed conflicts.

Objective: To compare the mental health status of former child soldiers with children who have never been conscripts of armed groups.

Design, Setting, and Participants: A matched-pair cohort study conducted from March through April 2007 in Nepal compared the mental health of 141 former child soldiers to 141 never conscripted children matched on age, sex, education, and ethnicity.

Outcome Measures: Depression symptoms were assessed via the Depression Self Rating Scale (DSRS), anxiety symptoms via the Screen for Child Anxiety Related Emotional Disorders (SCARED-5), symptoms of posttraumatic stress disorder (PTSD) via the Child PTSD Symptom Scale (CPSS), general psychological difficulties via the Strength and Difficulties Questionnaire (SDQ), daily functioning via the Function Impairment (FI) tool, and exposure to traumatic events via Kiddie-Schedule of Affective Disorders and Schizophrenia (KIDDIE-SADS) PTSD Traumatic Event Checklist.

Results: Participants were a mean of 15.75 years at the time of this study and child soldiers ranged in age from 5 to 16 years at the time of conscription. All participants experienced at least 1 type of trauma. Number (%) of child soldiers meeting cutoff scores were 75 (53.2%) for depression, 65 (46.1%) for anxiety, 78 (55.3%) for PTSD, 55 (39.0%) for psychological difficulties, and 88 (62.4%) for function impairment. Child soldiers had greater odds of meeting cutoff for depression (OR=3.56, 95% CI 2.33—5.43), PTSD (for which we employed stratified analyses because of sex interaction: boys' OR=3.85, 95% CI 1.77—8.39; girls' OR=6.33, 95% CI 2.64—15.17), psychological difficulties (OR=2.91, 95% CI=1.53—5.51), and function impairment (OR=2.04, 95% CI 1.41—2.96), but no difference for anxiety (OR=1.46, 95% CI 0.72—2.68). After adjusting for traumatic exposures, soldier status was no longer associated with psychological difficulties or function impairment but remained significantly associated with depression (OR=2.69, 95% CI 1.48—4.89) and PTSD among girls (OR=5.98, 95% CI 1.86—19.27), but not PTSD among boys (OR=2.38, 95% CI 0.87—6.50).

Conclusions: In Nepal, former child soldiers display greater severity of mental health problems compared with children never conscripted by armed groups, and this difference remains for depression and PTSD (the latter especially among girls) even after controlling for trauma exposure.

Introduction

Armed groups throughout the world continue to exploit children to wage war.(Machel, 1996) The dedicated efforts of UNICEF,(UNICEF, 1997) psychosocial workers,(Wessells, 2006) and former child soldiers,(Beah, 2007; McDonnell & Akallo, 2007) have called international attention to this issue. However, in a recent report(Betancourt et al., 2008) on the status of child soldiers, Betancourt and colleagues revealed gaps in crucial areas of research to understand the impact of becoming a soldier on child mental health. First, child soldiers are considered in need of special psychosocial intervention. However, there is a lack of published research comparing the severity of mental health problems among child soldiers with children living through war who were not conscripted to armed groups,(Betancourt et al., 2008; Dowdney, 2007; Kurupparachchi & Wijeratne, 2004; Magambo & Lett, 2004) unpublished studies of nongovernmental organizations suggest there may not be a difference between the groups.(Betancourt et al., 2008; Blattman, 2006) Second, despite suggestions of increased psychological distress for girl soldiers,(Honwana, 2006; Lamberg, 2004; McDonnell & Akallo, 2007; McKay, 1998) no studies have explored sex differences in the psychological impact of soldiering. Third, child soldiers are assumed to have greater exposure to trauma.(Pearn, 2003) Yet, major studies of child soldiers have not shown an association between trauma and posttraumatic stress disorder (PTSD).(Bayer et al., 2007; Derluyn et al., 2004) Finally, Betancourt(Betancourt et al., 2008) calls for studies using validated and cross-culturally appropriate mental health measures, which have been lacking in this field. Researching these issues is crucial to designing the most effective mental health interventions for children in armed conflicts.

In the current study, we worked toward addressing these gaps. Our first objective was to compare the mental health of former child soldiers who have returned home with children growing up in active conflict settings but were not conscripted by armed groups in Nepal, using cross-culturally validated measures of psychosocial wellbeing. We sought to determine (1) if former child soldiers have more mental health problems than never conscripted children, (2) if becoming a soldier has a greater impact on girls versus boys when compared with never conscripted children, and (3) if differential exposure to trauma is associated with mental health differences between child soldiers and never conscripted children. Our second objective was to describe predictors of mental health outcomes within child soldiers: (1) if trauma exposure, combat experience, military roles, and other soldier-related variables are associated with mental health outcomes, and (2) if the associations between key predictors and mental health outcomes were modified by voluntary versus involuntary recruitment, time since leaving military service, or maintained association with an armed group.

Methods

Study design and population

We conducted a matched cohort study to assess the association between soldier status and mental health outcomes of children in Nepal. Children with the main exposure (a history of being a child soldier) were matched with unexposed children (children who had never been conscripts of a military group, referred to as “never conscripted children”).

The Communist Party of Nepal-Maoists (CPN-M) fought a 10-year war with the government of Nepal ending with peace accords in November 2006. The CPN-M and the Nepal Army recruited individuals under 18 years of age as soldiers, sentries, spies, cooks, porters, and messengers.(Human Rights Watch, 2007; United Nations, 2006) During and after the conflict, many child soldiers returned home. Because of difficulties in accessing this population, we employed expert purposive sampling, rather than a probability sample, to identify former child soldiers who have returned home and compare them with children never conscripted by armed groups. The research was conducted during March and April of 2007.

We followed Cape Town principles(UNICEF, 1997) in defining *child soldiers*: “any person under eighteen years of age who is part of any kind of regular or irregular armed force in any capacity, including but not limited to cooks, porters, messengers, and those accompanying such groups, other than purely family members.” Additional selection criteria included armed group participation for at least 1 month, being under 18 years of age during study enrollment, and having a consenting caregiver. In Nepal, full adult franchise occurs at the age of 18 years.(Government of Nepal, 2006; His Majesty's Government, 2003)

Experts, comprising representatives to the 1612 Working Group (a United Nations resolution for children in armed conflict) and the Children Associated with Armed Forces and Armed Groups (CAAFAG) Working Group provided names and locations of child soldiers who had returned home. The lists included all of the known child soldiers at the

time of the study. Local civil society groups, teachers, and community leaders validated the veracity (e.g. based on news media documentation, disruption in school attendance, hospital records) of these child soldier cases before providing information to human rights groups and humanitarian agencies. Every child and her/his caregiver on the lists provided by the experts were invited to participate in this study.

Field researchers recorded the ethnicity of children based on the child's last name, which indicates caste and ethnicity in Nepal. Researchers classified participants into 3 groups: *Brahman/Chhetri* ('upper' caste), *Dalit* ('lower' caste), and *Janajati* (ethnic minorities) according to Nepal Central Bureau of Statistics categories. (HMG-CBS, 2003) We assessed ethnicity because it has been associated with mental health in Nepal. (Kohrt et al., 2005; Thapa & Hauff, 2005)

Researchers contacted 227 potential participants (all the children on the expert lists) and/or their caregivers. Of those 227 children, 169 (74%) met inclusion criteria. Of the 58 children not included, 32 children were over 18 years of age, and 26 participated for under 30 days. Of the 169 children meeting criteria, 27 (16%) did not participate: 10 had moved (according to caregiver reports), and 5 were engaged in school exams, and 12 former Nepal Army conscripts refused for fear of retaliation.

Former child soldiers who agreed to participate identified a matched child who had never been conscripted by an armed group. Matching factors were sex, age, level of education, and ethnicity. Human rights groups and community leaders confirmed 'never

conscripted' status. Matching was used to increase the feasibility of identifying a comparison (unexposed) group and to control for potential confounding by the matching factors. The matched counterparts comprised 37 siblings, 40 other relatives, and 65 unrelated peers. Of the matched pairs, 125 (88%) were from the same villages.

One child soldier reported affiliation with the Nepal Army. This child and his matched counterpart were excluded from statistical analyses to avoid heterogeneity of the study group.

The institutional review board of Emory University approved the study protocol and consent process. Children provided verbal assent; caregivers provided verbal consent. Caregivers did not participate in the interviews. Because of high illiteracy rates, research assistants read consent forms and questionnaires. Children were provided with a snack during the interview and received a notebook and pen in appreciation of their participation. Caregivers were not offered any incentive for their children to participate. No participants had received psychosocial services prior to enrolling in the study. Participants whose symptoms scores were above the cutoff, who reported suicidal ideation, or who requested services were enrolled subsequently in CAAFAG Working Group programs for psychosocial support.

Study Instruments

Participants completed 60-90 minute interviews with trained research assistants conducted in private locations away from caregivers and others. Standard instruments

were used to assess symptoms of depression, anxiety, and PTSD and general psychological difficulties. For these scales, cut-off scores were used as markers for psychological or psychiatric intervention. Validation of instruments (assessing accuracy and cut-off thresholds) was done with a separate sample of Nepali children ($n=162$) comparing questionnaire scores with a standardized indication for psychosocial intervention determined by a trained Nepali psychosocial counselor using the Global Assessment of Psychosocial Disability (Dyrborg et al., 2000; Schorre & Vandvik, 2004) as an external criterion. (Jordans et al., 2007) The 18-item *Depression Self Rating Scale* (DSRS) (Birlison, 1980, 2007) assessed depression symptoms over the past week on a 3-point scale (range=0 to 36), with a clinically significant cut-off score of 14. The 5-item version of the *Screen for Child Anxiety Related Emotional Disorders* (SCARED-5) (Birmaher et al., 1999) assessed anxiety symptoms over the past week on a 3-point scale (range=0 to 10), with a clinically significant cut-off score of 4. The 17-item *Child PTSD Symptom Scale* (CPSS) (Foa et al., 2001) assessed PTSD symptoms over the past week on a 4-point scale (range=0 to 51), with a clinically significant cut-off score of 20. Non-clinical, general psychological difficulties over the past week were assessed with the 20-item "total difficulties," 3-point scale (range=0 to 40) of the *Strength and Difficulties Questionnaire* (SDQ), with a clinically significant cut-off score of 16. (Goodman et al., 2003a; Goodman et al., 2003b)

Based on adapted methodology of Bolton and Tang, (Bolton & Tang, 2002) a rating scale was developed to measure children's functioning in a contextually-valid manner. (Tol et al., under review) This methodology involved qualitative techniques (participant

observation and child focus groups) to identify daily activities in the realms of child, family, peer, and community functioning. The final 10-item child *Function Impairment* tool assessed daily functioning over the past two weeks on a 4-point scale (range=0 to 30), with higher scores indicating more impairment.

Lifetime traumatic events were assessed with the Kiddie-Schedule of Affective Disorders and Schizophrenia (K-SADS) PTSD traumatic event checklist.(Kaufman et al., 1996) The K-SADS includes a series of traumatic events (car accident, other accident, fire, witness of a disaster, witness of a violent crime, victim of a violent crime, confronted with traumatic news, witness to domestic violence, physical abuse, sexual abuse, or other) with specific criteria for each item (e.g. for fire – “child close witness to fire that causes significant property damage or moderate to severe physical injuries”).

All instruments went through a transcultural translation procedure.(Van Ommeren et al., 1999) Based on focus groups with Nepali children, no items were added to or removed from the mental health instruments. However, items such as bombing, abduction, and torture were added to the traumatic events checklist and “sexual abuse” and “hearing traumatic news” were excluded. Sexual abuse was determined to be cultural inappropriate and unsafe to ask of young girls as it could place in them in jeopardy of harm from community and/or family members if they were suspected of discussing sexual behavior with strangers. “Hearing traumatic news” was excluded because it was difficult to frame “news” as “traumatic” for the children, and the experience was seen as ubiquitous during the conflict. The final trauma exposure list included experiencing unintentional injury,

fire, natural disaster, beating, bombing, abduction, torture, murder of a family member, domestic violence, and physical abuse, and witnessing a violent death.

Internal consistency of the instruments was measured in the total sample ($n=282$). Test-retest reliability and interrater reliability of the instruments were established in 2 other studies among children in Nepal. (Jordans et al., 2007) Instrument properties were sufficient to excellent: DSRS (Cronbach $\alpha=.80$, Spearman-Brown coefficient for test-retest reliability $r=.80$, area under the curve (AUC) $=.82$, optimal cut off score for psychosocial treatment indication $=14$); SCARED ($\alpha=.87$, $r=.84$, AUC $=.64$, optimal cut-off $=4$), CPSS ($\alpha=.91$, $r=.85$, AUC $=.77$, optimal cut-off $=20$); SDQ ($\alpha=.76$, $r=.85$, AUC $=.72$, optimal cut-off $=16$); and function impairment ($\alpha=.68$, $r=.70$, AUC $=.67$, optimal cut-off $=4$). Interrater reliability was excellent for all instruments (average ICC $=.972$; average Kappa $=.891$).

Additional survey questions were included based on qualitative research with child soldiers, never conscripted children, and adult community members. Child soldiers reported their roles during association with an armed group, such as ‘military regiment’ (received training for combat and given a rank in the People’s Liberation Army), ‘cultural program’ (partaking in cultural performances promoting Maoism), ‘cook’ (traveling with the military preparing meals), ‘porter’ (carrying ammunitions, food, clothing, medicine, and other supplies), ‘messenger’ (carrying information between platoons or between villagers and military personnel), ‘sentry’ (standing guard, typically at night, often armed with grenades), and ‘spy’ (gathering information from the opposite armed group, often by

posing as a member of the other group, and gathering information from teachers, community leaders, and others to provide to the Maoists). Participants indicated if they were involved in multiple roles. We also ascertained exposure to combat, process of returning home, and whether joining the armed group was voluntary or forced. Interest in participating in political activities was assessed with a 4-point scale (no interest, minimal interest, moderate interest, intense interest).

Statistical Analyses

Former child soldiers vs. never conscripted children. To determine the necessary sample size for exposed child soldiers and the matched group of unexposed children, we used a power analysis (alpha=.05, power=.95) relying on treatment effect studies employing the CPSS and DSRS, (Cohen et al., 2004) which suggested a minimum of 35 children per treatment arm when randomizing children individually (Layne et al report an effect size of .78 on depressive symptoms, with alpha=.05 and beta=.05). To account for the intracluster correlation, this number was multiplied by $1+(m-1)\rho$, with $m=30$ (average cluster size) and $\rho=.1$ (ICC), resulting in an appropriate sample size of 137 per group for child soldiers and matched counterparts. Our final sample for statistical analyses was 141 child soldiers and 141 matched counterparts.

We used logistic regression to model the association between child soldier status and mental health outcomes, using the validated cutoffs to dichotomize each outcome. There were two non-nested levels of clustering in the data: matched pair and village, and 17 matched pairs were from different villages. We used Miglioretti and Heagerty's

generalized estimating equation (GEE)-based strategy to obtain empirical standard error estimates for non-nested clustering structures.(Miglioretti & Heagerty, 2007)

We created a series of models for each mental health outcome. To assess possible effect modification of child soldier status by sex, we evaluated the statistical significance of a first-order cross product term in a regression model that included all potential confounders. To determine the role of the different types of traumatic exposures as possible confounders of an association between child soldier status and mental health outcome, we compared the magnitude of the effect estimate (point estimate of the effect) for child soldier status in an unadjusted model to the magnitude of the effect estimate for child soldier status in a series of models that each included one type of trauma. To determine the role of *aggregate* traumatic exposure as a possible confounder, we compared the unadjusted model for child soldier status to a model that included all 11 types of trauma. Finally, we used a model that included trauma variables and other potential confounders to obtain a fully adjusted effect estimate for child soldier status. In addition to the trauma variables, other variables included current religion, school enrollment, family type (joint versus nuclear), marital status, house ownership, and interest in politics.

Because some of the information was lost by dichotomizing the outcome variables, we conducted supplementary analyses using linear regression with the outcomes as continuous variables. The series of models evaluated for each outcome had the same explanatory variables as for the logistic regression analyses. Again, we used Miglioretti

and Heagerty's GEE-based method to account for the clustering structure.

Child soldiers. We used logistic regression to model the association between child soldier characteristics and each mental health outcome, with GEE-based empirical standard error estimates to account for the clustering of the soldiers within villages. In addition to the 11 types of traumatic exposure and the non-trauma covariates described earlier, we examined age at recruitment, military role with the armed group, combat exposure, current association with an armed group, type of recruitment (voluntary or involuntary), duration of military service, and time since returning home. Current association with an armed group was not used in models for depression, anxiety, or psychological difficulties due to low cell counts. Sex, ethnicity, and education (matching factors for the primary study) were also considered as explanatory variables. To determine if trauma exposure, combat exposure, and other aspects of being a child soldier were independent predictors of mental health outcomes, we compared unadjusted models for each covariate to fully adjusted models. As with the soldiers vs. non-soldiers analyses, we conducted a series of parallel, supplementary analyses using linear regression. In particular, this allowed us to better describe the exposure variable "current association with armed group," for which it was not possible to estimate an odds ratio for some outcomes.

P-values less than 0.05 were considered statistically significant. Statistical analyses were performed with SPSS v.15.0(SPSS Inc., 2006) and SAS(SAS Institute Inc., 2004).

Results

Comparison of former child soldiers and never-conscripted children

Sex distribution (see Table 1) did not differ between child soldiers (53% girls) and never conscripted children (51% girls) (McNemar χ^2 test, (cumulative) binomial distribution used, $p=.69$). Other demographics that did not differ include ethnic distribution (approximately one-third Dalit, $p=.69$; Brahman/Chhetri, $p=.73$; and Janajati, $p=.99$), religion ($p<.001$), family type ($p=.001$), and education level (McNemar-Bowker $\chi^2=10.97$, $p=.28$). Child soldiers were older (mean age=15.75 years) than never conscripted children (mean age=14.92 years), (paired t-test=5.77, $p<.001$). School enrollment and marital status differed between groups (McNemar χ^2 test, (cumulative) binomial distribution used, $p<.001$ and $p=.001$, respectively).

All participants experienced at least 1 type of trauma. Exposure to bombing was more common among child soldiers (79, 56.0%) than never conscripted children (29, 20.6%), (OR=4.92, 95% CI 2.91—8.33), as was torture (child soldiers (41, 29.1%); never conscripted children (15, 10.6%), (OR=3.44, 95% CI 1.80—6.57)) and witnessing a violent death (child soldiers (57, 28.7%); never conscripted children (24, 17.0%), (OR=3.31, 95% CI 1.90—5.75)). In contrast, exposure to beating did not differ between child soldiers (104, 73.8%) and never conscripted children (95, 67.4%), (OR=1.36, 95% CI 0.81—2.28).

TABLE 8-1. DEMOGRAPHY AND TRAUMA EXPOSURE OF FORMER CHILD SOLDIERS AND MATCHED CHILDREN NEVER CONSCRIPTED BY ARMED GROUPS.

CATEGORICAL CHARACTERISTICS	No (%)			
	Child Soldiers		Never Conscripted Children	
	Males (N=67)	Females (N=75)	Males (N=69)	Females (N=73)
Education				
Illiterate	1 (1.5)	7 (9.3)	0 (0.0)	7 (9.6)
Primary	14 (20.9)	26 (34.7)	11 (15.9)	16 (21.9)
Lower Secondary	26 (38.8)	18 (24.0)	27 (39.1)	30 (41.1)
Secondary	19 (28.4)	23 (30.7)	28 (40.6)	17 (23.3)
Higher secondary	7 (4.1)	1 (1.3)	3 (4.3)	3 (4.1)
Ethnicity/Caste				
Dalit	14 (20.9)	32 (42.7)	15 (21.7)	29 (39.7)
Brahmin/Chhetri	23 (34.3)	22 (29.3)	24 (34.8)	23 (31.5)
Janajati	30 (44.8)	21 (28.0)	30 (43.5)	21 (28.8)
School Enrollment				
In School	39 (58.2)	44 (58.7)	62 (89.9)	60 (82.2)
Not In School	28 (41.8)	31 (41.3)	7 (10.1)	13 (17.8)
Religion				
Hindu	56 (83.6)	72 (96.0)	58 (84.1)	67 (91.8)
All others	11 (16.4)	3 (4.0)	11 (15.9)	6 (8.2)
Family Type				
Nuclear	40 (59.7)	56 (74.4)	46 (66.7)	47 (64.4)
Joint	27 (40.3)	19 (25.3)	23 (33.3)	26 (35.6)
Marital Status				
Single	57 (85.1)	65 (86.7)	69 (100.0)	69 (94.5)
Ever Married	10 (14.9)	10 (13.3)	0 (0.0)	4 (5.5)
Political Interest				
No Interest	14 (20.9)	21 (28.0)	18 (26.1)	27 (37.0)
Interest	53 (79.1)	54 (72.0)	51 (73.9)	46 (63.0)
Traumatic Events				
Unintentional injury	25 (37.3)	29 (38.7)	17 (24.6)	26 (35.6)
Fire	32 (47.8)	47 (62.7)	36 (52.2)	37 (50.7)
Natural disaster	9 (13.4)	19 (25.3)	10 (14.5)	19 (26.0)
Witnessing violent death	30 (44.8)	27 (36.0)	13 (18.8)	11 (15.1)
Beating	47 (70.1)	57 (76.0)	45 (65.2)	51 (69.9)
Bombing	42 (62.7)	38 (50.7)	15 (21.7)	14 (19.2)
Abduction	38 (56.7)	35 (46.7)	22 (31.9)	15 (20.5)
Torture	22 (32.8)	19 (25.3)	9 (13.0)	6 (8.2)
Murder of a family member	5 (7.5)	1 (1.3)	2 (2.9)	1 (1.4)
Domestic Violence	8 (11.9)	14 (18.7)	17 (24.6)	23 (31.5)
Physical Abuse	3 (4.5)	4 (5.3)	6 (8.7)	6 (8.2)
CONTINUOUS CHARACTERISTICS				
	Mean (95% CI)			
Age (years)	15.96 (15.57—	15.56 (15.18—	15.10 (14.68—	14.77 (14.42—

	16.34)	15.90)	15.51)	15.13)
Economic status (number of household facilities)	1.88 (1.57—2.19)	1.96 (1.59—2.36)	2.19 (1.81—2.57)	2.03 (1.67—2.41)
Time living in the current residence (months)	13.94 (12.72—15.16)	12.53 (11.21—13.73)	13.35 (12.31—14.39)	13.17 (12.20—14.11)
Number of Family Members	6.19 (5.70—6.69)	5.97 (5.53—6.55)	6.25 (5.67—6.82)	6.22 (5.68—6.74)

Abbreviations: CI, confidence interval.

More child soldiers were above the cutoff scores for each mental health scale compared with never recruited children (see Table 2): depression (75 (53%) child soldiers vs. 34 (24.1%) never conscripted children), anxiety (65 (46.1%) vs. 53 (37.6%)), PTSD (78 (55.3%) vs. 28 (20.0%)), psychological difficulties (55 (39.0%) vs. 26 (18.4%)), and function impairment (88 (62.4%) vs. 63 (44.7%)).

In the total sample, child soldiers had greater odds of being above cutoff scores for mental health outcomes except anxiety (Table 2). There was a statistically significant interaction between sex and child soldier status for PTSD in the logistic regression analysis and for all outcomes in the linear regression analysis. Therefore, we report the sex-stratified results for these analyses. When controlling for all traumatic exposures (adjusted model 1), the odds ratio point estimate decreased for depression, psychological difficulties, function impairment (all children), and PTSD (in boys and girls), and was no longer statistically significant for psychological difficulties, function impairment, or PTSD (in boys). For depression, psychological difficulties, and function impairment, the odds ratio did not change appreciably with additional covariates (adjusted model 2). Thus, exposures to different types of trauma largely explain the observed unadjusted associations between child soldier status and mental health for psychological difficulties,

function impairment, and PTSD (among boys); but traumatic exposure only in part explains the association for depression and PTSD (among girls).

In the supplementary linear regression analyses, the effect of child soldier status on anxiety was not significant for either sex. For the other four outcomes, the effect of child soldier status was always greater among girls, and adjustment for trauma largely explained the effect of child soldier status on mental health outcome among boys but not among girls. For example, in boys, the regression coefficient for child soldier status on PTSD (CPSS questionnaire) was 6.01 (95% CI 3.45—8.58) in the unadjusted model, 1.99 (95% CI -0.41—4.39) when adjusting for trauma, and 2.43 (95% CI -0.22—5.08) in the full model (trauma and other covariates). In contrast, the effect of child soldier status on PTSD in girls was 7.96 (95% CI 4.94—10.97) in the adjusted model, 5.74 (95% CI 1.84—9.65) when adjusting for trauma, and 5.93 (95% CI 1.94—9.91) in the full model. A similar pattern emerged for depression, general psychological difficulties, and function impairment. (Further details from the linear regression analyses are available from the authors on request.)

TABLE 8-2. UNIVARIATE AND MULTIVARIATE ANALYSES OF THE EFFECTS CHILD SOLDIER STATUS ON MENTAL HEALTH OUTCOMES ADJUSTED FOR TRAUMA EXPOSURE AND OTHER COVARIATES.

	Mean Symptom Score (95% CI)	No. (%) above cutoff ^A	Odds Ratios of Scores Above Cutoff for Former Child Soldiers versus Never Conscripted Children					
			Unadjusted model ^B		Model 1 ^D : Adjusted for Exposure to Trauma		Model 2 ^E : Adjusted for Trauma and other Covariates	
			OR (95% CI)	p-value ^C	OR (95% CI)	p-value	OR (95% CI)	p-value
Total Sample (N = 282)								
Depression (DSRS)								
Never Conscripted Children	10.75 (10.16—11.33)	34 (24.1)	1.00		1.00		1.00	
Child Soldiers	14.27 (13.31—15.22)	75 (53.2)	3.56 (2.33—5.43)	<0.001	2.69 (1.48—4.89)	0.001	2.41 (1.31—4.44)	0.004
Anxiety (SCARED-5)								
Never Conscripted Children	2.97 (2.71—3.24)	53 (37.6)	1.00		1.00		1.00	
Child Soldiers	3.61 (3.20—4.02)	65 (46.1)	1.46 (0.78—2.72)	0.24	1.39 (0.72—2.68)	0.33	1.63 (0.77—3.45)	0.20
PTSD (CPSS)								
Never Conscripted Children	14.18 (12.81—15.54)	28 (20.0)	1.00		*		*	
Child Soldiers	21.41 (19.73—23.10)	78 (55.3)	4.96 (2.56—9.64)	<0.001				
Psychological Strengths and Difficulties (SDQ Total Difficulties)								
Never Conscripted Children	12.46 (11.80—13.12)	26 (18.4)	1.00		1.00		1.00	
Child Soldiers	15.13 (14.24—16.01)	55 (39.0)	2.91 (1.53—5.51)	0.001	1.77 (0.82—3.84)	0.15	2.08 (0.86—5.02)	0.10
Function Impairment (FI)								
Never Conscripted Children	4.30 (3.49—5.10)	63 (44.7)	1.00		1.00		1.00	

Child Soldiers	7.19 (6.18—8.21)	88 (62.4)	2.04 (1.41—2.96)	<0.001	1.45 (0.92—2.27)	0.11	1.34 (0.84—2.14)	0.22
Boys (N=134)								
PTSD (CPSS)								
Never Conscripted Children	12.81 (11.02—14.60)	12 (17.4)	1.00		1.00		1.00	
Child Soldiers	18.64 (16.18—21.10)	30 (44.8)	3.85 (1.77—8.39)	<0.001	2.38 (0.87—6.50)	0.09	3.81 (1.06—13.73)	0.04
Girls (N=148)								
PTSD (CPSS)								
Never Conscripted Children	14.90 (12.90—16.80)	16 (21.9)	1.00		1.00		1.00	
Child Soldiers	22.62 (20.44—24.80)	48 (64.0)	6.33 (2.64—15.17)	<0.001	5.98 (1.86—19.27)	0.003	6.80 (2.16—21.58)	<0.001

Abbreviations: OR, Odds Ratio; CI, confidence interval; DSRS, Depression Self Rating Scale; SCARED-5, Screen for Child Anxiety and Related Emotional Disorders-5 item version; Child Posttraumatic Stress Disorder (PTSD) Symptom Scale; SDQ, Strength and Difficulties Questionnaire; FI, Function Impairment.

- A. No. (%) indicated for intervention refers to percentage of sample at or above cut-off score for psychosocial treatment indication: DSRS cut-off score=14, SCARED=4, CPSS=20, SDQ=16, FI=4.
- B. Odds ratios are from logistic regression models with child soldier status as an independent variable, mental health outcome as the dependent variable.
- C. P values are based on empirical standard error estimates from generalized estimating equations.
- D. Covariates in Adjusted Model 1: Trauma-related covariates (unintentional injury, fire, natural disaster, violent death, beating, bombing, abduction, torture, murder of family member, domestic violence, physical abuse).
- E. Covariates in Adjusted Model 2: Trauma-related covariates from Adjusted Model 1 and religion, school enrollment, family type, marital status, house ownership, political interest.

* Because of sex interaction, the results for PTSD in adjusted models are presented stratified by sex.

In models (both logistic and linear) that added 1 type of trauma exposure, the magnitude of the regression coefficient for child soldier status did not change appreciably (not by more than about 5%), indicating that no type of trauma in and of itself played a large confounding role with respect to child soldier status (details available from author on request).

For the fully adjusted logistic regression models (adjusted model 2) shown in Table 2, among the 11 trauma covariates (unintentional injury, fire, natural disaster, violent death, beating, bombing, abduction, torture, murder of family member, domestic violence, physical abuse), exposure to beating was associated with depression (OR=2.21 95% CI 1.01—4.83) and daily functioning (OR=2.58, 95% CI 1.45—4.59). Exposure to bombing was associated with depression (OR=1.93, 95% CI 1.17—3.20) and psychological difficulties (OR=2.54, 95% CI 1.38—4.69). Exposure to torture was associated with anxiety (OR=1.99 95% CI 1.00—3.94), psychological difficulties (OR=2.35 95% CI 1.17—4.71), and daily functioning (OR=2.10 95% CI 1.02—4.30) in all children, and PTSD in both boys (OR=6.96, 95% CI 2.08—23.35) and girls (OR=3.53, 95% CI 1.17—10.70). All other traumatic exposure covariates were not significant (details available from author on request).

Predictors of mental health outcomes within the child soldier group

Table 3 describes the characteristics of child soldiers. The sample represented relatively equal groups of children who joined voluntarily (65, 45.8%) vs. forced conscription (77, 54.2%). More than half of the children were conscripted before reaching 14 years of age.

Half of the child soldiers (50.7%) directly engaged in combat. Thirty-two (22.5%) of the children had been members of armed groups for greater than one year, and 59 (41.5%) had been returned to the community for greater than one year. Girls, compared with boys, were more likely to have been in cultural programs (OR=3.86, 95% CI=1.86—8.05). In contrast, girls, compared with boys, were less likely to have been in military regiments (OR=0.37, 95% CI=0.16—0.86), acting as sentries (OR=0.44, 95% CI 0.22—0.88), or active in the armed group for more than a year (OR=0.41, 95% CI 0.20—0.82). There was no difference between girls and boys in exposure to combat (OR=0.65, 95% CI 0.33—1.26), involuntary association (OR=1.05, 95% CI=0.54—2.04), age of recruitment (OR=0.56, 95% CI=0.28—1.10), time since returning home (OR=1.59, 95% CI 0.82—3.12), or still being associated with the armed group (OR=0.46, 95% CI 0.18—1.18).

TABLE 8-3. CHARACTERISTICS OF CHILD SOLDIERS.

	No (%)		
	Total (n=142)	Females (n=75)	Males (n=67)
Armed group association			
Communist Party of Nepal-Maoists	141 (99.3)	67 (100)	66 (98.5)
Royal Nepal Army*	1 (0.7)	0 (0)	1 (1.5)
Recruitment process			
Voluntary	65 (45.8)	35 (46.7)	30 (44.8)
Forced	77 (54.2)	40 (53.3)	37 (55.2)
Age at recruitment			
5-10 years old	16 (11.3)	9 (12.2)	7 (10.4)
11-13 years old	62 (44.0)	35 (47.3)	27 (40.3)
14-16 years old	63 (44.7)	30 (40.5)	33 (49.3)
Role during association**			
Cultural program	55 (38.7)	40 (53.3)	15 (22.4)
Military regiment	30 (21.1)	10 (13.3)	20 (29.9)
Porter	50 (35.2)	28 (37.3)	22 (32.8)
Cook	67 (47.2)	41 (54.7)	26 (38.8)
Sentry	77 (54.2)	35 (46.7)	44 (65.7)
Spy	17 (12.0)	5 (6.7)	12 (17.9)
Messenger	39 (27.5)	22 (29.3)	17 (25.4)
Combat Exposure			
Yes	72 (50.7)	34 (45.3)	38 (56.7)
No	70 (49.3)	41 (54.7)	29 (43.3)
Process of leaving armed group			
Escape from armed group	56 (39.4)	32 (42.7)	24 (35.8)
Child negotiated own release	33 (23.2)	18 (24.0)	15 (22.4)
Did not return to group after vacation or sick leave	12 (8.5)	8 (10.7)	4 (6.0)
Family member negotiated child's release	10 (7.0)	5 (6.7)	5 (7.5)
Discharged by armed group	4 (2.1)	3 (4.0)	1 (1.5)
Other process of leaving	25 (17.6)	9 (12.0)	16 (23.9)
Duration of association			
Less than 3 months	26 (18.3)	18 (24.0)	8 (11.9)
3-6 months	62 (43.7)	36 (48.0)	26 (38.8)
7-12 months	22 (15.5)	9 (12.0)	13 (19.4)
Greater than 1 year	32 (22.5)	12 (16.0)	20 (29.9)
Time since return to community			
Less than 6 months	62 (43.7)	29 (38.7)	33 (49.3)
6-12 months	21 (14.8)	10 (13.3)	11 (16.4)
1-2 years	33 (23.2)	23 (30.7)	10 (14.9)
Greater than 2 years	26 (18.3)	13 (17.3)	13 (19.4)
Status of association with armed group			
No longer associated with group	120 (84.5)	67 (89.3)	53 (79.1)
Still associated with armed group	22 (15.5)	8 (10.7)	14 (20.9)

* This child soldier participant and his matched counterpart were excluded from all statistical analyses.

** Children had multiple roles during association with the armed group.

Table 4 presents logistic regression models with fully adjusted effect estimates for the covariates considered in the analysis of the subgroup of child soldiers. In the adjusted

analyses of child soldiers, female sex was associated with worse symptom scores for depression, anxiety, and general psychological difficulties. Wealth was associated with reduced mental health symptoms on all scales. Among the traumatic events included in this analysis, exposure to beating was associated with worse outcomes for depression; exposure to bombing was associated with depression and general psychological difficulties; and exposure to torture was associated with symptoms of PTSD and general psychological difficulties.

Still being affiliated with the armed group was associated with better outcome scores on all scales. In the logistic regression, still being associated had a lower point estimate for PTSD symptoms and function impairment compared with no longer associated children. For three of the outcome variables (depression, anxiety, SDQ), we did not calculate odds ratios of “still being associated with an armed group” due to low cell counts. The adjusted effects (linear regression coefficient) of current association on the outcomes DSRS (depression), SCARED (anxiety), CPSS (PTSD), SDQ (psychological difficulties), and FI (daily functioning) were -5.26 (95% CI -7.48— -3.04), -1.73 (95% CI -2.84— -0.62), -6.83 (95% CI -11.37— -2.28), -3.74 (95% CI -6.19— -1.30), and -2.69 (95% CI -4.03— -1.36), respectively. (Further details from the linear regression analyses are available from the authors on request.)

Table 8-4. Predictors of Mental Health among Former Child Soldiers ($N=141$).
4a. Depression (DRSR) and Anxiety (SCARED)

	No. (%)	Depression (DRSR)				Anxiety (SCARED)			
		Unadjusted ^A		Adjusted ^C		Unadjusted ^A		Adjusted ^C	
		OR (95%CI)	P-Value ^B	OR (95%CI)	P-Value	OR (95%CI)	P-Value	OR (95%CI)	P-Value
Sex									
Male	67 (47.5)	1.00		1.00		1.00		1.00	
Female	74 (52.5)	2.92 (1.35—6.57)	.007	5.57 (1.43—21.71)	.01	2.90 (1.20—7.00)	.02	4.54 (1.34—15.38)	.02
Wealth (household facilities)									
< 2	92 (65.2)	1.00		1.00		1.00		1.00	
≥ 2	49 (34.8)	0.60 (0.44—0.84)	.003	0.56 (0.33—0.94)	.03	0.69 (0.51—0.94)	.02	0.66 (0.46—0.94)	.02
Age of Recruitment									
<14-years-old	86 (61.0)	2.51 (1.08—5.85)	.03	2.64 (0.86—8.06)	.09	0.69 (0.33—1.42)	.31	0.45 (0.20—1.02)	.05
≥14 years-old	55 (39.0)	1.00		1.00		1.00		1.00	
Type of Recruitment									
Voluntary	77 (54.6)	1.00		1.00		1.00		1.00	
Forced	64 (45.4)	3.11 (1.42—6.79)	.004	2.02 (0.79—5.21)	.14	1.73 (0.91—3.28)	.09	1.24 (0.45—3.41)	.67
Duration of Association									
< 1 year	87 (61.7)	1.00		1.00		1.00		1.00	
≥ 1 year	54 (38.3)	0.61 (0.38—0.98)	.04	0.51 (0.26—0.99)	.51	0.67 (0.44—1.00)	.05	0.82 (0.45—1.47)	.49
Role – Military									
No	111 (78.7)	1.00		1.00		1.00		1.00	
Yes	30 (21.3)	1.45 (0.61—3.44)	0.40	2.35 (0.53—10.32)	.26	0.85 (0.34—2.13)	.73	0.92 (0.24—3.56)	.90
Combat Exposure									
No	69 (48.9)	1.00		1.00		1.00		1.00	
Yes	72 (51.1)	2.22 (1.24—3.98)	.007	0.83 (0.13—5.34)	.84	1.50 (0.83—2.70)	.18	1.24 (0.19—8.26)	.82
Trauma – Beating									
No	37 (26.2)	1.00		1.00		1.00		1.00	
Yes	104 (73.8)	3.33 (1.51—7.35)	.003	4.23 (1.36—13.19)	.02	1.48 (0.75—2.92)	.27	1.23 (0.50—3.00)	.65

Trauma – Bombing									
No	62 (44.0)	1.00		1.00		1.00		1.00	
Yes	79 (56.0)	3.15 (1.66—5.99)	<.001	6.02 (0.99—36.54)	.05	1.56 (0.74—3.28)	.24	1.58 (0.34—7.32)	.56
Trauma – Abduction									
No	69 (48.9)	1.00		1.00		1.00		1.00	
Yes	72 (51.1)	2.35 (1.20—4.61)	.01	1.19 (0.35—4.07)	.78	1.59 (0.79—3.19)	.19	1.35 (0.59—3.07)	.47
Trauma – Torture									
No	100 (70.9)	1.00		1.00		1.00		1.00	
Yes	41 (29.1)	1.38 (0.78—2.47)	.27	0.52 (0.16—1.66)	.59	1.50 (0.74—3.06)	.26	1.30 (0.44—3.82)	.64
Still Associated									
No	119 (84.4)	**	**	**	**	1.00		**	**
Yes	22 (15.6)					0.04 (0.09—0.19)	<.001		
Time Since Return									
< 1 year	61 (43.3)	1.00		1.00		1.00		1.00	
≥ 1 year	80 (56.7)	1.85 (1.25—2.73)	.002	1.43 (0.87—2.30)	.14	1.38 (1.05—1.81)	.02	1.12 (0.81—1.55)	.50

4b. PTSD (CPSS) and General Psychological Difficulties (SDQ)

	No. (%)	PTSD (CPSS)				General Psychological Difficulties (SDQ)			
		Unadjusted ^A		Adjusted ^C		Unadjusted ^A		Adjusted ^C	
		OR (95%CI)	P-Value	OR (95%CI)	P-Value	OR (95%CI)	P-Value	OR (95%CI)	P-Value
Sex									
Male	67 (47.5)	1.00		1.00		1.00		1.00	
Female	74 (52.5)	2.19 (0.99—4.87)	.05	2.47 (0.94—6.51)	.07	1.70 (0.88—3.27)	.11	2.90 (1.17—7.17)	.02
Wealth (household facilities)									
< 2	92 (65.2)	1.00		1.00		1.00		1.00	
≥ 2	49 (34.8)	0.59 (0.46—0.75)	<.001	0.58 (0.43—0.80)	<.001	0.57 (0.43—0.75)	<.001	0.54 (0.35—0.84)	<.001
Age of Recruitment									
<14-years-old	86 (61.0)	1.04 (0.53—2.06)	.90	0.90 (0.33-2.43)	.84	0.96 (0.43—2.15)	.93	1.07 (0.48—2.42)	.87
≥14 years-old	55 (39.0)	1.00		1.00		1.00		1.00	

Type of Recruitment									
Voluntary	77 (54.6)	1.00		1.00		1.00		1.00	
Forced	64 (45.4)	1.85 (1.08—3.15)	.02	0.79 (0.35—1.81)	.58	2.42 (1.37—4.27)	.002	1.44 (0.59—3.52)	.42
Duration of Association									
< 1 year	87 (61.7)	1.00		1.00		1.00		1.00	
≥ 1 year	54 (38.3)	0.63 (0.44—0.90)	.01	0.67 (0.42—1.06)	.08	0.67 (0.47—0.96)	.03	0.73 (0.42—1.25)	.72
Role – Military									
No	111 (78.7)	1.00		1.00		1.00		1.00	
Yes	30 (21.3)	1.30 (0.51—3.43)	.59	1.24 (0.39—3.90)	.71	1.03 (0.47—2.27)	.94	0.64 (0.21—1.97)	.44
Combat Exposure									
No	69 (48.9)	1.00		1.00		1.00		1.00	
Yes	72 (51.1)	1.66 (0.86—3.23)	.13	2.66 (0.83—8.51)	.10	2.84 (1.69—1.98)	<.001	1.13 (0.15—8.60)	.90
Trauma – Beating									
No	37 (26.2)	1.00		1.00		1.00		1.00	
Yes	104 (73.8)	3.21 (1.40—7.36)	.006	2.38 (0.80—7.05)	.12	1.59 (0.72—3.52)	.25	0.56 (0.20—1.56)	.27
Trauma – Bombing									
No	62 (44.0)	1.00		1.00		1.00		1.00	
Yes	79 (56.0)	1.42 (0.70—2.91)	.33	0.52 (0.16—1.68)	.28	4.38 (2.28—8.40)	<.001	7.73 (1.23—48.57)	.03
Trauma – Abduction									
No	69 (48.9)	1.00		1.00		1.00		1.00	
Yes	72 (51.1)	2.50 (1.36—4.57)	.003	1.23 (0.52—2.91)	.64	2.70 (1.42—5.14)	.002	1.48 (0.66—3.32)	.34
Trauma – Torture									
No	100 (70.9)	1.00		1.00		1.00		1.00	
Yes	41 (29.1)	3.01 (1.52—5.97)	.002	3.66 (1.41—9.53)	.008	2.63 (1.18—5.86)	.02	3.22 (0.98—10.65)	.05
Still Associated									
No	119 (84.4)	1.00		1.00		**	**	**	**
Yes	22 (15.6)	0.14 (0.06—0.33)	<.001	0.23 (0.06—0.90)	.04				
Time Since Return									
< 1 year	61 (43.3)	1.00		1.00		1.00		1.00	
≥ 1 year	80 (56.7)	1.36 (1.02—1.80)	.03	0.84 (0.60—1.18)	.32	1.38 (0.96—1.98)	.08	1.01 (0.65—1.56)	.96

4c. Function Impairment (FI)

	No. (%)	Function Impairment (FI)			
		Unadjusted ^A		Adjusted ^C	
		OR (95%CI)	P-Value	OR (95%CI)	P-Value
Sex					
Male	67 (47.5)	1.00		1.00	
Female	74 (52.5)	1.35 (0.62—2.99)	.45	1.01 (0.32—3.19)	.98
Wealth (household facilities)					
< 2	92 (65.2)	1.00		1.00	
≥ 2	49 (34.8)	0.56 (0.42—0.73)	<.001	0.52 (0.37—0.74)	<.001
Age of Recruitment					
<14-years-old	86 (61.0)	1.39 (0.54—3.56)	.50	1.78 (0.56—5.60)	.32
≥14 years-old	55 (39.0)	1.00		1.00	
Type of Recruitment					
Voluntary	77 (54.6)	1.00		1.00	
Forced	64 (45.4)	2.02 (0.93—4.37)	.08	0.96 (0.37—2.49)	.94
Duration of Association					
< 1 year	87 (61.7)	1.00		1.00	
≥ 1 year	54 (38.3)	0.61 (0.36—1.04)	.07	0.65 (0.38—1.12)	.12
Role – Military					
No	111 (78.7)	1.00		1.00	
Yes	30 (21.3)	0.76 (0.29—1.97)	.56	0.65 (0.19—2.17)	.48
Combat Exposure					
No	69 (48.9)	1.00		1.00	
Yes	72 (51.1)	1.18 (0.56—2.49)	.67	1.11 (0.27—4.65)	.88
Trauma – Beating					
No	37 (26.2)	1.00		1.00	
Yes	104 (73.8)	3.09 (1.31—7.29)	.01	2.62 (0.92—7.49)	.07
Trauma – Bombing					
No	62 (44.0)	1.00		1.00	

Yes	79 (56.0)	1.51 (0.77—2.97)	.23	1.35 (0.44—4.21)	0.60
Trauma – Abduction					
No		1.00		1.00	
Yes		2.57 (1.38—4.82)	.003	0.97 (0.43—2.21)	.94
Trauma – Torture					
No	100 (70.9)	1.00		1.00	
Yes	41 (29.1)	2.39 (1.22—4.71)	.01	2.79 (0.89—8.74)	0.08
Still Associated					
No	119 (84.4)	1.00		1.00	
Yes	22 (15.6)	0.09 (0.04—0.22)	<.001	0.16 (0.04—0.67)	.01
Time Since Return					
< 1 year	61 (43.3)	1.00		1.00	
≥ 1 year	80 (56.7)	1.54 (1.04—2.28)	.03	0.88 (0.59—1.31)	0.52

Abbreviations: OR, odds ration; CI, confidence interval; DSRS, Depression Self Rating Scale; SCARED-5, Screen for Child Anxiety and Related Emotional Disorders-5 item version; Child Posttraumatic Stress Disorder (PTSD) Symptom Scale; SDQ, Strength and Difficulties Questionnaire; FI, Function Impairment.

A. Regression coefficients are from mixed logistic models with random effects terms to account for clustering of soldiers within villages.

B. P values are based on empirical standard error estimates.

C. Adjusted model includes sex, wealth (< 2 household facilities vs. ≥ 2 household facilities, e.g. electricity, water tap, radio, bicycle); age of recruitment (<14 years old vs. ≥14 years old), type of recruitment (voluntary vs. forced), duration of association (<1 year vs. ≥1 year), role in military, exposure to combat, traumatic exposures (unintentional injury, fire, natural disaster, violent death, beating, bombing, abduction, torture, murder of a family member, domestic violence, and physical abuse), still associated with armed group, and duration of time since returning home (<1 year vs. ≥1 year).

** There were no still associated child soldiers who were above cut-off scores for depression and function impairment. For anxiety, in the adjusted model there were some cells only 1 when using all covariates.

Comment

In this study comparing the post-conflict mental health outcomes of child soldiers and matched children who had never been conscripted in Nepal, both groups displayed a substantial burden of mental health and psychosocial problems. The mental health burden among child soldiers ranged from 39 to 62 percent of participants depending upon type of distress, and 18 to 45 percent of children not conscripted by armed groups. Child soldiers had worse mental health outcomes (symptoms of depression, PTSD, general psychological difficulties, and function impairment) than the comparison groups, with the exception of anxiety symptoms. The difference in mental health outcomes between child soldiers and never conscripted children can be explained, in part, by greater exposure to traumatic events among child soldiers, especially for general psychological difficulties and function impairment.

However, even after controlling for exposure to trauma, child soldier status is associated with poorer outcomes for depression and PTSD. Furthermore, for PTSD, the effect of child soldier status was twice as strong for girls compared with boys, even after controlling for trauma exposure and other potential confounders. This suggests that factors other than the traumatic exposures we assessed may contribute to depression and PTSD, the latter especially among girl soldiers. In this study, no single type of traumatic event in isolation explained the relationship between soldier status and mental health; rather it was the aggregate traumatic exposure burden.

The lack of difference in anxiety symptoms suggests that anxiety may be a generalized response of children living through war regardless of their status as soldiers or civilians. The results also suggest that being a soldier exposed children to more traumatic events which increased the rates of depression, PTSD, generalized psychological difficulties, and function impairment. These findings are, in part, congruent with other studies' conclusions, which suggest that the difference between child soldiers and civilians is concentrated among the soldiers with greater trauma exposure, following dose-response tendency. (Betancourt et al., 2008; Blattman, 2006) However, our study differs in finding elevated depression and PTSD even after controlling for trauma, especially among girls, indicating that factors other than trauma may contribute to poor mental health outcomes among soldiers.

We are thus left with the question of what other aspects of the child soldier experience, beyond trauma exposures we assessed, contribute to the poorer mental health outcomes among soldiers compared to civilians. One possibility is traumatic exposures that we did not assess such as gender-based violence, a contributor to psychosocial problems among child soldiers in Africa. (Honwana, 2006; Lamberg, 2004; McKay, 1998) Unfortunately, we were unable to include sexual violence in our analysis as it was deemed culturally inappropriate and potentially unsafe to ask the study participants about such exposures.

Reintegration difficulties when child soldiers return home are another possible contributor. Communities may fear returned former child soldiers and socially ostracize them. (Dickson-Gomez, 2002; Dowdney, 2007; Specht & Attree, 2006; Wessells, 2006)

In Nepal, association with Maoists may lead to perceived violations of Hindu cultural norms (such as carrying dead bodies, eating in other ethnic groups' homes, and both sexes sleeping in the same areas). This could result in maltreatment (e.g. stigmatization and abuse) by families and communities when soldiers, especially girls, return home. Reintegration difficulties warrant further investigation because "still being associated with an armed group" was a strong protective factor. Furthermore, wealth's protective association with all outcomes raises the possibility that financial resources may buffer against some of the difficulties upon returning home.

This study has several limitations. For feasibility reasons, we used a convenience sample of soldiers, and soldiers identified their own controls, although we used methods appropriate for matched pairs to minimize the effect of the latter limitation. Another limitation of this study is that it represents a subset of child soldiers: those who returned home. We did not assess child soldiers of the Nepal Army, child soldiers who remained within military cantonments of the People's Liberation Army, child soldiers (especially boys) who fled to India, or those who joined the Young Communist League. Ultimately, our study provides insight into the impact of being a child soldier on mental health, but the findings cannot be applied universally to all groups of child soldiers in Nepal nor around the globe.

Because the sample size for the study was chosen with the primary objective in mind, low power is a limitation of the within-soldiers analyses. For example, we did not find a significant effect of combat exposure for any of the mental health outcomes, but the

detectable odds ratio (Demidenko, 2007) for combat based on the observed prevalence ranged from 2.63 to 2.98. Thus, because the study may have been under-powered to detect such differences, the failure to find a relationship with combat exposure, military role, duration of association, and other child soldier variables does not conclude that these factors do not influence mental health status. Finally, we did not have information on drug or alcohol use or exposure to sexual violence. Girls associated with the Maoists may have experienced less sexual violence compared with civilian girls because of the Maoist focus on gender equality; (Sharma & Prasain, 2004) similarly Maoist prohibitions on substance use may have reduced drug and alcohol problems during association. (Lawoti, 2003) However, sexual violence and substance abuse should be considered during interventions and for further research because the status of these problems among former child soldiers after they return home is unknown.

The study has several clinical and programmatic implications. First, the greater burden of mental health problems among child soldiers supports the need for focused programming, which should include, but not consist solely of, interventions to reduce depression symptoms and the psychological sequelae of trauma, especially bombings and torture, as well as incorporate belongingness and income generation. Second, girl soldiers may require focused attention, possibly for factors not addressed in this study, such as, problems of gender-based violence and reintegration difficulties. Third, the variation in type and severity of mental health problems highlights the importance of screening, including locally developed measures of function impairment, as a base for intervention. (IASC, 2007) Without screening there is a risk of pathologizing child

soldiers as a group rather than providing support to those individuals most impaired.

Finally, the presence of mental health problems also among never conscripted children illustrates the need for comprehensive post-conflict community-based psychosocial care not restricted only to child soldiers.

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CHAPTER 9: TRADITIONAL HEALING AND THE SOCIAL FABRIC: IMPLICATIONS FOR PSYCHOSOCIAL INTERVENTIONS WITH CHILD SOLDIERS

Abstract: When recommending psychosocial interventions for conflict-affected populations, there is a trend toward promotion of traditional healing and skepticism of Western psychological treatment. However, traditional healing is not a panacea for ruptures in the social fabric observed after war. Traditional healing also poses risks of ineffectively consuming scarce resources or causing harm; this is not dissimilar to the risks of inappropriate application of Western psychological treatments. This chapter argues for developing an evidence-base for the identification of social problems and incorporation of traditional healing. Ethnography lends itself to building such an evidence base. In this chapter, ethnography is used to identify social threats to child soldiers arising before, during, and after the conflict. Three types of traditional healing interventions are discussed including *bhaakal*, *Swasthani puja*, and shamanic ceremonies. The benefits and drawbacks of these interventions are discussed for the specific needs of child soldiers in Nepal.

**TRADITIONAL HEALING AND THE SOCIAL FABRIC:
IMPLICATIONS FOR PSYCHOSOCIAL INTERVENTIONS WITH CHILD SOLDIERS**

The experience of suffering is interpersonal, involving lost relationships, the brutal breaking of intimate bonds, collective fear, and an assault on loyalty, and respect among family and friends. (Kleinman & Desjarlais, 1995:180)

Human responses to war are not analogous to physical trauma: people do not passively register the impact of external forces (unlike, say, a leg hit by a bullet) but engage with them in an active and problem solving way. Suffering arises from, and is resolved in, a social context, shaped by meanings and understandings applied to events. (Summerfield, 1999)

Introduction

In the last century, there has been an unfortunate shift toward increasing civilian mortality in war and children have borne a significant burden of mortality and morbidity (Garfield, 2008; Garfield & Neugut, 1991; Pearn, 2003; Shaw, 2003). In addition, the availability of light artillery has contributed to an increase in children as active combatants in war (Wessells, 2006). With the large burden of violence upon children, what are the social consequences? Based on the type, severity, and breadth of political violence on children, what can heal these ruptures in the social fabric? There are calls from anthropologists, social scientists, and psychosocial interventionist to foster healing process through socially- rather than psychologically-oriented processes, such as drawing upon existing practices of traditional healing (Bracken et al., 1998; IASC, 2007; Kleinman & Desjarlais, 1995; Psychosocial Working Group, 2003; Summerfield, 1998; Summerfield, 2000). However, while few from any field or discipline would argue that

war affects the social fabric as well as psychological welling, I would add that there needs to be an improved research base ranging from ethnography to epidemiology to make claims about social ruptures and social healing. Promoting traditional practices of healing is not unlike advocating Western approaches: marginalization and other forms of harm are possible outcomes. In this chapter, I employ ethnography to examine the social impact of a decade long war in Nepal upon the lives of child soldiers and the role of traditional healing in repairing these social ruptures.

Two individuals who have been particularly outspoken about the need for a more socially-grounded rather than individual psychopathological approach to collective trauma and political violence are Arthur Kleinman and Derek Summerfield. Kleinman and Desjarlais write that "... purely medical phrasings distort and neglect the social experiences that sufferers undergo," (Kleinman & Desjarlais, 1995:182). They criticize the medicalization of suffering on the grounds that many of these experiences have been historically seen "as religious or social problems," (p. 181). Kleinman and Desjarlais do not deny that treating PTSD "may improve symptoms and limit distress," (p. 182), rather they are asking everyone to attend to "PTSD's implicit cultural, political, and economic implications." Ultimately, they suggest,

To wit, the way in which professionals in health institutions think and talk about trauma situates it as an *essential* category of human existence, rooted in individual rather than social dynamics, and reflective more of medical *pathology* than of religious or moral happenings. (p. 177)

Summerfield similarly suggests that war is a interpersonal phenomenon and healing should accordingly be focused on the social world. He suggests that Western intervention in war-affected areas reflects "medicalization of suffering," (Summerfield,

1999). He points out that the social world is typically the target of modern warfare. And, it is this social world which encapsulates “the collective capacity of survivor populations to mourn, endure and rebuild.” Summerfield suggests that this reflects a broader economic reorienting of how lives and societies are measured; “A nation is judged as if it is primarily an economy rather than a society, and the lexicon of commerce increasingly regulates social relationships and responsibilities (not least in respect of health),” (Summerfield, 2001). Summerfield refers to the work of Somasundaram (1996) in Sri Lanka, which states “none of the subjects considered themselves psychiatrically ill, and just saw their symptoms as an inevitable part of the war.”

Summerfield (Summerfield, 1999) proposes that, “Perhaps the primary task of interventions is to identify patterns of social strength and weakness, and reinforce local capacities.” There has been a synergy between this viewpoint and the approach of nongovernmental and multilateral development and humanitarian organizations working in the field of psychosocial care for survivors of war and other emergencies. It is not surprising that, in 2005, when I was speaking with a program officer of a large organization focused on programming for children, she handed me Summerfield’s article critiquing psychological trauma in war-affected regions (Summerfield, 1999). She explained that his critique echoed their philosophy in programming.

In the Interagency Standing Committee (IASC) *Guidelines on Mental Health and Psychosocial Support in Emergency Settings*, one of the action sheets highlights the opportunity to “learn about and, where appropriate, collaborate with local, indigenous and traditional healing systems,” Action Sheet 6.4 (IASC, 2007:136). The *Guidelines* list the benefits of working with traditional healers including understanding local expressions

of distress, improving referral, improving acceptance of new services, identifying opportunities for collaboration, making allopathic services more appropriate, and monitoring human rights abuses within traditional care systems. Comparable calls for incorporation of traditional healing in psychosocial interventions can be found throughout the broader world of psychosocial nongovernmental organizations (NGOs), (Psychosocial Working Group, 2003).

There are a handful of frequently mentioned examples of incorporating traditional healing into NGO psychosocial programming to facilitate social reintegration. In Sierra Leone, "rituals of welcome" were used to facilitate the return of girl soldiers to the community. These rituals included elements of forgiveness and social inclusion such as proscribing against referring to returned women as "rebel wife" or "rebel baby" (McKay & Mazurana, 2004). In Mozambique, traditional healers are reported to have played a central role in the peaceful reintegration of soldiers; Nordstrom describes how communities, through the involvement of traditional healers, worked to defeat the war by "taking the war out of the people":

“...to harbor revenge and anger would simply fan the flames of war and violence. If they are truly to defeat their opponents, they had to defeat the war, and that meant turning soldiers from warring to peaceful pursuits,” (Nordstrom, 1997, p.146).

Mozambique *curanderos* viewed the experience of war as a “disease” which could be “cured” through healing ceremonies; violence was taken out of men so that they could be reintegrated peacefully into society. These traditional healing ceremonies were reportedly psychologically therapeutic for the returned soldiers and reduced community fears of the returned soldiers. Linda Green (Green, 1999) finds that post-civil-war healing in Guatemala occurs also at this social level through community building activities.

Argenti-Pillen (Argenti-Pillen, 2003) criticizes Western trauma interventions but for their potential role in threatening the traditional containment of violence in Sri Lanka. She identifies the women who participate in NGO trauma programs as a new breed of ‘fearless’ women. The fearless women openly discuss violence and perpetrators. They raise children who will grow up identifying perpetrators and using direct language, and ultimately, Argenti-Pillen suggests, their children will engage in cycles of vengeance as adults. Argenti-Pillen, instead, focuses on existing traditional rituals for dealing with war trauma. In Sri Lanka, families (particularly women) of individuals affected by the violence of civil war employed domestic “cleansing rituals” to remove violence (Argenti-Pillen, 2003). These cleansing rituals help break the cycle of violence and facilitate reintegration of members of different parties in the same community.

Traditional healing, often, is not a discrete event; healing is a process with a history and future—a trajectory in which healing facilitates integration, change, and social reform (Csordas & Kleinman, 1996). Kleinman highlights the nonspecific aspects of healing, citing that efficacy lies not upon eradicating pathology but upon the relationship in which healer and sufferer are convinced that the sufferer has changed for the better (1988, p. 137). Kleinman contrasts this focus with biomedicine where attention is directed toward an objective cure of pathology rather than the sufferer’s subjective experience of well-being (p. 140). Kleinman’s work thus elaborates the social realm of healing and psychopathology and extends the healing process beyond the ritual itself to long-term changes in one’s social space.

Traditional healing for war-affected populations: “Is culture always right?”

While a social understanding of the impact of war on a community is crucial to understanding changes to wellbeing and promoting effective intervention, I would argue that simply stating that an intervention is ‘traditional’ neither guarantees that it is socially integrative or that it will be successful for war-affected populations. Traditional healing interventions, like so-called ‘Western’ interventions, have a risk of being inefficacious, misappropriating resources, and incurring psychosocial damage.

For example, Myriam Denov has cautioned that interventions, whether Western-based or drawing upon local customs, need to address the risk of reinforcing gender discrimination. Denov argues that many forms of traditional healing promote the status of “(older) males” and “threaten the human security and well-being of women and girls”. Denov writes, “When assessing whether ‘culture is always right’, one cannot discount the importance of gender and the reality and implications of gendered exclusionary practices.” Traditional practices may limit the potential of both men and women: male stereotypes focusing on violence and aggression may marginalize men and boys that do not assume this role. Denov asks, “Can we say... that such local practices are ‘right’ and therefore should be followed, accepted, and perpetuated?” In addition, Denov observes that many of the rituals for reintegration of war-affected youth in Mozambique focus on men. This reflects the literature in general in which much of the discussion about female rituals only focuses on sexual purity and sexual violence, not on other aspects of political violence and trauma. Denov concludes that, “any such pluralistic approach would need to be sensitive to gender and the dangers of both western and local practices which perpetuate and reproduce gender stereotypes and inequalities.”

While Denov's discussion of the risk posed by programming influenced by discriminatory cultural models focus primarily on gender, most cultural models have implications for power and agency which could influence the outcome of interventions. In Cambodia, the religious concept of *karma* in Buddhism was an impediment to reintegration of individuals injured in the Khmer Rouge mass violence (French, 1994). The disfigurement of war injuries, particularly land mines, signified poor karma and led to avoidance and social isolation of injured individuals, which then exacerbated criminal violence among returned soldiers.

Unfortunately, other than Denov's work, there has been little discussion in the NGO psychosocial community of these potential pitfalls of traditional healing. Within the IASC *Guidelines* there is a caveat about traditional healers,

It should be noted that some traditional healing practices are harmful. They may, for example, include the provision of false information, beatings, prolonged fasting, cutting, prolonged physical restraint or social cleansing rituals that involve the expulsion of 'witches' from the community. In addition some rituals are extremely costly, and in the past some healers have used emergencies to proselytise and exploit vulnerable populations. (IASC, 2007:136-137)

While these are important possible sources of harm, it is unfortunate that the *Guidelines* do not discuss the issues marginalization and reinforcing of inequitable gender norms. Ultimately, Kleinman and Desjarlais' statement is applicable to any kind of intervention whether it be Western psychotherapy or traditional healing:

[W]e must be sure that sufferers of violence are not exposed to potentially disruptive or unnecessary interventions. The first goal of cultural analysis should be to assess how the dominant policy frameworks contribute to the burden and abridge the prospects for repair. (Kleinman & Desjarlais, 1995:189)

Objectives

The category of traditional healing interventions—a label that has been applied to myriad cultural, traditional, local, and community-based practices—are likely not a panacea for addressing the needs of war-affected children and adults. As with Western psychological interventions, a critical eye is needed to examine both the need for these interventions in terms of what social changes are observed in post-conflict settings and secondly to address whether the intervention will actually impact these issues in a manner that does not pose either the risk of marginalizing groups or the risk of doing other harm.

Because of the complexity of these questions and the challenges in assessing both social changes and the impact of interventions, building an evidence-base for the social consequences and interventions of war is needed. Currently, while approaches to posttraumatic stress disorder (PTSD) exist in an ether of theories about the origin, mechanisms, and treatment of the disorder, social understandings of war err at the other end of being undertheorized (with a few exceptions that take a developmental approach to trauma and war among children such as the work of Punamaki (Punamaki, 2006; Punamaki et al., 2005)). To build an evidence-based theory for social understandings of war will require a range of methods ranging from ethnography through epidemiology. Harper has pointed out how epidemiological approaches and the inherent categorization necessary for epidemiological studies may lead to “profound material effects in marginalizing some form of treatment,” (Harper, 2006). The objective of this chapter is to employ ethnography and other qualitative research with the goal of contributing to an

evidence-base and theory to understand the effect of war on children and, ultimately, guide interventions in this area.

One of the challenges in working with “traditional healing” is that it is not bounded category. A tremendous array of social, health, and religious practices could be referred to as traditional healing. In 2002 the World Health Organization released its three-year strategy on traditional medicine. Their operationalized definition was, not surprisingly, broad:

“Traditional medicine” is a comprehensive term used to refer both to TM systems such as traditional Chinese medicine, Indian ayurveda and Arabic unani medicine, and to various forms of indigenous medicine. TM therapies include medication therapies — if they involve use of herbal medicines, animal parts and/or minerals — and nonmedication therapies — if they are carried out primarily without the use of medication, as in the case of acupuncture, manual therapies and spiritual therapies. (World Health Organization, 2002:1)

The cover illustration is a plant, and this reflects much of the content of their report.

There are few mentions of social interventions, mental health, or psychological wellbeing. There is also no discussion of the problematic nature of the category. The term traditional healing presents images that the practices are ancient and static, when in reality healing classified as “traditional” is also constantly evolving and some practices may be younger than much of Western allopathic medicine. For example, in Nepal issues of modern identity and the association of traditional healers with health-related NGO projects leads to ongoing re-alignment and re-defining of traditional healing (Harper, 2003; Pigg, 1992, 1995, 1996, 1997), including in the realm of psychosocial and mental health care (Harper, 2003; Kohrt & Harper, 2008).

A full critique of traditional healing as heterogeneous category is beyond the scope of the chapter. However, the implication is that it is not possible to provide a coherent unitary definition of traditional healing. Instead, I would like to acknowledge the difficulties and limitations of this term at the outset. For a unsatisfactorily broad and vague definition, I will refer to traditional healing below as behaviors conducted with the goal of improving group and/or individual wellbeing that draw upon religious world views, in the case of Nepal: Hindu, Buddhist, or animistic.

In this chapter, I discuss traditional healing, specifically focusing on the issue of former child soldiers reintegrating into their home communities after the decade-long People's War between the Communist Part of Nepal (Maoists) and government security forces including the Royal Nepal Army (RNA, now Nepal Army) and the Armed Police Force. I examine the social ruptures experienced by child soldiers. Then, I explore a series of traditional healing rituals to see how they may be appropriate or inappropriate to heal social ruptures related to war. Ultimately, research and interventions for conflict-affected populations should not overlook the social impact of war. However, its inclusion requires the building of an evidence base, through both qualitative and quantitative research, so that socially-focused interventions minimize potential harm and maximize the benefit to children, their families, and their communities.

Methods

The ethnographic findings presented below are drawn from a mixed-methods study with qualitative and quantitative tools to understand the mental health and psychosocial consequences of children's participation in armed groups. The study was an

assessment of the mental health and psychosocial needs among former child soldiers reintegrating into civilian communities. The study was conducted from 2007 through 2008 with a Nepali NGO Transcultural Psychosocial Organization (TPO) Nepal. The qualitative component of the larger study included participatory approaches (with a technique known as Child Led Indicators (CLI) in which children developed their own psychosocial indicators of distress and wellbeing, n=12), narrative focus group discussions (N=25 groups) with children and community members, key informant interviews (N=152) with children and community members, and case studies (N=24) of child soldiers. Pseudonyms are used for all child case studies presented. Location names are also fabricated to protect children's anonymity. Study participants were identified through local NGOs involved in child protection (for a full description of the study selection process see (Kohrt et al., 2008)).

Data were gathered by a Nepali research team employed by TPO Nepal with a background in field research who received a month-long training on qualitative and quantitative data collection as well as on the ethics of research with vulnerable children. All interviews were translated into English and analyzed using Atlas.ti with a codebook developed by three independent coders (intercoder agreement: percent agreement 0.90, Cohen's κ 0.82). An additional source of information was interviews conducted for the documentary film *Returned: Child Soldiers of Nepal's Maoist Army* (Koenig and Kohrt 2009), which were reviewed employing the codes developed for the primary study.

To operationalize the term "child soldier", I will refer to the 2007 *Paris Principles* definition of "children associated with armed forces or armed groups" (CAAFAG):

Any person below 18 years of age who is or who has been recruited or used by an armed force or armed group in any capacity, including but not limited to children, boys and girls, used as fighters,

cooks, porters, messengers, spies or for sexual purposes. It does not only refer to a child who is taking or has taken a direct part in hostilities. (UNICEF, 2007:7)

Following this characterization, I will define ‘children’ as individuals less than eighteen years of age, while acknowledging that local definitions of ‘children’ vary within and between cultural groups (Rosen, 2005).

Path to the People’s War in Nepal

Raj (17-year-old Dalit boy from midwestern Nepal): It happened in 2003. My father was plowing his field. Two Maoist boys, two girls, and the commander of the group came and started beating my father so badly that he almost died. My father was innocent but the Maoist soldiers accused him of speaking against the Maoists. I felt so helpless watching them accuse my father. I could not do anything for him because I was so scared that the Maoists would kill me. My father lost consciousness from the torture. Then they called out to me and asked my name. They asked why I had long hair. They ordered me to cut my hair and plow the field for the entire day. A few days later, the Maoists came to my house and threatened to kill my father if I did not go with them. I pleaded with them. I told them that I wanted to stay and finish my schooling, but they did not listen to me. I was forced to go with them. I was fourteen years old at that time.

Maya (16-year-old Chepang girl from southern Nepal): I was very daring then. I am still very short tempered. I thought that if I joined the Maoists, I could hit people who had made me angry earlier. I thought the Party would back me up. So I joined the Party. I threatened everyone who had mistreated me before. I threatened people who played cards by burning all their cards. I kept my village peaceful. I spent a year with the Maoists. At the height of the war, I had joined the Party. I thought that I would convince the people. I would teach them the correct way to live life according to Maoist principles. Then, if they didn’t follow the Party orders, I would get to hurt them. I was foolish and my anger was out of control. The war was filled with violence. The person who took me to the Party was killed by the police.

The two accounts above are from former child soldiers who had been associated with the military wing of the People's Liberation Army (PLA) of the Communist Party of Nepal (Maoists) [CPN (M)] during the People's War in Nepal. In 1996, the CPN (M), one of the many communist parties in Nepal, all whom trace their roots to the original Communist Party of Nepal formed in India in 1947, declared war on the government of Nepal, which at the time was a Hindu monarchy known as His Majesty's Government of Nepal (HMG). The war lasted until late 2006 when a peace accord was signed between Prachanda, Chairman of the CPN (M), and G.P. Koirala, a representative of the government of Nepal. During the war, both the PLA and government security forces used individuals under eighteen years of age in both military and non-military roles. At the conclusion of the war, there were an estimated 20,000 individuals still under the age of eighteen who were or had been associated with the Maoists and an unknown number of minors who had been associated with government security forces. There were many more individuals who were over eighteen years old at the conclusion of the war, but who had joined while they were minors.

One of the pitfalls of examining the effects of war on the social fabric is the neglect of putting the war in the context of what came before the conflict. Granted, in some conflicts such as Afghanistan or Uganda, any delineation of before versus after war would be artificial. However, in the case of Nepal, one can speak of conditions prior to the People's War, and one can speak of the lives of children before they joined armed groups. This is crucial. Otherwise, there is the risk of attributing all social problems to the war when, in reality, the problems may have long predated the war.

Caste-based, ethnic, and gender discrimination

One of the oldest ruptures in the social fabric is discrimination based on descent in Nepal (Kohrt et al., 2009). This predominantly takes the form of caste-based discrimination. Nepal's population comprises more than 60 ethnic and caste groups (Bista & Nepal. Dept. of Publicity., 1967; Whelpton, 2005). In the case of Raj and Maya, they are both representatives from two vulnerable communities. Raj is Dalit. Maya is Chepang, an ethnic minority group. Dalit is the now accepted term for groups previously classified as 'untouchable'. Nepal society operates under the Hindu caste system. The caste system in Nepal is rooted in the India *varna* system which divides society into social rankings based on ancestral lineages (Höfer 2004). The top of the caste system includes two main 'high caste' groups Brahman (historically priests) and Chhetri (historically warriors and rulers). At the bottom of the caste system are 'untouchable' or Dalit castes. In Nepal, high caste Brahman and Chhetri dominate politics, education, and business while Dalit historically are marginalized from positions of power. Punishment in Nepal traditionally has been disproportional based on caste status (e.g. execution for low caste accused of adultery contrasted with banishment for high caste), and inter-caste marriage was prohibited (Kisan, 2005). The caste system also relegates certain groups of individuals to demeaning professions such as cleaning toilets and streets and carrying out funeral rites. In both law and practice, upper castes severely restricted Dalit's feeding customs, type of clothing, places of settlement, wearing of jewelry, owning of household goods, and access to education.

Raj characterized his community as operating strongly in accordance with the caste system before the Maoists arrival. That meant the exclusion of his family and relatives from many interactions with higher caste individuals. Most of Raj's older relatives did not attend school because it would have 'polluted' the older caste children. No Dalits hold political offices in his village. This repression of the Dalit caste was used as a rallying cry by the Maoists. Raj explained, "They kicked out the caste discrimination system from the village." A Dalit girl from another village echoed this sentiment.

Bindu (16 year old girl from central hill region of Nepal): Maoists have done some good for Dalit.

They say that Dalit should not be insulted. They also say that there should not be discrimination against Dalit. Because of them, the situation is getting better.

Despite Maoist claims that they fought for the rights of Dalits, this was the group most often abused and exploited by the Maoists (Lawoti, 2003). They had the least power—both financially and politically—to refuse the demands of Maoists. Raj described the situation and the experience of his neighbor, who is a Dalit blacksmith; traditionally, all blacksmiths are from Dalit castes.

Raj: On the negative side, the Maoists forced people to join their group and forced them to do hard labor. People were beaten by the Maoists if they did not listen to them. Once the Maoists occupied my neighbors' house and his land and ordered him to make a plow blade. My neighbor answered to the commander that it takes time to make a plow blade. The commander got very angry with the answer and beat him very badly. My neighbor's mind cracked after that. He lost his mental balance from that torture. The Maoists had verbal rules and regulations so their rules are whatever they say. There is no written law.

Raj's association with the Maoists illustrates a contradiction inherent in Maoist approaches to caste. While the Maoists claim that they are working for caste promotion and in some areas did improve caste issues, low caste persons were also most vulnerable

to exploitation by the Maoists. Many of the Dalit children had been forced into conscription, as with Raj. These stories tended to involve a father who could not pay off Maoist 'donations'. Their children were taken in exchange for money. Wealthier families, who were typically upper caste, were able to pay bribes or make 'donations' to Maoists. These payments were a way for families to keep their children safe from being taken by the Maoists. In Raj's case, the family had no money to pay the Maoists, and thus, Raj was forced to join them. Based on the epidemiological study with child soldiers in Nepal, children from poorer and low caste families were more likely to be forced into joining the Maoists whereas wealthier, more educated, and upper caste children were more likely to describe their association as voluntary (Kohrt et al., in press). Those who joined involuntarily often suffered abuse at the hands of the other child soldiers. They were beaten and forced into hard labor, often performing the least desirable chores of the army.

As the Maoists recruited many Dalits like Raj, they also focused on recruiting members of ethnic minorities like Maya who was Chepang. Historically, the Chepang were hunter gatherers of Mongolian ethnic descent. They lived in the forests and low hills of southern Nepal. To those in Kathmandu, Chepang were jungle-dwelling "people who wear nothing and eat wood" as someone in Kathmandu explained it to me. The Chepang are an ethnic group not historically subscribing to the caste system, while at the same time at the mercy of caste-hierarchy in society.

Maoists used ethnic identity and discrimination by urban elites to recruit people from ethnic minority groups (Lecomte-Tilouine, 2004; Ramirez, 2004; Thapa, 2003a; Thapa & Sijapati, 2004). The Maoists claimed that Nepal would be a secular republic.

They would bring an end to the last Hindu kingdom in the world and in its place build a secular republic. They said they would turn back the process of Hinduization and Sanskritization that was supposedly transforming the country into a homogenous Hindu nation wherein the elite could look down their “big Brahman noses” at all the low castes, as a Gurung Maoist in western Nepal told me. Both Prithvi Narayan Shah, who united Nepal as a nation in the late 18th Century, and Jang Bahadur Rana, who made one of the first government social codes in 1854, saw bringing all the nation’s people under Hinduism as a form of social control to remove the threat of non-Hindu ethnic groups, such as the Chepang (Höfer, 2004; Kisan, 2005; Whelpton, 2005).

The Maoists, however, were led primarily by upper caste Hindus. One of the Maoist proposals was to establish ethnic federalism, with some of the more radical Maoist leaders requesting that the dominant ethnic group in the area rule in semi-autonomous states while the other minority ethnic groups would be forced to leave and relocate to areas of the country where their ethnicity was in the majority (Lecomte-Tilouine, 2004). This is similar to King Jigme Singye Wangchuck’s program in Bhutan; his “one nation, one people” campaign led to the torture and dislocation of thousands of ethnic Nepalis during purges in late 1980s and early 1990s (Hutt, 2003).

Ethnic discrimination can also be observed through the geography and planning of Nepal’s communities and resources. The Chepang community in southern Nepal where Maya lived was isolated from other ethnic and Hindu caste groups. Despite quality motorways in some places of southern Nepal, the Chepang community did not have the political or economic bribing power to obtain good roads in their village. This Chepang

village was in the middle of the forest, nearly a two hour drive from the nearest paved road. Maya described here experiences in school when she first encountered other castes:

Maya: While I was studying in the school, the Chhetri, Brahman, and Tibetans would dominate us. They tried to harass us and we would quarrel on the school bench. We sometimes fought. I was foolish. I didn't tolerate it if anyone looked down on me or said anything rude to me. I would beat them and sometimes I got hurt too while trying to hurt others.

I feel like laughing when I talk about the Chepang... Let's not talk about the Chepang of ancient times who lived before my birth. As far as I know and understand, they ran away whenever they saw others. They were very scared of new people. We also used to get scared when I was a child...especially when we saw people with fair skin like you. Chepang neither had homes nor farms. In the olden days, they had nothing at all. We don't know why they didn't have them. We were the lowest level of society. Everyone despised us and made fun of us.

Nowadays our tribe is still very weak. We eat if we can find some food otherwise we starve. Other tribes have education and employment; therefore they have good food to eat. We don't have anything so what would we eat? Our tribe is treated like animals.

We are hated, marginalized, and trapped because we collect roots and yams to feed ourselves. They call us *khate*, someone who is homeless and just lives on the street. In the olden days, our ancestors didn't wash themselves. They were neither educated nor aware of hygiene. In the past years and continuing today, Brahman, Chhetri, and Tamang parents tell their children not to be like the Chepang when they scold their children. It's true that our tribe has not been able to develop as other tribes have.

However, Maya then went on to describe a changing ethnic and political landscape.

These changes were both something discussed before the People's War and also a major part of the Maoist rhetoric of the People's War:

Maya: But, anyone can do anything now. We are no less than anyone else. We spread the awareness that we can do many things. Society and times are also changing. Our tribe is lagging

behind. We do not have a clear vision of how to move forward so how can we move ahead? Still, I try to encourage others and create awareness among my neighbors and among my tribe that they should learn skills, get employment, and educate our children. Whenever I hear someone use derogatory words to refer to our tribe, I immediately scold them and they don't dare to use slang in front of me. Although I am uneducated I do understand things quite well. People in our tribe are becoming aware of their rights with the help of many organizations. Radio and television programs now also present positive stories about Chepang people.

Maya explained that these changes were not simply the result of Maoists or NGOs, but also the outcome of dedication from within the Chepang community:

Maya: I do not know for sure about who did it, but I think it must have been people with good hearts. There are Chepang people who are far more educated and talented than I am, and that is why some have become leaders. In our village there is a man named MN Chepang who completed his SLC and became a school principal. He also established an organization named Chepang Welfare and Protection Society. He is very talented and knows how to dance, sing folk songs, and has acted in movies as well. Other brothers from our tribe have also done impressive things like this.

I feel so happy when I think about the Chepang who have made progress in their lives. I also want to do that with my life. I am very happy when people like you ask me about it because I can tell you how Chepang people are progressing, and then you can tell others. I often call the community office and ask them to let me know if any program is going to be conducted in our area. I ask them not to exclude Chepang people in any programs. I feel confident that I can and will do something to improve the lives of the Chepang.

Caste and ethnic discrimination are major features of the social landscape of Nepal. Another feature is gender discrimination. Lynn Bennett (Bennett, 1983), in her

ethnography of upper caste women, writes of Hindu rhetoric reflecting gender divisions in some communities of Nepal.

Upper caste woman (quoted in Bennett 1983:216): *Bhagwan* [god] has divided sin between the Ganga [river], women, and firewood... They say our menstruation is also a sin, and if our sin is not secluded it becomes a great sin... Women must have sinned, I don't know. It may be that the sin which was committed long ago has been distributed to all... We must have done something in the last life so He distributed the sin and sent us menstruation.

Bennett explains that the early death of a husband is considered his wife's fault. Women are responsible for maintaining their husbands' long lives. "Some sin in a previous life causes a woman to become a widow in this one," (Bennett, 1983:219). Bennett continues that for men, their wives are a danger and a threat; their actions dictate how long they will live and their health, and they are the provider of progeny to guarantee a man's salvation at death (p.222). "Good women are believed to die before their husbands," (p.229).

Girls saw the Maoists as an opportunity to join strong women and some of this patriarchy. One girl described how in her mothers generation, women were not allowed to talk to anyone in public. They could only speak with their husbands. Bindu, the Dalit girl from the central hills explained the conditions her community.

Bindu: There is discrimination between males and females. There's no equal treatment... In our Hindu tradition, women are prevented from moving ahead of men in any type of work... We're deprived of higher education... [W]e have worked hard in our village to work toward a better future and to become like men... Parents do not think of a bright future for their daughters at all. They themselves haven't studied a bit and how can they understand. If I tell them to educate women then they ask me "Is the elephant big because it studied." Then what can I tell them.

Author and activist, Manjushree Thapa explains,

[F]rom a quite small age ... things like nutrition are different for girls, as opposed to boys. The amount of work they are expected to do in the household is different for girls. They are expected to cut grass, they are expected to bring fodder for the animals, take care of the animals, much more so than the boys are; and the boys are expected to contribute a little bit... [A]s they get older, the expectations start to diverge more dramatically, the girls are... are pressured greatly to be more domestic, to be more active in the household arena and boys are encouraged more to go to school. (quoted in (Koenig & Kohrt, 2009))

Gender discrimination, however, is typically considered to be greater among Hindu caste women and be less pervasive among ethnic minorities, such as among the Chepang. Maya, by my estimation, was a strong young girl before she joined the Maoists and the Maoist women's division likely sought her out because of her confidence and charisma. It is in this area where Maya differs from other cases. Of all the girl soldiers that I met, Maya displayed more self-assurance. Maya saw the Maoists as a tool or stepping stone for her own desires, which ranged from the opportunity to bully others to advancing ethnic rights. While many of the child soldiers' stories illustrate the exploitation of children, Maya followed her own course within the Maoist. And, in the end, the Maoists have not deterred her from her ultimate goals, which included reducing violations against women. A community health worker in Maya's village described events leading up to Maya's association with the Maoists:

Community health worker in Maya's village, 28-year-old upper caste woman: I think Maya joined the Maoists for her own interests. Chepangs live in the jungle. They make a living by searching for herbs, vegetables, and fruits only found in the jungle (*kandamul*). Chepangs live and fish in the jungle, too. Most of the male members of Chepang families usually go out of the house

to search for food and sometimes women also go with them to help.

Maya told me that once two or three Chepang women of this village were raped when they were collecting grass and wood. They were raped by a group of patrolling RNA (Royal Nepal Army) soldiers and armed police. Maya had known that RNA soldiers and police behave this way toward Chepang and Dalit women. So, when Maya heard of this event in her own community, she was so enraged that she decided to join the Maoist party to take revenge on those rapists. Then she met the commander of a Maoist party along with another friend and asked them if she could join the Party.

Thus, even before the People's War began, there were wide rifts in the social fabric. Groups such as Dalits and ethnic minorities were excluded from positions of social agency. And, this was something learned early in life through exclusion processes involved in education and other social experiences. Another central form of social marginalization was gender discrimination, which is in part why the Maoists were so successful at recruiting women (Pettigrew & Shneiderman, 2004; Sharma & Prasain, 2004; Thapa, 2003b). These factors are important to keep in mind when considering use of traditional rituals for reintegration, especially for reintegration of marginalized groups.

Experiences with the Maoist army during the war

Prior to the People's War, inequity was easily observed in social relations in most regions of Nepal—as is the case in most of the world. The Maoists may have attempted to remedy some of this social inequity through their agrarian revolution. However, the war also added additional tears in the social fabric exemplifying what Kleinman and Desjarlais refer to as the interpersonal effects of mass violence: “lost relationships, the

brutal breaking of intimate bonds collective fear, and an assault on loyalty, and respect among family and friends,” (Kleinman & Desjarlais, 1995:180).

Lost relationships took on a number of forms. The death of a relative was one manifestation. In some cases, children interviewed for this study explained witnessing Maoists or government security forces killing their parents. Maoist leaders repeatedly draw attention to the thousands of children who were orphaned during the conflict. These Maoist leaders explain that they were then ‘forced’ to care for these children whom the State had left unprotected (Koenig & Kohrt, 2009). It was not only adults, children also lost friends and peers through the violence. Child soldiers described witnessing friends killed in battle. Raj was no exception. After spending a few months as a drummer in cultural programs, Raj was selected for military training and made a member of the PLA.

Raj: I learned to operate all types of weapons like grenades, guns, and other explosives.

I was scared at the beginning, but I got used to working with weapons. During the conflict, I got injured from a bullet. The commander of our group took us to Chisodunga to plant rice, but on our way he announced that instead of planting we had to carry bombs and attack the Royal Nepal Army. Some of us had to stay as sentries. After our commander’s orders, we started attacking. And, then the RNA returned fire. A government helicopter started bombing. Many of my friends and I were injured. We did not have any proper medical treatment. I think I got injured by mistake from a bullet that my friend fired.

Many people from both sides died in that battle. I did not have any hope that I would survive. I thought that day was the last day of my life. We carried our friends’ dead bodies and took them to a nearby village for cremation. It was so sad that I could not give them a drop of water when they were dying and asking for water. The situation was so dangerous that we could not do anything for our friends. When I think of that incident, I get scared and cry.

We were all scared. My friend was knocked unconscious from a gun blast. We changed him out of his army uniform and gave him our civilian clothes. Then we let him run away from the

combat. When we went into battle, we had to carry shovels with us to dig holes and burry bodies if some of us died in combat. Sometimes, we did not have time to dig holes, so we had to leave the unburied bodies behind.

I have many sad and unforgettable experiences in my life. We were in a place called Raatopaani, and we had four young girls with us. They were new to our group. When we were going to another village from Raatopaani, the government armies were coming from the other side but we did not know that. They captured us and took two young girls from our group and raped them and killed them with Gurkha hunting knives. We ran away; otherwise they would have killed us, too.

The most sad and unforgettable experience happened in Mastapur. Many of my friends were dying asking for water, but I was so helpless that I could not do anything for them because the battle was very dangerous. I still get scared and start sweating when I think of that day. I especially remember one friend who asked for water on that day. I cannot do any work if I think of that day. I get very disturbed and want to be by myself in a quiet place. I need to stay busy. That helps me to forget about that day. This kind of experience creates a bad impact in our society for a long time.

Raj expressed the need to stop thinking and ruminating about the event. He said that he wished people in the community would treat him and other former child soldiers better. If the community treated them like other children, they would feel better, he said.

Maya explained that although her experience was generally positive with the Maoists, it was not without the experience of loss:

Maya: I was involved in People's Liberation Army when I joined the Maoist. When I joined the Party, I was involved in their activities, I hung out with them, I lived with them. When I was involved in the Party, many people said that I was a good person, and they hoped that I would do well in life. They told me that I was hard working and no matter what I did, I would always

succeed. Many people asked me for help. The Maoists would encourage me to convince villagers to join the Maoist movement.

Once, a government vehicle came. It was the Nepal Army. We had to escape at night. I was scared. I carried a bag and ran away in the jungle. Three of my friends were killed. I spent the entire night running through the jungle. Eventually, I reached my village. I was so glad that I was safe. If they had caught me, they would have punished me. Normally, I don't get scared. I don't get scared unless I make a mistake.

Maya went on to describe violence and the loss of friends during her work with the Maoists. In one incident, villagers informed the police about Maoist activities in their village. An undercover policeman caught another young Maoist on a bicycle and shot him in front of the villagers to discourage others from joining the Maoists. They left the body to rot in the middle of the street. Maya and the others removed the body. I present this example because Maya's matter-of-fact description about her friend's death and then carrying away the corpse contrasts dramatically with Raj's account. Their stories differ because of Raj's Hindu beliefs about purity and pollution. Maya, a member of a Buddhist/animist ethnic group did not endorse similar religious beliefs about the corpse polluting her. Children not associated with armed groups also witnessed the death of peers. The widespread use of improvised explosive devices, often planted around schools, led to the deaths and maiming of children.

In addition to the severing of social ties through death, there was also separation of children from their families. This happened through either parents or other relatives being abducted or disappeared or through children being abducted or forced to join an armed group. Maoists have forcibly recruited children to care for the wounded and transport the injured and dead (Ogura, 2004). Children lived in fear of violent battles on

school grounds and abductions by Maoists to attend indoctrination programs or to be trained as child soldiers (Singh, 2004; Singh et al., 2006).

Also, in Maya's case in which she joined voluntarily, this negatively impacted her family:

Maya: The Maoist sisters showed interest in me. I would talk to everyone confidently and I was not timid. I would ask questions of them. They liked me a lot and said that they really needed people like me. They said that they wouldn't leave without me and insisted that I go with them. My mom cried when I said I would go. I was the only daughter in the family. I was the only sister to my four brothers. My mom urged the Maoist women to leave me and take someone else's daughter. But, I told my family that I would leave them behind. My mother cried and told me that I should visit her from time to time. She requested the Maoist woman commander not to send me too far away. My parents said, 'If you still want to go after our attempts to convince you, you will suffer. You are our only daughter and we love you very much. If you want to go deliberately, we have nothing to say.' They cried but eventually told me to do whatever I wanted to do. They wanted me to use my intelligence. When I left, they said that I should come back and visit whenever I could.

Maya's 18-year-old sister-in-law who lived with the family explains the reaction to Maya's departure:

Maya's sister in law: It took us four or five days to realize that she had left permanently and joined the Party. Both her parents were distraught that she had run away. Her brothers went to search for her. They encountered a Maoist group who informed them that she had already left the village. About three weeks later we finally met her again. We pleaded with her not to join the Maoists. But, she didn't listen to us.

This contrasts dramatically with the experience of Raj's family. When he left to join the Maoists, Raj's father—whom he saved through his association—called Raj a heartless jackass.

Another form of lost social ties was not through the physical loss or separation but rather through the disintegration of social roles. Children were forced to watch the humiliation of adults by Maoists, often consisting of violent harassment of teachers and caregivers (Boyden et al., 2006; Pettigrew, In press). Berg (Berg, 2003) describes the public beating of the Hillary Secondary School headmaster by Maoist cadres. These types of experiences, which were reportedly widespread (Watchlist, 2005), damaged a sense of security and safety related to the adult roles of parents and teachers (Boyden et al., 2006). For example, in the case of Raj, he witnessed his father being brutally beaten by the Maoists. And, Raj was forced to take on the role as protector by trading his freedom for his father's life. Maya, in contrast, thrived on the inversion of social roles. She described her pleasure in being able to threaten and intimidate adults, especially gambling, drunken men, with the backing of the Maoist party.

Traditional healers and the Maoists

As this paper focuses on social interventions and traditional healing, it is crucial to highlight a specific agenda of the Maoists in the People's War: the rejection of traditional shamanistic healing. The Maoists have advocated for the use of 'scientific' medicine and for no longer relying upon 'superstitious' traditional healing.

Shamanic healers play, or at least have played, an important role in communities in social interactions and interpersonal wellbeing. Maskarinec documents the manner in

which shamanic texts “emphasize the shaman’s skill at maintaining social order, rather than his abilities as a sorcerer” (Maskarinec, 1992:726). Moreover, spiritual and cosmological concerns become manifest in quotidian social interactions; and, following Lévi-Strauss, Maskarinec explains that the shaman through manipulation of symbols affects change on both of these plains. Thus, the Nepali shaman is able to instruct villagers how to correct cosmological and spiritual disturbances through correcting their social interactions, “translating [cosmological] relations into clear, moralistic injunctions complete with heuristic examples of the consequences when they are violated,” (Maskarinec, 1992:727).

Peters (Peters, 1981) analyzes Tamang shamans (*bombo*) from a psychoanalytic perspective. Peters focuses on shamans as wounded healers. Peters devotes considerable attention to the larger social context of the healing. For example, a physically abusive and neglectful husband changes his behavior after a healing ceremony. Other elements of Tamang shamanic rituals include drum beating, night-long performance, and physical contact (often through biting). Peters' describes changed domestic relationships as a potential source of shamanic healing.

Anthropologist Anne de Sales has worked extensively with the Magar ethnic group in the heartland of the Maoist insurgency. In 2006, De Sales presented a paper describing the contrast and conflict in Maoist and shamanic knowledge at the village level (De Sales, 2006). De Sales described that, historically, in legal documents of the 1800s there was no government challenge against shamans. They only were punished if they were wrong such as in false witch accusations. In contrast to the existing government, the Maoists have stated their anti-religious stance which has been expressed

through banning of shamanic rituals. The Maoists perceive shamanism as anti-scientific and superstitious. Moreover, the Maoists view the rituals as an excuse to consume alcohol and waste money in the form of animals contributed for sacrifice. I asked De Sales what the Maoists view as the alternative to shamans. She answered, “The Maoists are seeking to replace traditional shamanic community ceremonies with their own community building rituals. They want to supplant the shamanic/superstitious community rituals.”

The persecution of shamans and rejection of shamanic practices is not something that only occurs in the Maoist heartland of midwestern Nepal. Maoist bans have been instituted throughout the country. Former child soldiers reported that during their association with the Maoists they were involved in beating shamans, burning their ritual sites, and urinating on their ritual artifacts. This represents a challenge for social relations within communities because shamans, as Peters and Maskarinec have described, help to regulate relationships and resolve social differences. Shamans not only help to maintain proper relationships among the living, they also mediate the relationships between the living and the dead.

Raj had been a shaman since boyhood. Not only did he suffer the social disruption of separation from his family and witnessing the death of his friends, his social identity as a community healer was also threatened through his association with the Maoists.

Raj: My grandfather was a shaman. He sometimes was possessed. Two years after my grandfather passed away, I started becoming possessed. Then I took my grandfather's drum and went to the cremation grounds at night. One day, when I was possessed, the deity started speaking through me. He said ‘After your grandfather died, I have appeared to you. You should go to the river, take a bath, and purify yourself. Worship me to become a shaman.’

This was the traditional form of passing the practice of shamanic healing from one generation to another. Often, a boy will find himself possessed by the shamanic spirit of his father, grandfather, or uncle. Raj described his experience when going into a shamanic trance:

Raj: I do not know what I do when I am possessed. My eyes get unfocused, my body shivers, and I think the god inside me starts talking. First, my heart starts shaking and my whole body shivers. If I see any sick person, then my body starts shaking. If I any see anyone who is possessed by a god, my god tells it to my *dimaag* (brain-mind) and my *dimaag* starts saying things. I cannot tell or notice if god appeared on me or not. I speak when god tells me to speak. Sometimes, I do not know what I said. I just follow what the god says. Sometimes god takes me to the cemetery, I mean he tells me to go there.

Raj's mother expressed pride that her son was a shamanic healer:

Raj's mother: Raj is my eldest son. He is seventeen now. We have ten members in my family. Raj was very gentle as a boy. The economic condition of my house was very poor but we still sent him to school. My husband worked in India as a laborer. Raj has been very honest ever since he was a little boy. He got along with his friends and he listened to me. His behavior was good. When Raj was eleven, Raj's grandfather passed away. Raj's grandfather was a *dhaami* (shaman). I think *dhaami* only possess bodies of gentle and honest people. Because Raj was gentle and honest, the *dhaami* possessed him. When the *dhaami* possessed him, he started shivering, and said he wanted to go to a *ghat* (cremation ground) and he also babbled in a language I could not understand. This happened to him a couple of times. My brother-in-law is also a *dhaami*. He came and did some ritual *puja* (worship) for Raj, and Raj became better. Everything was fine with him before he went to the Maoists.

A friend of Raj explained that people knew of Raj as a shamanic healer in the village:

Raj's friend: His uncle was a shaman. I heard that his uncle's power was transferred to him. He said he was a spiritual healer. Raj told me that god only possesses those who are innocent and follow spiritual rules and regulations. When he was in school some people, we called him a *dhaami* (shaman). I heard that he was only possessed during worship. He was fine and did not have any problems before going with the Maoists.

A community health worker also describes the role of Raj and his family in performing shamanic duties for their village:

Community health worker (36 year old male): Raj's ancestors have always lived in this community as far as anyone can remember. Raj's grandfather was also a shaman. He passed away about eight years ago. It is a saying in the village that Raj's family follows shamanism. During festivals, Raj's family was invited to perform shamanic rituals for good crops. When he first became possessed, they called his uncle who then treated Raj. Raj's uncle told the family that god possessed Raj's body. Raj then called himself a shaman. He sometimes cured people. I heard that Raj started being possessed when he was eleven years old. I think Raj strongly believed in shamanism.

However, after becoming part of the Maoist army, Raj's identity and wellbeing deteriorated.

Raj: Then I was taken by the Maoists, and they did not believe in such superstition. While I was with the Maoists, I could not do anything that my deity told me to do. I did not have any problems with my deity while in the PLA at the beginning, but later I had to carry dead bodies, and I started being possessed again.

Raj explained the Maoist attitude:

Raj: The [Maoists] said it was worthless. They don't believe in god. I have seen some shamans being beaten by the Maoists. And, they rip up the shamans' books or throw them away.

Another boy soldier interviewed with Raj, added:

15-year-old boy soldier: I think they believe in it. Many of them recover from their sickness by following god. The Maoists say they do not believe in that. But, when they come home, they start calling shamans to treat them.

Handling corpses is considered one of the most polluting activities in Hinduism, such as eating beef or touching a woman during her menstrual period. After an individual is polluted, he or she can no longer communicate effectively with his or her gods. In Raj's case, touching the corpse had polluted him and offended the shamanic deity. The offended deity then began to make him sick rather than endow him with healing powers.

Raj's mother: The shaman god became angry with Raj because he had to carry dead bodies and eat anything that he found. He couldn't follow the rules of the shaman god so his body started shivering. He dreamed only about war. He has nightmares. Raj was a very jolly person but since he came back from the Maoists, he sits only by himself and does not want to go near to the people and talk with them. He worries all the time. He went to India with his father to work but he was very weak and couldn't work so he returned home. He is very sad because he had to quit his studies. His heart is broken. He speaks very little these days. He is not happy at all.

Raj's friend: He said his shivering sickness troubled him because he carried dead bodies and ate food cooked by other people. ... Raj said he suffered from his shivering sickness because he could not follow the spiritual rules and regulations while he was with the Maoists. He is very distracted and gets angry very quickly if we joke around. He stays alone and does not go out of his house. He worries all the time. I think he speaks with himself and thinks of his friends who died during

battle. It seems as if he has big problems inside him.

Raj was married at fifteen years old when he ran away from the Maoist. However, immediately after marrying, the Maoists tracked him and abducted him again. Raj's wife, who is a year younger than he is, also observed the changes in him:

Raj's wife: I heard that he sometimes get possessed. I think he was fine for a couple of months with the Maoists but later god got upset with him and he started to become possessed. When I married him, he was fine at that time. I am not allowed to give him food that I cooked during my menstrual period, and also I should not touch him at that time.

The village health worker also observed the changes in Raj when he returned from the Maoists:

Community health worker: Before Raj joined the Maoists, simple worship (*puja*) worked for him to get well if he was possessed, but now it does not work in the same way. This is because he is very disturbed and scared by the situations that he saw in the Maoist group. He is very spacey these days. He does not respond to what we say. I think, he always thinks of his past and is anxious about his future because his economic condition is poor and he has no work to do. It looks like his life is full of problems and difficult to deal with.

Raj's mother added that Raj does not like to speak with anyone in his family and he stays alone and worries all the time.

The distressing account of Raj's experience illustrates the double threat to wellbeing. He experienced a rupture in social relations through his association: he was separated from his family, and he was witness the death of friends. And, Raj suffered a

threat to his identity as a healer. Raj manifests these experiences as a possession sickness as well as social withdrawal, inattention, and despair.

After the war: the challenges of reintegration

In the two previous sections, I have described how both pre-war conditions and war-time experiences include threats to social wellbeing and interpersonal relationships. Unfortunately, the return home after war is not solely a positive experience of reintegrating into community and family social networks. There can also be challenges to social relations after the war when a child soldier returns home.

The challenge to social relationships is a result of the dramatic change in the security and behavioral landscape of formerly Maoist controlled areas. After the April 2006 People's Movement II in which the king relinquished power, many Maoists abandoned their rural posts and descended upon Kathmandu. This left many of their previous bases now devoid of any force of law and order. The Maoists had killed or forced out any government police or army personnel a few years earlier. They had been ruling rural areas with their own security forces and 'People's Courts'. The police that recently had been sent back to these rural areas were impotent in the face of citizens of the 'New Nepal'. Ever since the public rose up against the armed police in April 2006, people felt that they did not need to obey officers of the law. Since the uprising, policemen rarely intervened in any matters and typically ran away from their rural posts.

With the Maoists gone, there was a general law and order problem. There also was increased alcohol consumption. Without Maoists, there was no longer the threat of public beating, tarring, and taxing of people caught acting drunk and disruptive. Although

alcohol-related social disruption was the most commonly reported effect of the Maoist flight from rural areas, there were also awful acts of violence now perpetrated with impunity. In the village where Raj lived, a few days before I arrived to interview Raj, a young girl had been raped by a gang of men when she was sent to stay alone in a distant goat shed during the time of her first menstruation. “If the Maoists were still here, those boys would have been beaten and forced into hard labor within People’s Liberation Army,” a shopkeeper told me. Another resident of Raj’s town who had also been a child soldier with the Maoist army explained,

Boy soldier in Raj’s village: The conflict helped to remove the business of alcohol from our village. The Maoists punished bad people in the village who treated villagers badly. On the other hand, people had to leave their homes and businesses because of the conflict. Villagers were so confused because they did not know what they should do. They were forced to cook food and give shelter to the Maoists. Then the Royal Army punished and questioned them for providing food and shelter. And, if the villagers provided food and shelter to the Army, then sometimes villagers would get beaten by the Maoists. Sometimes, the Maoists forced villagers to join them and follow what they said. Sometimes, the Maoists tortured people if people did not listen to them. So villagers suffered from both the government and the PLA. All the people wish and want to have peace soon.

Raj added,

Raj: Yes, larger amounts of alcohol are consumed in this village these days. During the conflict, the Maoists did not let anyone sell alcohol. But, they don’t stop it anymore. So people get drunk and create fights. I have seen a store that sold 160 bottles of alcohol in one day... I think on the positive side, the Maoists to helped stop alcohol use in the village when they were here.

A second aspect of social problems after former child soldiers returned home was the threat they posed to their family and community. Maya's sister-in-law explained,

Maya's sister-in-law: The worst thing was that if the Nepali army knew that she is in that Party, they may beat, capture, and kill us.

Child soldiers, not surprisingly, are often apprehensive about returning. The family and community may not immediately welcome the returning child.

Adult man in eastern Nepal: Child soldiers returning home often feel inferior to other children. They are embarrassed because their friends are now much further ahead in their schooling. They have a difficult time adjusting with other children. Families do not trust them easily. It is difficult to win the heart-minds (Nepali *man*) of parents. Marriage and job prospects are also poor.

Green (Green, 1999, 31) describes the rupture of families in the Guatemalan civil war.

She provides vivid descriptions of how collective violence led to trauma, specifically the rupture of family: "the dividing of [family and kin] loyalties has been instrumental in perpetuating fear and terror."

Maya had not wanted to return home, but after a discussion about the effect of her absence on her family, she decided to return.

Maya: I was determined to work for the Maoists, but then I met an old man in the Party. We called him Bhutani father. He was a commander. The cadre who had brought me to the station had gone away so some other young people and I were talking with Bhutani father.

Bhutani father asked us, 'Why did you come here? What for? What aims did you have?' I told him my aim. He said, 'You all are very young. You should study. You shouldn't put your parents in danger. I myself should not have joined the Maoists, but I did. I am telling you this because I feel pity towards you, and I think of your parents. Dear children, it is better not to be

involved in this if you can avoid it. Leave if possible. I will convince the person who brought you here that it is okay for you to leave. You should go. I will find someone to take you home.’

Bhutani father liked my frankness. He was very interested in me. He asked me how many family members I had. I answered all his questions. I told him that I was the only daughter and that I had four brothers. He was very compassionate towards me. He told me to leave if possible. That night we stayed with Bhutani father in a villager’s house. We talked for four or five hours, and he kept trying to convince us to go home. I started thinking. This was an elder person giving me advice so I should listen. Plus, my parents at home had not wanted me to leave. I felt touched by what the old man was saying. He was right, I had abandoned my parents. I was the only sister to my four brothers. If I get killed, then the only daughter of the family would be no more.

Once I got back, no one in my house wanted me to return to the Maoists. They managed everything immediately so that I would be safe. My mother cried a lot. My parents immediately arranged loans from our family and neighbors. They raised the money to send me somewhere else where I would be safe if the Maoists came looking for me or if people in the village took revenge on me.”

In a few days, I left home again, this time with my brother. My brother didn’t go with me all the way to Kathmandu. I went to a place where I had never gone before, bypassing the major roads. Then I got on a bus without help from anyone... I knew that some people back in my village hated me for joining the Maoists. I had to live in Kathmandu to be safe.

Maya remained working in Kathmandu until she caught pneumonia. “I liked the work, but I got sick,” she explained. Suffering from pneumonia, Maya returned to her southern home district, but not to her village. Her family still thought it was unsafe and the peace accords had not yet been signed. After getting medical treatment, she stayed in the district center of her home region, a large town where she could preserve some anonymity. She worked there in a hotel.

After staying away from her village for more than a year, Maya recently returned to her parents' home after the peace accords were signed.

Maya: I hardly let people know about my affiliation with the Maoist party. I was mostly careful not to reveal what I was doing, what path I was walking, and what my aims were. I didn't want people to identify me as a Maoist. I hardly gave any clue to my school teachers or people in our village. Some might know. Many people might know that I really was a Maoist, right? They might know from one way or the other. I didn't let them know why I was gone from the village.

Child soldiers explained that recently the situation in their villages has become more difficult. After the peace accords, the Maoists and other political parties started violent youth groups to enforce their dictates and assure their victory in local elections. The most prominent youth group is the Maoists' Young Communist League (YCL) made of up of many former child soldiers. Maya explained that there is pressure on children who were part of the Maoist army to join the YCL.

Maya: Well, I can't stop loving the Maoists entirely—I can't hate the Maoists. They had helped me to some extent when I was in need. When our family's economic condition was weak, they brought rations for us. They would also give me some pocket money. I will not completely stop loving them. Although I won't stop loving them, I don't have any intention to go there again. But, I can't disregard them. I will do my level best to help them. I will keep on helping them when they are in need. I will provide any possible help that I can from my house. But, I won't go join a group. Instead, as I said earlier, if I get a job, I will show the world something good after one to two years of hard work and struggle. I will neither join them again nor disregard them. As far as possible, I will help them.

While safety related to Maoist association is a concern, one of the most common themes was the concern over Hindu purity of former girl soldiers. Girl soldiers in areas

that were predominantly Hindu reported that when they returned to their communities, they were often marginalized. The exclusion was frequently explained or justified because the girls were no longer pure (Nepali *chokho*) by Hindu standards. They were considered polluted (Nepali *jutho*) because they had been outside the watchful eye of a father, husband, or other male relative. It was then assumed they were sexually active or impure through violating caste regulations. Girls especially reported sexual harassment and threats from the community in midwestern Nepal where the region is predominantly Hindu. In public they were insulted with derogatory terms about their sexual character such as “*nakachari, kumari keti chhaina, ketaharuko sutne ochhyaan*” (girl of poor character “loose bird”, not a virgin like the Kumari, a bed for boys to sleep upon). One girl from the central hills of Nepal who did not join the Maoists explained, “Everyone treats girls who leave the village badly. As soon as she leaves, everyone assumes she took off with some boy and is now impure.” The girl continued:

16-year-old girl who did not join the Maoists: I also thought of going to join the Maoists. I want to escape all the hardship of life here. So I thought I must go and join up. Instead of suffering here, it would be better to deal with the Maoists. But, then I would stop and think and my senses would return. Girls' heart-minds at this stage constantly go back and forth. At 15 or 16 years old, it is difficult to grasp the importance of your decisions. I realize that in an instant a girl's life could be ruined forever. But, so many of my friends have joined and left.

A male Brahman health worker in eastern Nepal had said, “Young people just join the Maoists because of ‘free sex’.” He said ‘free sex’ in English. Many others had described this Maoist environment of ‘free sex’.

Maya returned to a community that was not Hindu and was geographically isolated from Hindu communities. The contrast of Maya’s reception at home to that of girls in Hindu communities is startling. In a Hindu community a few hours drive from Maya’s home, a girl soldier’s mother wanted to prevent her from returning to the Maoists so she immediately married her to an older man in a distant village, despite her 14-year-old daughter’s protests. Maya’s family, in contrast, rallied around her finding a way to support her and keep her safe. I asked Maya about sexual violence within the Maoists.

Maya: It might be partially true, and that’s why people talk about it. We were accustomed to caring for senior and junior commanders. But, I didn’t see any bad things and I didn’t hear any bad things either while I was there. I don’t think they do such things there. While I was with the Maoists, I didn’t hear about any unpleasant things. Many people in the villages talk about it. I think ignorant people say it happens with the Maoists, but I still think that such bad things don’t happen there. Both men and women have so many things to do there, how would we have time for these things? We have to be ready to run away at any moment. I think these ideas just come from people outside of the Party.

A shaman in the New Nepal

The Maoist said throughout the war that they were fighting for a ‘New Nepal’. Raj fared poorly in this New Nepal. Raj’s return was an extension of the difficulties that preceded his association and that characterized his time with the Maoists. He reported that he was struggling to restore his health and his shamanic healing powers. All of the damage from the polluting experiences that occurred with the Maoists required a larger

ceremony, a ceremony he and his family could not afford. The ceremony would appease the spirit and cleanse him of the polluting effects of having carried dead bodies.

Raj: We do not have the money to follow what my deity told us to do. I still have not done the *puja* (ceremony) that the deity told me to do so I think my parents and my brother have also become sick. We are hoping to do the *puja* soon.

Fortunately, he did disclose that he still had some healing abilities, which he was putting to use:

Raj: I have cured many people. Yesterday, one of my neighbor's babies got sick so they brought the baby to me. Right after seeing the baby, my body started shaking and I did *puja* for the baby. The baby got better.

I asked Raj if his healing abilities afforded him any social status within the community.

Raj: Some people are good and some are very selfish. Some said I came back from the Maoists because I was not worthy to be a Maoist. They look down on me.

When asked what would help him most, Raj like many other former child soldiers said he wanted a job.

Raj: I think there should be job training programs for us so we can earn some money to make our lives better. People in the community would not look down on us if we had jobs. I want to learn photography, and I want to open a photo studio here in [our village].

Yet, Raj did not have a job. He attributed his lack of a job to discrimination:

Raj: People still discriminate against me because I was with the Maoist group. Let me give you an example which happened this afternoon. Villagers were having a discussion about keeping a guard for community forest near my house and I requested them to provide me that job, but they rejected

my request. I thought that if I would have that work, I would earn some money and it would help me to run my family. My economic condition is very bad. My father returned from India because he is sick. I think they did not hire me because I am from a Dalit, low caste.

This comment from Raj was illustrative of the challenges he know faces in his community. When he feels discriminated against, is it because he is Dalit or because he was a Maoist?

Ethnic identity in the New Nepal

Maya, unlike Raj, reported to a more supportive family situation even if they were equally lacking in material resources. One of the reasons Maya had joined the Maoists was to fight for the ethnic rights of Chepang and other minorities. I asked her how the Chepang were faring in the New Nepal.

Maya then began to explain the injustices that have occurred to Chepang people in her community since the war ended. Her brother had been arrested on false claims, and Maya felt it was because he was from a Chepang family.

Maya: I do not know for sure what happened to my brother but as far as I know from him, it was some ethnic issue. Only after leaving this community did I learn that in other communities people conspire against Chepang villagers. People place false accusations on Chepang and put them in jail when others have done something wrong. You would be shocked if I showed you the list of the names of Chepang people who are in jail for crimes that Brahman, Chhetri, and Tibetans commit. My brother was tricked into a rhino issue. He was accused of rhino theft. He used to go to the jungle. You see, my family could not attend school because our economic condition has always been very poor. We do not have enough food to eat or clothes to wear. We used to go into the jungle to fetch plants to make materials like brooms. We would sell them in the market for fifteen or twenty rupees per piece. Most Chepang are in this profession. Had our parents been

government service holders, we would not have been forced to do this. But, today we still go into the jungle for ten or twenty days a year to collect things. The difficulties we face in the jungle are inexplicable.

Maya went on to explain how her brother had been tricked into going with a group of men to kill a rhino. Her brother was blamed for the crime, while the poachers and rhino disappeared. Maya said the men made her brother drunk to get him involved and then place the blame upon him. Now, her brother is in jail for rhino poaching.

Maya: When I visited him in jail, my brother cried and told me in tears that it was bad luck that took him there. He didn't know when or how they killed the rhino and took it away. He has done nothing wrong. He doesn't know where others went or how they escaped. The main culprits have all fled abroad and are relaxing, but a poor Chepang boy was tricked and will spend many years in jail. My brother said that they abuse him in jail. When he started crying, I could not stop my own tears from flowing. Whenever we go to talk to him, the jailers ask for a bundle of money just so that we can see him. I myself went to the police station and asked the high ranking officers, 'If the main offenders and culprits are not charged, why is this law only enforced upon poor people?' I went alone and shouted at them, but no one would listen. Nobody can do anything.

Maya said the Maoists made promises to Chepang, but she felt they really did not help. She joined more because of the excitement and power of being a young soldier rather than a belief that the Maoists would change the ethnic discrimination landscape.

Maya: When I told people from the Party about my brother, I had tears in my eyes. They said they would help me, but they broke their commitment. They lied to me. Who could be happy with such deception? People say that is how it is with the Maoists. Only promises.

I asked Maya about her future. She explained that an NGO had given her money to start a small store in her community.

Maya: The NGO has helped me and I have a small grocery shop. I wish to expand this grocery into Chepang Wholesale Shop' and do something impressive for the image of the Chepang tribe. I would do better if the help provided to me were increased. I would like to show the world that an insulted outcast girl can do great work.

Traditional healing in post-conflict Nepal

The above accounts provide an ethnographic account of the social challenges affecting some former child soldiers in Nepal. The social problems are the cumulative effect of social ruptures before the war such as gender and ethnic discrimination, social disruptions arising out of the conflict such as death and separation, and social problems after the war such as the mistrust of returning children and discrimination against girl soldiers. The accounts also reveal the particular vulnerability of a child who is a traditional healer. This raises the question of what role does or can traditional healing play for former child soldiers. As mentioned in the introduction, there is widespread interest in promoting existing rituals for reintegration rather than employing Western psychological interventions. The success of reintegration programs for former soldiers and for restoring sexual purity of girls in African conflict settings have been held up as examples of ideal interventions.

Welcome ceremonies

A first question was to identify if any ritual or welcome process was conducted for returning children. Below are responses from adults in different communities:

Man in eastern district: If the Maoists bring the child back and tell the family to care for them, then they must care for them. Otherwise, they may beat, kill, or punish them when they return.

Man in eastern district: They are not welcomed back because the community wants to take revenge on them. The [former child soldiers] are now in the habit of walking in a single track without considering other ways of life. They have improved their speaking abilities, they are no longer shy, and they speak without hesitation.

Woman in Midwestern district: They suffer from depression when they return because they have been tortured. Society neglects them when they return. Their education track has been disrupted. They are aimless when they return to the community. They have a difficult time adjusting.

Man in western district: The former child soldiers feel very emotionally distant from their relatives. They don't feel close to anyone. Child soldiers feel that they cannot speak freely, and they don't feel like being with their families, either.

Woman in Midwestern district: [Former child soldiers] have problems if they try to go to school when they return. They are avoided by friends and avoided by family members. Politics hampers anything they want to do. They face difficulties getting married unless they marry within their own group.

Man in southwestern district: If the family or community members understand Maoist ideology, they will think that the child should not return home—they should stay and fight with the Maoists. If they come home, the family will say, “Why did you come home? Go back! You had joined [the Maoists] to help people fight for their rights. Do not come home until you have achieved your goals!”

In general, rituals and welcome ceremonies were not commonly practiced when child soldiers returned home. Community members reported that welcome ceremonies would be conducted more often if children returned in groups rather than individually. However, community members also reported that in many cases families wanted to hide the association of their child with an armed group (although typically the entire community knows of the association and return) so they do not want to acknowledge publicly the return through a ritual. Furthermore, community members feared public acknowledgement of return as this might be an opportunity for revenge or re-recruitment.

However, this does not mean that they did not occur or that they could not be promoted to help with reintegration. The majority of the children said that they did not receive a welcome from the community, but family rituals were conducted. Upon return, 17% used some form of welcome ritual, including calling traditional healers. While it is apparent that rituals were not ubiquitous, some were used, and it was highly regionally, community, and family dependent. Below I review a number of rituals and healing practices in Nepal that were identified as potential community-based activities which could be used for former child soldiers in this context. The rituals tend to cross-cut social domains and relationships. However, Figure 9-1 is useful to identify domains which are commonly the foundation for these different healing practices.

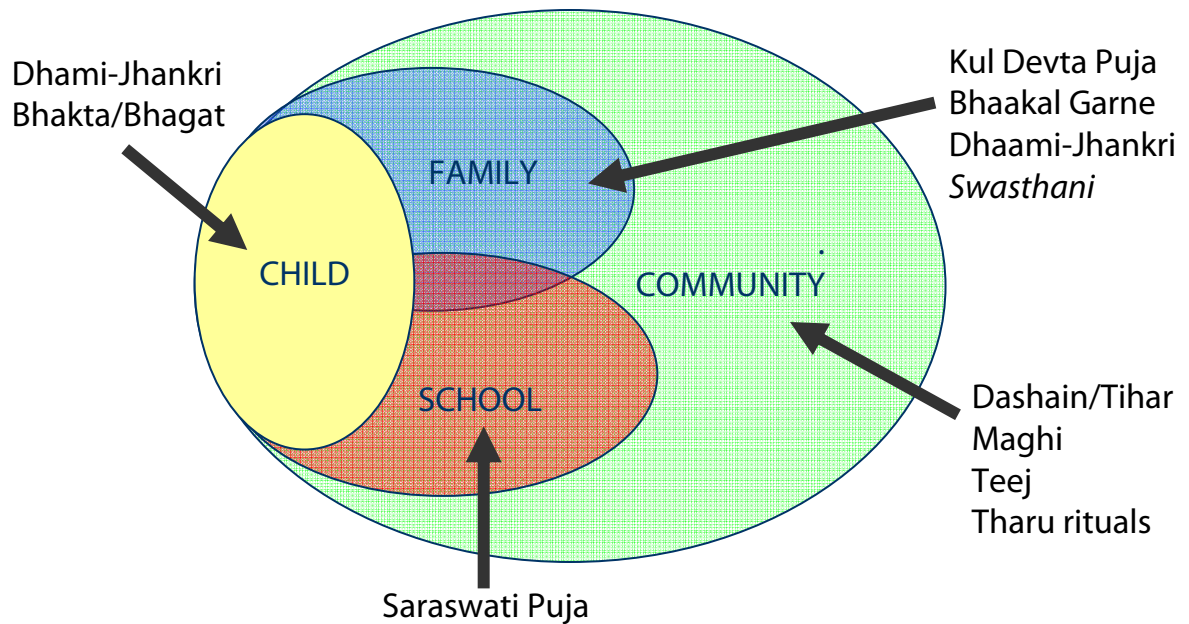


FIGURE 9-1. RITUALS IDENTIFIED BY COMMUNITY MEMBERS FOR RETURNED CHILDREN

Bhaakal

The *bhaakal* ritual was the most commonly described potential ritual for returning child soldiers, and it was likely the most commonly practiced. Turner defines *bhaakal* as,

A pledge, consisting of a [money] and some rice put on one side when a man wishing for some boon (such as health) promises to perform a sacrifice to one of the greater gods (the similar pledge made to a *kul-deutā* [ancestral spirit] is called *bādhā*). (Turner, 1931:473)

Bhaakal was commonly mentioned across caste and ethnic groups. *Bhaakal* in the context of child soldiers involved a promise being made to god to recognize the child's return with an animal sacrifice if the child comes home. The practice of *bhaakal* made the children feel welcome when they returned. Community respondents throughout Nepal explained their perception of the *bhaakal* ritual for former child soldiers:

Woman in western district: Families or communities do rituals for the children when they return. There is a practice of making promises like when they become sick so that they become well again, they also do with the hopes and prayer of passing exams [*bhaakal*]. Similarly, they also put lights around the temple.

Man in western northeastern district: Families and community members do rituals for the children. Families do *Bhaakal*. It is different in every region based on the traditions there. Here people fast and set pigeons free to offer a *bhaakal*.

Man in midwestern district: Community people think [their children were taken by the Maoists] because their ancestral deity [*Kul devta*] was angry with them, so they do *bhaakal* for the return of their family members.

Woman in northeastern district: After the shaman did *bhaakal*, the children felt better.

Tharu families in southwestern Nepal also practiced a variation of *bhaakal* when their children returned. They celebrated the healthy return of the child by feeding sweets to the neighbors. This helped to celebrate the child's return and promote community support. A number of children described a *bhaakal* ritual conducted by their families upon their return. A child from Midwestern hills explained, "When I came back, my family took me to the *dhaami* (traditional healer), and two roosters were sacrificed as *bhaakal*."

Similar to the *bhaakal* practice, families also conducted *kul devta puja* to worship ancestors to wish for the safe return of their children. Families also celebrated the return of their children with *malla laaguane* (placing flower necklaces) on the children to welcome them home. *Bhaakal*, *kul devta puja*, and giving garlands appeared to be

possible ways to welcome home children in a way that would help them feel welcome. There did not appear to be strong negative consequences to such as practice.

Swasthani

Returned girls reported that support from adult women was very important to them. When they did not receive support from community women, they felt significantly distressed. They said, "Women are the enemy of other women," (*"Mahilaanai mahilaako dusman hunchhan"*). The girls expressed the desire to be involved with and receive support from adult women in the community. One of the main challenges to girls' support from other women was the concern of Hindu purity and pollution as described above.

Although no girls reported taking part in the *Swasthani* ritual, a number of adults in the community, particularly older women, suggested that this would help with their reintegration, being culturally accepted, and having increasing marriage prospects. The *Swasthani* ritual is thought to have originated in Nepal. The *Swasthani* has multiple narratives about Hindu women. Typically these women have sinned in some way in this or prior lifetimes. These sins impact the lives of men in their lives such as their husbands and sons. Cultural narratives in the Hindu *Swasthani* religious text describe that anger and negative emotions displayed toward one's husband result in deformity, misfortune, and despair in the next life (Bennett, 1983). The *Swasthani* focuses on self-blame for women rather than other-blame, while blame is moved from men onto their wives and mothers. Bennett explains the case of Sati Devi, one of the leading female figures in the *Swasthani*:

Sati Devi's reactions to her disappointment are those of the ideal Hindu wife. Uncomplaining, self-effacing, she accepts her unhappy situation as the result of her own fate. This means that she takes the blame for her suffering, rather than seeing it as an injustice externally imposed."

(Bennett, 1983:285)

The *Swasthani* tells tales of these women's 'redemption'. Throughout January, women—mostly upper caste Hindu women—read the *Swasthani* and fast. This is thought to help atone for their sins and prevent their sins from having a negative effect on the men in their lives.

If a woman gets angry at her husband, she will be squint-eyed [in her next rebirth]; if she scolds him she will stutter; if she answers back, she will be dumb; if she hides from her husband and eats [on the sly], she will be a dog; if she fights, she will be spiteful. (Bennett, 1983:296)

Bennett adds that the *Swasthani* provides prescriptions for women to deal with transitions and traumatic events in their lives.

The *Swasthani* text's "solution" to the trauma of moving from *maita* [maternal home] to *ghar* [matrimonial home] at marriage is already very clear: on the model of Sati Devi and Goma, women must accept their karma and submit uncomplainingly to this radical change in their freedom, workload and status. (Bennett, 1983:306)

The symbols and narratives of the *Swasthani* influence the teaching of Nepali Brahman girls and suggest the mechanism by which they are precociously aware of masking anger compared with American and non-Hindu Nepali (Tamang) girls (Cole et al., 2002; Cole & Tamang, 1998). Bennett writes, "a good woman will always fear what others will say," (Bennett, 1983:125).

Older women in Hindu communities cited the *Swasthani* as a way for girl soldiers to receive atonement for the sins they had committed through association with the Maoists. By performing the *Swasthani*, former girl soldiers' future husbands and sons would not suffer the consequences of the girls' sins. They echoed Bennett's interpretation of the rhetoric of the *Swasthani*: its performance is a way to relieve a woman's suffering. Another ritual mentioned was *Teej*. *Teej* is performed by married women at the end of the summer. *Teej* also involves fasting and has traditionally been interpreted as an assurance of the wellbeing and good health of one's husband.

These rituals focused on the concern that women and men in the community had about girl soldiers. They explained that these girls were no longer 'shy'. The term used for shy was *lajya*. *Lajya* can be glossed as social anxiety—a social anxiety grounded in a specific moral view of self and community (Desjarlais, 2003; Parish, 1994; Shweder, 1999). The feeling of *lajya* generally represents a manifestation of health in that it guides one to cautiously act in a socially and morally acceptable manner, especially with reference to maintaining caste hierarchy (Parish, 1994). *Lajya* is distinguished from regret wherein an individual feels badly after a moral infraction. *Lajya* represents a risk for psychopathology in its absence. If an individual is specifically labeled by others as lacking *lajya* or is a member of a group seen lacking *lajya*, then she is seen at risk for psychopathology. The individual lacking *lajya* is comparable to the Nepali concept of a brain-damaged individual in that she will do anything without heeding social norms; she is *paagal* (mad)! In tier one, *lajya* is identified as sweating, altered pulse, and blushing (Parish, 1994, p. 199). It can also be manifest as a sense of coldness, a feeling of death (literally stated as "I am equal to dead") when one anticipates that a moral infraction

could result in social death (p. 199). At the second tier of analysis, *lajya* is exclusively an interpersonal emotion. Parish's informants describe how they would never feel *lajya* when alone (p. 205). Individuals learn the opprobrium of *lajya* throughout childhood often through reprimands from relatives that the family honor will be lost if the child continues to behave without *lajya*. Cole and Tamang's (Cole et al., 2002; Cole & Tamang, 1998) studies of emotions among Nepali children reveal that as children age, they are less likely to display negative emotions. Whereas her sample of American children increasingly displays negative emotion with age, especially anger. At the third tier of analysis, there are specific social models of *lajya*.

An examination of the ethnographic record reveals that *lajya*, social anxiety, is common across many cultures. Parish's (Parish, 1994) description of *lajya* resonates with Lutz's (Lutz, 1988) description of *metagu*, Wikan's (Wikan, 1990) discussion of *malu*, and Geertz's (Geertz, 1973 [1966], p. 402) discussion of *lek*. All of these emotions relate to social norms, moral behavior, and hierarchy. For example, Lutz (Lutz, 1988) discusses *metagu* in the context of anxiety among the Ifaluk in Micronesia. *Metagu* occurs when encountering unfamiliar others. Social settings with unclear expectations provoke *metagu*. For example, invitations to eat at another's house cause *metagu*: Was the invitation merely polite and would burden the other person to provide food? Or, was the invitation sincere and it would be rude to reject the hospitality? More extreme *metagu*-related experiences would be encountering potentially violent drunk men. Among the Ifaluk the lack of feeling *metagu* is pathological. *Metagu* is absent from violent individuals as well as when drunk or feeling hot-tempered. When *metagu* is lacking, one feels hot-tempered. In the public setting individuals feel anxiety about appearing too

happy, too proud, violent, or angry. *Metagu* maintains hierarchy by instilling fear in violating social rank norms. In an example from Japan, social anxiety at its extreme form, *taijin kyofusho*, represents a pathology which is a social infraction upon others (Kirmayer et al., 1995), in contrast the American approach which focuses on personal distress ignoring social or moral context.

In Nepal, women are responsible for displaying extreme *lajya*; “*lajya* is a woman’s jewel,” (Parish, 1994, p. 201). In contrast, men who display too much *lajya* are seen as not extroverted enough to be successful in the public sphere and support one’s family (p. 200). Wedding ceremonies, films, and even the architecture of the home institutionalized the gender divisions in *lajya* (Bennett, 1983). Performing the *Swasthani* was seen by adults as a way for girl soldiers to regain their *lajya*.

It is not surprising then when discussing this with girl soldiers, this was almost unanimously rejected. Girls explained that they joined the Maoists in order to escape these patriarchal societal norms. Performance of the *Swasthani* would be a complete reversion of this. Even many adults pointed out that this would not be effective healing ritual. This ritual illustrates a one-sided tradeoff in that while it may lead to greater acceptance among adult upper caste women in the community; it involves the girls symbolically rejecting the ideals of gender equity. Even if the girls have been disillusioned with the Maoists, most still aspired to improving women’s rights. This is an example of a ritual which Denov would highlight as reinforcing the threat to women’s safety and security rather than promoting it (Denov, 2007).

It is important to point out, however, that the definitions for these rituals are by no means static. While the traditional interpretation of these rituals involves female

subjugation, some women's rights and human rights group have recently undertaken creative reinterpretation of some Hindu rituals, including *Teej*. These reinterpretations focus on women's empowerment rather than marginalization. There may be opportunities for girls to become involved in these activities if they so choose.

Traditional healers (dhaami-jhankri)

The role of traditional healers (*dhaami-jhankri*), also described as shamans, has often been cited as involved in healing with a special attention to manipulating and sometimes smoothing social relations. While *bhaakal* and *kul devta* can be performed by *dhaami-jhankri*, they are more often performed in the home. The *Swasthani* is also a ritual practice performed in the home or with other women. Neither necessitates a ritual practitioner. But, what about the involvement of traditional practitioners such as *dhaami-jhankri* to help child soldiers reintegrate and improve social relations?

Some children and families did report the possible utility of *dhaami-jhankri* for returning child soldiers and some had even used the services already. It was not just children who identified themselves as healers such as Raj; other children also reported that their families summoned traditional healers. The most commonly explained ceremony was referred to as *man* (heart-mind) *bardne* (binding). The *man* is the organ of emotion and memory; distress in the heart-mind is related to sadness, bad memories, nightmares, worries, and uncontrolled desires (Kohrt & Harper, 2008). If the *man* becomes too active then it can lead to dysfunction of the *dimaag* (brain-mind). Dysfunction of the brain-mind is represented by mental illness and is highly stigmatized. Parents who were concerned about the behavior of returned child soldiers who were

aggressive, violence, distracted, lost in thought, wandering aimlessly, or engaged in other socially unusual behavior often conceptualized this as an overactive *man*. To control or bind the *man*, a *dhaami-jhankri* could be called upon. The *dhaami-jhankri* would then engage in a healing ceremony to symbolically tie up the *man* so that the extreme emotions would be prevented from reaching the *dimaag* and making one act in socially unacceptable ways.

Child soldiers who underwent this said that it helped them. Families also reported that after children had their *man*'s bound by the *dhaami-jhankri*, their behavior improved. This appeared to be a successful and effective way to help with interpersonal relationships within the family and also for children to address their own worries, fears, and anger. Raj underwent a *man bardne* ceremony shortly after he returned home to help with his anger and irritation to others. He said that this improved, although based on his family's reports he does remain withdrawn and shows little happiness. The threatening emotions, however, have receded.

If such a ritual exists, why was it so infrequently reported? The answer is not surprising given the Maoist prohibitions against the practicing of traditional healers. Also traditional healers explained that they did not want to perform rituals for former child soldiers because this is the group who attacked them and desecrated their sacred healing paraphernalia. A man in an eastern district explained, "Traditional healers are not interested in helping those children."

Another issue was the public denial of faith in traditional healers. For example, in eastern districts, 80% of community participants denied faith in rituals; the percentage of respondents denying faith in other areas was lower, southwestern plains districts (63%),

Midwestern hills, (40%), Midwestern mountains (20%). A southwestern resident, like many others, stated, “It is all rubbish.”

Man in eastern district: Jharphuk (traditional healing) doesn't help children's health. Nothing happens when you do *jharphuk*. This is all rubbish.

Man in southwestern district: There are no rituals that work even in old religious books. We don't believe in religion.

This display of rejecting traditional healing is not solely attributable to the Maoists. Denial of faith in traditional healing is a form of identification with modernity (Pigg, 1992, 1995). At an ideological level, one key and overarching discourse is that development organizations, medical professionals, and the "educated" public frequently describe traditional healers as “backwards,” “superstitious,” or as “barriers” to seeking care; indeed, health workers may even view traditional healers as having mental illnesses (Harper, 2003; Harper & Maddox, 2007; Ortner, 1998).

Community adults also reported that it was the disbelief of the former child soldiers specifically that precluded traditional ritual practice:

Man in southwestern district: Child soldiers do not believe in such things as *saato gayo* (soul loss) or *bhut laagyo* (ghost possession) because they have stayed in jungles and have traveled even at nights. Therefore, they just consider them superstitions.

Man in eastern district: The children do not believe in such things. They have stayed in the jungle. They consider it superstition.

Woman in eastern district: [Child soldiers] have not suffered from specific emotional illness or spiritual distress because they do not believe in spirituality. They are educated in a very different

manner.

Of returned children, the majority (57%) reported little or no faith in rituals. However, 54% said they would use rituals in the future if they or their family felt that it was necessary.

One community resident pointed out that the rituals were more helpful for the parents than for the children:

Man in eastern district: I don't think *dhaami-jhankri* healing affects people's health, emotions, or behavior. However, by doing the rituals, parents become satisfied.

Lastly, one resident of an eastern district explained that *dhami-jhankri* could be called upon to perform less stringent versions of rituals. For example, to purify themselves, girls are often required to undergo the *Swasthani* practice. Also, at menarche girls in some communities in western Nepal are separated from society in secluded areas in the jungle or forest. This respondent thought that rather than these practices, summoning *dhami-jhankri* would be more beneficial:

Man in eastern district: If we could substitute other traditional religious and cultural practices for the bad practices that would reduce the negative impact of our culture. For example, during the first menstruation of a girl, rather than banishing her to a goat shed in the woods, we could just call a *dhami-jhankri*. He could sprinkle some *gahunt* (cow urine), then the girl would be considered purified and could come back into the home.

A psychosocial counselor in Jumla described two of her clients. They were a mother and daughter. All the men in their family had been killed by the police. The bodies of the men were never found. While recruiting for clients for their NGO

psychosocial program, these two women had come to the attention of the psychosocial counselor. After numerous therapy sessions, the counselor found that while communication and emotional expression were improving, the counseling sessions were not getting to the fundamental concerns of the women. Eventually, the counselor discovered that the women wanted to meet with a shaman and have a ritual to assure that that the spirits of their husband/father and sons/brothers would not wander the village and that they could be reincarnated properly. However, the women were afraid to consult a shaman because of the Maoist threat and they were ashamed about asking to meet a shaman because others would look down on them and call them backward and superstitious.

Traditional healing practiced with *dhaami-jhankri* and other healers presents an opportunity for possible healing with beneficial effects to social relations, particularly within the family. While it is unlikely to be effective as a mass community-wide effort, facilitating pathways on case-by-case bases for individuals and their families to partake in traditional healing such as in Raj's case or in the case of the women helped by the psychosocial counselor would likely be a step toward improved social wellbeing.

Conclusion

There is increased interest in the use of traditional healing and rituals to help survivors of war heal from their trauma. However, there is often little investigation about the specific social wounds that cause the greatest distress. And, there is little discussion about the nature of the traditional healing or other rituals to be used and their broader significance within dynamic cultural contexts. This study attempted to address these gaps

by providing ethnographic findings focusing on the experience of child soldiers in Nepal and the possible use of traditional healing as social interventions.

The narratives of Raj and Maya as well as the interviews with other former child soldiers and community members reveal that the social problems observed in post-conflict Nepal are cumulative outcomes of social problems originating before, during, and after the conflict—as would be likely in most post-conflict settings. In the context of Nepal, pre-war factors continue to have a dramatic impact on social conditions. The main factors of historical inequities were in the form of caste-based, ethnic, and gender discrimination. Moreover, these factors were exploited by the Maoists in recruitment and justifying violence. During the war, the social factors that came into play were loss of relationships through death and separation, changing power dynamics with adults in the community, and new roles assumed by children. The main post-conflict social problems were discrimination and marginalization upon return to the community. This was particularly challenging for girl soldiers.

A number of traditional rituals and ceremonies were identified by children and older community members. Three commonly cited practices were *bhaakal* (as well as *kul devta puja*), *Swasthani puja* (and *Teej*), and summoning *dhaami-jhankri* healers for shamanic ceremonies (in particular, *man bardne*—heart-mind binding). *Bhaakal* was a ceremony involving thanking ancestral deities for a fulfilled promise—in this case the safe return of the child. *Swasthani* is a month-long fasting worship for women to atone for sins and assure that their misdeeds do not bring misfortune upon the men in their lives. *Man bardne* is the binding of the heart-mind to control the emotions so that one does not behave in socially inappropriate ways.

However, few families or children engaged in rituals upon return. There were major limitations to implementation of these rituals. Both children and adults reported that they did not believe in such rituals. Former child soldiers explained that rituals were superstitious and against Maoist teachings, which rely upon scientific medicine. In addition, there is a history of marginalization of traditional healing through the process of displaying modern behaviors. Among those who did believe in such practices, Maoist persecution of traditional healers and other ritual practitioners prevented participating in these rituals. After the war, there continued to be a fear of Maoist retaliation if one engaged in these rituals. However, a central issue in the lack of utilization of rituals was the meaning and symbolism involved, especially the symbolism of patriarchy and subjugation of women. Girls reported that rituals such as the *Swasthani* were against their beliefs and ideals for gender equity.

This is not to say there was no benefit or potential benefit to traditional healing and other ritual practice. Raj reported benefits from the heart-mind binding ceremony. Other children reported that performance of *bhaakal* demonstrated that families cared about their children and wanted them to return from the Maoists. Having a *bhaakal* performed by parents upon arrival led them to feel welcomed. In contrast, no girls reported engaging or wanting to engage in the *Swasthani puja*. There are, however, potential reinterpretations of rituals such as *Swasthani* and *Teej* conducted by women's rights groups that may be more appealing to female former soldiers. If rituals could be reinterpreted to promote gender equity in the domestic setting, this could also have peace promotion benefits. For example, the Whitings propose that husband-wife intimacy is inversely related to violence (Konner, 2002: 202). Ultimately, the research suggests that

traditional healing and rituals would be beneficial on case-to-case bases rather than as a universal approach to community reintegration.

This work reflects the concerns and sentiments of Denov (2007) and others. Traditional healing and other rituals are not risk-free simply because they are not Western psychological interventions. Traditional healing and rituals may be rooted in significant biased and exclusionary symbolism that most often marginalizes women. Before encouraging the use of a ritual for former child soldiers or others affected by natural or man-made disasters, it is important to identify what social needs are present. Then, the meaning and significance as well as the ability to implement the rituals should be thoroughly researched. Promotion and implementation of inappropriate rituals could lead to misapplication of resources in settings afflicted by dire poverty. And, while some rituals may affect community perceptions, they are not always ideal for the children themselves. It may be more worthwhile to engage in other forms of capacity building such as education, vocational training, or employment. It also may be effective to employ adapted Western-based psychological interventions for those with high levels of distress and impairment. That said, attention to reducing barriers to accessing traditional healing would be beneficial in specific instances.

In Maya's case, a traditional ritual would be unlikely to provide much benefit. For her, it would be helpful to focus on empowerment issues to increase her—as well as the Chepang community's—legal and political representation. In order to do this, education could foster understanding of the legal and political landscape. And, economic empowerment would be indispensable as justice more often than not comes at a literal cost. Raj's case would benefit from support in multiple areas. Finding employment and

salaried income would contribute to his and his family's wellbeing. In addition, it would be advantageous to help him perform the ritual to regain his healing powers. Third, given his severe psychological distress, the opportunity to provide specialized mental health services should not be overlooked. By fostering improved wellbeing of Raj, ultimately, he will be helped, and then he can continue to help others.

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CHAPTER 10: CONCLUSION

Introduction: The need for a “war in context” approach

The goal of this dissertation was to advance the understanding of the effects of political violence on mental health. As described in the introduction, despite increasing studies in settings of conflict and post-conflict, the field suffers from constricted epidemiological investigations and a lack of theoretical models. Research on mental health and war operates primarily on the ideology that war is bad. To develop evidence-based interventions, it is important to move ideology to data-driven theory. The interpretation of existing studies draws conclusions that are not grounded in the data such as “The prevalence of mental disorders among civilian populations increases during wartime and in postconflict settings,” (Kanter, 2008; Murthy & Lakshminarayana, 2006). In addition, the literature suggests that the impacts of war are greater for specific groups: children, women, the elderly, and those with pre-existing mental illnesses (Murthy & Lakshminarayana, 2006) without an evidence base to demonstrate that these groups differentially show greater increases in mental health problems concomitant to political violence. Moreover, a large proportion of interventions are dedicated to child soldiers as a vulnerable population, without evidence that child soldiers have more mental health problems of civilian children in war. Because of the epidemiological designs utilized, the existing studies cannot prove or disprove these statements about vulnerability and mental health. I argue that it is the failure to place *war in the broader context* of individual and societal history that leads to the sole attribution of mental health problems to war. Instead of only focusing on political violence, I call for an examination of structural violence, which may often precede acute political violence. And, structural violence may be a

major influence on mental health even during and after conflicts. If one does not address war in broader context, especially with attention to structural violence, one risks the *erasure of history*—chronic and insidious social processes that influence mental health may be ignored.

One of the major challenges in discussing children in war is considering how war specifically impacts children's wellbeing against the backdrop of other threats to child welfare. In many war-affected regions, there are a range of other economic, social, and health problems such as poverty, lack of education, exploitation in high risk employment, high pathogen burden, lack of clean water, and high risk of motor vehicle collisions. These problems are likely to be more common in settings vulnerable to war and are likely to increase during the experience of armed conflict. The question of whether a child's wellbeing is impaired due to a war-specific event versus other societal ills is not merely an academic one but relates directly to practical issues. Careful identification of both war-specific and broader categories of stress and vulnerability is crucial to designing the most effective interventions, selecting how to conduct screening and whom should be screened for interventions, and more broadly to raise policy issues about reducing the vulnerability of children. If all of children's problems are attributed exclusively to war, interventionists and policymakers risk misapplication of care in resource poor settings. This range of factors influencing child wellbeing reveal that war is not the only, and sometimes not even the most important, determinant of child wellbeing. Thus, child mental healthcare and psychosocial support requires a range of interventions and modifications in policies directed toward children. Ultimately, this contextualized presentation war in Nepal

hopefully will contribute to a broader understanding of child wellbeing in a post-conflict setting.

Similarly with adults, too much emphasis may be placed on the experience of war in epidemiological studies and in some ethnographies. Before mass violence of the People's War reached the communities around Jumla's district headquarters, I saw an overwhelming burden of preexisting social, economic, political, gender-based, and health problems. A context-based understanding of political violence raises the important question about the degree to which war and violent conflict impact mental health compared with the chronic social injustices of poverty, gender-based violence, food insecurity, ethnic and religious tensions, and environmental degradation—all of which are features commonly found in conflict-prone regions and may contribute significantly to poor mental health (Pedersen, 2002). There is increasing evidence that the mental health impacts of war are not inevitable but are intimately related to the social, economic, and cultural conditions that precede and follow violent conflict (Porter & Haslam, 2005). Some authors have even challenged the notion that war, per se, is the cause of psychological trauma or is a mental health emergency (Summerfield, 1999).

As demonstrated in the introduction to the dissertation, taken together the results of recent epidemiological studies of war and mental health do not support a significant relationship of depression or PTSD with conflict mortality (See Figure 1-1). However, this is a trend of anxiety with conflict mortality. Moreover, existing studies do not demonstrate that war is associated with greater mental health problems among vulnerable groups. For example, the gender difference in post-conflict mental health problems is not

different in conflict and post-conflict settings versus high income nations not engaged in political violence (see results in Introduction chapter).

Structural violence

Structural violence is a useful concept with which to understand prewar factors and to place war-specific factors in context. Johan Galtung, a Norwegian sociologist and founder of peace and conflict studies, has referred broadly to processes of vulnerability as structural violence (Galtung, 1969; Galtung, 1990). Galtung developed a violence triangle with each side representing a different aspect of violence and all sides influencing one another: “direct violence”, he states, is an *event* that threatens need fulfillment; “structural violence” is a *process* that erodes human needs; and “cultural violence” is a *permanence* that legitimizes structural and direct violence and may include religion, ideology, science, art, and language. Paul Farmer describes structural violence in relation to constrained agency: “the degree to which agency is constrained is correlated inversely, if not always neatly, with the ability to resist marginalization and other forms of oppression,” (Farmer, 2004). Farmer (Farmer, 1999, 2003) has written extensively about the role of structural violence in combating infectious disease. And, it plays a similarly important role in the burden of mental health problems (Desjarlais et al., 1995). Structural violence factors are especially important for examining anxiety and depression in post-conflict settings, rather than focusing attention solely on PTSD (de Jong et al., 2003). To interpret the process of structural violence in Nepal, in this dissertation, I operationalize structural violence as *processes historically rooted in economic, political, religious and other cultural institutions that differentially enrich or deprive resources for*

individuals based on their membership in a specific group. This includes issues such as gender and racial discrimination, healthcare or education contingent upon financial status, and lack of rights protection in local, national, or international policy and legislation. An important example of this in Jumla is the position of women. Because of historical exclusion from education, politics, economic, and law-enforcement opportunities, women have little recourse to prevent or escape domestic violence. Postwar epidemiological studies provide hints at the underlying role of structural violence (with that caveat that these studies are affected by the proximate role of recent political violence exposures).

Many of the groups identified as vulnerable to the effects of war are populations suffering from legacies of structural violence. The epidemiological interpretations of researchers such as Murthy, Lopes-Cardozo, and Kanter attribute mental health problems to war when there may have been a strong influence of other *chronic* factors (Kanter, 2008; Lopes Cardozo et al., 2003; Lopes Cardozo et al., 2004a; Lopes Cardozo et al., 2000; Lopes Cardozo et al., 2004b; Murthy & Lakshminarayana, 2006). Chronic risk factors for poor mental health (e.g. unemployment, lack of political representation, illiteracy) are related limited agency because of membership in a vulnerable social category such as being a women or low caste. Limited agency reduces both the resources to prevent stressful and traumatic life events and the resources to buffer against psychological sequelae after experiencing these events.

An understanding of the causes of mental health problems that looks beyond discrete events of war into the issues of structural violence also calls into question the reactive statements of critics of psychological trauma research and intervention. For example, Summerfield asserts that communities find a way to heal and cope with the

trauma of war, therefore the mental health consequences of war are overestimated (Summerfield, 1999). But, if a community suffers from a legacy of structural violence, that may be a tremendous impediment to social healing. The constrained agency, which comes with a history of structural violence, may greatly limit access to the personal, social, and material resources needed to engage in the healing to which Summerfield refers. In another example, Kleinman calls for a focus of the social ruptures of war such as lack of community cohesion rather than spotlighting tears in the individual psyche such as PTSD (Desjarlais et al., 1995; Kleinman & Desjarlais, 1995). Again, this assumes a functioning social web prior to the experience of war. For those who have grown up in the clutches of structural violence, there may be few social ties to rupture. Thus, I think a broader and more historical understanding of mental health problems in post-conflict settings would improve not only psychiatric epidemiology but also anthropological understandings and assertions.

Overview of chapter

In this concluding chapter, I draw together the findings from the earlier chapters to present a framework for understanding war in context. Through doing this, it is possible to make more specific statements, beyond the assumptions of the existing epidemiological literature, to address the impact of political violence on mental health. And, this has important significance for working toward evidence-based mental health and psychosocial interventions. In this chapter, I synthesize the findings from the child soldiers study and the research with adults in Jumla. This synthesis is useful because of many overlapping factors in the two groups. Figure 10-1 illustrates the proposed

framework to understand political violence and mental health. There are three main components to the model: war in context, vulnerability pathways, and heterogeneity of outcomes. Below I provide more detailed information about each of the three components.

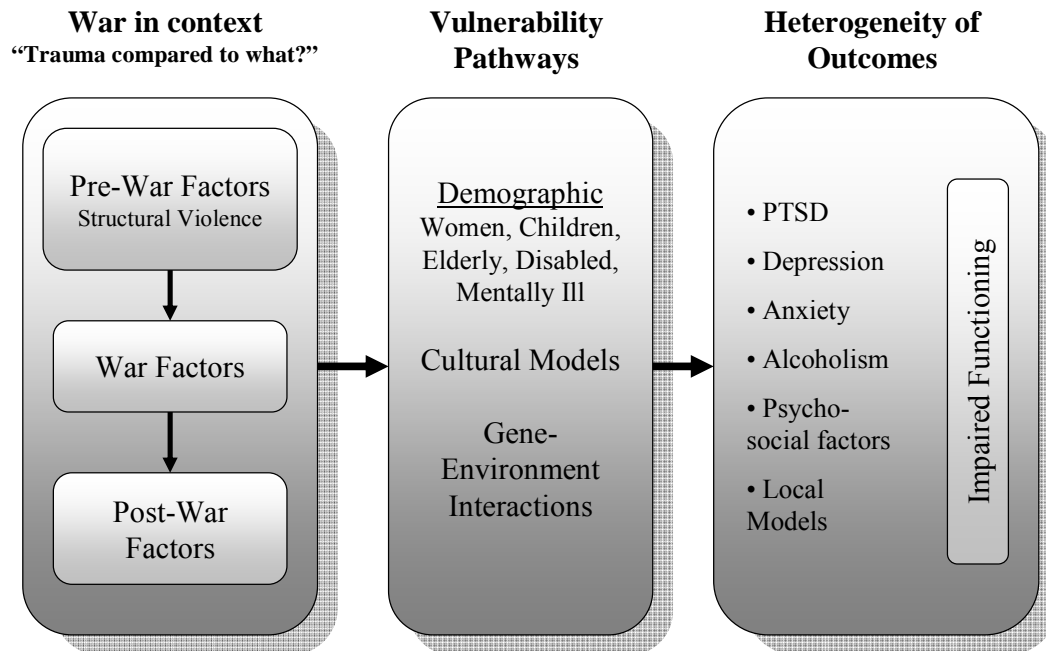


FIGURE 10-1. FRAMEWORK FOR WAR IN CONTEXT.

Framework for War in Context

Component 1: War in context

The first component represents exposures that are risk factors for poor mental health outcomes. Rather than primarily focusing on war-related exposures, one should address *war in context* by examining also pre- and postwar factors. Pre-emergency factors in the case of war could include a range of issues; however, structural violence is

likely the most comprehensive concept to capture prewar factors. A recent review of pre- and post-forced migration factors among refugees and internally displaced persons (IDPs) illustrates that mental health problems are not inherently a result of war and displacement, but rather are linked strongly to contextual factors arising from structural violence (Porter & Haslam, 2005). Restricted economic opportunities and lack of permanent housing are significant predictors of ongoing mental health problems (Patel & Kleinman, 2003). Similarly, in a study of four post-conflict settings, structural violence contributing to “daily hassles”, current illness, youth domestic stress, separation from family, and parental alcohol abuse were associated with PTSD, depression, and anxiety (de Jong et al., 2001b). Exposure to stressful life events, lack of a close confidant and chronic family separation were found to predict psychopathology among Vietnamese refugees in Norway (Hauff & Vaglum, 1993). Similarly, in a 10-year follow up study among tortured refugees, unemployment and lack of social support were significant predictors of mental health problems (Carlsson et al., 2006). The cumulative impact of conflict-related direct and structural violence is also important in children’s mental health. In a study among children during the Sarajevo conflict, violent and non-violent war traumas had an additive effect on PTSD (Allwood et al., 2002).

The converse of structural violence is the presence of strong economic, healthcare, and social infrastructure. The presence of such an infrastructure in the United States may have contributed to the relatively low rates of PTSD and depression (both less than 10 percent) following the September 11th attacks on the Twin Towers in New York (Galea et al., 2002). Building upon these findings, longitudinal studies that examine not only post-conflict structural violence and related stress exposure but also pre-conflict

factors, will further elucidate the roots of mental health problems and suggest preventative measures to help reduce the post-conflict mental health burden for both adults and children.

In addition to evaluating prewar conditions, it is obvious to evaluate wartime risk factors. During the conflict, one can imagine the typical traumatic events studied in war-related epidemiology such as torture, bombings, killings, and abductions. Studies have also shown the association of bombings, sexual violence, and other wartime exposures with poor mental health (Basoglu et al., 2005; Qouta et al., 2003; Somasundaram, 1996).

Torture has consistently arisen as strong predictor of poor mental health outcomes. Psychologically, torture is associated with re-experiencing (such as flashbacks and nightmares), avoidance and emotional numbing, and increased physiological arousal (Basoglu et al., 1994; de Jong et al., 2001a; el Sarraj et al., 1996; Kagee & Naidoo, 2004; Mollica et al., 1998; Mollica et al., 1999; Momartin et al., 2003; Shrestha et al., 1998; Silove, 1999, 2002; Silove et al., 1997; Van Ommeren et al., 2002c), which are the three primary domains for PTSD in the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2000). In a study of trauma in four countries, exposure to torture was associated with PTSD and anxiety but not depression (de Jong et al., 2001a). Similarly, tortured Tibetan refugees had greater anxiety compared with non-tortured refugees, and depression rates were not dissimilar (Holtz, 1998). Two major studies of Bhutanese refugees documented greater severity of mental health problems in tortured compared to non-tortured refugees, especially somatic, PTSD, anxiety, and depression complaints and somatoform pain and dissociative disorders (Shrestha et al., 1998; Van Ommeren et al., 2001). Further examination of a sub-group of the study by

Shrestha and colleagues showed a central relationship between somatic concerns and PTSD complaints (Van Ommeren et al., 2002a). In addition, Emmelkamp and colleagues found a relationship between negative coping methods, identified in qualitative research, as well as social support with symptoms (Emmelkamp et al., 2002). Further analyses on data collected by Van Ommeren and others revealed that although tortured refugees have more mental health problems, they do not show more disability than non-tortured refugees. Predictors of disability for torture survivors were PTSD, anxiety, and physical disease (Thapa et al., 2003).

Postwar factors are those features related to resettlement, reintegration for former child soldiers, protection of rights in the new political environment, and perception of truth, justice, and reconciliation activities. After war a number of factors may play a major role as proximate influences on mental health. Among Kosovar Albanians, structural violence such as unemployment and chronic illness, which could be rooted in lack of economic and health infrastructures, exacerbated poor social functioning in addition to traumatic exposures (Lopes Cardozo et al., 2000). Similarly, among Karenni refugees along the Thai-Burmese border, insufficient food combined with higher numbers of traumatic events contributed to poor mental health (Lopes Cardozo et al., 2004a). Unemployment was the most significant social covariate for depression among Cambodian refugees (Mollica et al., 2002). In addition to traumatic events, in an Afghanistan population, lack of food, water and shelter were associated with poor mental health (Lopes Cardozo et al., 2004b). Social isolation among Bosnian refugees was associated with poorer prognosis for PTSD over a three-year post-conflict period (Mollica et al., 2001). Another form of structural violence is the perceived lack of a

security and justice system. In the former Yugoslavia, fear of threatened security significantly mediated PTSD and depression outcomes (Basoglu et al., 2005). Larger family size may also be influenced by economic structural violence. Among Guatemalan refugees living in Mexico, larger families were a risk factor for PTSD 20 years after civil conflict (Sabin et al., 2003). Among child soldiers, the reintegration process has been identified as a major determinant of mental health (Akello et al., 2006; Betancourt, 2008; Dowdney, 2007; Gbegba & Koroma, 2007; Williamson, 2006).

Component 2: Vulnerability pathways

Vulnerability pathways are those features that make an individual or group more or less susceptible to the impact of risk factors on mental health outcomes. Demographic factors are commonly cited. Studies have shown higher rates of psychological distress among women in post-conflict settings (Hauff & Vaglum, 1993; Kastrup, 2002; Lopes Cardozo et al., 2004b; Mollica et al., 2002). This has led to the suggestion that that “women have an increased vulnerability to the psychological consequences of war” (Murthy & Lakshminarayana, 2006). This implies that an exposure is more likely to produce a negative mental health outcome among women while that same exposure is not as likely to produce a poor mental health outcome among men, which requires additional analyses to demonstrate above and beyond higher rates of mental health problems among women.

Similar suggestions have been made about the elderly (Mollica et al., 2002). In addition, prior psychiatric illness has been proposed to influence post-trauma mental health (Brewin et al., 2000; Ozer et al., 2003). Studies conducted in high income nations

are often able to review psychiatric records to evaluate the prior psychiatric status of trauma exposed populations such as military personnel (Ismail et al., 2000) or September 11th survivors (Galea et al., 2002). In contrast, studies in post-conflict settings among resource poor nations must typically rely on retrospective assessment to determine the influence of prior psychiatric illness. For example, the analysis of post-conflict mental health in four settings (Algeria, Cambodia, Ethiopia, and Gaza) employed retrospective survey of pre-morbid psychiatric status to determine its influence on post-conflict mental health (de Jong et al., 2001b). The same is true for a number of other studies (Lopes Cardozo et al., 2004a). Ultimately, to demonstrate vulnerability, studies need to show that rates of one group increased to a greater degree than the comparison group. Simply reporting higher rates at one time point does not prove that women, the elderly, or those with mental illness are more susceptible to the effects of war on mental health.

Anthropological literature has suggested that it is not demographics per se that are risk factors, but rather demographic characteristics in specific cultural context. For example, the experience of torture has different mental health impacts among Hindu versus Buddhist religious practitioners (Allden et al., 1996; Holtz, 1998; Shrestha et al., 1998). In contrast, in the Cambodian setting, French has suggested that Buddhist beliefs about karma led to further marginalization of landmine victims and precluded intervention programs for amputees (French, 1994).

Gene environment interactions may represent another form of vulnerability. Individuals with certain genetic polymorphisms may show greater impact of exposure to violence compared with individuals carrying different profiles. The growing body of literature on gene-environment interactions in mental illness supports such a focus on

heterogeneity in pathogenesis. For example, there is lack of support for single genes with direct main effects on hypothalamic pituitary adrenal (HPA) axis functioning or the disorders of depression and PTSD. Rather, genetic polymorphisms are associated with greater vulnerability or resilience in the context of stressful life events (Caspi et al., 2003; Kendler et al., 2005) or early childhood trauma (Binder et al., 2008; Bradley et al., 2008). Different gene-environment interactions may explain in part why a variety of HPA profiles may be associated with depression and PTSD rather than universal hyper- or hypo-activation theories for mental disorders. Indeed, research on the HPA axis has shown that behavioral and psychological correlates of HPA profiles vary by environmental and social context (Worthman & Brown, 2005). Taken together, this illustrates the need to examine the interaction of genetic polymorphisms and environmental variation in association with HPA profiles and vulnerability to psychopathology with a focus on multiple pathways rather than single universal psychopathogenesis.

FKBP5 single nucleotide polymorphisms (SNPs), both among homozygous and heterozygous carriers, are associated with stronger correlations between level of childhood trauma and adult PTSD. High levels of childhood trauma show the greatest severity of PTSD symptoms, based on a study with urban, poor African American non-psychiatric outpatients exposed to high levels of childhood and adult trauma (Binder et al., 2008). In contrast, homozygous individuals lacking the any copies of these polymorphisms did not display a strong correlation of childhood trauma and adult PTSD.

Component 3: Heterogeneity of outcomes

Heterogeneity of outcomes highlights that PTSD may not be the only, nor the most salient, mental health problem in a postwar setting. Other outcomes may include anxiety, depression, alcohol abuse, self-injurious behavior, and local idioms of distress. Moreover, these outcomes should not just be evaluated for frequency and distribution, but also in related to functioning. The mental health outcomes most strongly associated with impaired functioning should be prioritized to improve wellbeing in post-conflict interventions.

In the past decade, there has been a burgeoning of trauma psychiatry which easily slips into considering all survivors of war as ‘traumatized.’ The psychiatric lens of PTSD originally was developed primarily to understand the mental health problems and frame treatment of returning American veterans from Vietnam (Young, 1995). However, in the 1980s David Kinzie, Richard Mollica, and other psychiatrists began to use the PTSD label for Cambodians and Vietnamese refugees in Southeast Asia and the United States (Kinzie et al., 1990; Mollica et al., 1987; Mollica et al., 1990). The application of PTSD labels and trauma-focused treatment has continued to expand throughout the globe, especially for survivors of war and other forms of man-made violence. Most recently, Barbara Lopes-Cardozo and her colleagues at the Centers for Disease Control and Prevention (CDC) have conducted numerous studies documenting widespread PTSD, depression, and other mental health problems following war and other disasters in Bosnia, Pakistan, Afghanistan, Burma, and Thailand (Holtz et al., 2002; Lopes Cardozo et al., 2003; Lopes Cardozo et al., 2004a; Lopes Cardozo et al., 2000; Lopes Cardozo et al., 2004b; Thienkrua et al., 2006).

Throughout the expansion of applying this disorder label, there has been a debate about the utility of PTSD in non-Western cultural settings. The expansion of mental healthcare to non-Western settings is a contested issue for anthropologists, mental health professionals, and development workers who have challenged the universality and cross-cultural applicability of PTSD as a diagnosis (Argenti-Pillen, 2003; Bracken, 2002; Breslau, 2004; de Jong, 2005; Marsella et al., 1996; Summerfield, 1999; Young, 1995).

An understudied area amidst these debates is the exploration of local conceptual frameworks of psychological trauma in non-Western settings. Lemelson, Kirmayer, and Barad (Lemelson et al., 2007) have called for studies of the local context under which psychological trauma diagnoses and treatment are utilized. When trauma-healing programs do not address local psychological frameworks, there is risk of unintended consequences (Argenti-Pillen, 2003; Kleinman & Desjarlais, 1995; Summerfield, 1999, 2002). The work of Bolton (Bolton, 2001; Bolton & Tang, 2004) and Fox (Fox, 2003) are important exceptions to this with their explorations of local categories. Fox's work (Fox, 2003) among Mandinka in West Africa is an investigation of post-trauma syndromes in local nosology.

I would argue that a rejection of PTSD as a topic of study and an approach to screening would be inefficient. There is increased understanding of the pathophysiology of PTSD and an increasing diversity of treatments, not all of which are pharmacological. However, focusing on PTSD alone would be a serious disservice to communities and interventionists. Studies should include both PTSD and local concepts of suffering. In addition to these outcomes, it would be helpful to examine anxiety, depression, and substance abuse. However, an essential issue for evaluation is impairment in daily

functioning. It is crucial to have measures of daily functioning to identify which individuals are most in need of support and to identify which mental health problems, including both local terms and those from the DSM nosology, are associated with impairment. Otherwise, there is the risk of the category fallacy and targeting treatment for symptoms that do not have meaning for individuals and their communities (Kleinman, 1988). Even if an individual or population endorses high subjective distress or has symptom severity reports above a cut-off value, the meaningfulness of this should be connected to a level of disability. Both the child soldier study and adult community study in Jumla presented below include measures of functioning.

Results presentation in three-component framework

Below, I present and discuss findings from the child soldier study and adult community study according to the *war in context* framework. In Section I, I describe the war-in-context component addressing prewar, wartime, and postwar risk factors for mental health. In Section II, the issue of vulnerability is discussed. First, vulnerability due to gender construction in conservative Hindu communities is presented to explain the higher rates of mental health problems among girl soldiers in specific communities in Nepal. Second, the role of gene-environment interactions in contributing to vulnerability is discussed for the adult community study in Jumla. In Section III, the outcome findings are presented. This section includes Western psychiatric categories, local categories of suffering, and measures of impaired daily functioning. These three sections are followed by the discussion, implications, and limitations of the studies.

SECTION I: WAR IN CONTEXT

Section I, Part A: Prewar influences on wellbeing

One could easily attribute the majority of psychosocial and mental health problems among children and adults in post-conflict Nepal to the experiences of war. However, there were a range of threats to child and adult wellbeing that existed prior to the People's War. Most of these persisted throughout and after the war. These factors also illustrate the legacy of structural violence in Nepal.

Gender

Gender discrimination may influence vulnerability to a range of psychosocial and mental health problems. The Gender-related Development Index (GDI) and Gender Empowerment Index (GEI) are 0.520 and 0.391 respectively, both on the low end globally (UNDP, 2008). Nepal's GDI is 142nd out of 177 ranked countries. It is the lowest-ranked country in Asia. The GDI reflects the difference between women and men in burden of labor; as a reference, the GDI for the United States is 0.937 (ranked #12 globally). Less than half of adult women (48.9 percent) receive compensation for their labor whereas 67.6 percent of men are involved in compensation-related activities (CBS/HMG, 2004). Gender discrimination can be observed at all socioeconomic levels and across all ethnic and religious groups. However, gender discrimination is most profound among conservative Hindu groups and may be less severe in other ethnic groups (Bennett, 1983; World Bank, 2007). Women describe greater mental health problems compared with men in numerous studies conducted in Nepal (Kohrt et al., 2005b; Tausig et al., 2004; Thapa & Hauff, 2005).

One girl described that in her mother's generation women were not allowed to speak in public. They could only speak with their husbands. Another girl explained,

There is discrimination between males and females. There's no equal treatment... In our Hindu tradition, women are prevented from progressing ahead of men in any type of work... We're deprived of higher education... [W]e have worked hard in our village to build a better future and to become like men.... Parents do not think of a bright future for their daughters at all. They themselves haven't studied at all. How can they understand? If I tell them to educate women then they ask me "Is the elephant big because it studied." Then what can I tell them?

Author and activist, Manjushree Thapa explains,

[F]rom a quite small age ... things like nutrition are different for girls, as opposed to boys. The amount of work they are expected to do in the household is different for girls. They are expected to cut grass, they are expected to bring fodder for the animals, take care of the animals, much more so than the boys are; and the boys are expected to contribute a little bit... [A]s they get older, the expectations start to diverge more dramatically, the girls are... pressured greatly to be more domestic, to be more active in the household arena, and boys are encouraged more to go to school.

Girls are more likely to have micronutrient deficiencies compared with boys (World Health Organization, 2005). In times of scarcity, boys preferentially receive dairy products, eggs, meats, and a variety of vegetables, especially green leafy vegetables while girls are more likely to receive grains and potatoes (Kohrt et al., 2005b; Kohrt & Schreiber, 1999) .

The case below of Reena B.K. illustrates gender issues faced by adult women before the People's War in Nepal. The case is presented from field notes collected in Nepal in 2000 and 2007 (pseudonyms are used for all cases presented and place names):

Reena B.K., a Dalit/Nepali woman, was 33 years old when I met her in 2000. She had been married twice. Reena's first husband abandoned her when she was 20 years old. He left before they had any children. She remarried an older man who already had children from a first marriage.

After marrying this man, Reena did not bear him any children. Eventually, she discovered that her husband had a vasectomy before the marriage. When the community learned that Reena had married a vasectomized man, neighbors mocked and ridiculed her. Reena and her husband fought constantly. Reena explained that during these fights she would lose consciousness, even when she had not been hit. She also smoked hashish. In 2000, Reena met criteria for a depressive disorder in addition to having both substance abuse and conversion symptoms.

I followed-up with Reena in 2007 at a health camp. Reena had remained married to this man and never bore any children. Two years after I met her, she had become a *dhamini*, a female traditional healer. Her husband had died about two years ago. Reena was now a 40-year-old widow. She had no children to care for her and no support from her family, who never resumed contact with her family because of the love marriage. Reena described suffering and depression similar to her account seven years ago. The health camp doctor diagnosed her with major depressive disorder and prescribed amitriptyline and alprazolam.

As we spoke, I learned that Reena's condition had changed little in the past seven years. Reena received support neither from her biological family, nor from her husbands' family. Reena felt completely alone. I tried to find out if she had any coping resources available to her. She said that she no longer smoked hashish. She could not afford it. She said the only time that the suffering disappears is when she becomes possessed and acts as a *dhamini*. Then she is no longer conscious and feels no pain.

Probing about the People's War evoked no response about either positive or negative consequences of the conflict. For Reena, the marginalization she suffered as a woman, and more specifically as a childless widow, was the central factor in her explanation of her suffering.

Reena's story illustrates one example in which mental health problems observed after a conflict may not reflect any specific aspects of a conflict but rather chronic social processes that marginalize and devalue certain groups of people. Reena's condition has

changed little between 2000 and 2007. Widows in Nepal are seen as bad luck and typically ostracized (Bennett, 1983). The extreme emphasis on reproduction as determining the worth of a woman was associated with both an external loss of social support and internal loss of positive self worth.

A second case illustrating the prewar vulnerability of women is Sita Khatri. Sita is Chhetri. She is high caste, unlike Reena who is low caste. Below I present field notes for Sita.

When I met Sita in 2000, she was 28 years old and pregnant. Her husband had abandoned her and gone to India shortly after she became pregnant. He had not contacted her at all since leaving. Sita had married and moved in with her husband when she was 15 years old. Her father died when she was 12 years old. Her mother died when she was 18. Sita was pleased originally to move in with her husband, but the situation rapidly deteriorated. Her husband raped her. He was often drunk and beat her. Sita at the time of our meeting in 2000 had four prior pregnancies with only two surviving children: a boy and a girl. She had one miscarriage, and one child died at one year of age. Sita gave birth to a third child, a girl, on the day after our interview in 2000.

Sita: I usually feel only sadness, especially since my husband left for India. Nothing is enjoyable. My *man* (heart-mind) is empty except for worries. Because I am filled with worry there is no room for happiness. My *dimaag* (brain-mind) travels around because of the worry and work. I can't concentrate. I cannot make decisions.

Sita's case illustrates that the vulnerability of women is not limited to low caste groups. These findings related both to girls and women suggest that women will likely have higher post-conflict mental health problems. However, this may, in large part, reflect the greater stress upon females prior to the war. In 2000 the rates of depression (OR=2.01, 95% CI 1.25—3.25) and anxiety (OR=2.28, 95% CI 1.38—3.77) were greater among

women in Jumla compared with men. In order to suggest that the war impacted women to a greater degree compared with men, one would need to observe a significant increase in the sex-difference from these baseline values.

Caste and ethnic discrimination

Nepal's history represents a legacy of political, economic, and cultural processes that have marginalized large sectors of the population. These marginalized groups have become the backbone of the Maoist People's War (Lawoti, 2003). Nepal's population comprises more than 60 ethnic and caste groups. The caste system in Nepal is rooted in the India *varna* system which divides society into social rankings based on ancestral lineages (Höfer, 2004). The top of the caste system includes two main 'high caste' groups. The highest being *Brahman* (historically priests) followed by *Chhetri* (historically warriors and rulers). At the bottom of the caste system are 'untouchable' or *Dalit* castes. Another category of ethnic groups, *Janajati*, are predominantly Buddhist and shamanist, and they engage with the caste system to varying degrees. Although the country has recently become a secular, federal democratic republic there is a long history of hegemonic dominance by Hindu high castes (*Brahman* and *Chhetri*) of the *Janajati* ethnic groups and *Dalit* (Whelpton, 2005). Punishment in Nepal traditionally has been disproportional based on caste status (e.g. execution for low caste accused of adultery contrasted with banishment for high caste), and inter-caste marriage was prohibited (Kisan, 2005). The caste system also relegates certain groups of individuals to demeaning professions such as cleaning toilets and streets and carrying out funeral rites. In both law and practice, upper castes severely restricted untouchable's feeding customs,

type of clothing, places of settlement, wearing of jewelry, owning of household goods, and access to education.

Caste discrimination impacts adults and children. Low caste children were traditionally unable to attend school. As children and adults, Dalit continue to be marginalized throughout Nepal with violent reactions by upper caste Hindus when Dalits attempt to visit temples, use public water taps, or participate in religious ceremonies (Kisan, 2005). Low caste children were, in some regions, taken into the homes of upper caste families for labor. A recent study in Nepal found that somatic complaints related to depression were more common among low caste groups (Kohrt et al., 2005b). A Dalit girl in the central Nepal hills explained,

There is discrimination... In the village, most people consider us untouchables. My parents also tell me not to come in contact with the villagers. The old people still discriminate against us as untouchables. The Brahmin and Chhetri girls of our village are financially better and hence can eat and live as they wish. I can't live according to my wishes. My wishes can never come true. It's because of my strong desire that I am studying at all, and it hurts me when some people question my desire to study. I am not provided with anything. My financial status is very poor so I can't even think about my future. The girls of my caste do not study much. My caste is Nepali. They marry very early. They are not sent to school. They are not treated well and get married at the age of 12 and 14. That is the kind of practice in our village.

One girl from an ethnic minority group explained,

While I was studying in the school, the Chhetris, Brahmins and Bhotas [Tibetan descent groups] would dominate us. They tried to harass us, and we would be quarrel on the school bench. We sometimes fought.

An upper caste boy in another village explained,

There is high discrimination. There are many Dalits in this society. They're orphans like us. If they buy new notebooks, the rich kids hide and tear them. The rich kids say that they can't drink the water and eat the food that they have touched. These rich kids sometimes slap and hit them.

Indira Nepali is a Dalit/Nepali woman I met in Jumla in 2000. In some ways her story resembled that of Reena and Sita. However, Indira was different from Reena in that she attributed her sorrow not only to her domestic life, but also her status as a Dalit/Nepali. Indira explained her position in life because of her impure status as a Dalit. She said that upper caste people were *sapha* (literally 'clean'). Indira explained that in the eyes of high caste people, Saarki and other low caste people were still unclean. She said that Dalits needed to learn to become clean:

When we are *sapha*, then [upper caste people] will be better to us. We will be *sapha* when we have a better economic condition. Men and women in low castes have no property. So we must work for the Brahman. Then the Brahman *haamro kaam khaanchha* [literally, 'eat our work'] It is the old culture; it has been here since the beginning. I hope [our son] will not be like us. I hope that he will get an office job.

Indira saw *sapha* status as coming with factors such as economic independence, employment, and property ownership. Indira's use of *sapha* reflects an increase in agency and movement away from some of the bonds of structural violence. *Sapha* represents a washing away of structural violence. Chapter 4 on *Caste and Mental Health* presented the results of analyses addressing caste differences in mental health in Jumla prior to the war. Even before war began, rates of mental health problems were higher among Dalits in Jumla compared with adults. Odds of depression were 2.51 times greater among Dalits compared with high castes (95% 1.47—4.31). Odds of anxiety were even greater at 4.04 (95% CI 2.32—7.04). These analyses supported what Indira was saying with relation to economic and employment issues. Controlling for the economic differences and exposure

to stressful life events, there were no caste differences in depression. However, even controlling for these issues, anxiety rates were still higher among Dalits, which suggests that to become psychologically *sapha* more issues in addition to economics are going to need to be addressed.

Children and labor

Child soldiers gain international attention because of the extreme form of exploitation. However, even without exploitation of children as soldiers, it does not mean that there are not other forms of child exploitation prior to the war. Children are a main source of labor throughout Nepal. Children under 16 years constitute 40.9 percent of the total population. In the home and agricultural setting, children historically have been and continue to be involved in housework, cooking, cleaning, and caring for other siblings. These activities typically fall to girls. For agricultural work, children are involved in feeding and shepherding animals. Boys may take animals up to higher altitude pasture in the summer months and care for the animals all alone. Children are involved in harvesting and carrying crops. Girls often carry heavy loads of firewood gathered in the forest back to the house in the early morning hours. A journalist explained,

I don't think childhood exists in rural areas, especially in extreme poverty conditions. Childhood basically doesn't exist because starting between the age of six and nine, a girl must help her household seven hours a day. And for the girl child between 10 and 15, she must spend nine hours a day helping in her house, so you can imagine what the situation is like in Nepal. And, you could feel that in these circumstances, working nine hours a day is not a childhood. I don't say it's a childhood.

A politician suggests,

Whether the children are used for manual labor in any harmful conditions, be it in any wars or any domestic work, even if they are paid, children shouldn't be used and should be protected by the government. But because of the instability, lack of elected government and the inability to hold the constitutional assembly elections, the government has not been able to do its basic duties.

Both boys and girls from poor, low caste, or ethnic minority families are often servants in the homes of high caste families. Treatment in these settings is variable. With changing modes of production and modernization, children are now involved in more vulnerable forms of labor. Children have been used in brick manufacturing plants where they are vulnerable to both mechanical and respiratory injuries. Similarly, children can often be seen working with families breaking gravel. Children are used as workers in restaurants. Boys are frequently involved in work in the transportation field on buses. Children are also vulnerable to trafficking for work to India and other countries. Children trafficked to Kathmandu or India are also vulnerable to be used in the sex trade. In the interests of children the Civil Code has been amended and laws formulated against Sexual and Labor Exploitation. However, there is little evidence that this policy has been enforced.

Lack of healthcare

Throughout the majority of Nepal, allopathic healthcare services are poor or nonexistent depending on the type of health condition. There is a significant impact of physical health on mental health. Children are susceptible to a series of health conditions to which they are differentially vulnerable because of their immature immune systems. Children often die of diarrheal and respiratory diseases. The child mortality rate is 61 per 1,000; infant mortality rate is 48 per 1,000; and the neo-natal mortality rate is 34 per 1,000 (MoHP, 2006). Most rural poor populations and many urban populations lack

access to clean water. Respiratory diseases are common among children because of tremendous air pollution in the Kathmandu valley and reliance upon wood burning stoves that lack ventilation in rural areas. Although there are hospitals and health posts outside of urban areas, there is a vast discrepancy across regions with regard to how frequently these are staffed. Because of the preferential treatment of male offspring, the delay between onset of serious health problems and seeking medical care is much greater for girls compared to boys. Thus, girls are commonly taken to the hospital only after their conditions become severe. In contrast, boys are taken when their conditions are less severe and are thus more likely to survive life-threatening illnesses.

Lack of education

Another prewar issue was the lack of education services for most of Nepal. Education has been available to the general public only since the 1950s, after the Rana era. However, even since that time, education has not permeated some rural areas. As education access did increase, this was disproportionately enjoyed by boys compared with girls. In the primary schools, the total rate of admission is 87.4 percent. Of the total children of school going age, the percentage of girls is 48, the percentage of indigenous groups is 38, the percentage of Dalits is 18, and the percentage of disabled is one (CBS/HMG, 2004). Families often send their sons for education whereas their daughters are expected to stay home and work. More recently, this gender discrepancy has been reflected by boys being sent to private English language boarding schools while girls are sent to public schools. A school teacher in a rural community explained, "Parents feel that their daughters should go to school." He explained this in terms of the dowry system

in which, paradoxically, girls with educated daughters are expected to pay higher sums of money to grooms family.

The quality of education is tied strongly to one's economic status. There is a perception that the education in public schools does not compare with that available to those who can pay for their children's education. A girl in the middle hills of Nepal explains,

There are many differences. [Wealthy children in urban areas] get a good education. Here, we have to sit a hundred people in a classroom. [In private schools] there are hardly twenty students in a classroom...There, they get good jobs. They don't have to stay unemployed. Here, even if we get a degree, there's no job.

Kisan (Kisan, 2005) has suggested that rather than education being a site of social advancement, school was a learning center for gender- and caste-based discrimination. For example, low caste children were often asked to sit on the floor rather than benches.

Child abuse and child marriage

Another major problem for children is abuse and neglect. Due to high rates of alcoholism, children are raised in environments of domestic violence and suffer from a variety of forms of child abuse. In addition to abuse, children suffer from neglect; because of endemic poverty, children are often unable to have their basic needs met. Moreover, there are few laws to protect children from child abuse, and even fewer avenues for enforcement (Kohrt et al., 2005a).

Child marriage is one of the most extreme forms of child abuse. Child marriage was a common historical practice, with children often marrying around the time of puberty, 13-15 years old. Child marriage was difficult especially for girls who were

uprooted from their homes to live, sometimes in distant villages, whereas boys stayed in their parents' homes after marriage. Girls were married at early ages to assure their virginal status. These women described being married as early as nine years old and suffering marital rape before puberty. This resulted in elderly men having wives ranging in age from ten to fifty years old. Upper caste widows could not remarry. The combination of early age of marriage for girls and large disparities in age between husbands and wives led to upper caste girls being widowed as early as ten years old and then being treated as childless burdens on surviving family members. The practice of child marriage and young age at conception has contributed to severe maternal mortality which currently stands on 281 per 100,000 live births (MoHP, 2006).

Poverty

An overarching problem associated with lack of healthcare and lack of education is endemic poverty. Poverty is an overarching impediment to wellbeing of children and adults. One girl in southern Nepal explains,

We are economically weak. There are many rich people who also hold great jobs. People like us who want to do something don't get jobs. We can either go and wash others' utensils or work in others' hotels and get scolded.

A girl in the middle hills describes her situation,

I have no income at all. My brother also doesn't do any work. He does farming and we have no source of money. I thought I'd join the army and help my family as well... My brother tells me that he would arrange for my marriage. Then I tell him that boys want a dowry with marriage and my family won't be able to provide that. Even then, they didn't let me join the army. My father won't even spend ten rupees for my education. Rather he'd drink if he had even five rupees. There

is no way my brother can finance my studies and neither can my sister in law. That's why I wanted to join the army.

Women often associated their dire condition with the poverty of their families. They explained that economic independence would be a step toward reducing suffering.

Section I, Part B: Wartime influences on wellbeing

Children and adults have experienced a range of war-related exposures ranging from witnessing violence through disruption in education and the ability to meet basic needs. Displacement and separation from family was particularly distressing. And, these war-related exposures impacted mental health moderated by prewar and postwar conditions.

Civilian experience of battles

Jumla represents a community with a moderate level of violence throughout the conflict. Areas in the Maoist heartland of Rukum, Rolpa, and Jajarkhot had higher mortality rates. Other regions such as central and eastern Nepal had lower mortality rates. The attack on Jumla bazaar in 2002 illustrates the type of exposure to violence suffered in some regions throughout the conflict. P.K. Shahi, a 32-year-old Chhetri man living in Jumla bazaar explained his experience of the 2002 attack.

P.K. Shahi: It was the year of 2002, November 14. My family and I were sleeping after watching TV. People of our village were accustomed to hearing some gunfire because during those days you often heard shooting at night—almost every night. But, on that day, I heard a different type of noise. Gradually, the gunfire came closer and closer to our house and then the electricity was cut off. Then I thought a battle must have started. People started screaming and there was even more gunfire. I woke up everyone in the room and took them down to the lowest room in the house.

Suman my daughter and Prakash my young brother-in-law were still sleeping upstairs so I went up to get them and bring them down.

I was afraid that the Maoists would come and take me away because I have heard stories about a woman who was abducted by the Maoists. I heard more shooting and then bomb blasts. The Maoists were running up and down the alley outside of our house, bringing injured people away from the battlefield. We were shaking with fear and could not close our eyes even for a second. Gradually, the noise of the guns slowed down. I saw a Maoist, who had been hiding near our house, run away. There was another Maoist hiding under a pile of hay who tried to escape but he couldn't make it. A soldier saw him and gunned him down. The next day we saw many dead bodies being dragged away by their Maoist friends. The police stopped people from coming into the village. People of this village did not eat fish from our river for years because of all the dead bodies buried near the river.

That was the scariest day of my life. I don't think anyone had seen anything like that in their lives. After that we started drinking at night. We formed a group of men who drank together at night. It would help us all to fall asleep. My family and I slept in the basement for two months. I was so scared it would happen again.

I wish that such an event would never happen again anywhere in the world. I was worried that we might die and our houses would collapse upon us. That night was the scariest and the most unforgettable night for me. Many people were affected very badly from that event. Since then, people get scared about very minor things.

My children were sleeping so they did not know what was happening that night. Children of this village are very used to gunfire, so it doesn't wake them up. We had to wake up the children to take them to the bottom floor with us. If that battle had happened in the afternoon, children would have known about it, and they would have been affected much worse. We did not let our children see the dead bodies the next day."

Dil Prasad, a teacher in Jumla, described his experience of the battle in his village just outside the bazaar area.

Dil Prasad: They fired guns all around us, and we worried that we might get shot even inside our house. That was happening in from the end of 2001 through 2003. In November 2002, people were caught in the crossfire of Maoists and police fighting. Starting in the winter of 2001, the police would come to our village and shoot people saying they were Maoists.

Nabin Regmi, a 34-year-old Brahman man, also described his experiences of the battle.

Nabin: The battle was a disaster for Jumla. It happened on the night of November 14, 2002 starting around 7pm and lasted all night. The heavily armed Maoists attacked from all four directions around Jumla. I heard that there were thirty thousand Maoists in that attack. Large numbers of people were injured and many died. Not a single person in the bazaar slept that night. They were worried and confused and had no idea what they could do. Seeing the fighting, many people fainted. This is something that Jumlis will never forget.

A group of Maoists who attacked the superintendant of police were from our village. 2,500 were in that group. When they started the attack, there was big explosion and they entered from the riverside near my house. We panicked and locked all our doors. After about ten minutes we started hearing shooting.

After 30 minutes, someone knocked at my door, but I did not open it because I was so scared. My wife was not startled at the beginning of the battle because she was used to the sound of gunfire. But, she did not let me leave the room. She was scared that the Maoists would abduct me. When the Maoists started knocking at my door downstairs, she shook with fear.

I did not open the door. They kicked hard at the door. My wife and I were still upstairs. They kicked hard again, and broke it open. Hearing that sound, we grew more scared. We were breathless with fear. I told my wife to go under the bed and calm down. I tried to stay upstairs during that time, but I had to go to the bathroom very badly so I went downstairs.

Seeing me there, one of the Maoists told me not to be afraid of them and also told me to stay with them and talk. I could not breathe, I was so afraid. But, they did not do anything bad to us. They saw how scared my family and I were. After I went to the bathroom, I went back upstairs to my wife. I convinced my wife that I would be okay with the Maoists, and then I went downstairs again.

The Maoists had started bringing injured bodies into my house for first aid. The Maoists were in my kitchen. They did not say anything to us so my fear calmed a little. I saw that they had brought their own firewood with them. They made a fire and started boiling water to clean the wounds of the injured people. Some were helping the injured swallow medicine. That just kept going on and on because they were bringing more and more injured people into our house. I saw a very rough situation there. They were providing very little treatment to the injured people. They were using the same needle to stitch up many people, and the stitching thread was not smooth. They were stitching wounds closed without taking out the bullets. Some of them had rubber gloves on; some of them were stitching up wounds without rubber gloves. People were crying with pain. There was not any proper treatment. The situation there was very chaotic.

After a while my fear had gone, and I also began helping them to clean wounds. I don't think they knew that I was a CMA (Community Medical Auxiliary) when they came to this house. The people in my house that day told me that they were in the health profession. There were both boys and girls there, but most were about 20 or 30 years old. Most of them were in the People's Liberation Army. But, later I heard that they also abducted people and forced them to come with them to help. I think more of the people were local Jumlis.

I think there were 15 or 16 people who were providing first aid treatment to the injured in my house. It was hard to count because people going in and out. I think 30 or 35 injured people came to get first aid on that day. All different types of injured people were there. Some of them had broken arms, some of them had gunshot wounds, and some had whole sections of skin ripped off. Some of them were unconscious.

They just had very regular medicine, some betadine to clean the wounds, and Savlon antiseptic. They were giving the wounded paracetamol to help reduce their pain. The way they were providing first aid was very wrong. The equipment that they were using was not clean. They were giving medicines by guessing. They didn't give proper treatment and it might cause major problems in the future for the people they treated. I am pretty sure most of those wounds will have become infected. At least one or two people were dying as they were taking them away.

Finally, a night vision army helicopter came. We went up on the roof to look at it. Gradually, the battle slowed down. People who were providing treatment to the injured left my house early before dawn. Before they left, they cleaned my house. When my family and I think about that day, we still get very scared.

Armed group harassment and abduction of civilians

Battles were not the only traumatic events experienced by civilians. There was also chronic harassment by armed groups of civilian populations.

Sita: The Maoists came to our house from the woods. First the Maoists came in 2002 and demanded food. They threatened us and made us give them food. They demanded rice, but we only had chapatti. We don't eat rice, we can't afford it. We just eat chapatti. But they demanded rice. At that time we went to our relatives and begged for rice. They gave us this much. [She held up one fist.] So, we gave them half rice and half chapatti.

They spent the night. There were seven of them, mostly just boys and girls. They were all local. They were about the same age as my son. [She pointed to her son who looked about 14 or 15 years old.] And then the Royal Nepal Army came and forced themselves into our house after the Maoists had left. They searched for Maoists. We lied and told them we never had Maoists here.

Nabin's worst experiences, other than the battle, came from the police. In 2002 during the State of Emergency, Nabin had just returned from working in Punjab. He had grown a beard while there because he found that he fit in better and was harassed less with the change of appearance. However, upon return to Jumla, he was targeted by security forces because they thought the beard signified he was Maoist.

Nabin: One evening I was outside washing my hands after dinner, I saw policemen around my house. And all of a sudden they started pushing me without any reason. I tried to speak to them, but they did not listen to me at all. I found out later why they had come to my house. The

policemen were on duty and they heard someone screaming and running down towards my house and the policemen thought that a person ran into my house. They were searching for him.

One of the policemen said that he would have shot me if I would have been wearing proper clothes. I was just wearing a *lungi* (long fabric wrapped around the waist similar to a sarong). He also mentioned that I was a very suspicious looking person because of my beard. I think the policemen were drunk.

Eventually, after being harassed the policemen, Nabin told them to ask any of his neighbors and they would find that he was a local who was very responsible and not a Maoist terrorist. The police then went inside to ask his family about him.

Nabin: Then my father and family members explained that we had lived there for a long time. Finally, the police started speaking with us more politely. They asked where I worked and I said that I worked at the wax refining center in Jumla. One of them had bought a candle and honey from me long ago, and he recognized me. They said that I had to go to the district police center the next day for questioning.

Even though they said they were sorry for bothering me, I was very upset. I could not sleep at all that night. I was so scared. What if they had shot me down when I walked outside to wash my hands? I was so bothered by what I had experienced that night.

The next day, Nabin went to the police and answered more questions. Despite their requests for him to shave his beard, he did not do so for a few days because, as he explained, he was very busy.

Nabin: A few days later my friend and I were going to the bazaar. A policeman came and stopped us and asked who we were. Another policeman came and said he would kill us if we took one more step. They... dragged us inside the police station and beat us up. My friend was so scared he couldn't say a single word. Even though I answered all of their questions about my work and living, they did not believe me.

My friends and neighbors then gathered outside the police station when they heard I had been taken inside. They asked why I was being interrogated. The policeman answered saying that

I had a long beard, the hat I wore had star on it like a police rank, so they were suspicious about me. When I bought the hat, there was already a star on it, I said. But the policemen did not believe me. They told me not to wear that hat anymore and also told me to shave my beard as soon as I got home. Eventually, they let me go. I shaved my beard as soon as I got home. I had many bruises from their beatings and could not sleep for weeks.

P.K. explained that it was not just this one battle that they and other Jumlis experienced during the war. Before the Maoists destroyed the electrical lines in Jumla, they would come to P.K.'s stationary store to have him photocopy fliers and Maoist propaganda. They would bang on his door in the middle of the night, make photocopies until just before sunrise, then disappear before the first morning rays reached the bazaar. P.K. said they always kept an account and would pay him back from time to time for the photocopying. P.K. wasn't as worried about what the Maoists would do to him as what would happen if the police or army found out.

Ultimately, the experience of most villagers and their children was being caught in between the Maoists and the government security forces. Pettigrew writes in detail about situations of villagers caught between Maoists and government security forces in a rural community in western Nepal (Pettigrew, 2004). Children we interviewed also described how they were caught in the middle between the People's Liberation Army and government security forces:

The Maoists punished bad people in the village who treated villagers badly. On the other hand, people had to leave their homes and businesses because of the conflict. Villagers were confused because they did not know what they should do. They were forced to cook food and give shelter to the Maoists. Then the Royal Army punished and questioned them for providing food and shelter. And, if the villagers provided food and shelter to the Army, then sometimes villagers would get beaten by the Maoists. Sometimes, the Maoists forced villagers to join them and follow what they

said. Sometimes, the Maoists tortured people if people did not listen to them. So villagers suffered from both the government and the People's Liberation Army. All the people wish and want to have peace soon.

Exposure of children to violence against family members

A girl in southern Nepal explains that the "State of Emergency" which began in 2002 was the cause of her fear.

1-2 years ago there was conflict in our village and many people were beaten by the army, police, and Maoists. Once my father was arrested and he was beaten very badly by the army and police. So, I get scared thinking something might happen to him again.

In addition to witnessing her father being beaten and arrested by the police and army, the girl reported that in her village the army killed ten or eleven Maoists. She also described witnessing a fire and a bombing in her village. Whenever police, army, or Maoists come to her village, she becomes very frightened. "I get scared most of the time." She states that seeing army, police, and Maoists is the greatest cause of her fear. "Because of them, many people have died. Many people have suffered. And, many people have been beaten."

The case below is from a fifteen-year-old boy who witnessed violence against his family and was displaced to Kathmandu.

The main reason I came to Kathmandu is because of the Maoists. My father and two of my brothers were in the RNA. In 2003 my brother was in Nepalgunj and he came home during a vacation to our village. The area is highly affected by Maoists. The Maoists knew that my brother had come home so they came to our home. It was evening... They locked my mother in a room, and then told my brother that he had to come with them because he was in the RNA. That was about the time that I returned home. I don't live in the village. I stay in the district headquarters where I had been living for the past seven years while going to school. But I would go home every

Friday night around 7pm, and this just happened to be a Friday evening. I entered the house, but they wouldn't let me see my brother or mother.

I heard my brother saying to the Maoists, "I can't go with you today. I am sick. Please come back tomorrow and I will go with you then."

They replied, "Don't you know us? We are Maoists!" Then they dragged him out into the jungle.

I wanted to follow my brother but they told me not to. Still, I ran out of the house and ran towards my brother who was about 100 meters away in the jungle. They had tied him to a tree with a rope. I got within 5-7 meters of my brother and heard the Maoists say to him, "You only have a few minutes to live. You must tell us how many Maoists you have killed right now or will we kill every member of your family."

When I heard this, I knew that my brother had no chance for survival. I shouted at the Maoists, "We haven't done anything bad to you! Why are you doing this? Why are you making us suffer?" Then they started beating me. All their anger toward my brother was poured out on me. "What have I done wrong?" I pleaded.

I grabbed a *khukhuri* [Gorkha hunting knife] from one of them. I wanted to kill them. My mother had also overpowered the Maoist in the house and stole his *khukhuri*. She ran outside and cut my brother loose while I was struggling with the others. My brother escaped and ran away, but the Maoists got the *khukhuri* back from me and started beating and cutting me. They also chased down my mother. They cut and beat her, too. We were both left for dead in the jungle. A few hours later some villagers came looking for us in the jungle and found our bodies. They carried us to the village health post, but we couldn't be treated there.

They eventually brought me and my mother to Army Hospital in Kathmandu. I regained consciousness about 12 hours after reaching the hospital, but I didn't recover enough to leave for three months. My brother also came to Army Hospital in Kathmandu. He had banged his knee against a tree when he was running away. Even today he cannot walk normally. My mother still hasn't recovered fully. She lost the use of one hand...

After we were taken to Kathmandu, the Maoists published in their newspaper in our village that we are targeted persons and will be killed if we return. They detonated bombs inside our house, so we have nowhere to live even if we go back. They have also taken all our land. They have left it barren and threatened to kill anyone who tilled it.

Disrupted education

Keeping in mind the poor quality of education, sporadic availability of teachers in rural areas, and discrimination in which children attended school, the People's War appeared to worsen further education for children in Nepal. In some areas, schools were closed down for more than a year during the conflict. The Maoists used schools as a major recruitment site. Bombs also detonated around school settings. Ultimately, some children chose not attend school because they felt imperiled. Parents also chose not to send them because they were worried about their children's safety. In other instances, children did not go to school because teachers had fled the area because teachers were often targets of Maoist activities. A girl who was displaced from the middle hills to southern Nepal explains,

When I studied in the hills, I was always afraid of being taken away by the Maoists to join their movement. The Maoists took away my first cousin to join their movement. Because I saw that with my own eyes, I was always afraid that they might come take me as well. That is why I left my school, my parents, and my village and ran away from home to live in this village. That was very sad for me.

Children were also exposed to other forms of direct violence; bombings were not infrequent and both sides planted improvised explosive devices throughout the country. Children often picked up these items and suffered the consequences. Children have been

both killed and maimed from the explosive devices. The local officer of a human rights organization explained the presence of active explosive devices on school grounds.

Due to the [explosive devices], children's mental condition was very poor. Even now, people are scared as there may be old fitted bombs that haven't exploded yet. One case occurred here. A bomb was thrown by the Maoists near by school. But, the bomb didn't detonate until many days later when the children were playing. Three children were killed. A similar event happened in another nearby community.

Dil Prasad, a teacher in Jumla, explained that the teachers and schools were targets of Maoists violence. Throughout the conflict he felt endangered because of his profession.

I was worried a lot about my country at that time because people were dying in battle. The Maoists were terrible to teachers. The other teachers and I were always worried that we would be the targets of Maoists. In 2002 one of the school headmasters was killed near the school. We were all so worried that they would kill us next. We don't even know the reason they killed him.

Children from the school were taken by Maoists for their cultural programs and other activities. Usually they would send the children back that day or a few days later. Some children did not come back. I think our school was less affected because we are so close to the district headquarters. When the children hear about the Maoist programs, they think it is going to be fun and get very excited. So, when Maoists announce that there is going to be a program, they invite the children and many students go to watch the programs.

The Maoists wanted to show everyone how much support they had. They would gather large groups of students together and it would look like a big crowd. They forced teachers to bring their students to participate in their programs. If teachers did not listen to them, then teachers might get beaten up. So, teachers had to go with the students. They would also ask the teachers to make monetary donations.

We were worried that anything could happen at any minute. They forced us to close the school anytime they wanted. Then the police would force us to keep the school open and not listen

to the Maoists. They would station police at the school and force us to teach even though the Maoists said not to.

I was always worried and rushed to get home after school when it ended at four o'clock. I would go home straight after my duty was over. I didn't go anywhere except school. I think the children were also afraid to come to school. Many were worried that the Maoists would take them away and use them in battle and then they would die.

But, the situation has changed these days. It is peaceful now, and children are thinking again about getting an education.

Displacement

Children were displaced during the conflict, in part to reduce their vulnerability to violence or recruitment into armed groups. This appeared to be most distressing when children were sent away from their families. A girl who was relocated from western Nepal to Kathmandu explains,

My father is a political leader. In 1999 my father had been elected. During the election period Maoists attacked us... they stole everything we owned. Their main objective was to kill our father... [But] he was hiding in a safe place.... The [Maoists] tried to get me to join them. They said that there is no future here. They followed me constantly for ten days. They stayed at our house and ate our food. Whenever I wanted to sleep, they wouldn't let me. They wouldn't let me study. Anytime I started to do schoolwork, they made me read their Maoist books. Finally, after all of this, I gave up and said I would join...

[B]ut the day before I was to join their cultural program, my mother helped me to run away with teachers in my village My mother said that the Maoists won't leave me so I better escape from here. Early one morning at 5am, I left and never returned... [F]or safety, we slept during the day and only traveled at night so the Maoists wouldn't see us. Then I came to [a city in the middle hills]. I didn't have any relatives there. I have never traveled in a bus so it was very

difficult for me. I thought I was dying on the bus... Finally, I made it to my aunt's house in Kathmandu.

Family members were abducted and children witnessed the abductions. A young girl, a member of an ethnic minority group, described how the police and army had targeted her family. This ethnic group, the Tharu, had traditionally been targeted by police and security forces. In one instance, this police and army came to this girl's house. They beat up her father in front of her, and then abducted him. He was eventually returned, rather bruised. The girl then did not want to leave her father's side. She insisted that he not leave the house. Every time that he did, she was worried he would not return. This illustrates that issues related to child attached.

Her uncle identifies the conflict as the main cause of her problem, "She came here to be safe from Maoists. Maoists used to abduct children to participate in their campaigns. She is worried about being abducted." He feels that not living with parents negatively influences one's emotional and behavioral condition. "If there were no wars, she would not have to live far from her family and parents." Regarding traumatic events, she has witness fires and bombings. He and his family have not sought treatment for the child, and he has not heard of counseling before.

Child marriage

Child marriage may have increased in some communities during the conflict. Some parents married off their children at an earlier age in hopes that this action would prevent Maoists from recruiting them. Anthropologist Sara Shneiderman describes this:

Women, young women especially, were targets for recruitment, ... in later phases of the movement when many of the men had already fled or those who are going to join had joined, so

the Maoist turned to the women, and particularly young women were targeted, ... between the ages of 14 and 18, and particularly unmarried girls... If there are already married, they're basically seen as a lost cause... [T]his actually lead to a trend of a return to child, or at least very young, marriages.

TABLE 10-1. TRAUMATIC EXPOSURES AMONG CIVILIAN CHILDREN AND FORMER CHILD SOLDIERS

Exposure	Civilian Children	Former Child soldiers	Odds Ratio (95% CI)
Accident	30.3%	38.0%	1.41 (0.86—2.31)
Fire	51.4%	55.6%	1.19 (0.74—1.89)
Natural disaster	20.4%	19.7%	0.96 (0.54—1.71)
Violent death	16.9%	40.1%	3.30 (1.90—5.73)
Beating	67.2%	73.2%	1.31 (0.79—2.19)
Bombing	20.4%	56.3%	5.03 (2.97—8.51)
Abduction	26.1%	51.4%	3.00 (1.82—4.94)
Torture	10.6%	28.9%	3.44 (1.80—6.56)
Family murder	2.1%	4.2%	2.04 (0.50—8.34)
Domestic violence	28.2%	15.5%	0.47 (0.26—0.84)
Physical abuse	8.5%	4.9%	0.56 (0.21—1.47)

TABLE 10-2. EXPOSURE TO POLITICAL VIOLENCE AND CRUDE ODDS RATIOS FOR POST-CONFLICT (YEAR 2007) MENTAL DISORDERS (N=298)

	No. (%)	Depression (BDI)	Anxiety (BAI)	PTSD (PCL-C)
		OR (95% CI)	OR (95% CI)	OR (95% CI)
House searched by armed group ^a	256 (85.9)	0.72 (0.37—1.38)	1.77 (0.90—3.49)	1.25 (0.46—3.39)
Forced to feed and shelter armed group	220 (73.8)	0.98 (0.58—1.65)	1.78 (1.05—3.03)	1.35 (0.62—2.97)
Property damaged in battle	35 (11.7)	0.97 (0.47—2.00)	1.76 (0.86—3.61)	0.76 (0.26—2.29)
Forced into political involvement by armed group	64 (21.5)	1.18 (0.67—2.06)	1.83 (1.04—3.20)	0.57 (0.23—1.42)
Threatened by armed group for political involvement	121 (40.6)	0.52 (0.32—0.84)	1.27 (0.80—2.03)	1.11 (0.58—2.16)
Domestic violence perpetrated by family member in armed group	23 (7.7)	3.70 (1.47—9.29)	1.22 (0.52—2.86)	2.34 (0.87—6.33)
Sexual violence perpetrated by armed group	26 (8.7)	3.69 (1.55—8.80)	1.31 (0.59—2.94)	3.84 (1.58—9.30)
Witnessing someone beaten by armed group	213 (71.5)	0.65 (0.39—1.07)	1.03 (0.63—1.71)	1.33 (0.62—2.83)
Witnessing someone killed by armed group	234 (78.5)	1.00 (0.57—1.75)	1.44 (0.82—2.52)	1.43 (0.60—3.40)
Witnessing bomb explosion	191 (64.1)	0.81 (0.50—1.31)	2.04 (1.26—3.32)	0.71 (0.37—1.38)
Family member abducted by armed group	37 (12.4)	0.58 (0.28—1.23)	1.18 (0.60—2.36)	1.84 (0.78—4.36)
Family member tortured by armed group	75 (25.2)	1.04 (0.62—1.77)	1.09 (0.65—1.85)	1.60 (0.79—3.22)
Family member killed by armed group	14 (4.7)	1.10 (0.37—3.26)	1.10 (0.38—3.23)	1.71 (0.46—6.42)
Displaced due to conflict	34 (11.4)	0.76 (0.37—1.64)	0.74 (0.36—1.54)	1.36 (0.53—3.51)

^a 'Armed group' can refer to either government forces (Nepal Army and Armed Police Force) or Maoist forces (People's Liberation Army).

Conscription

One of the most important war-specific potential risk factors is the conscription of children into armed groups. Children were recruited into the CPN(M)'s People's Liberation Army (PLA) and the Royal Nepal Army (which became the Nepal Army in 2006) as soldiers, sentries, spies, cooks, performers in cultural groups, and porters (Human Rights Watch, 2007). Local groups estimate that between 9,000 and 12,000 members of the PLA were under 18 years of age when the peace accords were signed, of these child soldiers 40 percent were girls (Human Rights Watch, 2007). Ten percent of the Royal Nepal Army during the conflict was below the age of eighteen (Singh, 2004). Child soldiers experienced war-specific events such as bombings and violent deaths as described above; however, they typically experienced them more frequently than civilian children (see Table 10-1). Child soldiers also experience conscription, indoctrination, and roles in which they participated in violent acts.

Children did not typically discuss violent acts of conscription. About half described their association as voluntary whereas other children described abduction in the form of being taken away from school or home with a group of other children (Kohrt et al., 2008). Risk factors for conscription can be divided into "push factors" and "pull factors". (Somasundaram, 2002). "Push factors" are those factors that place an individual at risk of recruitment. Poor economic conditions, unemployment, and inability to meet basic needs in the community were reasons for joining; 24 percent of children said they joined because of poverty. Violent family environment was also a reason for joining. Some child soldiers come from families with domestic violence and alcoholic fathers. Other push factors included discrimination in the community, especially targeted at

Dalits, Janajati, and girls; 15 percent of children said they joined to end gender and caste-based discrimination. Children also said they joined because of lack of opportunities in their communities and family problems. Girls said they joined to escape abusive marriages or before being forced into arranged marriages.

“Pull factors” are aspects of the armed group and include methods that groups use as well as enticement and promises made to children as alternatives to their status in the community. Pressure from Maoists and from peers was identified by 38 percent of children as the reason they joined. They explained the Maoist policies of *ek ghar ek* (one person from each household) dictated that one person from their home had to go. The children often saw their parents as unable to go because they were too old, too physically weak, or had too much responsibility for the family. Thus, children reported going in place of their parents. Peers would provoke children by saying, “If we can do it, then so should you.” In addition, children could move forward in society, obtain a government job, and become wealthy through association with an armed group; 24 percent of children said they joined for these opportunities of personal advancement. Ten percent of children said they joined because of the CPN (Maoist) party philosophy, which they learned through cultural programs designed to entice children to join. Many community members perceived revenge as a common reason for children to join armed groups. These individuals explained how security forces had killed family members or tortured the children themselves. Thus, children joined the Maoists to retaliate against security forces. Five percent of children said they joined because of revenge. Another pull factor may have been sexual desire. One Brahman health-post worker from an eastern hill region described how young boys saw joining the Maoists as a sexual opportunity. This was the

only respondent who spontaneously elicited sexual desire as a pull factor, but other community members also implied that sexual activity occurred within Maoist forces.

Another pull factor was educational opportunity with the Maoists. Many teachers affiliated with the Maoists preached party philosophy in the classroom. Furthermore, the formation of various youth political wings affiliated to Maoist provided an intermediate affiliation before joining Maoist military units. Children also described how they felt that the Maoist education was more practical than the typical education in schools. Children reported that they learned rhetorical skills and gained confidence through association with the Maoists.

Traumatic events for Child Soldiers

Child soldiers were exposed to traumatic events during their association with armed groups, and generally had more traumas than civilian children (see Table 10-1). Children who experienced these traumatic events, especially bomb explosions, were more likely to have symptoms of posttraumatic stress, as well as impaired daily functioning compared to children with exposure to fewer traumatic events. The experience of torture was the most strongly associated with poor mental health (Kohrt et al., 2008). Victims of torture had the most severe mental health problems, followed by perpetrators, followed by observers of torture; all of these groups had greater mental health problems compared with children not exposed to torture in anyway.

The following account from a former child soldier in western hills of Nepal illustrates the types of events and their impact on wellbeing.

I was scared at the beginning, but I learned to work with weapons. During the conflict, I was shot and injured. It happened when the commander of our group told us to go plant rice in a distant

community. However, on the way there, he suddenly told us that we were actually about to attack the Royal Nepal Army. Instead of planting we had to carry bombs and prepare for attack... After our commander's orders, we started attacking. Then, the RNA returned fire. A government helicopter started bombing. Many of my friends and I were injured. We did not have any proper medical treatment. I think I was injured by mistake from a bullet when my friend fired his gun in the wrong direction. Many people from both sides died in that battle. I thought there was no hope for me to survive. I thought that day was the last day of my life. We carried our friends' dead bodies and took them to a nearby village for cremation.

I have many sad and unforgettable experiences in my life. [In a different village] we had four young girls with us. They were new to our group. ... [T]he RNA was following us from a different direction, but we did not know it. They captured us and took two young girls from our group. The government soldiers raped them and killed them with *khukhuri* [Gorkha hunting knives]. We ran away; otherwise they would have killed us, too.

The worst experience happened in a different battle. Many of my friends were dying and asking for water. But, I was so helpless that I could not do anything for them because the battle was very dangerous. I still get scared and start sweating when I think of that day. I especially remember one friend who asked for water... I cannot do any work if I think of that day. I get very disturbed and want to be by myself in a quiet place. I need to stay busy. That helps me to forget about that day.

Children described different roles while associated with armed groups (See Table 3). The majority of children had multiple roles. However, there was not an association of type of role with severity of mental health problems. Moreover, individuals who participated in military combat did not have greater risk for mental health problems when controlling for exposure to traumatic events (Kohrt et al., 2008).

Table 10-3. Role during association and impact on psychosocial wellbeing

Role of Child	Percent of Children in Role*
Sentry	54%
Messenger	25%
Spy	12%
Porter	35%
Cook	47%
Cultural programs	40%
Soldier (PLA/SF)	21%

* Note: Total percentage is greater than 100 percent because most children assumed multiple roles.

Torture

Torture is one of the most dramatic assaults to human wellbeing. Torture was sadly widespread throughout the conflict. Though Nepal is a signatory to the United Nations *Convention Against Torture*, Lykke & Timilsena (Lykke & Timilsena, 2002) found evidence of torture in midwestern Nepal, mostly in police custody. Seventy percent of prisoners reported torture in a survey between 1994 and 1997 (Van Ommeren et al., 2002b). Torture consisted of severe beating during police custody or by the army, together with death threats, humiliation, isolation from family members and deprivation of basic needs. Specific methods included prolonged beating on the soles of the foot, severe pressure on limbs with bamboo sticks, suspension, fingernail extraction, exposure to painful substances (stinging nettles, chili peppers) in orifices/open wounds, torture with electronic wires, and sexual violence.

Stevenson (Stevenson, 2001) notes that the use of torture probably intensified within the context of the Maoist insurgency. The Center for Victims of Torture in Nepal (CVICT) reported over 250 new survivors of torture seeking treatment during 2004 (Tol et al., 2005), and CVICT estimates 17,000 episodes of torture during the conflict. Government forces and Maoists have used torture against a wide range of individuals, not limited to active combatants on the two sides (Amnesty International, 2005). Victims include students, human rights activists, politicians, journalists, providers of public and

private transport, and unaligned residents in rural areas. After February 2, 2005, when King Gyanendra dissolved the government and declared absolute control over the country's citizens, detention and torture increased dramatically (Amnesty International, 2005).

As reported in Chapter 8 *Comparison of the Mental Health of Child Soldiers and Never-Recruited Children*, torture was the strongest predictor of poor mental health outcomes. Exposure to torture was associated with anxiety (OR=1.99 95% CI 1.00—3.94), psychological difficulties (OR=2.35 95% CI 1.17—4.71), and impaired daily functioning (OR=2.10 95% CI 1.02—4.30) in all children, and PTSD in both boys (OR=6.96, 95% CI 2.08—23.35) and girls (OR=3.53, 95% CI 1.17—10.70) (Kohrt et al., 2008).

One of the questions was the association based on type of roles. Child soldiers included both victims and perpetrators of torture. Using the full combined child soldiers sample (800 children: 400 child soldiers and 400 civilian children), the impact of role was examined. Children described a range of exposures:

17 year-old former child soldier in eastern Nepal: When I was with the Maoists, I was captured by the Royal Nepal Army. They arrested me and kept me in custody for five days. They tortured me. I was tied to a wall and electrocuted. They demanded that I spy on the Maoists and give them information. I promised that I would. When they released me, I ran away and did not come back to that area for two years. I was surprised when they let me go. Usually when the Royal Nepal Army tortures people, they eventually kill them. I am lucky to be alive. I was fourteen years old at the time.

Female nongovernmental organization (NGO) worker: In a hill district in central Nepal, there was a thirteen-year-old boy who had joined the Maoists. He traveled with the Maoist army for three

months. Then he deserted and ran away to his home. The Maoists found out and came back to his village. They captured him and tied him to a tree in front of the other villagers. The Maoists said they would kill anyone who untied him. They left him there for three days and every day chopped off a finger. One night, someone cut the boy loose. He ran away and did not come back for more than a year until the war was over. Now he lives with this family again. He is studying and works on a bus.

40 year old political leader in eastern Nepal: The Royal Nepal Army has abducted children who worked with the Maoists. Sometimes they captured children who had never even been with the Maoists. They tortured them, and many children have died in the custody of the Royal Nepal Army. Children live in fear of the Royal Nepal Army.

15 year old former boy soldier in midwestern Nepal: Our Maoist group used to abduct teachers who were spies for the Royal Nepal Army or police. They were tied to trees in the woods or outside their classroom. Sometimes we would tie them up like goats to be slaughtered. We would cut off their heads or their hands. I cut off the hands of teachers. Then, they could not write lies.

17 year old former boy soldier in midwestern Nepal: I was with the Maoist army for three years. Once, when I was fifteen years old, the Royal Nepal Army captured us. Our group was made of up two girl soldiers from my village and one other boy. The army soldiers held us and made us watch as they cut the girls. They told us to remember this and tell others not to join the Maoists. They poured chili powder into their wounds, which made them scream even more. They raped the girls. Then, they killed the girls and dumped their bodies into the river. We escaped, but I cannot forget that day.

From the combined results, 39 percent of children were exposed to torture, with exposure more than twice as likely among child soldiers (See Table 10-4). Among child soldiers, 43.2 percent witnessed torture, 7.3 percent were victims of torture, and 3.7 percent

perpetrated torture. These rates were lower among civilian children. Child soldiers were especially more likely to be perpetrators compared with civilian children (OR=5.03, 95% CI 1.44-17.49).

TABLE 10-4. EXPOSURE TO TORTURE (N=810)

	Civilian children (n=400)	Child soldiers (n=410)	Total	Group differences
	No. (%)	No. (%)	No. (%)	OR (95% CI)
Witness torture	102 (25.5)	177 (43.2)	279 (34.4)	2.22 (1.65—2.99)
Perpetrate torture	3 (0.8)	15 (3.7)	18 (2.2)	5.03 (1.44—17.49)
Victim of torture	10 (2.5)	30 (7.3)	40 (4.9)	3.08 (1.49—6.39)
Any exposure	111 (27.8)	205 (50.0)	316 (39.0)	2.60 (1.95—3.48)

Of the children participating in torture, the type of involvement included binding and cutting of victims including amputations as well as removal of ears and nose. Of children who were the victim of torture, 20 percent were burned, ten percent were bound, ten percent suffered digit or limb amputation, ten percent underwent mock drowning, and five percent were electrocuted. One civilian girl reported being abducted and raped by Royal Nepal Army soldiers. The most commonly reported torture (30 percent) was mock execution. Most children who suffered torture reported multiple forms of torture.

Figure 10-2 displays the rates of PTSD, depression, and impaired function based on role in relation to torture: PTSD (no trauma exposure 21.3%, witness 36.2%, perpetrate 44.4%, victim 55.5%, $\chi^2=52.95$, $p<.001$); depression (no trauma exposure 33.1%, witness 35.9%, perpetrate 38.9%, victim 40.0%, $\chi^2=4.17$, $p=.24$); impaired daily functioning (no trauma exposure 39.6%, witness 53.2%, perpetrate 66.7%, victim 60.0%, $\chi^2=30.20$, $p<.001$). Thus, rates of PTSD and impaired daily functioning differed by group, while group differences for depression were not significant.

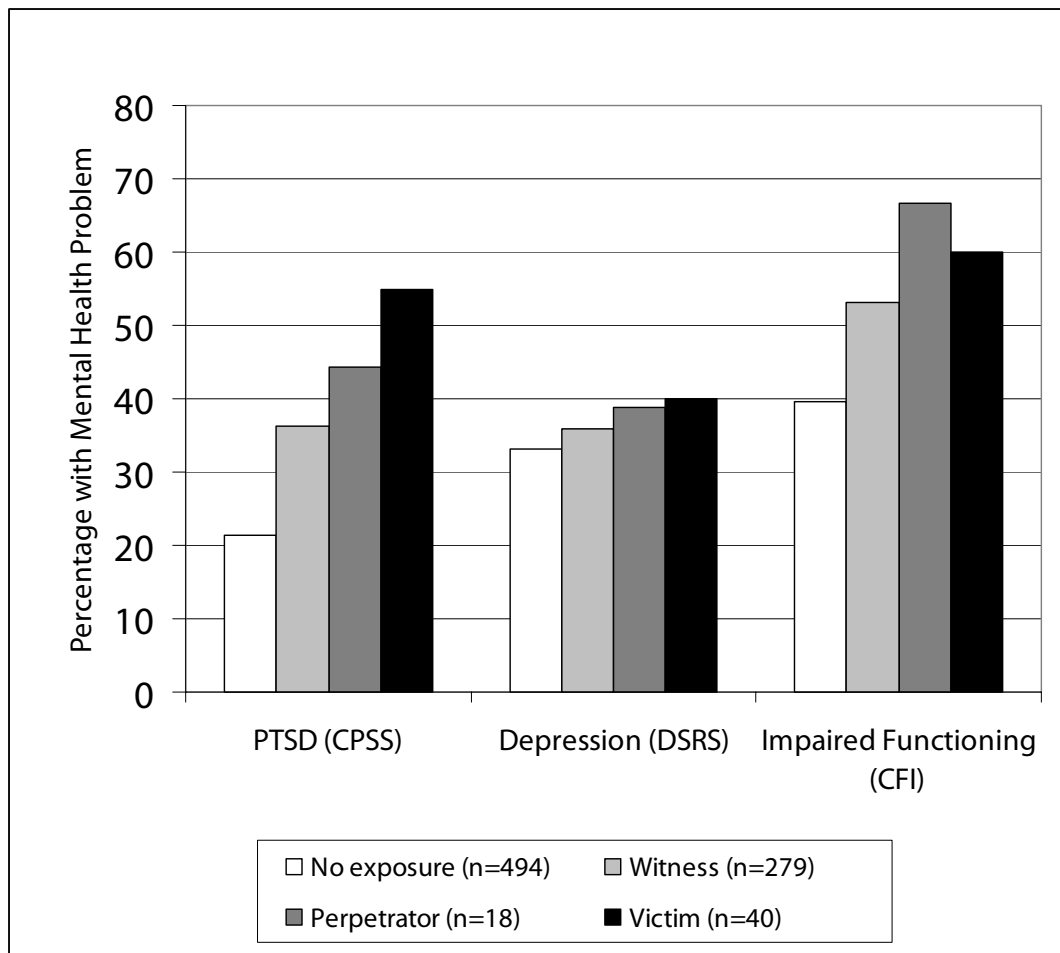


FIGURE 10-2. TORTURE AND MENTAL HEALTH

Percentage of children with PTSD, depression, and impaired functioning by status of exposure to torture (none, witness, perpetrator, or victim). Abbreviations: CPSS, Child Posttraumatic Stress Scale; DSRS, Depression Self Rating Scale; CFI, Child Function Impairment.

Table 10-5 presents the effect sizes for mental health outcomes based on type of exposure to trauma. PTSD was significantly associated with being a victim of torture (OR=2.94, 95% CI 1.43—6.03) when adjusting for child soldier status, as was witnessing torture (OR=1.48, 95% CI 1.03—2.14). No type of torture exposure was associated with depression. Being a perpetrator of torture had the largest effect size for association with impaired daily functioning, however, it was non-significant (OR=2.48, 95% CI 0.90—6.82) when controlling for soldier status. Witnessing torture was associated with impaired functioning when controlling for soldier status (OR=1.58, 95% CI 1.17—2.15).

TABLE 10-5. ASSOCIATION OF PTSD WITH TYPE OF TRAUMA EXPOSURE

	PTSD		Depression		Daily Functioning		
	No. (%)	Crude OR (95% CI)	Adjusted for child soldier status OR (95% CI)	Crude OR (95% CI)	Adjusted for child soldier status OR (95% CI)	Crude OR (95% CI)	Adjusted for child soldier status OR (95% CI)
Witness torture	279 (34.4)	2.10 (1.51-2.91)	1.48 (1.03—2.14)	1.13 (0.83—1.54)	0.92 (0.67—1.28)	1.74 (1.29—2.34)	1.58 (1.17—2.15)
Perpetrate torture	18 (2.2)	2.96 (1.14—7.69)	1.51 (0.55—4.15)	1.28 (0.49—3.39)	0.87 (0.32—2.33)	3.06 (1.13—8.28)	2.48 (0.90—6.82)
Victim of torture	40 (4.9)	4.52 (1.78—6.46)	2.94 (1.43—6.03)	1.35 (0.70—2.61)	0.99 (0.50—1.95)	2.29 (1.19—4.43)	1.94 (0.99—3.79)
Any exposure to torture	316 (39.0)	2.30 (1.67—3.15)	1.62 (1.14—2.30)	1.18 (0.87-1.58)	0.94 (0.69—1.28)	1.82 (1.36—2.42)	1.63 (1.22—2.19)

Section I, Part C: Postwar influences on wellbeing

In November 2006 the CPN (M) and Government of Nepal signed peace accords ending the war. As a part of the accords, no party to the treaty was to involve anyone under the age of eighteen in violent activities. It was also planned that multi-lateral, humanitarian, development, and other non-governmental organizations would assist former combatants under the age of eighteen years to reintegrate into civilian life. Furthermore, elections were scheduled for June 2007. However, the elections were postponed until November 2007. In November, the elections were delayed again until April 2008. The interim governing body decided to change the country into a republic and no longer recognize Gyanendra as either monarch or reincarnation of the god Vishnu. Gyanendra was the last king of Nepal and bringing an end to 239 years of Hindu monarchy ruling a unified Nepal. In April 2008, elections were held with no party winning the majority vote. The CPN (M) had the greatest number of votes, over 30 percent. Chairman Prachanda (Pushpa Kamal Dahal) was appointed as the first prime minister of the *republic* of Nepal.

Postwar violence: the Young Communist League and other violent groups

Signing of peace accords in 2006 did not end the exposure of children to violence. After the war ended, the Young Communist League (YCL) was formed, in part from former members of the People's Liberation Army. The YCL has recruited both former child soldiers and civilian children. P.K. Man Pun, head of the YCL, described the YCL activities in relation to social mobilization and improvement of the country's infrastructure:

As youth are necessary for social revolution and transformation, the YCL is also a necessary element of society. We require a young group of people because young people make up the majority of the population in Nepal. Youth are the shoulders of this country on which the future of this country rests. We need youth to unite. Without them, there can't be social transformation nor can there be a *New Nepal*, nor can we develop the economy. In order to unite the youth, [the CPN (M)] started the YCL. The YCL symbolizes new thinking, new politics, and new methods to change society. Without the YCL, the social revolution cannot go ahead...

The first activity that we did was to train thousands of youth. We then involved them in protests to disseminate the idea of a republic. Second, we have organized hundreds of thousands of youth. We make them meet in a single place and help them organize and work together. Third, we serve the people.... We serve the people in places where the peace is disturbed such as in Kapilbastu [Tarai southern plains district] where there have been violent riots. We have mobilized thousands of forces including 300 of the YCL's regular forces and local forces. In such a way, we work as volunteers to help maintain peace and order.

The YCL has emerged as a support and a power to be trusted among the people of Nepal. The YCL is the pupil of the people's eyes. The YCL has made thousands of people its members. Look at the effects it has made. The regressive forces, feudal royal forces, foreign imperialist forces, and expansionist forces have been terrified. They have tried to spread rumors about YCL right from its initial days of establishment. The Prime Minister [Girija Prasad Koirala] even charged that the YCL was criminals.

A 16-year-old girl in the hills of central Nepal described the activities of the YCL in her village.

The YCL are also Maoists. They are the army of the Maoists. These were the ones who asked for votes in the elections... The YCL threatened to kill us if we did not vote for them and many of us voted for them because of this fear.

In addition to YCL related violence, there are a number of other militant groups. Postwar violence has been most severe in the Tarai southern plains region. More than 25 different armed groups are active in the Tarai; some are splinter groups from Maoist militias while others are Madhesi groups that identify ethnically with northern Indian populations. In addition there has been violence against Muslim communities living in the Tarai. News reports from Tarai violence have reported involvement in children in the violent activities. Work by TPO-Nepal and other organizations suggest that children affected by this postwar violence may have significant psychosocial problems.

Lack of safety and security

Another challenge to child wellbeing in postwar Nepal was the vacuum of safety and security forces. During the conflict, police and army abandoned many of their rural posts. Law and order was maintained by Maoist forces. However, after the war violence ended in 2006, many Maoists migrated to urban areas leaving a vacuum of law enforcement in rural areas. The few police that have been reposted to these former Maoist areas are at the mercy of the citizenry and are often the victims of crime rather than protectors. A boy in a rural community in mid-western Nepal described it as follows:

“The village is getting better, but there are still some drunks who cause fights. We do have a police booth here and they are here for our protection, but I heard a few days ago, a policeman was beaten very badly by a drunkard of our village. I think that should not happen. During the conflict, if the Maoists saw any drunken people, they punished them. Sometimes Maoists forced drunken people to work for them. So people were scared of getting punished by the Maoists. The Maoists

do not care anymore about the village. The police do not care about the drinking problem of this village.”

Another boy in the same community added:

“More alcohol is consumed in this village these days. During the conflict, the Maoists did not let anyone sell alcohol. But, they don’t stop it anymore. So people get drunk and create fights. I have seen a store that sold 160 bottles of alcohol in one day.”

Community treatment of former child soldiers

During and after the war, child soldiers returned home to their villages. Some children described this as more stressful than their experience of war. Community members stigmatized returning child soldiers because they thought the children engaged in sex during their association with the Maoists. They also thought former child soldiers had violate Hindu caste rules for purity by eating beef, eating with and staying with lower and ‘untouchable’ castes, eating with and interacting with menstruating women, etc. Community members described violation of Hindu purity rules as one of the main reasons for discrimination against and exclusion of children upon return, especially exclusion from marriage. Perceived violations of sexual purity were a primary reason for harassment and stigmatization of returned girls. For many community members, violating Hindu purity and sexual activity were more significant transgression than committing violent acts. The majority of the community members also explained that returned girls could not participate in arranged marriage because of being ritually impure, not virgins, or being too old (See Table 10-6) . The latter concern was more common among Tharu

groups in the western Tarai where marriage tends to occur at a young age of 14-15 years.

Generally, the community did not describe marriage difficulties for returned boys.

Table 10-6. Community views of returned girl soldiers and possibility for marriage

Community Men's Views of Girl Soldiers and Marriage

"The community thinks girls who leave home are not virgins. They are awful."
"The girls will have a problem; their virginity is questioned."
"It is difficult for the girls to get married. They are rape victims."
"Because they are too old, it is difficult for them to marry."
"The girls can marry if they are young enough."
"If you believe in <i>our culture</i> , there is no possibility for girls to marry."
"The girls will not have problem if they marry inside the Party."

Community Women's Views of Girl Soldiers and Marriage

"They can marry in their circle, but arranged marriage is not possible."
"Arranged marriage is not possible, they must elope."
"Within the armed forces they can marry."
"As long as their <i>hearts click (man milne)</i> , they can get married."

Note: Information is based on focus group discussions with adult men and women in the civilian community.

Former child soldiers described the experience upon returning home as characterized by discrimination from the community, friends deserting them, teachers mistreating them, and backbiting in the community. Table 5 lists the difficulties encountered by children and from whom the problems originated. For example, 10% of children felt that their families did not want them to come home, whereas 20% of children felt their friends did not want them home. Although the total number of return difficulties did not vary greatly across regions, the types of difficulties did vary. For example, discrimination was the lowest in all categories in eastern districts. Discrimination from the family may be higher in the Far Western Region because of the larger percentage of children who are internally displaced and living with distant relatives rather than their natal family. Discrimination from the community (friends and neighbors) was more common in the Mid Western Region. Girls especially reported sexual harassment and threats from the community in this region; in public they were insulted

with derogatory terms about their sexual character such as “*nakachari, kumari keti chhaina, ketaharuko sutne ochhyaan*” (girl of poor character “loose bird”, not a virgin like the Kumari, a bed for boys to sleep upon). Discrimination from political parties may be less in eastern districts because of widespread community support for the Maoists.

TABLE 10-7. PERCENTAGE OF RETURNED FORMER CHILD SOLDIERS REPORTING DIFFICULTY FROM COMMUNITY MEMBERS

Type of difficulty	Family	Friends	Teacher	Political groups	Neighbors	NGO
Didn't want to take me home	10%	20%	13%	39%	27%	9%
Afraid of me	4%	28%	4%	2%	18%	1%
Ashamed of me	20%	3%	1%	0%	10%	0%
Didn't want to play with me	9%	26%	7%	7%	15%	5%
Teased me	6%	37%	6%	4%	28%	2%
Threatened and pressured me	3%	2%	4%	44%	11%	1%
Did not let me participate in religious activities	4%	2%	3%	21%	17%	0%
Did not give me support in going to school	7%	19%	5%	15%	7%	2%
Did not give me support in getting married	3%	6%	1%	2%	4%	0%

Legacy of structural violence in Jumla

In Jumla, postwar conditions in many aspects reflected prewar risks and vulnerabilities. Despite Maoist claims of improved conditions of women and lower caste groups. Many individuals reported that their lives were little different from 2000. Sita explained that she continued to suffer because of her husband.

Sita: There is more sadness now. My husband drinks and my in-laws have all separated. It was better when my brothers-in-law were here along with my mother- and father-in-law. I am very poor, my husband drinks a lot. I have many children, *gyastrik*, headaches, and *jham-jham* in my hands and feet. I am sick so I can't do labor. We have lost most of our land. My husband sold it to buy alcohol. I am beaten every single day by my husband. He also beats the children.

For Indira, the central determinant of her mental health in 2000 was the relationship with her husband. In 2007, her explanation of her suffering was poor physical health and the lack of opportunities she felt because of her caste status. Indira did not mention her husband's drinking or domestic violence once during the interview although that was the centerpiece of the discussion years ago. In comparing my psychiatric evaluation notes from 2000 and 2007, Indira's level of depression did not change significantly in the past seven years.

However, Indira and her husband both reported more anxiety compared to the self-descriptions they gave me in 2000. Both husband and wife attributed this to the uncertainty in their lives from the Maoist conflict. Mahendra Lawoti, a Nepali sociologist and anthropologist, reviewed recruitment and mortality data in the People's War (Lawoti, 2003). He suggested that ethnic minorities, despite being the so-called beneficiaries of the Maoist War, were disproportionately its victims. Police would often target Dalit/Nepali and ethnic minorities because they were automatically assumed to be Maoists or sympathizers. I wondered if for Indira and her husband their generalized fear was related to this fear of unfair persecution.

Thus, Indira's mental health situation presented some differences with Reena and Sita. Whereas all the women had difficult situations in 2000 related to gender-based vulnerability, they differed in their responses to the conflict. For Indira the conflict brought with it a new narrative to explain her suffering and a heightened level of anxiety. Importantly, this anxiety was not based on any direct events she or her husband experienced. Rather, it was a diffuse fear in the climate of the conflict which may have compounded the risk of caste-based political persecution in the People's War on top of

centuries of caste-based structural violence. What was similar across the three women's cases was that none of them reported any benefit to their wellbeing from the war.

I asked P.K. and Nabin if their fears and anxieties had decreased since the signing of the peace accords. Nabin summed up their sentiment; "*There may be peace on the outside, but there is not yet peace on the inside,*" he said pointing to his chest. Nabin explained that Jumla was too far away from Kathmandu for any security or stability there to mean anything here. He said that if the new government did not hold, Jumla could erupt in violence once again. And, now the Maoists were living openly in the bazaar area as opposed to hiding in the distant forests.

In postwar Jumla, there was sporadic violence between CPN(M) groups—typically youth—and other members of the community. In the summer of 2007, the CPN(M) accused the principal of Jumla's technical college of corruption and not admitting Maoists to the campus. They abducted him from his office, beat him, and they paraded him throughout Jumla with his face blackened in leather polish and a necklace of shoes tied around his neck. In response to this the students of the technical college ransacked the CPN(M) office in the bazaar. Nabin and P.K. felt that if law and order are not reestablished soon this violence would only increase.

Some individuals did report hope for the future. Dil Prasad that his personal financial situation had improved despite the conflict. And, he believed in a positive outcome for the peace accords:

Dil Prasad: My economic condition is okay these days. I was busy building a house in 2000. My children were little at that time. They are grown up, and we are worried about how we are going to provide them a higher education. The situation in our country was not good, but now there is a possibility for peace in the country. I wish peace would come soon to Jumla.

Dil Prasad's comments raise an interesting point about developmental stages of life. Dil Prasad felt more secure in part because he was now at a stage where his children becoming more independent. This illustrates that when examining individual life experiences, one also needs to account for progression for stages of life that occur during the years of peace and years of war.

Summary Model of Component I: War in Context

Figure 10-3 illustrates a possible model to understand the war in context. It illustrates that prewar, wartime, and postwar factors all contribute to mental health. However, it also highlights the importance of considering that prewar and postwar factors may also moderate the impact of wartime exposures on mental health.

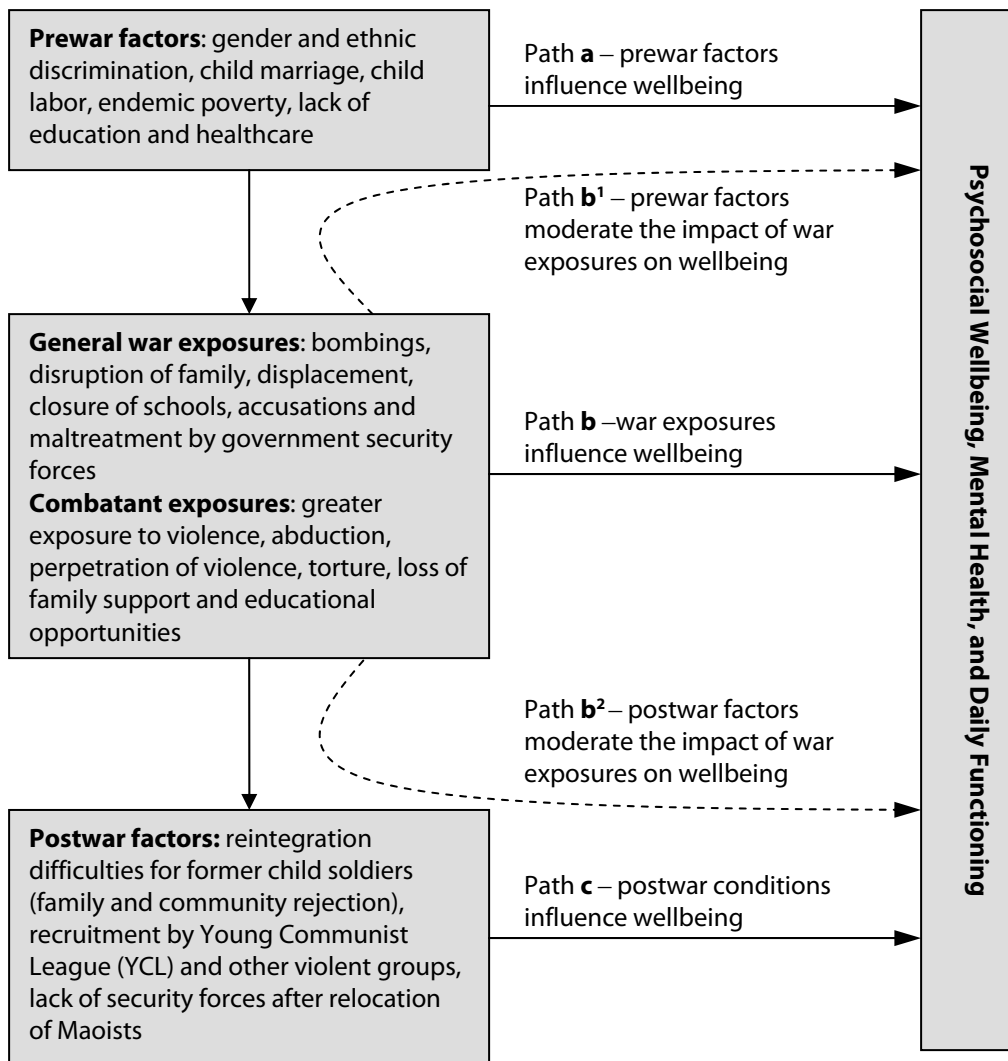


FIGURE 10-3. FRAMEWORK FOR PREWAR, WARTIME, AND POSTWAR EXPOSURES ON WELLBEING

SECTION II: VULNERABILITY

While the first component ‘war in context’ emphasizes the importance of prewar and postwar context in addition to wartime experiences, this alone as a framework is inadequate. Individuals and communities may be differentially susceptible to the effects of these exposures on mental health outcomes. In the existing literature, it is often posited that women, children, the elderly, and the mentally ill are more likely to develop mental

health problems from exposure to wartime trauma compared with men. This suggests that men are in some manner more resilient and less likely to develop PTSD or other mental health problems from exposure to bombings, displacement, torture, and other exposures. However, studies have not demonstrated this either through statistical interaction models or through longitudinal research. The goal of the section below is to examine select vulnerability factors to determine if they are associated with poorer mental health outcomes among exposed children and adults.

Demographic risk categories

Within the Jumla sample, four risk categories were assessed: gender, caste, age, and mental health status. If specific groups were more vulnerable to the effects of political violence exposure then one would expect that they the risk group would show a greater increase in mental health problems compared with the other group. Figure 10-4 illustrates the outcomes of changes in depression and anxiety for the four risk groups. The table illustrates that the amount of increase in anxiety and depression was not significantly different for men or women. Based on caste, similarly, there was not a significant difference in the increase for low caste groups compared with high caste groups. For age, there was no difference based on depression scores. However, the increase in anxiety was greater for older groups (those over 39 years of age). There was also a significant difference based on mental health status. Those with *lower* mental health scores showed a greater increase in depression and anxiety from 2000 to 2007.

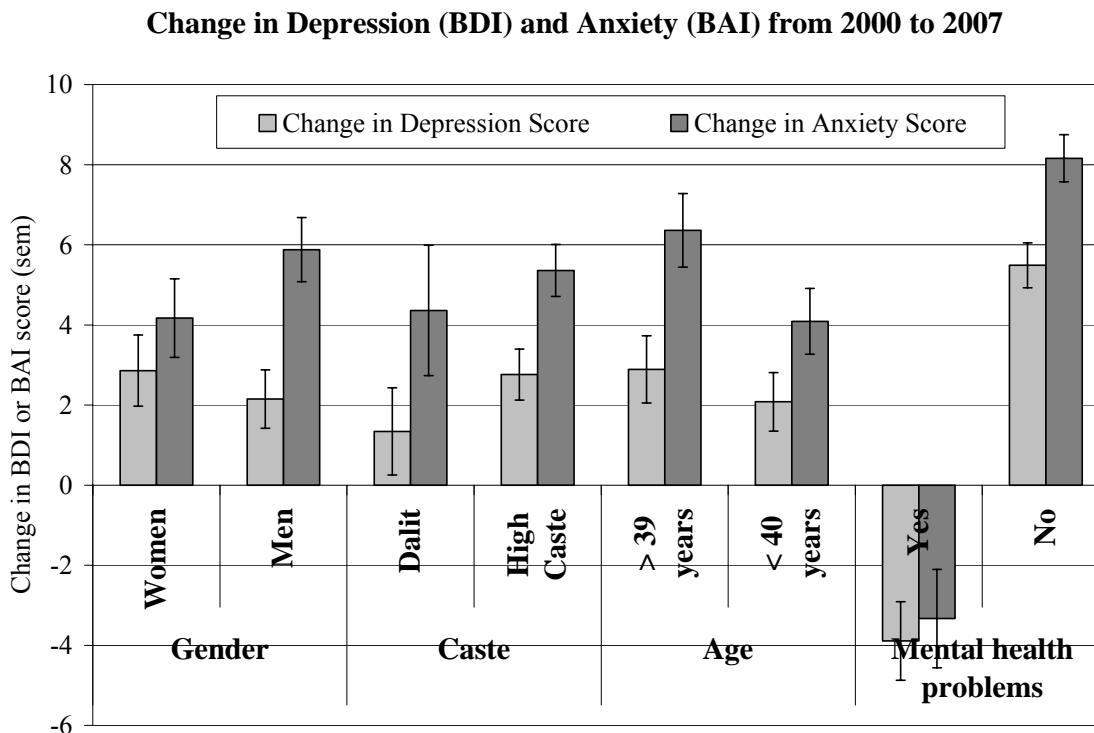


FIGURE 10-4. CHANGE IN DEPRESSION AND ANXIETY SCORES FROM PRE- TO POSTWAR CONDITIONS BASED ON RISK GROUPS.

These findings do not support a greater vulnerability for marginalized groups such as women or low caste groups. However, the findings do suggest that older individuals had a greater increase in anxiety, without any difference in depression. This suggests that older groups may be more vulnerable. Or, it may reflect that anxiety levels increase at a greater rate among the elderly irrespective of exposure to political violence. With regards to mental health, those with pre-existing mental health problems actually showed a mild reduction in symptoms. The findings with prewar mental health status likely reflect two phenomenon: regression to the mean and a possible ceiling effect. Regression to the mean refers to the process by which individuals at the highest levels of symptom severity are more likely to show a reduction in symptoms regardless of exposure because of the reduced probability of high scores. Second, a ceiling effect is likely in place because

individuals with high mental health symptom scores are less likely to show an increase because their scores are already elevated. Ultimately, these findings suggest that marginalized groups are not more likely to show an increase in conflict related mental health problems because they already have elevated scores prior to exposure to political violence.

A history of structural violence led to high symptom scores before war exposure. For example, Reena had elevated depression and anxiety both before and after the conflict. Reena’s story is also important to reflect upon the argument that persons with mental illnesses are more susceptible to the effects of war. I would suggest that in her case the marginalization she endured prior to the war, which were likely the foundation for her mental health problems, made the war irrelevant rather than heightening its effects. Table 10-8 below illustrates the increased odds of mental health problems among persons in risk groups before the conflict.

TABLE 10-8. MENTAL HEALTH BY RISK CATEGORY IN 2000.

Odds Ratios	Depression	Anxiety
Gender (F)	2.01 (1.25—3.25)	2.28 (1.38—3.77)
Caste (Dalit)	2.65 (1.55—4.53)	4.13 (2.38—7.17)
Age (40+)	3.26 (1.98—5.36)	2.48 (1.48—4.13)

Similarly, Dil Prasad had elevated anxiety levels before the war. In 2000 Dil Prasad, a Brahman schoolteacher, was 35-years old. Dil Prasad had anxiety problems and was known for it throughout Jumla. When I described anxiety symptoms to people during explanations of my research, a common response was “oh, like Dil Prasad!” Nabin, a former student of Dil Prasad, explained,

Nabin: [Dil Prasad] worries so much about little things. The day before it is time to harvest he will not sleep at all he will just worry about the harvest all night. He is planning to build a house. He asks everyone else about bricks and stones and does not sleep or eat. He just worries about the bricks for his house. When he is walking, he never looks where he is going so he is always falling. He is drunk from worry.

In 2000, Dil Prasad told me that he looked after his family by himself. He lived with all his brothers in a joint-family until in 1998 when they had divided up all their land and moved to separate houses. He felt the burden of being the sole provider for his family.

Dil Prasad complained of *jham-jham* (parasthesia) and weakness on the left side. He had a vasectomy 5 years earlier. He felt much weaker after the vasectomy. He also reported stomach pain and *gyastrik* which started 8-10 years earlier. Two years earlier, he started feeling very weak especially after his family split up. He attributed this to increased housework.

Dil Prasad (in 2000): I feel very weak since my brothers left. It is because I have so much work. I have had worries for many years. Whenever plans are made about work, I must finish it before I can move on to another task. I cannot think except about the one task. If I leave it, I worry that it will be a failure. I have had all these worries for the past 14 years. I also have to check something many times, I check to see if things are working or if they are understood. When I am at school, I worry about work at home. When I am at home, I worry about the next day in school. Over the past two years I forget things more and more easily, and it is difficult to concentrate. Anything that I think about I want to be a success, but everything ends in failure.

In 2007 Dil Prasad's anxiety was slightly improved. His levels were so elevated in 2000 that it was unlikely that he could report any greater distress, even through a war. This suggests that at elevated clinical levels of distress, self-report measures may be inadequate to evaluate distress. For changes at these levels, it may be important to have

external assessments, such as by clinicians, and to focus on changes in functional impairment.

Child soldiers as a risk group

Because of the different instruments used to evaluate children and adults, no statements can be made about the vulnerability of children versus adults to political violence exposure. However, the child soldier research was designed for the primary purpose of evaluating whether child soldiers had poorer mental health compared with civilian children. This difference appears to be implicit in the designing of psychosocial reintegration programs that focus primarily on child soldiers but not other children in conflict. In this study comparing the post-conflict mental health outcomes of child soldiers and matched children who had never been conscripted in Nepal, both groups displayed a substantial burden of mental health and psychosocial problems. The mental health burden among child soldiers ranged from 39 to 62 percent of participants depending upon type of distress, and 18 to 45 percent of children not conscripted by armed groups. Child soldiers had worse mental health outcomes (symptoms of depression, PTSD, general psychological difficulties, and function impairment) than the comparison groups, with the exception of anxiety symptoms. The difference in mental health outcomes between child soldiers and never conscripted children can be explained, in part, by greater exposure to traumatic events among child soldiers, especially for general psychological difficulties and function impairment. However, even after controlling for exposure to trauma, child soldier status is associated with poorer outcomes

for depression and PTSD. This suggests that conflict has greater mental health consequences for child soldiers even above and beyond traumatic exposures of war.

Table 10-10. Percentage of civilian children and former child soldiers with psychosocial and mental health problems

	Civilian Children (n=141)	Former Child Soldiers (n=141)
Depression	24.1%	53.2%
Anxiety	37.6%	46.1%
PTSD (all)	20.0%	55.3%
PTSD (boys)	17.4%	44.8%
PTSD (girls)	21.9%	64.0%
General psychological difficulties	18.4%	39.0%
Function impairment	44.7%	62.4%

A second question with regard to children was to determine if there were gender differences in the impact of being a soldier. The study did find that for PTSD, there was a greater impact of soldiering on girls compared with boys. However, this was not the case for any other mental health outcome. This suggests that while one can speak of gender differences in the impact of being a child soldier, this is not universal across outcomes.

Demographics in context: Sex by culture interaction

In the context of child soldiers, as described in Chapters 7 and 9, Hindu purity was a major concern for the reintegration of girl soldiers in the community. Girls in predominantly Hindu communities reported being stigmatized against. However, descriptions of purity-related discrimination appeared to be less frequent in more religiously mixed communities. This led to the test of an interaction of sex with community religious composition. Figure 10-5 below graphically illustrates the partition of data by sex and community. In communities that are religiously heterogeneous (less than 70 percent Hindu), there is no difference between child soldiers and civilian

children. In contrast, in communities which are more homogenously Hindu, there are both significant differences between child soldiers and civilians and differences between boy and girl soldiers. Figure 10-6 presents these results in a regression model.

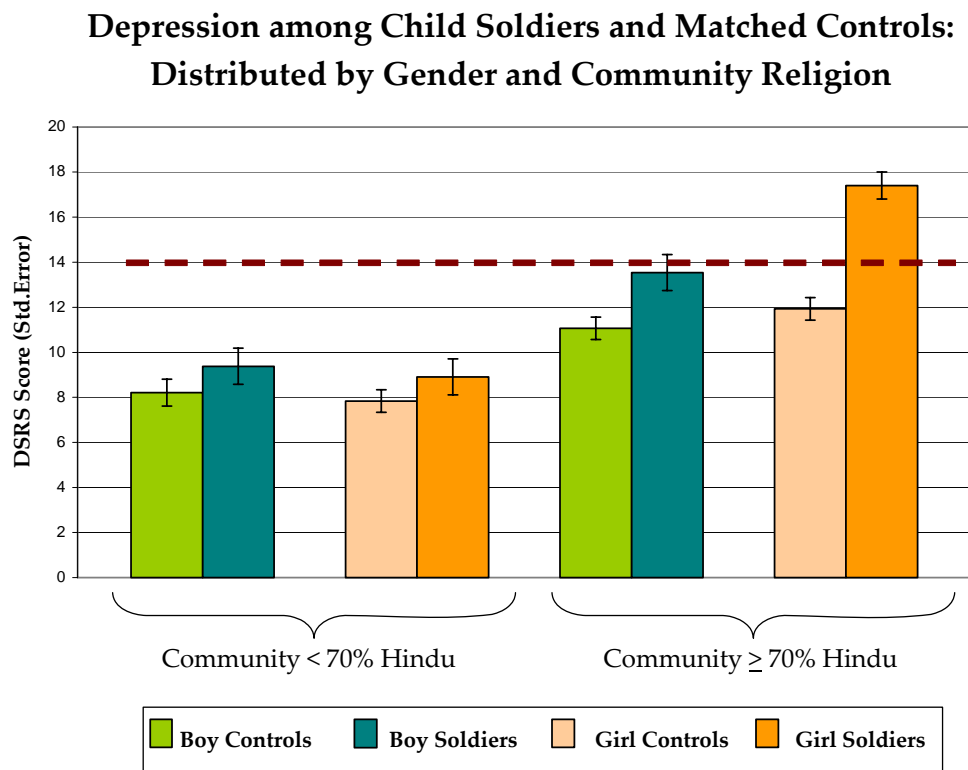


FIGURE 10-5. DEPRESSION AMONG CHILD SOLDIERS AND MATCHED COMPARISON CHILDREN BY GENDER AND COMMUNITY RELIGIOUS COMPOSITION.

		Values in final model				
Step and Variable	B	SE β	95% CI	β	ΔR^2	
Matched Controls						
Step 1 ^A					.21***	
Step 2					.10***	
Sex	-.12	1.14	-2.38, 2.13	-.02		
Hindu Community	3.47	.104	1.41, 5.54	.42**		
Step 3					.00	
Sex x Hindu Community	.33	1.32	-2.29, 2.95	.05		
Child Soldiers						
Step and Variable	B	SE β	95% CI	β	ΔR^2	
Step 1 ^A					.30***	
Step 2					.11***	
Sex	-1.02	1.17	-4.52, 2.83	-.09		
Hindu Community	1.86	1.48	3.01, 7.46	.14		
Step 3					.03*	
Sex x Hindu Community	4.65	1.94	.81, 8.50	.40*		

FIGURE 10-6. REGRESSION MODELS FOR DEPRESSION WITH INTERACTION OF SEX AND HINDU COMMUNITY.

Note: Step 1 of models includes age, current school enrollment, education level, family wealth, religion, ethnicity, and total traumatic exposures.

Based on the ethnographic accounts, the discrimination upon return the community was the dominant factor in relation to these observed differences. Thus, it was warranted to evaluate difference by gender and community composition among child soldiers in the home village after return. As illustrated by Figure 10-7, discriminatory events were much greater among both boy and girl soldiers in homogenously Hindu communities compared with religiously heterogeneous communities. Girl soldiers returning to predominantly Hindu communities had the greatest number of family discriminatory events.

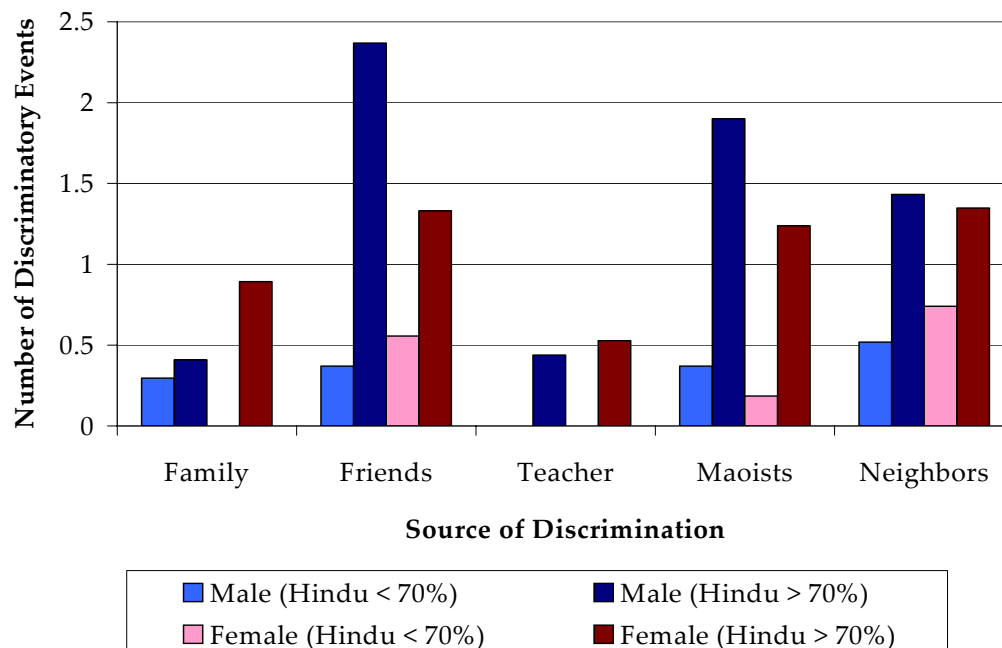


FIGURE 10-7. DISCRIMINATORY EVENTS EXPERIENCED BY CHILD SOLDIERS BY GENDER AND COMMUNITY COMPOSITION.

However, this account could easily be confounded by other mechanisms. For example, predominantly Hindu communities may have lower educational levels or generally lower scores on the Human Development Index (HDI). Table 10-11 presents the change in R^2 and significance levels for alternative models. As the table illustrates, the interaction of Hindu communities with sex produced an R^2 change of 0.03, which was significant, $p < 0.05$. However, if the interaction was tested based on the percentage high caste in the community, degree of female literacy or score on the HDI, the results were not significant.

TABLE 10--11. ALTERNATIVE HYPOTHESES & CHANGE IN R^2 FOR CHILD SOLDIER INTERACTION MODEL

	Hindu	High Caste	Female Literacy	Human Development Index (HDI)
Step 1	.30***	.30***	.30***	.30**
Step 2				
Sex	.11***	.11***	.07**	.07**
Community				
Step 3				
Interaction	.03*	.00	.01	.01

Taken together, these results suggest that among child soldiers, female gender in and of itself is not a risk factor for poor mental health. Rather, it is specifically girls returning to Hindu communities who had the greatest degree of difficulty.

Genetics in context: HPA polymorphism by traumatic exposure interaction

There is increasing interest in the association of genetic polymorphisms at different levels of environmental exposure. This study explored whether polymorphisms in the hypothalamic pituitary adrenal (HPA) axis were associated different mental health severity levels based on different tiers of exposure to stressful and traumatic events. As Chapter 8 demonstrates, HPA polymorphisms were not associated with different impacts of political violence. However, childhood trauma exposures did have different associations with adult mental health based on polymorphisms in the FKBP5 gene. This suggests that gene-environment interactions may be more significant at earlier developmental stages. This interaction also adds additional support to the need to examine prewar factors when evaluating post-conflict mental health. Early exposures to violence and trauma, particularly child abuse, may be a better predictor of the need for intervention and support compared with exposure to violence as an adult. Prospective following of child soldiers will be crucial to observe how exposure to violence during the late childhood and adolescent stages impacts mental health as adults.

SECTION III: HETEROGENEITY OF OUTCOMES

The third component of the framework for understanding war in context is *heterogeneity of outcomes*. Heterogeneity of outcomes refers to the need to look beyond PTSD as the sole outcome of exposure to political violence. PTSD is not the only psychological sequela and in some cases it may not be the most important. In addition to examining rates of PTSD, it is also helpful to look at other DSM categories such as depression, anxiety, and substance abuse. Elucidating local concepts of mental health and psychological trauma are also important as they be the most salient when working with the community to promote interventions and other forms of healing. Finally, it is crucial to explore disability and impaired daily functioning. Without addressing daily functioning there are risks of the category fallacy and of devoting resources to symptom reports that do not play a role in impacting daily functioning.

Outcomes among child soldiers and civilian children

Among children, mental health and psychosocial outcomes varied in their relationship with exposures (See Figure 10-8). Anxiety and hope levels were not different between child soldiers and civilian children. Hope was associated with increased levels of education, but not affected by traumatic war exposures. War trauma was associated with higher levels of PTSD, depression, general psychological difficulties, and participatory psychosocial measures, as well as impaired functioning. Postwar exposures, specifically reintegration difficulties, were associated with high levels of PTSD, depression, and participatory psychosocial difficulties. Reintegration difficulties were moderated by the interaction of gender with community religious context—greater Hindu concentration.

PTSD and depression were the most closely associated with impaired functioning. This suggests that among children, interventions should consider reducing depression and PTSD symptom severity in order to improve daily functioning. Upstream from this, focusing on reducing vulnerability for girls in Hindu communities would be a key endeavor.

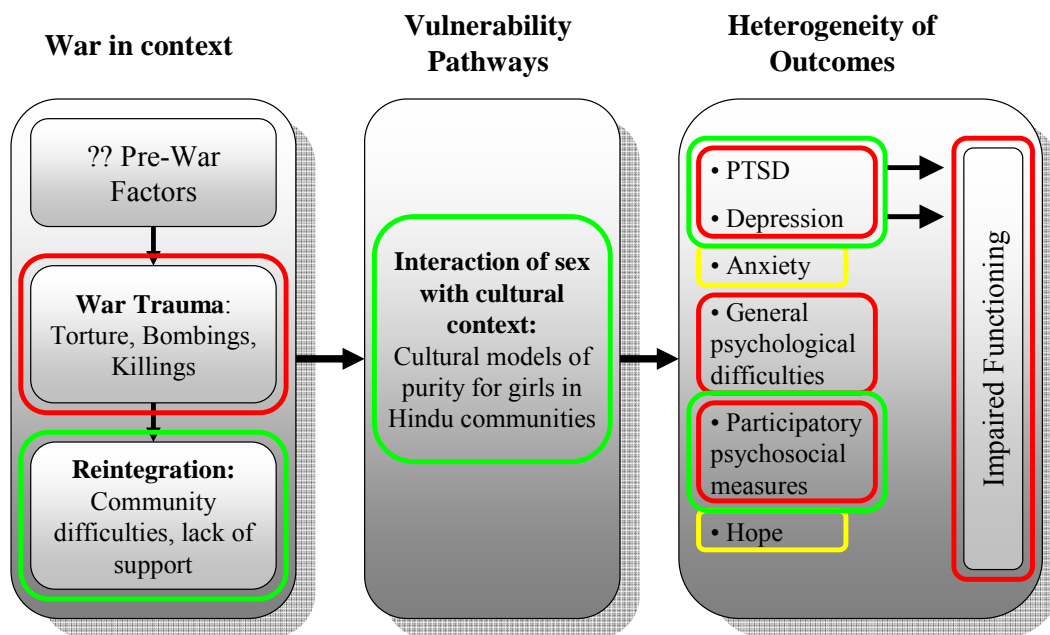


FIGURE 10-8. WAR IN CONTEXT FRAMEWORK FOR CHILD SOLDIER STUDY

Among children, exposure to torture was associated with poorer mental health outcomes. The type of exposure differed. Most children witnessed torture while a smaller percentage of children were victims or perpetrators. Most perpetrators were in the child soldier group. PTSD was most strongly associated with being a victim of torture. Depression was not associated with torture exposure. Daily functioning was impaired among perpetrators and those witnessing torture.

These findings demonstrate the destructive role of torture on the mental health and wellbeing of children. This study illustrates that children have similar vulnerabilities to torture as seen in adults. One of the surprising outcomes was that torture was not a risk factor for depression, while it was for other mental health problems. However, this reflects the pattern also seen in adults. In a four country study of traumatic events, torture was associated with PTSD and anxiety but not depression (de Jong et al., 2003). Similarly, a study of Tibetan refugees demonstrated greater anxiety among tortured refugees compared with non-tortured refugees while showing no group differences in depression (Holtz, 1998).

The child soldier experience in Nepal, including reintegration, has differential impacts based on gender, with girls more affected. This is demonstrated because female sex is a risk factor on all mental health measures for former child soldiers, whereas it is only a risk factor for anxiety among never recruited children. The lack of sex differences in mental health outcomes in the matched never recruited children is similar to the lack of sex difference in mental health outcomes identified in never recruited Iraqi children (Dyregrov et al., 2002).

The regression models suggests that factors related to recruitment, other than traumatic exposure alone, are important in predicting mental health status, particularly for depression, PTSD symptoms, and general psychological difficulties. This may be explained by aspects of the child soldier experience, other than traumatic events, both during and after association. Reintegration difficulties have been associated with psychological distress among former child soldiers (Akello et al., 2006; Dowdney, 2007; Wessells, 2004; Wessells, 2007; Williamson, 2006). The contribution of still-being

associated with armed groups to improved mental health status in this study suggests that dissociating from armed groups may introduce new stresses. Regardless of status as formerly or currently associated, our findings do not support recruitment as protective for mental health during armed conflict. Caste Hindu groups (both "low" caste Dalits and "high" caste Brahman/Chhetris) had more mental health problems compared to Buddhist and minority ethnic groups for both child soldiers and never recruited children. Other researches among Hindu and Buddhist populations have also shown lower rates of mental health problems among the latter. (Holtz, 1998; Mollica et al., 2002; Shrestha et al., 1998)

Ultimately, the experiences of war are an outgrowth of the experiences of children in peace time. Kunda Dixit, journalist and publisher of the *Nepali Times*, explains,

Kunda Dixit: [During the war] children were the messengers, the sentries, cooks, porters, and this was not just with the guerrilla army, the state also used children, as cooks, or messengers, or porters. But, this is really nothing new, it's just that even without the conflict children had been working as porters or various child labor in Nepal; quite a lot of it. It's not that because of the war there are lots of children being forced to work as porters, and a prevailing situation where children are exploited anyway, the war just added another level of exploitation.

Outcomes among adults in Jumla

The study in Jumla demonstrates a high burden of mental health problems on the population. Depression prevalence of was 40.3 percent, anxiety was 49.3 percent, and PTSD was 12.9 percent (n=754, full sample). If one were to graph Nepal's position on the figure of other studies of mental health rates and conflict mortality presented in Chapter 1 (Figure 1-1), the rates of PTSD would fall appropriately along the trend for mortality. Figure 10-9 presented below represents this. As can be observed, the total

mortality rate in Nepal is on the lower end of conflicts (14,000 people). In keeping with this, the rate of PTSD is also on the lower end. However, when placing the Nepal results in the figure, the relationship between mortality and depression nearly approaches a flat line demonstrating no correlation. The high anxiety rate of the Nepal study also does not support a direct association of mortality with this mental health outcome. These results taken together suggest that PTSD may reflect mortality-specific traumatic exposures whereas depression and anxiety may reflect other types of risk factors.

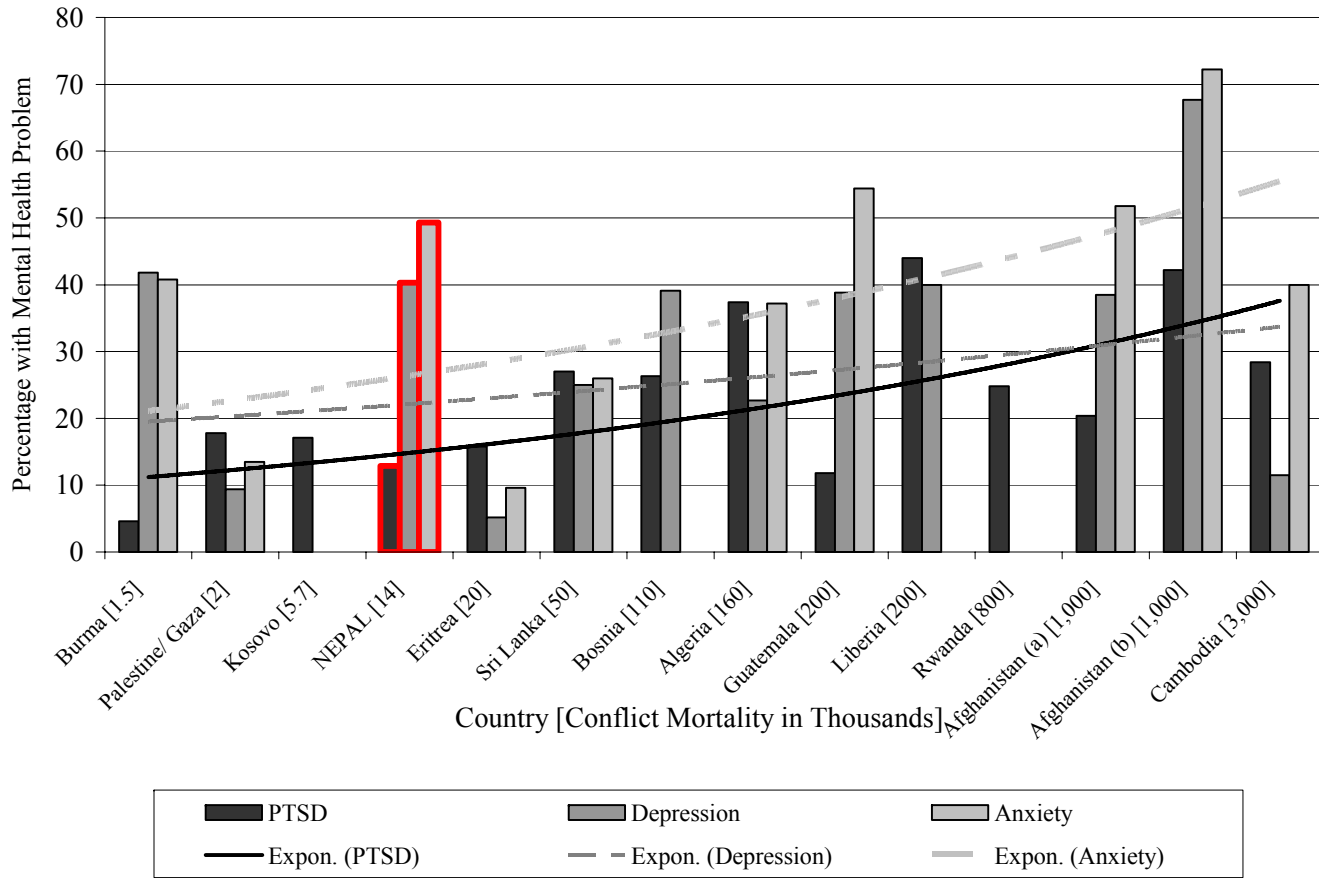


Figure 10-9. Conflict mortality and prevalence rates of mental health problems.

Note: Nepal rates presented are bordered in red. Uganda was removed from the figure due to low reliability of mortality rates.

With the Jumla data, one also can evaluate the changes in mental health from 2000 to 2007. The rate of depression increased from 30.9 percent to 40.6 percent. The rate of anxiety increased from 26.2 percent to 49.3 percent. This suggests, as discussed in Chapter 5, that in the Jumla context the war had a more specific impact on anxiety compared with depression. Figure 10-10 presents the association of risk factors with depression and anxiety levels, based on analyses presented in Chapter 5. For depression, there is not a significant association with exposure to war-related trauma when controlling for prewar levels of depression. In contrast, for anxiety, war-related trauma is significantly associated with anxiety levels even after controlling for prewar anxiety. Thus, one cannot assume that conflict experiences have synonymous impacts across type of mental health problems. Mental health disorders have different risk and protective factors, and this should be taken into account in epidemiological studies of war and mental health.

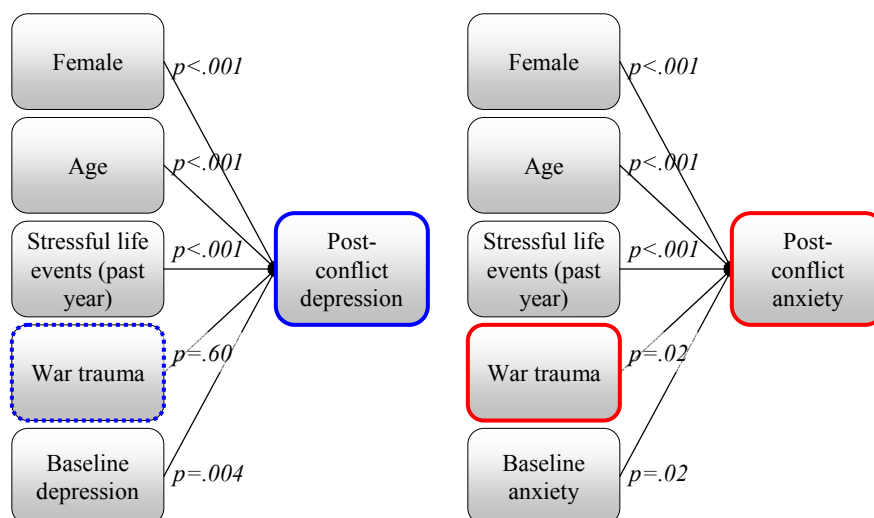


Figure 10-10. Model for post-conflict depression and anxiety.

Figure 10-11 presents the full three-component model of war in context, vulnerability pathways and heterogeneity of outcomes for the Jumla study. This illustrates that, in addition to anxiety, revenge and loss of trust were also associated with war-related traumatic exposures. Moreover, mental health outcomes had different relationships with impaired functioning. Depression and anxiety were strongly associated with impairment in daily functioning. Depression and anxiety were strongly associated with impairment in daily functioning.

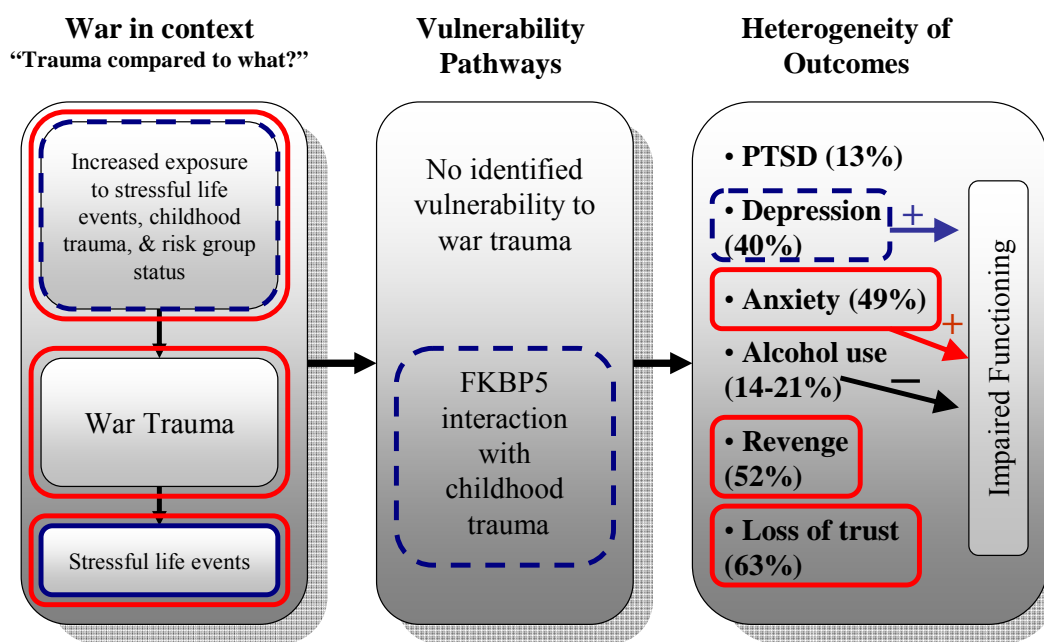


FIGURE 10-11. WAR IN CONTEXT FRAMEWORK FOR JUMLA STUDY

In contrast, alcohol use was associated with less impairment in functioning. This raises the possibility that alcohol use may have served as a form of coping in relation to war-related exposures. When I interviewed and spent time with P.K. in 2007, it was evident that he was not suffering from PTSD after this event, despite its intensity. He did not report flashbacks or emotional numbness. He was easily startled. Gunshots, understandably, made him wonder if there were going to be more attacks. P.K. did

describe more general fear about what would happen now. He was insecure not knowing how to assure his family's safety. This fear and uncertainty was not something he described seven years earlier. As he explained, other men were in a similar situation. He and his friends began drinking alcohol together at nights to fall asleep during the conflict. The drinking also may have had a positive sociality benefit with the men spending time together.

Whereas PTSD may more specifically reflect exposure to mortality, anxiety rates may reflect the threat of these events and other experiences not related directly to loss of life. Nabin like P.K. had increased anxiety related to his experiences during the conflict, especially the police interrogation. Both of these men had fears related to the experience of the battle. They also had fears related to police interrogation and abduction. P.K.'s fears were grounded in his helping of Maoists to make photocopies. For Nabin, he was abducted and interrogated by the police as a Maoist. Indira described that although nothing specifically happened to her or her husband, there was a constant fear of such events during the People's War.

Indira: I always worried about when we would be killed. When would we die? We never had any direct problems during the conflict, but we were always afraid. I hope the New Nepal can make it better. We need women leaders. It would be even better if we had Dalit women leaders.

Indira went on to explain that the conflict had not yet changed anything for people in low castes. But, she hoped that it would change in her son's life.

Alcohol use as coping mechanism was surprising given the Maoist bans on alcohol use. I met one man in Jumla who described the many times that the Maoists caught him when he was drunk, beat him, and dragged him throughout the village with black leather polish all over his skin. They would parade groups of drunks together to

shame them. I wondered if the Maoists had ever done this to Sita's alcoholic husband and if that helped in any way.

Sita: I wish they would have! It would have made me very happy. They did do this to men in houses further from the bazaar than ours.

Returning to Sita's case, she may illustrate why some individuals did not show an increase in mental health problems as a result of the war. The Maoists, their battles, and even police and army searches and harassment were background elements to the daily battle her husband waged against her. It appeared that Sita neither benefited from the Maoist conflict and their championing of women's rights nor did her condition worsen in relation to the conflict.

Outcomes related to local ethnopsychological models

Figure 10-12 presents a proposed ethnopsychological model of trauma in Nepal to map the experiences of war-related and other trauma onto the framework presented in Chapter 2. Local models of psychological trauma are equally important to develop as epidemiological distribution of Western psychological categories. As will be discussed below, these categories are crucial for intervention and treatment. Based on narratives collected during this dissertation research, psychological trauma is rooted in concepts of vulnerability. Individuals with poor *karma* who did not fulfill their religious path in a previous life are more likely to suffer from traumatic events in this life. This vulnerability is important to consider when intervening because it attributes a degree of culpability to people with negative life experiences. Negative life experiences occur along a continuum. At one end of the continuum are chronic stressors and repeated burdens such as poverty, lack of education, and failure to achieve ones goals.

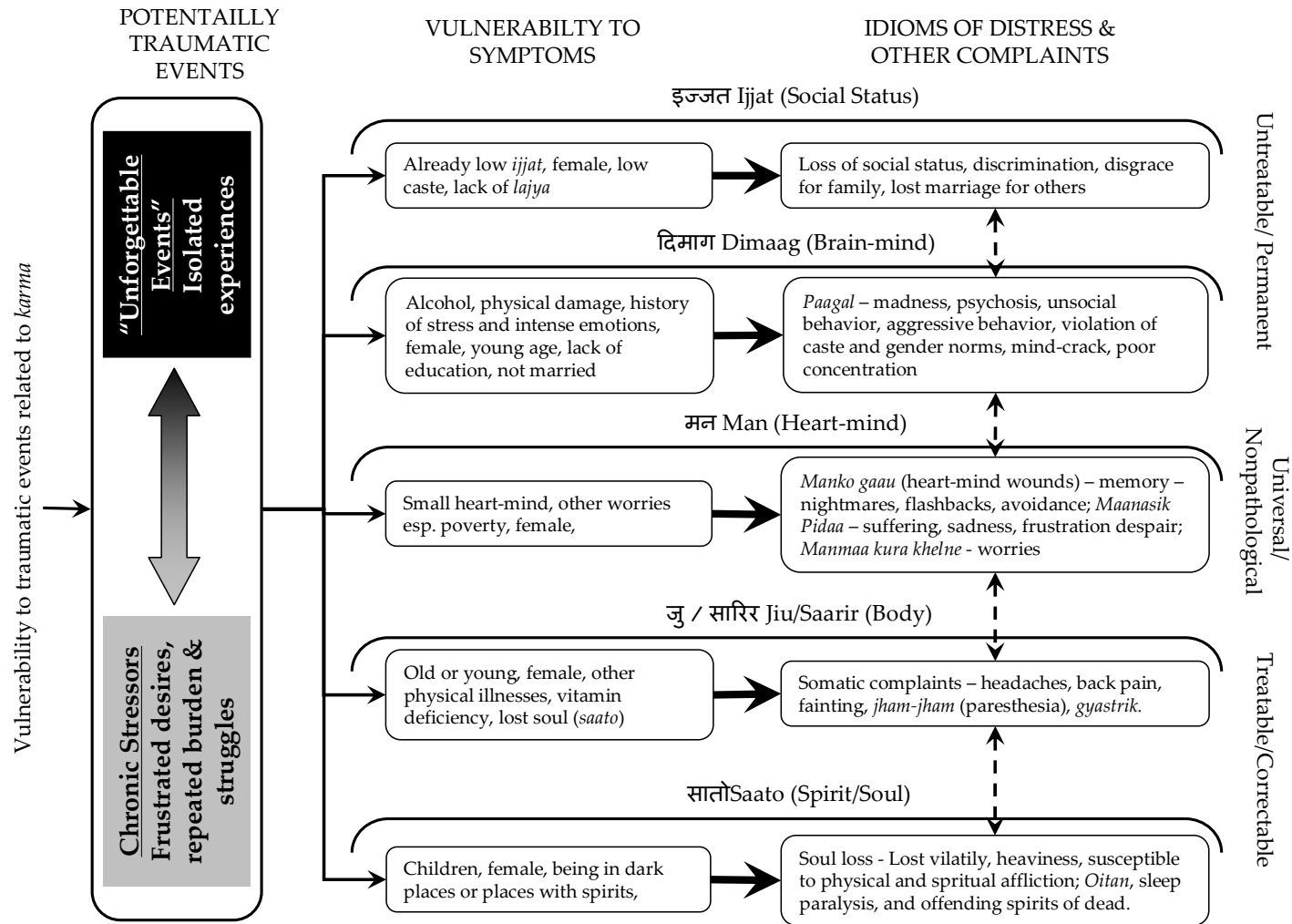


Figure 10-12. Psychological trauma in relation to a Nepali ethnopsychological framework.

At the other end of the spectrum are specific acute events that an individual may describe as “unforgettable” (*birsana nasakne*). The category of “unforgettable negative life experience” captures individualized events that produce psychological distress. “Unforgettable negative life experiences” are related to the ethnopsychology of the heartmind (*man*) the organ of the emotion, desire, and memory. Some individuals used terminology for psychological trauma referring to “wounding or scarring of the heartmind” (*manko ghaau*). The heartmind (*sem*) concept among the Yolmo ethnic group of Nepal also becomes marked or scarred through tragic experiences.

Among the Yolmo [people] significant events, hurtful ones especially, can leave a mark, a trace, at times a *maja* or ‘scar’ ... within a person’s *sem* [heartmind], much as words can be carved into stone or sounds engraved within a phonographic record. (Desjarlais, 2003, p. 148)

Thapa and colleagues study also found that the phrase “*dukha lagne ghatanako gahiro chap baseko*” (having deep and long-lasting impression of the terrifying event) displayed a 99.4 percent agreement with PTSD symptomology (Thapa & Hauff, 2005). The issue of memory has been highlighted in discussions of trauma. From one perspective, there have been emphases on not forgetting as important to memorialize the suffering (Dwyer & Santikarma, 2007; Caruth, 1995). In contrast, it may also be important not dwell on the past and negative feelings (Lemelson et al., 2007).

Individuals who suffer either the chronic stressors or acute unforgettable events have differential susceptibility to psychological symptoms. Children have souls that are attached weakly and thus they are more likely to have soul loss and fright. Women are more susceptible than men are because of being considered constitutionally weaker. Lastly, individuals with small or weak heartminds (*man*) are also more likely to suffer psychological distress (McHugh, 1989).

Referring back to the discussion in Chapter 2 of heart-mind and brain-mind, psychological trauma can be divided into two types based on the ethnopsychologies of our sample: (a) problems of the heartmind (*man*) and (b) problems of the brain/social mind (*dimaag*). Many individuals have heartmind effects, whereas effects on the brain/social mind are rarer and represent more extreme cases. There are two categories of symptoms from impact on the heartmind. First, individuals who have unforgettable events that leave a lasting impression/wound on the heartmind will have symptoms of flashbacks, rumination, and nightmares. Another disorder of memory is uncontrollable rumination about a problem. Another spectrum of problems in the heartmind includes generalized symptoms of sadness, worries, frustration, and despair (*piDaa*). Disorders of memory and disorders of mood co-occur frequently.

The second tier of problems occurs in the *dimaag* (social/brain mind). If problems of the heartmind are severe or the event is extreme, an individual may have problems of the *dimaag* (social/brain mind). These symptoms include madness, psychosis, aggression, and unsocial behavior. The community stigmatizes *dimaag* problems more than *man* problems. In addition, the heartmind problems may be transient, whereas brain/social-mind problems are more often permanent. Fox (Fox, 2003) found a similar division of post-trauma problems originating in the heart, mind, and brain.

The other components of the self to be addressed are the body, spirit/soul, and social status. Traumatic experiences are often discussed in relation to the impact on the body, particularly head trauma. Clinicians at the Center for Victims of Torture (CVICT) have discussed the frequency of somatic complaints unexplained by medical

pathophysiology (Emmelkamp et al., 2002; Tol et al., 2009; Van Ommeren et al., 2002c; Wenzel, 2002). Somatic complaints are connected with belief systems. For example, beating of the souls of the feet is thought to cause problems in vision. These vision problems were reported by torture survivors; however, these individuals did not have medically documented visual impairment. Individuals also have a range of physical disabilities following torture such as plexopathies and other neurologic and musculoskeletal complaints. As described in Chapter 2, soul loss is frequently reported by persons who are reporting illness. This was also found by individuals experiencing traumatic events. In many respects, the experience of soul loss, trauma, and health in Nepal resonates with Rubel's work on *susto* (Rubel et al., 1984).

Encompassing all of these organs of experience (the body, the heart-mind, the brain-mind, and the soul/spirit) is the social self and social status (*ijjat*). Trauma can play an important part in affecting one's social status. For example, certain traumatic events are seen as caused by bad karma. Therefore, experiencing such an event could lead to loss of social status. The type of relationship with the body, brain-mind, heart-mind, and soul/spirit also affects social status. Traumatic events that affect the brain-mind may lead to greater stigmatization of an individual or his/her family. In contrast traumatic sequelae presenting in the body, heart-mind, and soul may be less stigmatizing. Implications of this to minimize stigma in interventions are discussed below.

Discussion

The goal of this concluding chapter of the dissertation was to pull together aspects of ethnography, epidemiology, genetics, endocrinology, and ethnopsychological models to build a framework of the impact of political violence on mental health. The proposed framework has three components: *war in context*, which includes exposures and risk factors divided into prewar, wartime, and postwar experiences; *vulnerability*, which includes aspects of the self and culture interacting with exposures producing greater or lesser levels of mental health problems; and, *heterogeneity of outcomes*, which comprises the diversity of approaches to understanding mental health outcomes including Western diagnostic categories, local idioms, and impairment in daily functioning. I argue that this approach produces a more complete understanding of war's effects and has important implications for both research and intervention. Without examining war in broader social context, there is a risk of misappropriating resources or conducting interventions that do not serve the most needed groups. In the worst case scenario, interventions that do not consider war in context pose the risk of doing more harm than good for vulnerable populations.

Children and child soldiers

With regard to children, in this I described the wellbeing of children in Nepal in a manner that places war in the broader context of life experience and history. An exclusive focus on war as the sole determinant of child wellbeing risks ignoring other important factors influencing wellbeing. In the context of Nepal, war-specific events included exposure to violent killings, abduction of family members and personally being abducted,

exposure to bombings, and displacement and separation of the family in relation to fleeing from violence and extortion. In addition, child soldiers specifically experienced the perpetration of violence and higher levels of exposure to killings, beatings, torture, and bombings.

However, it was not merely this exposure, but rather legacies of other social problems and the filtering of these experiences through historical social relations that dictated children's wellbeing. For example, there was an interaction between being a child soldier and gender suggesting that girl soldiers were more strongly impacted by war compared with boy soldiers. However, this was specifically among girls in homogenous Hindu communities. Moreover, historically vulnerable groups had a greater level of mental health problems, which probably would have been observed in children prior to the war. For example, girls likely had higher levels of mental health problems even before the war, in part due to gender-discrimination. Long standing social inequities such as the rampant poverty in rural areas, lack of healthcare, and absent or low quality education also likely influenced child mental health prior to the war.

In sum, war is a serious threat to child wellbeing. However, the experiences of war are filtered through pre-existing social and economic problems. And, these historical social, economic, and cultural problems do not necessarily go away during war and may continue to affect children during war. Studies of children and war need to address these factors not only to understand child wellbeing, but especially to design and implement intervention in conflict and post-conflict conditions.

The impact of political violence on adult populations: findings from Jumla

With regard to adult populations, my goal here was to provide case studies to illuminate how the People's War affected the lives of women and men in Jumla. The case studies suggest that for those individuals with the greatest burden of psychological distress, the People's War did not dramatically impact their mental health in either a positive or negative direction. Rather, the tremendous burden of structural violence that restricted agency and made people vulnerable to stress and events, especially domestic violence, was the major influence on mental health *both before and after the conflict*. However, among persons with better functioning in 2000, the conflict was related to increased anxiety because of uncertainty about family and personal safety threatened by Maoist attacks, police abductions, and harassment by government security forces. These case studies complement the epidemiological data presented in the Chapter 5 comparing mental health in 2000 with that in 2007.

Individuals exposed to high levels of structural violence may be less likely to display specific conflict-related psychopathology because of the high burden of other life traumas and stressors to which they are vulnerable given their limited agency. At the community and regional level, poor areas with greater structural violence may be more likely to be the site of political violence (Desjarlais et al., 1995; Pedersen, 2002). The high level of structural violence may lead to specific targeting of these areas for recruitment or state suppression, as has happened in Jumla and other rural areas of Nepal. Thus, the political ecology of the area confounds conclusions drawn about individuals and may increase the bias of retrospective, cross-sectional studies.

Previous studies have suggested that persons with mental health problems are more susceptible to post-conflict psychological sequelae. Prior psychiatric illness has

been repeatedly shown to influence post-trauma mental health (Brewin et al., 2000; Ozer et al., 2003). Researchers and clinicians conducting studies in high income nations are able to review psychiatric records to evaluate the prior psychiatric status of trauma exposed populations such as military personnel (Friedman et al., 1994) or September 11th survivors (Galea et al., 2002). In contrast, studies in post-conflict settings among resource poor nations typically rely on retrospective assessment to determine the influence of prior psychiatric illness. For example, de Jong and colleagues' analysis of post-conflict mental health in Algeria, Cambodia, Ethiopia, and Gaza employed retrospective surveys of pre-morbid psychiatric status to determine its influence on post-conflict mental health, which they found to be significant in Cambodia and Ethiopia (de Jong et al., 2001a). Lopes Cardozo and colleagues also reported that previous mental illness, which was assessed retrospectively, influenced the mental health of Karenni refugees (Lopes Cardozo et al., 2004a). However, this Jumla study suggests that persons with mental health problems do not necessarily increase in symptom severity any more than individuals with lower levels of pre-conflict psychological distress. Furthermore, if individuals display both *high pre- and post-exposure* mental health problems, then it is especially warranted to look for other factors in addition to the exposure of interest.

Many of the people interviewed described some form of exposure to conflict-specific events. Both Maoists and government forces searched and/or sequestered the homes of Jumla residents. The majority of the population was exposed in some way to the November 2002 battle. However, men who operate more in the public sphere appeared to express more apprehension and have more experiences of acute political violence such as witnessing killings and witnessing or personally experiencing

abductions and police interrogations. I did not meet any women who personally reported being abducted. Schoolteachers, who are predominantly men, appeared to be an especially vulnerable group. Thus, one would expect that those operating more in the public sphere or a vulnerable occupation such as teaching would be more likely to have post-conflict mental health problems because of their increased exposure to specific war-related events.

Coping behaviors, both positive and negative, also play an important role in post-conflict mental health. P.K. and Dil Prasad, both schoolteachers and living near the bazaar, had similar wartime experiences. However, they coped with their fears and anxiety in significantly different ways. P.K. began regularly drinking at night, which puts him at risk for substance abuse or dependence problems later if the behavior becomes more common. In contrast, Dil Prasad dealt with his anxiety through cognitive models of hope for improvements in Jumla's future. Sita also mentioned hope that the situation of low caste Dalits and women could improve with more representation in government, particularly representation of Dalit women.

Both the communal and individual experience of time and change in post-conflict environments. Whereas Dil Prasad described psychological sequelae during the war, his self-report suggested that the symptoms were now gone. However, for others, the conflict appeared to influence their wellbeing. This raises questions of duration since exposure to war or other traumas and how this plays out on traumatic sequelae, especially with changing context. For individual traumas such as car accidents or sexual violence, broader political context may not change in response to the event. However, the end of conflict reflects a community and nationwide change in context. This may influence

resolution in symptoms and opens the research question of why individuals perceive the change in political context differently. Porter's meta-analysis revealed that post-displacement context for refugees strongly influenced psychiatric sequelae (Porter & Haslam, 2001). For example, the presence or absence of a job, in many cases, was more predictive of current mental health compared to past trauma.

A final issue to consider is the heterogeneity of response to trauma. PTSD symptoms above the cutoff threshold were reported in 14 percent of individuals followed from 2000 through 2007. This is compared to two-fifths of the population reporting depression and three-fifths reporting anxiety. Of the types of conflict-related mental health data collected from Jumla, it appeared that anxiety symptoms were much more frequent than PTSD. P.K.'s case also illustrates that alcohol use may be a common mental health response to the conflict, especially among men, as has been observed in other settings (Somasundaram, 2004). Somatization, as Pettigrew described in western Nepal (Pettigrew, 2004), and chronic pain (Ang et al., 2006) are other possible sequelae. There is not a 1-to-1 association of trauma with PTSD because of the heterogeneity of possible outcomes. Thus, a purely PTSD-focused approach to trauma and mental health may miss a significant portion of the mental health needs in post-conflict settings.

An implication of this dissertation is to call more attention to chronic influences on mental health when considering the consequences of violence. Studies should make an effort to collect more information on pre-conflict variables, especially when these exist in other studies or records and statistics available in country. Moreover, statements about vulnerability to the psychological effects of war-related violence also need to be more carefully considered. So-called vulnerable groups may be groups that had higher mental

health problems before the conflict. In the case of the many vulnerable groups described here in Jumla, they showed the least impact in mental health status because their conditions were already so poor. A more comprehensive and historical exploration of the origins of post-conflict suffering would benefit post-conflict mental health and other interventions.

Implications for intervention: anthropological contributions to mental healthcare and stigma reduction

The findings from this research have implications for anthropological contributions to mental health and stigma reduction. In this section, I discuss the example of child soldiers to highlight these implications. Mental health treatment and psychosocial support programs for children have been increasing in Nepal in response to this decade-long civil war in which 14,000 people were killed and thousands of children were recruited into armed groups. One of the major challenges in this setting and other low income countries with nascent or non-existent child mental health services is to introduce care in a manner that does not stigmatize children with mental health needs. The *WHO Atlas of Child and Adolescent Mental Health Resources* reports that stigma is a significant barrier to child mental healthcare in 68 percent of countries (WHO, 2005), as the primary barrier in high income countries and an increasingly important one in low income countries. As mental healthcare resources grow in Nepal and other low income countries, it will be important to address stigma hand-in-hand with development of care systems. Unfortunately, little work has been done to address or study stigma as it relates to mental health in children, particularly in low income countries. Given the disruptions

in a child's development of untreated or undertreated mental illness and the potential life-long effects of stigmatization, this topic is particularly important.

Goffman defined stigma as, “the situation of the individual who is disqualified from full social acceptance.”(Goffman, 1963) More recently, Weiss and colleagues have proposed,

Stigma is typically a social process, experienced or anticipated, characterized by exclusion, rejection, blame or devaluation that results from experience, perception or reasonable anticipation of an adverse social judgment about a person or group. This judgment is based on an enduring feature of identity conferred by a health problem or health-related condition, and the judgment is in some essential way medically unwarranted.(Weiss et al., 2006)

One of the key lessons of the work of Weiss, Sartorius (Sartorius et al., 2005), and others is the diversity in what illness behavior is stigmatized and how stigma is manifested across cultural settings.(Weiss et al., 2006)

Anthropological perspectives are one useful approach to understanding stigma and addressing the *what*, *why*, and *how* of mental health stigma in cross-cultural settings. In Nepali, the term *kalanka* refers to a physical blemish or spot, but also to slander, vilify, or misrepresent to harm another person (Turner, 1931). In Nepal, children's mental health problems historically have been associated with this social disqualification of *kalanka*. Parents attempted to hide a child who displayed socially unacceptable behavior, a developmental delay, or epilepsy from the community by sending them to live with a distant relative or in an isolated pastoralist area. Such children are isolated because they threaten marriage possibilities of other family members or may become a justification by others for excluding that family from community ritual and economic activities. Children with active mental health problems were tied to a tree, or sent to jail or to the country's

one mental hospital, known as “crazy jail.” At the hospital, false names often were given to hide a family’s identity, and if a family had sufficient funds, they took their child to India for treatment to preserve anonymity. Mental health professionals were ostracized by other physicians and family members for choosing a career in mental health care—with the unstated assumption that to care for crazy people, one must be crazy oneself.

Question 1: What is stigmatized? Within a culture, there may be multiple terms for mental health problems with differing levels of stigma in differing contexts, a matter of importance when choosing how to describe a mental health intervention.

Ethnopsychology (the study of cultural concepts of self, mind-body divisions, emotions, human nature, motivation, and personality) is a useful anthropological tool to address this (see Table 10-9). In Nepal, as reviewed above, the components of the self include the physical body, the spirit, social status/face, the brain-mind, and the heart-mind (Kohrt & Harper, 2008). Behaviors that are labeled as brain-mind dysfunctions tend to more stigmatized and mental illness is considered a brain-mind dysfunction. In contrast, symptoms of heart-mind distress include sadness, worries, bad memories and nightmares. These two elements are linked; extreme distress in the heart-mind leads to brain-mind dysfunction. Interventions can be tailored to the manner in which an individual expresses their psychological distress. For example, individuals who primarily frame their suffering in the body may require a different point of entry compared with someone who locates their distress in the brain-mind or heart-mind (See Figure 10-12).

Table 10-9. Aspects of stigma, anthropological approaches, and interventions

Aspects of Stigma	Anthropological Approaches	Nepal Examples	Types of Interventions	Limitations of Interventions
<i>What is stigmatized?</i>	<i>Ethnopsychology</i> – Divisions of self (mind, body, spirit, heart, etc.) and connection of self with society	Mental health connected to brain-mind (stigmatized), heart-mind, body, spirit, and social status/face	Describe childhood emotional and behavioral distress with less stigmatized terms such as heart-mind distress, not brain-mind dysfunction or mental illness	Stigma of omission due to neglect of children and families identifying with stigmatized labels such as brain-mind dysfunction or mental illness
<i>Why is it stigmatized?</i>	<i>Explanatory Models</i> – Patterns of distress and symptoms, perceived causes, and help seeking patterns	Mental illness and brain-mind dysfunction associated with social unacceptable behaviors caused by physical damage to brain-mind or bad deeds in prior life, often considered untreatable	Anti-stigma public health campaigns focusing on raising awareness and psycho-education by changing explanatory models of causation and availability of successful treatment	Changing explanatory models may result in creep of stigma into new categories; anti-stigma campaigns focusing on moral and social unacceptability of stigmatization (regardless of cause) may be more effective long-term approach
<i>How is it stigmatized?</i>	<i>Developmental Enculturation</i> – Childhood experiences for learning and embodiment of behaviors and beliefs including stigma	Children with emotional and behavioral problems in the classroom mistreated and labeled by teachers as having brain-mind dysfunctions; peers in classroom imitate teacher's discriminatory behavior	Trainings for teachers to develop skills and coping techniques to better equip them to support children with problems and refer them for additional assistance rather than marginalize and stigmatized them	Time and cost required for teacher trainings may be greater than other anti-stigma approaches; ideally requires other presence of other child mental health specialists to support teachers in behavior change process

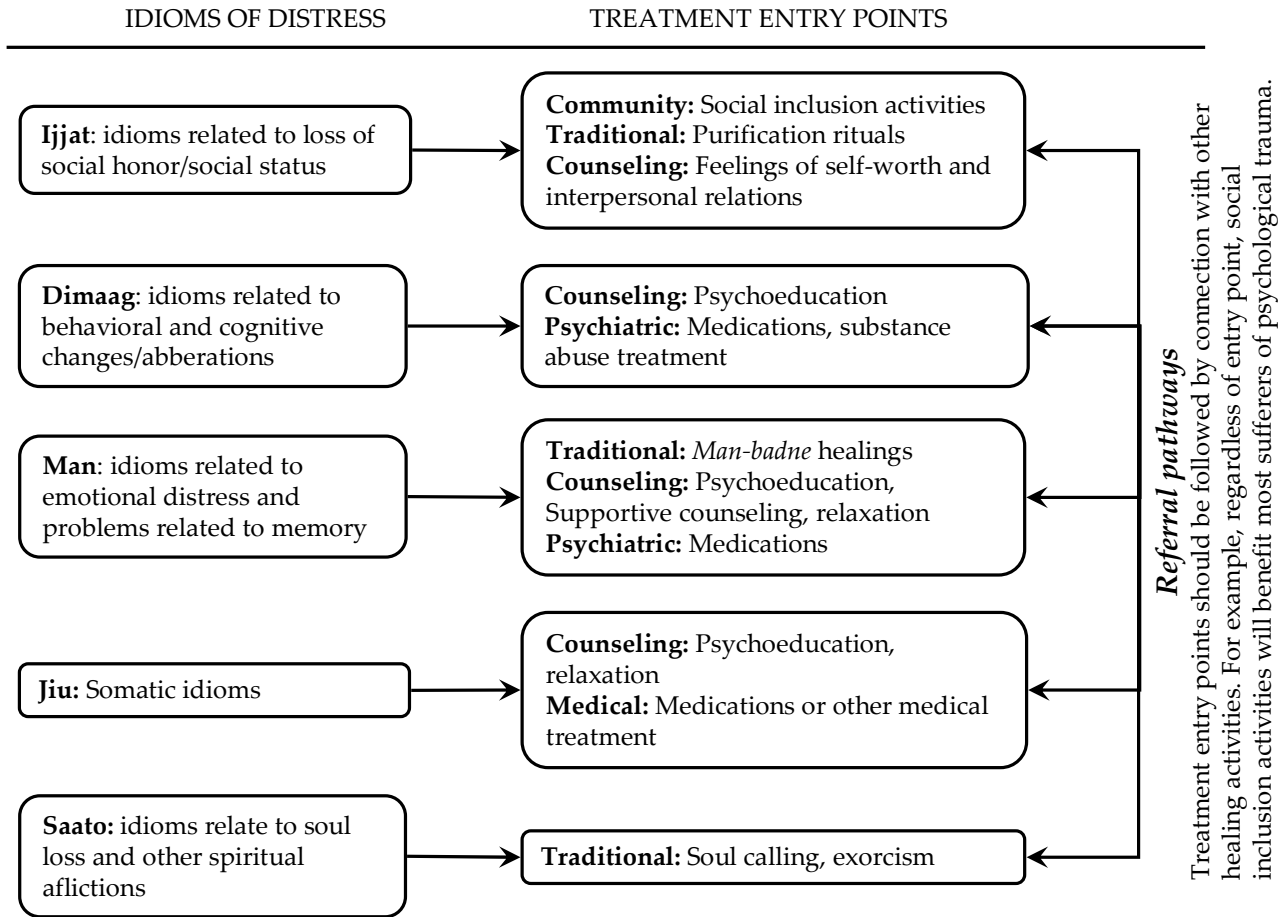


Figure 10-13. Treatment points of entry based on ethnopsychological framework.

Psychosocial nongovernmental organizations (NGOs) in Nepal and elsewhere have cautioned against employing terminology that may stigmatize children (IASC, 2007). For example, while some programs in Nepal have employed the term *maanasik aaghaat* (mental shock) to describe psychological trauma, the term was not adopted for use with children because of its implication of a stigmatizing brain-mind dysfunction. Instead, interventionists working with children focused on *heart-mind* distress, which was less likely to jeopardize the social status of the child or the family. Building on this ethnopsychological framework, Transcultural Psychosocial Organization (TPO) Nepal and collaborating organizations developed a research and intervention program for former child soldiers. Activities for children, training for psychosocial workers, and community awareness campaigns employed the heart-mind as the basis of discussion. Children openly disclosed their feelings through this framework and invited other children to participate in the task. Parents supported their children's participation.

The limitation of such an approach is the risk of omission, such as when children and families who self-label as having more serious brain-mind dysfunction may not feel included and when interventions may fail to address other conditions and causes that fall under the brain-mind category.

Question 2. Why is mental illness stigmatized? In addition to understanding what is stigmatized, it is important to understand why. A possible tool is *explanatory models*. One formulation of explanatory models consists of a heuristic including 'patterns of distress' (symptoms), 'perceived causes' (meaning and significance attributed to contracting a certain illness), and 'help seeking' (the behavioral pattern expected and enacted of persons with said condition) (Weiss et al., 2006). In Nepal, some identify

spiritual infractions and bad *karma* as causes of brain-mind dysfunction and mental illness. The country's leading teaching hospital developed a Community Mental Health Program (CMHP) to address this, by explaining psychosis, mood disorders, epilepsy, and childhood behavioral disorders as biological conditions rooted in dysfunctions of the nervous system, and specifically by changing the model of help-seeking to emphasize the availability of medications. The program used the stigmatized labels but worked to redefine communities' explanatory models of cause and treatment.

While changing explanatory models may have tremendous benefit, changing beliefs about illness may not necessarily eliminate stigma. One of the challenges of stigma is its stickiness. Children with mental illnesses and their families may still suffer stigmatization even under changed explanatory models. In response to this, some human rights groups and groups comprised of persons with mental health problems have argued that stigmatization against persons with mental illness is fundamentally morally wrong. Jagannath Lamichhane, a mental health service user, and the Nepal Mental Health Foundation have taken this approach arguing that persons with mental illnesses are entitled to human rights protections to the same degree as any other citizen. Ultimately, these anti-stigma campaigns that combine psycho-education about mental health explanatory models and rights-based awareness-raising may have the greatest potential for success. An example of this in the United States is the Carter Center program in mental health journalism, helping both U.S. and international journalists understand more about mental health but also encouraging awareness-raising about the impact and social injustice of stigma.

Question 3. How is mental illness stigmatized? The above examples of stigma reduction, which focus on selecting non-stigmatizing terminology or changing public perceptions, are crucial to mental health promotion. However, in working with children there are powerful opportunities to impact the process of *how* stigmatization initially occurs. The anthropological framework of *developmental enculturation* examines how children come to learn behavioral patterns that characterize their culture. Children learn to stigmatize just as they learn other behaviors of communication, interpersonal interaction, and social norms. Thus, studies identifying the developmental context of stigma provide a unique opportunity to intervene.

In Nepal, through studies of child mental health and counseling for children conducted with TPO Nepal, the school setting was identified as a central site of stigma enculturation. In the classroom, teachers reprimanded and insulted students with disruptive behaviors such as aggression or poor concentration. Some teachers referred to the children ‘crazy’ or having ‘broken brain-minds’, employed corporeal punishment, forced children to sit on the floor, or expelled them from the classroom. Other students would replicate this maltreatment and stigmatizing language inside and outside of the classroom.

The teacher’s mistreatment and labeling of these children arose from their frustration at being unable to complete their educational goals and manage the classroom. One solution was a series of interventions by TPO Nepal for teachers to build skills to better manage disruptive and inattentive children. These skills focused on alternative strategies to mitigate rather than exacerbate children’s behavioral problems. Moreover, the expanded repertoire of skills was intended to help teachers model positive behavior

toward children with mental health problems so that so that other students would embody these positive rather than stigmatizing behaviors. This was implemented through both general teacher training programs and specific programs for teachers who had former child soldiers in their classroom. The long-term implications of this program remain to be seen.

There currently are a range of positive developments in global mental health for children including increased attention from leading figures in mental health (Leckman & Leventhal, 2008), the development of the WHO's *Atlas* (WHO, 2005), the International Association for Child and Adolescent Psychiatry and Allied Professions' (IACAPAP) dedication to fostering the development of mental health professionals in low- and middle income countries, and an increasing base of interventions for vulnerable children in low and middle income children affected by war (Jordans et al., 2009). However, if stigma is not a major focus of the mission to make mental healthcare available to children throughout the world, there is a risk that newly established services will go unused or that interventions could make children more vulnerable through stigmatization. The incorporation of anthropological perspectives on the *what*, *why*, and *how* of stigma is one framework to promote the wellbeing of children.

Limitations

One of the major limitations of the study is the degree to which the findings from the child soldier study and the Jumla study can be extrapolated to other settings. With regard to the child soldiers study, the findings represent some specific conditions of recruitment, prewar context, and Hindu-related reintegration beliefs and discrimination.

While the framework employed here could be used to increase the comprehensiveness of research conducted with child soldiers in African countries, Iraq, Afghanistan, Sri Lanka, and the Philippines, the results presented here may not be observed in other settings. Studies comparing child soldiers and civilian children should be conducted in any region with resources targeted to child soldiers.

With regard to the adult study, are the findings unique to Jumla or have they been observed in other regions of Nepal, not to mention outside Nepal? Judith Pettigrew has worked in western Nepal near the Annapurna region for more than two decades. She has employed extensive ethnography to document the effects of the People's War in a rural village (Pettigrew, 2004). Pettigrew describes this community living in fear from two directions: the Maoists and government security forces. Pettigrew suggests that fear was pervasive in this community during the conflict. She points out that fear was possibly greater in the face of government security forces more so than from the Maoists. She attributes this to more respectable treatment of women by Maoists versus the exploitation and sexual violence committed against women by the police and army. This state-perpetrated violence against women has been described in numerous other settings throughout Nepal and was often given as a reason for why so many women joined the Maoists (Pettigrew & Shneiderman, 2004; Sharma & Prasain, 2004; Thapa, 2003). Pettigrew describes the rural Nepal context as a "culture of terror," building upon the Michael Taussig (Taussig, 1987) and Linda Green (Green, 1999). Pettigrew observes that individuals have specific fear related to events, but also a pervasive sense of anxiety of the unexpected with increased hyper-startle and somatization. She describes how Maoists and government security forces violated sacred spaces and caste rules.

Although this framework of examining war in context with regard to prewar factors, war exposures, and postwar factors is useful for the setting of Nepal, it becomes more challenging to parse these issues in other settings. In Nepal, the People's War was a relatively circumscribed conflict of eleven years with a generally distinct onset and conclusion, with the caveat that violence continues, especially in southern Nepal and in relation to YCL activities. However, in many other global conflicts, it would be challenging if not impossible to parse war-related versus other types of threats to psychosocial wellbeing. For example, in countries with a long history of warfare such as Afghanistan or the Democratic Republic of Congo, what would it mean to talk about 'prewar' factors? That said, despite the lack of temporal markers differentiating war-specific versus other stressors, it would still be important to be cautious about attributing all child mental health and psychosocial problems to war.

A specific limitation with regard to pre- vs. postwar analyses in the Jumla study is the lack of prewar measures of PTSD and alcohol abuse. Statements cannot be made about changes in these factors because the baseline levels are not known. For example, while PTSD rates in 2007 in Jumla were 12.9 percent, this could have been an increase from six percent or from eleven percent. There would be different implications based on these different hypothetical baseline values. Similarly, with regard to the child soldiers study, comprehensive data could not be collected about prewar mental health. It could be feasible that children who joined the Maoists had poorer mental health prior to joining or that poor mental health was conducive to exploitation and conscription. Measure such as the CTQ (childhood trauma questionnaire) would have been useful to compare pre-association home environments of child soldiers and civilians (we attempted

to control for this by selecting pairs from the same household; however, this does not guarantee similar exposure to trauma).

Another limitation is the time-scale of the study. The long-term impact of child soldiers or of the conflict in Jumla may not be apparent for years. The data was collected immediately after war ended and before elections, which placed Prachanda in power. It will be important to follow-up with these individuals in a few years to see if mental health problems return to prewar levels, continue to rise, or remain stable. It will be especially important to compare the impact of the war over time on different outcomes such as PTSD versus depression and anxiety. Similarly, the impact of child soldiering on mental health may become more—or less—apparent as these former child soldiers enter adulthood. Neil Boothby has observed that 16 years after association with an armed group, former child soldiers continued to display elevated PTSD symptom severity and impaired wellbeing (Boothby, 2006). It is possible to hypothesize that as these former child soldiers have increased domestic and communal responsibility and become parents themselves, they will display poorer coping abilities. The converse could also be true. Lastly, with regard to time and ongoing data collection, it would be helpful to have biomarker measures over a longer time course. Salivary cortisol levels provide information on a specific moment in time; only through multiple measures over brief and long time courses do the levels begin to speak to more trait characteristics of an individual. The stability, or lack thereof, of associations of cortisol with psychopathology should be further evaluated at progressive time points.

The last series of limitations relate to my personal identity as the researcher. Being a man, an American, a white person, a training health professional, and a person

associated with a national NGO all impact the type of interactions I had with research participants, research assistants, community leaders, and NGO workers. I think this was most apparent when reviewing transcripts of interviews with women in Jumla. The health professional role may have biased women's self-descriptions toward physical health complaints rather than describing the broader experience of war and prewar conditions. The richest narratives in Jumla were obtained with men of my age who openly discussed with me about a range of experiences, uncertainties, and coping behaviors. Within the child soldier research study, a number of female research assistants collected girls' narratives. And, not surprisingly, the girls' narratives were as rich as, if not more rich than, those collected from boys by male researchers. In Jumla, I collected the war narratives. It would have improved the study to have a female researcher also collecting ethnographic data in Jumla. Similar to this, I think the Jumla research would have benefited from including a more participatory approach with local groups identifying priority areas and other concepts to measure as wellbeing outcomes beyond depression, anxiety, and PTSD. Lastly, through my affiliation with a Nepali NGO, I was able to interact with a range of expatriates and Nepali nationals involved in NGOs, INGOs, and multilateral organization. These interactions gave hints of the processes operating within these organizations that dictated the type, duration, and content of psychosocial programming. Their programming reflected their mandates and biases. It would have been useful to do more participant observation and semi-structured interviews within these organizations.

In sum, I am not claiming that the dominant factors after the People's War in Nepal will play the same role in other settings. A failure of the psychiatric epidemiology

literature on mental health is homogenization of war and its impact. Countries and communities, and the conflicts they endure, vary tremendously. I only hope that social scientists working in post-conflict settings will consider the broader picture when tracing the roots of suffering and making recommendations for its alleviation. Porter's large scale meta-analysis of mental health studies among refugees has suggested that the mental health impacts of war are not inevitable, but rather they are intimately related to the social, economic and cultural conditions that precede and follow violent conflict (Porter & Haslam, 2005). If we do not attend to these conditions, we seriously threaten our ability to understand and intervene when necessary.

Conclusion: Preventing the erasure of history

Paul Farmer has written about the "erasure of history" that comes about with the modern plagues of tuberculosis, HIV/AIDS, and malaria (Farmer, 2004). Farmer writes that modern biology and epidemiology have produced an erasure of history with regard to these diseases. The microscopic focus on pathogen and pathophysiology ignores the broader historical forces of politics and economics that have led to the differential burden of these diseases. The diseases are symptoms and the cause is not simply bacilli or retroviruses but rather legacies of marginalization. Farmer writes that *an anthropology of structural violence* is the recovering and reporting this history to illuminate the causes of suffering, specifically within the realm of constrained agency.

This erasure of history is also a risk in the study of war and mental health. War becomes the easy scapegoat for all problems during post-conflict documentation of mental health problems or social problems. The quote from Murthy I presented in the

introduction in which he suggests that conflict-affected populations “*mostly [have] no mental health problems prior to the exposure*” is a concerning example of how easily this erasure of history can happen (Murthy & Lakshminarayana, 2006). Such attribution erases the history of structural violence that preceded war and may continue to underlie psychological and societal ills. An acknowledgement and investigation of structural violence is crucial to understand and address mental health problems, especially in post-conflict settings. Not only in Nepal, but in most conflicts throughout the world, I would argue that populations have high burdens of mental health problems prior to war, which in part may increase their susceptibility to exploitation and involvement in war. Non-violent forms of social interventions are crucial to reducing the burden of mental illness and preventing the exploitation, whether symbolically or physically, of the victims of structural violence.

Ultimately, we need strong ethnography, epidemiology, and biocultural methods to excavate the context in which war occurs. I hope that in some small part this type of research, such as documented in this dissertation, can prevent the erasure of history in studies of war and mental health. If one wants to address the tremendous burden of suffering in post-conflict settings, as I do, this can be done only by putting history, culture, biology, and structural violence directly in front of policy makers and those who hold the purse strings to fund interventions to promote mental health and wellbeing across the globe.

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