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An anthropological investigation of mental health in Haiti:
Language, measurement, and the socio-spiritual world

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M.A., Emory University, 2012
B.A., University of Notre Dame, 2008

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Abstract

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This dissertation examines issues of language, measurement, meaning, vulnerability, and resilience as they relate to the study of mental distress. I draw on interpretive and political economy theoretical orientations to argue that investigations of mental distress must combine attention to systems of meaning-making and structural violence. In the first chapter, I consider how bridging anthropology and epidemiology can advance measurement in global mental health, balancing the sometimes competing goals of ethnographic validity and cross-cultural comparison. In chapter 2, I examine the idiom of distress reflechi twòp ("thinking too much"), a cultural syndrome that indexes intense rumination and social isolation, often linked to perceived failure and lack of agency due to economic conditions. I argue that this idiom of distress serves as an indirect critique of the structural violence at its root.

In chapter 3, I provide an overview of my community-based epidemiologic survey testing hypothesized predictors of mental distress, and in chapter 4 I present the results. Many of the epidemiologic findings are consistent with literature from other settings. For example, linear regression models found that female sex and increasing age are associated with more mental distress. Traumatic events and daily stressors were independently associated with increased burden of mental distress, while socioeconomic status and social support were associated with less mental distress. Other findings were less in line with anthropological literature. For example, non-material stressors and systems of meaning-making, like locus of control, were not significantly associated with mental distress in final regression models.

In the final chapter, I explore my counter-intuitive finding that perceived threat of supernatural harm is associated with better mental health outcomes. In particular, I analyze narratives of "sent spirits." I argue that such stories are fundamentally social narratives, reflecting links among structural forces, socioeconomic status, and restricted social mobility. I consider how these narratives potentially function to displace blame from impoverished, disempowered individuals, yet at the same time draw attention away from the social inequalities and forms of structural violence that are the root causes. I consider the implications of these cultural models for understanding the interconnectedness of social relationships, structural violence, and solidarity.

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Dedication

To Ann Noble Carlton, a dear friend who was lost during my first year of graduate school and whose continued inspiration carried me through these 7 years.

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An anthropological investigation of mental health in Haiti: Language, measurement, and the socio-spiritual world

Introduction

This dissertation engages with several questions at the heart of the anthropology of mental health: What shapes vulnerability and resilience to mental distress? How can we best measure and communicate mental distress cross-culturally? How can we privilege local ways of making sense of mental distress, while not overlooking structural constraints? To engage with these questions, I draw on ethnographic research that I have conducted over the past five years in Haiti's Central Plateau, including two summers of research with multidisciplinary teams and a full year of data collection in 2013. These studies have brought together various disciplinary perspectives and methodological approaches to engage with the central questions named above in the anthropology of mental health.

Following the 2010 earthquake, mental health in Haiti first began to receive real attention, both locally and internationally. As with other post-disaster settings, the focus was on earthquake-related trauma, with psychologists, physicians, and public health professionals predicting far-reaching mental health impacts (Bailey, et al. 2010; Fullerton, et al. 2010; Safran, et al. 2011; WHO/PAHO 2010). And indeed, the empirical links between trauma and mental distress are solid, as confirmed in literally hundreds of studies (Norris, et al. 2002; Porter and Haslam 2005). Anthropologists, on the other hand, argue that existing everyday insecurities represent a large burden for mental health that should not be overlooked (Farmer 2011; James 2011). This is consistent with emerging work suggesting that daily stressors, especially those related to poverty, drive mental distress more so than traumatic events (Hadley and Patil 2008; Hadley and Wutich 2009; Kohrt, et al. 2008; Miller and Rasmussen 2010; Miller, et al. 2008; Panter‐Brick, et al.

2008; Pike, et al. 2010). These researchers and others have focused primarily on daily material resources, like food, housing, and income, and have linked insecure access to these resources to symptoms of common mental disorders, such as anxiety and depression (Paul 2009; Weaver and Hadley 2009). Anthropological theory has also devoted considerable attention to the non-material world of people, including social relationships and the spirit world. This dissertation brings all of these considerations together, exploring the relative associations of earthquake-related trauma, daily stressors, and the social and spirit worlds with mental distress in rural Haiti. In light of international focus, the recent earthquake, and debate regarding Haiti, there is a particularly compelling platform to test hypotheses from anthropological theory against alternate explanations of distress.

Attempting to test such hypotheses itself raises new challenges: how do we identify and communicate about mental distress in a way that promotes ethnographic validity yet enables us to draw benefit from the psychiatric evidence base developed in other cultural settings? How can anthropological theory guide efforts at mental health communication and measurement, and how can such findings in turn advance anthropological scholarship? In designing reliable, culturally adapted or locally developed measures of mental distress, we can not only explore outcomes of clinical relevance but also answer questions of theoretical interest regarding mental distress.

The first half of my dissertation addresses these challenges that must be addressed before one can effectively explore differential outcomes in terms of mental distress. First, I outline multiple approaches to measurement development, including cultural adaptation and local development of screening tools. I then consider the central role of idioms of distress in understanding and communicating about mental health and its broader context. In particular, I examine the idiom of distress *reflechi twòp* (“thinking too much”) in Haiti’s Central Plateau. Combining these anthropological considerations

with epidemiologic approaches, I then outline my methodological approaches to assessing predictors of mental distress and exploring these factors in ethnographic detail. In the remaining chapters, I present epidemiologic and ethnographic findings regarding predictors of mental distress and consider how these findings fit within anthropological and epidemiological research in other settings. In the final chapter, I consider how ways of making sense of suffering and mental distress – particularly those drawing on supernatural explanations – can be reconciled with explanations rooted in a structural violence framework, as well as exploring implications of these findings for social relationships and solidarity.

Medical anthropology's approaches to understanding mental distress

"In one moment, to understand human society or culture is to understand the meaning or significance that events and circumstances have for people, especially using the categories that emerge from their own discourse. In the other moment, to understand human society or culture is to describe the elements within a society and the relationships among those elements, regardless of what the participants in that society think or feel about those elements" (Dressler 2001:456)

Interpretive and experiential approaches

Since its establishment as a sub-discipline of anthropology over 50 years ago, medical anthropology has largely attended to issues of meaning, experience, and cultural construction in relation to health, illness, and suffering (Brown and Barrett 2010; Dressler 2001; Inhorn and Wentzell 2012). These interpretive or experiential approaches to medical anthropology are focused on *meaning*, or "the ways that people make sense of their illness, often linking their experience to larger moral questions" (Brown and Barrett 2010:10). Interpretive medical anthropologists attend to the way people – both individually and collectively – make sense of and express suffering embedded within a broader cultural context (Dressler 2001; Garro 2000; Lock 1998).

Central to this project are the narratives that individuals use to express and make sense of their suffering (Kleinman 1988). Rather than simply a reflection of experience, these narratives are themselves constructive, actively shaping and contextualizing experience, negotiating roles and relationships during the inherently disruptive illness experience (Becker 1997; Jackson 1989; Mattingly 1994; Mattingly and Garro 1994). Several interpretive medical anthropologists have additionally argued that illness and one's response to it can serve a strategic purpose beyond negotiating the illness experience itself. According to these scholars, illness narratives provide a means of both communicating one's lack of control while also establishing mastery that was heretofore absent due to one's role:

> In examining the strategic implications of illness narratives, we open a window onto understanding the rhetorical processes (Brodwin 1994) by which chronic illness and its associated role disruptions are woven into ongoing negotiations over questions of power and powerlessness within patients' lives (Hunt 2000:90).

For example, Linda Hunt (2000) describes the "strategic suffering" achieved by cancer patients in Mexico. The narratives they construct in response to their experience of cancer surgeries allow individuals to resist their personal gender role expectations without challenging the broader cultural structures within which those gender roles are embedded. In this way, the sick role can provide a "time out" from one's expected role, while not questioning the foundational cultural system upon which that role expectation is based (Brown and Barrett 2010): "Strategic use of illness narratives can act to legitimize nonconformity to prescribed roles while averting the necessity to call for revision of the moral principles underlying those roles" (Hunt 2000:102). In this dissertation, I explore how idioms of distress and sent spirit narratives can achieve the same goals, allowing one to resist or avert their social roles without providing too direct a disruption or resistance to underlying cultural and social structures.

Since the establishment of medical anthropology, it has often been mental health-oriented researchers who have advanced a meaning-centered approach to medical anthropology (e.g. Good 1977; Kirmayer 1992; Kleinman, et al. 1978). Much of this work has explored questions of interest to anthropology broadly, like what is "normal," how do biology and culture mutually shape human experience, and what elements of human experience can be considered universal? (Arboleda-Florez 1979; Desjarlais, et al. 1995; Good, et al. 2007; Inhorn and Wentzell 2012; Kirmayer and Groleau 2002; Wiley and Allen 2013). I explore these questions in chapters 1 and 2, in relation to measurement and communication of mental distress. Another historical focus of this medical anthropology of mental health research has been culture bound syndromes, which explore the cultural construction of suffering and particularly mental distress (cf. Rubel 1964; Simons and Hughes 1985). Like other interpretive anthropologists examining illness narratives, these anthropologists often explore how culture bound syndromes reflect negotiation of control or dissatisfaction with one's social role (Arboleda-Florez 1979; Guarnaccia 1993; Oths 1999). I explore culture bound syndromes and their conceptual successors idioms of distress in chapter 2.

Political economy and critical medical anthropology

Interpretive approaches to exploring illness experiences have been critiqued for not addressing questions of *why* certain people fall ill in a particular way at a particular time (Brown and Barrett 2010; Farmer 1997; 1999). According to political economy and critical medical anthropology approaches, asking such "why" questions is essential to avoid victim-blaming in relation to disease: "Many medical anthropologists have incorrectly attributed regional disparities in health to local sociocultural differences without examining the influence of global political-economic inequality on the distribution of disease" (Brown and Barrett 2010:11). During the development of critical medical

anthropology, Singer (1989) argued that when biocultural anthropologists considered social forces in their analysis, they were assigned to the "environment," ultimately serving to reify and legitimize these forces. In contrast, political economy approaches attend closely and critically to historical, political, and socioeconomic forces that shape vulnerability to disease (Baer 1996; Farmer 1997; Leatherman, et al. 1993; Singer 1989; Turshen 1984). Anthropology is ideally situated to understand and contribute to addressing the power dynamics that constrain health-related behaviors and ultimately shape vulnerability (Farmer 1999; Leatherman and Jernigan 2014; Singer 1998).

Writing in the context of his ethnographic work on AIDS and tuberculosis in Haiti, as well as drawing on his work as a physician, Paul Farmer argued that anthropologists and others have tended to blame poor individuals for their woes:

> To foreign eyes, the Haitian story has become a confused skein of tragedies, most of them seen as local. Poverty, crime, accidents, disease, death—and more often than not their causes—are also seen as problems locally derived. The transnational tale of slavery and debt and turmoil is lost in the vivid poverty, the understanding of which seems to defeat the analyses of journalists and even many anthropologists, focused as we are on the ethnographically visible—what is there in front of us (Farmer 2004:305).

In response, he advanced the concept of *structural violence*:[1] "Structural violence is violence exerted systematically […] In short, the concept of structural violence is intended to inform the study of the social machinery of oppression" (Farmer 2004:307). The concept of structural violence captures the globally and historically-situated social, economic, and political forces that shape vulnerability to illness and death. Attention to structural violence aims to reveal oppression and indirect violence, as well as highlighting the erasure of history that serves to perpetuate structures that seem to leave "no one to blame." In developing this concept, Farmer was responding to a tendency in humanitarian work and academia to overlook poverty and attribute differential health

[1] As Farmer (2004) notes, the term "structural violence" was used as early as 1969 by Johan Galtung.

outcomes to “cultural difference”: “Strenuous insistence on the causal role of culture or personality in explaining treatment failure runs the risk of conflating cultural (or psychological) difference with structural violence” (Farmer 1999:254-255). He turned attention away from the focus (he would argue blame) on culture and called for recognition that differential health outcomes are ultimately attributable to poverty and inequality.

Some scholars, like Didier Fassin, praised the move away from meaning-oriented approaches, explaining that Farmer’s structural violence approach “profoundly contradicts early culture-oriented works in medical anthropology. To express it brutally, AIDS has little to do with voodoo and much to tell us about history” (Fassin 2004:319). But other medical anthropologists have critiqued this approach, arguing that it moves the analytic focus too far away from analysis of meaning and cultural construction. I take up this critique and propose an analytic approach that incorporates both attention to meaning and structural violence.

A synthesis

Farmer’s concept of structural violence was put forward intentionally in dialogue with interpretive anthropology (Farmer 2004), so the task of combining attention to both meaning and structural violence should not appear too difficult. And indeed, other scholars have outlined approaches that effectively bridge interpretive and political economic approaches to medical anthropology. For example, critical phenomenology is a theoretical orientation that explores how the macro-level processes of interest to political economy oriented anthropologists play out at the micro-level of individual and interpersonal experience (Biehl 2005). Similarly, working in Haiti, Nicolas Vonarx (2007) argues that an effective investigation of illness models must combine a micro-scale examination of systems of meaning with a macro-scale consideration of systems of

power: “The interpretive approach to illness presented here as a necessary point of departure must therefore be combined with a critical approach that incorporates history, political economy, colonialism and other forms of domination” (p. 19). Working in Haiti, Catherine Maternowska (2006) demonstrates how historical and political forces are played out in the daily lives and particularly biomedical encounters of individuals. While focusing largely on forces that constitute structural violence, she nevertheless attends to cultural construction and meaning: “How people construct their reality within historical contexts and the larger political and economic constraints in which they struggle is crucial to a [political economy] analysis” (p. 40). This dissertation likewise combines a close, interpretive reading of cultural systems of meaning-making with a critical lens that attends to political, economic, and historical forces that shape structural inequalities (Bourdieu 2000; Bourgeois and Scheper-Hughes 2004; Guarnaccia 2001; Kleinman, et al. 1997; Massé 2007).

Medical anthropologists studying mental health are particularly well-positioned to capture this dual focus: “We suggest that [ethnographic studies of mental illness] are sites upon which analyses of meaning, on the one hand, and power and its effects, on the other, inevitably meet […] meaning-centered analyses of culture-saturated subjectivity and psychological experience [join] critical analyses of postcolonial subjectivity in settings of authoritarian rule punctuated by public violence” (Good, et al. 2007:245). According to Dressler (2001), such studies are sensitive to the ways that cultural construction, meaning-making, and interpretations of suffering are constrained by socioeconomic, historical, and political forces. For example, culture bound syndromes have often been studied by combining an interpretive and political economy approach, examining both the culturally constructed ways of experiencing and understanding suffering, as well as the patterns of distribution of these forms of suffering, which often

map onto particular social categories of person or those undergoing role transition or crisis.

Research questions and core concepts

In this dissertation, I will be attending to questions of how we can privilege local ways of making sense of mental distress, while not overlooking structural violence (and vice versa). One of the ways to maintain this dual micro/macro focus is by asking what shapes mental distress: specifically, how do ways of making sense of the world and forms of structural violence each play a role? Drawing on various debates in anthropology, psychiatric epidemiology, and beyond, I explore what shapes vulnerability and resilience to mental distress and highlight specifically what an anthropological approach contributes. Even before we can engage with these issues, we are confronted by even more basic questions, like what constitutes our object of study, mental health? How can we measure and communicate about mental distress? These are issues of central concern in the anthropology of mental health.

Idioms of distress provide a useful analytic construct for linking these micro and macro levels of analysis, as they reveal particular cultural models regarding illness and suffering and also attend to – and at times critique – structural and moral realities. Anthropological investigations of vulnerability to distress likewise facilitate a dual lens onto micro and macro realities. Additionally, analyses of Vodou systems of meaning are inherently situated in deeply historical, social, and political realities. Below, I introduce these concepts, each of which I explore in greater depth in later chapters of my dissertation. I then provide a brief overview of Haitian history to situate the application of these theoretical concepts to my dissertation. Finally, I describe the setting and research design for the work that I will present in my dissertation.

Around thirty years ago, Nichter (1981) outlined a research agenda that takes *idioms of distress* as its theoretical object. Well before this, the objects of study that would come to be called idioms of distress were already being examined in cross-cultural settings, including *susto* and *nervios* (Rubel 1964; Rubio, et al. 1955; van Loon 1926). Nichter (2010) defines idioms of distress as "socially and culturally resonant means of experiencing and expressing distress in local worlds" (405). Unlike psychiatric categories, idioms of distress can communicate suffering that does not reference psychopathological states, instead expressing collective social anxiety, engaging in symbolic protest, or providing "metacommentary on social injustice" (Abramowitz 2010; De Jong and Reis 2010; Nichter 2010:404; Pedersen, et al. 2010). Also unlike psychiatric categories, idioms of distress are explicitly situated within a cultural milieu that is recognized to be complex and dynamic (Briggs, et al. 2003; Kirmayer and Young 1998; Massé 2007). Considering idioms of distress as multipurpose communicative tools raises questions of power, such as who defines categories of distress and what forms of distress are most relevant in healing contexts (Guarnaccia, et al. 2003; Kohrt, et al. 2014).

One of the barriers to exploring mental distress in Haiti has been the lack of language to describe non-psychotic experiences. Attempts to develop appropriate means of measuring and communicating mental distress raise questions regarding the universality of phenomena like mental illness, an issue I address in chapter 1. Drawing on idioms of distress in both communication and measurement provides a particularly promising solution to the question of appropriate language for communicating distress. Unlike psychiatric categories – which are themselves culturally situated but treated as universals – idioms of distress draw on ethnopsychology and shared cultural history, making them particularly powerful means of communicating distress. *Ethnopsychology* is the study of how a cultural group conceptualizes the self, emotions, and experience, with

a focus on interconnections between mind and bodily states and how external threats are thought to impact well-being (Kirmayer 1989; Kohrt and Harper 2008; White 1992). Haitian ethnopsychological constructs are rich, complex, and intertwined with notions of vulnerability and illness (Brodwin 1996; Farmer 1988; Hadley and Patil 2008; Hadley and Wutich 2009; James 2010; Vonarx 2007). Understanding Haitian ethnopsychology is thus central to an exploration of illness models and systems of meaning.

The cosmo-centric worldview places Haitians in the universe of the natural, social, ancestral, and spiritual (James 2008). Any of these realms might present threats to health and moral personhood as understood within Haitian ethnopsychology. An important precept that underlies this susceptibility is that the person is considered vulnerable to outside forces, which can take up residence in an organism and cause harm. Vodou concepts of illness are complex and are not mutually exclusive with biomedical explanations (Brodwin 1996; Métraux 1972[1959]). Often, biomedical explanations are accepted as the "how" of disorder, whereas Vodou is drawn upon to answer "why" questions. A basic distinction is drawn between *maladi Bondye* (illness of God), which refers to natural illness, and *maladi Satan* (illness of Satan), which have a supernatural origin (Brodwin 1996; Farmer 1988). In chapter 5, I explore Vodou concepts of misfortune, moral personhood, and illness in greater depth, in the context of examining "sent spirit" narratives.

Haitian subjugation: From colonialism to today

"Erasing history is perhaps the most common explanatory sleight-of-hand relied upon by the architects of structural violence" (Farmer 2004:308).

As Farmer suggests, it is vital to situate an analysis of structural violence in historical terms. Many aspects of Haitian history and culture have been long misunderstood and misappropriated, often with the goal of justifying foreign intervention

in Haiti (Métraux 1972[1959]). More recently, many journalists and scholars have specifically critiqued the humanitarian response to the 2010 earthquake, arguing that the problems seen in the latest humanitarian response reflect and perpetuate the same patterns of intervention that Haiti has been subject to for centuries (Dubois 2012; Katz 2013; Wilentz 2013). Here I provide a brief overview of Haitian history, with a focus on the ways that outside powers have intervened, as well as the syncretic cultural systems that have arisen out of this history.

Prior to independence, Saint-Domingue represented one of the most prosperous colonies in the world, amassing wealth for the French colony through sugarcane plantations (Mintz 1985). Gaining independence through the largest and only successful slave uprising in history – and becoming the first black republic in 1804 – Haiti was immediately subject to forms of oppression that aimed to maintain the system of subjugation that had characterized the colonial system: “The country emerged in a world still dominated by slavery, and the nations that surrounded it saw its existence as a serious threat” (Dubois 2012:5). For two decades following independence, France, England, and the United States refused to recognize the new nation, effectively excluding it from world trade networks. Then, in tandem with granting official recognition, France demanded reparations “to compensate slaveholders for their losses” — that is, to pay back the monetary value of former slaves and the products of their labor (Dubois 2012:7). Haiti continued to pay the 150 million francs (USD 3 billion today) into the 1950s. In 1915, the United States, seeking to maintain control in the region, sent in marines with the justification of restoring order following a coup. The twenty year military occupation further entrenched socioeconomic gaps and Haitian dependence on other nations.

The United States’s intervention later continued in the form of propping up political leaders, including three decades of brutal dictatorship under the Duvaliers;

forcibly ousting popularly-elected president Jean-Bertrand Aristide; pushing for continued UN policing over the past decade; and undermining government control via the presence of thousands of NGOs that control large sums of the money that moves into Haiti (Dubois 2012). At the same time, the Haitian government has not been blameless in the production of insecurity: "Haiti has been characterized by historic official repression, beatings by security forces, wrongful arrests, sudden disappearances, assassinations of journalists, exactions by militias in the service of despots, widespread corruption, a minority getting rich on the backs of the majority" (Vonarx 2007:24). It is thus unsurprising that Haitians consider their reality as precarious, view foreign intervention with a combination of skepticism and resistance, and at the same time have discerned how to participate in such systems of intervention for personal benefit (James 2010).

Haiti today is commonly cited as the poorest country in the Western Hemisphere (UNDP 2010), the frequent reference to which is contentious among scholars of Haiti. Its history of political instability, vast inequality between the elite and majority poor, and minimal investment in infrastructure have led to a lack of adequate economic, legal, and medical protections to counter vast health and livelihood disparities (Farmer 2011). Today, humanitarian "governing" continues apace: for example, outside of the capital Port-au-Prince, NGOs provide 70% of biomedical care services (WHO/PAHO 2010). These biomedical care systems exist alongside a range of forms of Vodou and traditional healing systems, including *hougan*-s[2] and *mambo*-s (Vodou priests and priestesses), *doktè fey*-s (herbalists), informal market pharmacies, and Christian religious healing (Brodwin 1992).

[2] I use the standard convention of adding –s to indicate plural Kreyol words, rather than –*yo*, the plural indicator in Kreyol.

Out of this history grew various syncretic systems, including the language Kreyòl, which combines a French lexicon with the syntax of multiple West African languages. Vodou likewise arose as a syncretic system, deriving from West African religions and French Catholicism. Haitian social structures likewise derive from forms that arose during the colonial period. The plantation system in Haiti was particularly brutal and deadly for slaves (Dubois 2005). It was cheaper for slavers to continuously import new bodies, and as such, nearly one million slaves were brought to Saint-Domingue over the course of the colony's existence. In response, a number of slaves – accustomed to freedom rather than born into slavery – escaped into the mountains to establish villages of *mawon*-s (maroons; Barthelemy 1990). This movement brought about a counter-plantation system of smallholder farms, which after independence were exploited by the Haitian elite through control over exports and heavy taxes (Casimir 2001). Although early post-independence leaders wanted to maintain the plantation system, essentially perpetuating slavery in a new guise, these peasant smallholder farms – and their spirit of resistance against outside pressure – persisted (Métraux 1972[1959]).

According to Barthelemy (1990), out of this colonial-era social order also grew a reliance on magic to enforce social control. Indeed, many scholars have argued that Vodou's roots and functions are inherently socially oriented (Métraux 1972[1959]; Simpson 1945). More broadly, Vodou arose as a syncretic system, deriving from West African, particularly Dahomean and Fon-Yoruban, religions and Catholicism, and practitioners identify as both *sèvitè*-s *lwa* (servants of the spirits) and Christian (Herskovits and Mintz 1937; Lowenthal 1978; Métraux 1972[1959]).

Since its inception, Vodou has been widely misunderstood, including whether to refer to it as a religious system, a form of magic, or simply by a denigrating description involving cannibalism and human sacrifice (Métraux 1972[1959]). Though considered a religion, Vodou does not have a central religious authority (Brown 1991; Métraux

1972[1959]). Scholars have argued that the Vodou worldview – which coexists with Catholic and Protestant belief systems – should not be thought of as a typical system of religious beliefs, concerned with dogma or metaphysical questions. Instead, Vodou concepts are widely accepted to be a tacit part of reality, making the notion of "belief" somewhat irrelevant (Métraux 1972[1959]). At the same time, there is little agreement as to specific concepts, including the number or relative importance of *lwa*-s (spirits) that constitute the Vodou pantheon (Dayan 1997; Larose 1977; Métraux 1972[1959]). They are associated with African Guinea, an ancestral place with no specific geographic referent. *Lwa*-s are considered subservient to God, with their power dependent on God's will (Deren 1953).

This magico-religious system has come under near-constant attack. Beginning in the late 19th century and peaking in the 1940s, there were multiple attempts by the Catholic Church and Haitian government to eliminate Vodou, including making its practice illegal (Dubois 2012). These anti-Vodou movements continue today in the form of Protestant and Pentecostal efforts to eliminate Vodou from Haiti, often inspired and supported by outsiders. While ultimately unsuccessful, these efforts have nevertheless pushed Vodou practices more underground (Vonarx 2007). In short. Vodou is closely tied to social relations and precarious structural realities, has always been a source of resistance against those in power, and remains highly stigmatized. As such, it will have an important role in later discussions of mental health.

Research site

Since independence, Haiti's population has grown to over 10 million, the majority living in rural areas, with several market towns and few large cities (PRB 2010). Haiti's Central Plateau is one of the nine political departments, a mountainous region situated along the border with the Dominican Republic. This dissertation draws on studies

conducted in two field sites: Lahoye, a small town in the upper Central Plateau, and Mirebalais, a large town at the base of the Central Plateau, just under two hours by car from Port-au-Prince. My work in Lahoye began several months after the earthquake, as I led two multidisciplinary graduate student teams conducting research in the summers of 2010 and 2011. Two Emory medical students had suggested the need for an ethnographic study exploring mental health in the area, based on their experiences conducting short-term medical trips. We partnered with a local NGO that provides year-round medical care and with whom the medical student teams had collaborated. Although originally the NGO had indicated an interest in drawing on our results to provide mental healthcare, it became apparent that this was not a priority area for them. Nevertheless, collaborating with the NGO provided invaluable connections in the community, as well as a great deal of insight into the system of NGO-run biomedical healthcare in Haiti. During our two summers of fieldwork, we began to collaborate with Partners in Health/Zanmi Lasante (PIH/ZL), who were actively building a public sector mental healthcare system. They invited me to collaborate with their Mental Health and Psychosocial Services team during my year of dissertation data collection in Mirebalais.

Mirebalais in the 1930s – when it remained a rural village “in a Haitian valley” – was the subject of one of the earliest ethnographies penned about Haiti (Herskovits and Mintz 1937). Today, the town is seeing rapid growth, particularly with the recent opening of a PIH/ZL teaching hospital in 2013. It is largely due to this hospital that I shifted away from working in Lahoye and towards Mirebalais, as I was collaborating with PIH/ZL, and their Mental Health and Psychosocial Services team was going to be moving their focus to Mirebalais. The hospital represents a public-private partnership, with full operation of the hospital intended to be turned over to the Ministry of Public Health and Population (MSPP) within 10 years. Although I collaborated with PIH/ZL researchers and clinicians,

no data collection occurred in relation to the hospital, and as far as I know, no participants were currently accessing formal mental healthcare services.

I rented a room near the center of Mirebalais town, at an institution referred to by most as the cultural center. Run by Gerdes Fleurant, a Haitian professor emeritus of ethnomusicology and then president of the local State University, the center provided an ideal means of gaining entree into the town through a genuinely Haitian, rather than expatriate, institution. Additionally, I worked with a team of Haitian research assistants (RAs) during all phases of data collection. In 2010 and 2011, we trained RAs to translate during interviews and transcribe audio recordings, as none of us had yet acquired proficiency in Kreyòl. During 2013, I also worked with several RAs during survey data collection. During my first several months of exploratory interviews and participant observation, I worked closely with Wilfred Jean, one of these RAs, who provided valuable interpretation and insight regarding phenomena that I was studying, as well as translation support when needed. Although I did conduct some initial exploratory data collection on the outskirts of Mirebalais town, almost all of my research activities took place in the rural environs. I could gain easy access to many of the nearby localities by motorcycle taxi, with other, more remote localities requiring a car ride and hike. Below I provide a brief overview of my dissertation chapters, each of which expands upon details of the research site and methodology as relevant to the chapter's topic.

Dissertation overview

As described above, this dissertation examines issues of language, measurement, and distress, by joining meaning-oriented and political economy theoretical orientations. In the first chapter, I consider how bridging anthropology and epidemiology – keeping issues of language and meaning at the fore – can advance measurement in global mental health, balancing the sometimes competing goals of

ethnographic validity and cross-cultural comparison. As examples, I present my research team's culturally adapted screening tools for depression and anxiety and our locally developed measures of mental distress and life function. In chapter 2, I consider how ethnography contributes to mental health communication and advances understanding of mental distress in socio-cultural context. Using the example of *reflechi twòp* ("thinking too much"), I explore the uses of idioms of distress and argue that Kreyòl idioms of distress ought to be incorporated into mental health communication and care provision. I also explore how idioms of distress serve as a means of indirectly critiquing structural violence.

In chapter 3, I provide an overview of my research design and detail my project methods, including applying the culturally adapted and locally developed screening tools in a large community-based epidemiologic survey. The survey explored hypothesized predictors of mental distress, including traumatic events, material stressors, and non-material stressors like social relationships and locus of control. In chapter 4, I present results of the epidemiologic survey. In these chapters, I demonstrate how anthropological theory and methods can push psychiatric epidemiology to attend to issues of ethnographic validity.

In the final chapter, I explore my counter-intuitive finding that an external spirit-related locus of control is associated with better mental health outcomes. To do so, I analyze narratives of "sent spirits." I argue that such stories are fundamentally social narratives, reflecting links among structural forces, socioeconomic status, and restricted social mobility. I consider how these narratives potentially function to displace blame from impoverished, disempowered individuals, yet at the same time draw attention away from the social inequalities and forms of structural violence that are the root causes. I consider the implications of these cultural models for understanding the interconnectedness of social relationships, structural violence, and solidarity.

Taken together, these analyses demonstrate the value of mixed methods research that joins the strengths of anthropology and epidemiology. My iterative research design used ethnographic data to develop locally valid measures and in turn drew on quantitative data to inform directions in participant observation. I provide theoretical and empirical arguments for a foregrounding of issues of language and measurement in cross-cultural research on mental distress. Drawing on analytic constructs like idioms of distress and sent spirit narratives, I explore how research that attends to both cultural systems of meaning and historically, socially, and politically situated forms of structural violence can effectively explore models and experiences of mental distress.

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Chapter 1: Strategies for assessing mental health in Haiti:

Local instrument development and transcultural translation

ABSTRACT:

The development of culturally appropriate mental health assessment instruments is a central concern for much anthropology of mental health work. Simple translation of questionnaires can produce misleading and inaccurate conclusions. Multiple alternate approaches have been proposed, and in this chapter, I test two approaches in rural Haiti. First, I describe the use of an established transcultural translation process to develop culturally adapted, Haitian Kreyòl versions of the Beck Depression Inventory (BDI) and Beck Anxiety Inventory (BAI). This entailed focus group discussions evaluating comprehensibility, acceptability, relevance, and completeness. Second, I describe qualitative data collection that was employed to develop two new instruments: the Kreyòl Distress Idioms (KDI) and Kreyòl Function Assessment (KFA) scales. For the BDI and BAI, some items were nonequivalent due to lack of specificity, interpersonal interpretation, or conceptual non-equivalence. For all screening tools, items were adjusted if they were difficult to endorse or severely stigmatizing, represented somatic experiences of physical illness, or were difficult to understand. After the qualitative development phases, the BDI and BAI were piloted with 31 and 27 adults, respectively: BDI (mean=22.9, standard deviation (SD)=12.2, Cronbach's alpha(α)=0.89); BAI (mean=23.1, SD=18.3, α=0.94). The KDI and KFA were piloted with 97 adults: KDI (mean=17.02, SD=9.6, α=0.89); KFA (males: mean=2.69, SD=0.51; females: mean=2.53, SD=0.59). Without these efforts to develop appropriate tools, attempts at screening would have captured a combination of atypical suffering, everyday phenomena, and potential psychotic symptoms. Ultimately, a combination of transculturally adapted and local developed instruments appropriately identifies those in need of care through accounting for locally salient symptoms of distress and their negative sequelae.

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Introduction

After the January 2010 earthquake, over 400 organizations flooded into Haiti to provide relief services, including many devoted to mental health care. However, a large literature on cross-cultural mental health research cautions that the concepts, language, and measures used by these organizations, largely from the U.S. and Canada, cannot be expected to translate easily into other settings (Breslau 2000; Kirmayer 2007; Kirmayer 2002; Kohrt and Hruschka 2010; van Ommeren, et al. 1999). Recognizing these shortcomings, researchers have advocated for a more ethnographically grounded approach to assessment and care, including drawing upon local idioms of distress, adapting and validating screening tools, and examining impacts of mental distress on social and economic functioning (Bolton and Tang 2002; Kirmayer 2007; Kohrt and Hruschka 2010; Nichter 2008; Weaver and Kaiser 2014). A central concern according to medical anthropologists is what shapes vulnerability and resilience. However, it is impossible to test competing ideas regarding vulnerability and resilience without effective measurement tools. Despite a shared recognition of the importance of accurate screening, there remains disagreement as to the relative utility of culturally adapted versus locally developed screening tools (Desjarlais, et al. 1995; Good, et al. 2007; Kirmayer 2002; Mezzich, et al. 1999; Miller, et al. 2008; van Ommeren, et al. 1999). Focusing on common mental disorders, this chapter describes research in rural Haiti using both approaches to instrument construction, ultimately demonstrating the complementary strengths of each strategy for developing locally valid mental health screening tools.

Approaches to instrument adaptation

The increasing recognition of core symptoms of common mental disorders around the world has largely driven the movement for addressing mental illness in

developing countries (Patel and Prince 2010; WHO 2008). At the same time, presentation, experience, and recognition of mental illness differ by setting, in particular whether somatic, emotional, or psychological expressions are paramount (Desjarlais, et al. 1995). Recognition of mental illness is further complicated by varying expectations of normal or acceptable behavior (Desjarlais, et al. 1995; Good, et al. 2007; Miller 2000). Largely due to such variability in expectations and experiences, strict translation of screening instruments has been found to be insufficient in multiple settings (Betancourt, et al. 2009; Bolton, et al. 2002; Jordans, et al. 2009; Jordans, et al. 2008; Kinzie 1982; Kohrt, et al. 2011b; Suarez-Mendoza, et al. 1997; van Ommeren, et al. 1999; Zheng, et al. 1988).

Helping to account for such challenges, the incorporation of qualitative and specifically ethnographic techniques into research aimed at developing survey instruments and interventions is well-established (Campbell, et al. 2000; Moreau, et al. 2009; Onwuegbuzie, et al. 2010; Waldram 2006). The joint statement on *Mental Health and Psychosocial Support in Crisis in Conflict*, put forth by the collaborative Mental Health Working Group, emphasizes the need for locally salient instruments, as mere translation of measures used in Western settings does not capture cultural understandings and constructs (Allden, et al. 2009). The Inter-Agency Standing Committee (IASC) reaffirms this stance in the particular context of Haiti: “Well integrated mental health and psychosocial supports that build on existing capacities and cultural norms reach more people and are more likely to be sustained once humanitarian aid engagement ceases” (IASC 2010).

There are advantages to both locally developed measures and transculturally adapted measures. As Kohrt and colleagues (2011b) have discussed, the choice of approach depends on the context, as well as research and clinical needs to be addressed. In some settings, they point out, transculturally adapting and validating

existing measures is advantageous to communicate findings to international audiences who may support funding for mental health service development. Furthermore, adapting standardized instruments for depression and anxiety can be advantageous when considering implementing treatment approaches tailored toward these disorders, as exemplified in the recent mhGAP program (WHO 2008). Ultimately, an integrated local and standardized screening approach may be optimal to achieve multiple goals in improving mental health research and care.

Recognizing the shortcomings of mere translation and the challenges of establishing criterion-related validity – which typically entails diagnosis by a psychiatrist – Van Ommeren and colleagues outline a method of cultural adaptation of screening tools (van Ommeren, et al. 1999). This approach avoids many of the problems with establishing criterion-related validity, namely that it is time-consuming, expensive, and impractical if the required personnel and training are not available (van Ommeren 2003). The alternate method draws upon lay and professional individuals, both those who are and are not bilingual (van Ommeren, et al. 1999). The approach focuses on establishing multiple forms of equivalence as instrument items are reviewed and adapted for a new setting. An item is considered to demonstrate semantic equivalence if it is *comprehensible*. An item has technical equivalence – meaning that the method and impact of evaluation remains consistent – if it is *acceptable*. Finally, an item exhibits content equivalence if it is *relevant* to local experiences. After changes are made to adjust for non-equivalence, the final form of the item is compared between the original and the translation to assess *completeness*, or the extent to which the item assesses its intended content fully. By evaluating *comprehensibility*, *acceptability*, *relevance*, and *completeness*, the method assesses and adjusts for potential threats to validity in the process of adapting a pre-existing instrument to a new setting.

Approaches to instrument development

An alternative to adaptation is development of new instruments rooted in local constructs. One of the benefits of a focus on local perceptions, particularly in guiding instrument development, is that locally salient ways of categorizing experience are the starting point for evaluating distress and well-being (Dunn and Janes 1986; Kirmayer 2006). In contrast, applying a Western psychiatric measure cross-culturally could be devoid of meaning; while indicating that an individual endorsed a certain percentage of items on a scale, that number may not map onto any discrete forms of experience such as distress versus non-distress (Kohrt and Hruschka 2010). Instead, screening tools should identify those who have a locally salient collection of symptoms, along with functional impairment, and are suffering: in other words, those in need of care (Bolton 2001; Bolton, et al. 2003; Bolton, et al. 2002; Desjarlais, et al. 1995). Considering these locally-specific variables, the notion of taking Western measures as a starting point would seem to some to be inadequate.

Several anthropologists have pushed these critiques even further, maintaining that categories for measurement are only one among many considerations. These scholars argue that psychiatric disorders are themselves cultural conventions, which largely define appropriate forms and expressions of suffering (Kirmayer 2002; Nguyen and Peschard 2003; Scheper-Hughes and Lock 1987). It is thus vital for cross-cultural mental health researchers to understand notions of the person, ethnophysiology, and ethnopsychology, all of which are central to experiences of mental health and ill-health and shape local manifestations, treatment-seeking, and course of illness (Kirmayer 2002; Kohrt and Harper 2008; Kohrt and Hruschka 2010; WHO/PAHO 2010). For example, Kohrt and Hruschka (2010) explain how experiences of trauma in Nepal differ based on ethnophysiological categories of brain-mind, heart-mind, body, soul, and social status. Drawing on these notions, researchers have identified several forms of mental illness

that are unique to particular cultural settings and expressed through idioms of distress (Kirmayer 2002). I explore the concepts of idioms of distress and ethnopsychology and their contribution to anthropology of mental health in chapter 2.

Several authors have identified idioms that represent such locally relevant syndromes in Haiti, including *sezisman* (seized-up or shocked), *move san* (bad blood), and *pèdisyon* (arrested pregnancy), (Coreil, et al. 1996; Farmer 1988; Kiev 1961; Mazzeo and Hoover 2010; Murray 1976). In chapter 2, I take a similar approach, focusing on and describing a single, complex idiom of distress that seems to represent a cultural syndrome. In this chapter, I describe a somewhat different methodology employed to facilitate measurement by drawing on a collection of idioms of distress that represent experiences of cognitive, emotional, and somatic suffering. I recognize that these idioms of distress represent not only a different language for describing symptomology, but also a system of making sense of suffering in connection to notions of the person, expectations about feelings and behavior, and causes of illness and misfortune (Kirmayer 2002; Kohrt and Hruschka 2010; Nichter 1981). Thus, local idioms of distress, while lacking cross-cultural comparative power, are ideal to identify those who fall into local categories of distress.

Assessing function

Stopping at the assessment either of an adapted Western psychiatric construct or a local idiom of distress is incomplete for assessment of experience. While a person may meet criteria for PTSD by symptom count or may be locally identified as *sezisman*, this is not synonymous with suffering from impaired functioning in activities of daily living. Beyond identifying symptoms of distress that potentially indicate mental illness, it is important to gauge indicators that assess the relative disruption to a person's life. The lacunae of impairments to physical or mental health are determined largely by the extent

to which they differ from what is considered normal, which is strongly tied to the stigma associated with them (Castro and Farmer 2005; Good, et al. 2007; Kirmayer 2002; Kleinman and Han 2004). For example, in Nepal the experience of trauma is highly stigmatized because of its believed association with karma (Kohrt and Hruschka 2010). By examining how one's experiences differ from what is considered normal and acceptable in a particular setting, the extent of health impairments can be more fully understood.

Bolton and Tang (2002) provide a set of methods for achieving this aim with regards to social and economic functioning. Using free listing, the set of activities and tasks that a healthy adult is regularly expected to accomplish is established for the local setting. These items are then used to develop a screening tool that assesses the level of difficulty that a person experiences with each item, as well as the cause of their difficulty. The result is a measure of the extent to which an individual's ability to complete socially-expected tasks is hindered by ill-health, including mental ill-health.

Integrated approach

Experiences of mental illness appear to share basic symptomology and common disorders, but with largely variable manifestations, presentations, and unique illness categories across cultural settings (Desjarlais, et al. 1995; Kirmayer 2007; Mezzich, et al. 1999). Considering the desire to achieve comparability and provide appropriate interventions, the best approach to identifying and measuring mental disorders would appear to be a combination of adapting Western instruments (Bolton 2001; van Ommeren, et al. 1999); exploring additional nosologies, symptoms, and expressions that an adaptation-only approach would have missed (Kleinman 1988; Kohrt and Hruschka 2010); and examining far-reaching impacts, including function impairment (Bolton and Tang 2002).

Considering these issues of adaptation, local development, and function assessment together, the goal of this study was to develop screening tools to best identify Haitians in need of psychosocial support. Because we were most interested in common mental disorders, we focused on depression and anxiety (Patel 2000). While this study developed and tested instruments, it represents the first in a series of studies that aim to assess performance of screening tools, including clinical validation, a large epidemiological study, and factor analysis to identify shared constructs among the instruments. The study was designed both with the applied outcome of producing appropriate instruments to assess mental wellbeing for clinical and epidemiologic purposes and also with the broader methodological interest of comparing strengths and limitations among the different strategies.

Methods

Setting

This project took place during May and June 2010 in Haiti's Central Plateau. Research activities were based in the communal section of Lahoye (a political unit roughly equal to a county), which consists of twelve zones and had an estimated adult population of 7,500 according to a 2009 census (IHSD 2009). Research activities also encompassed the adjacent communes of Thomonde and Lascahobas, which have a combined population of approximately 92,000. While there is overlap in expected tasks, livelihood is largely sex-differentiated, as males *travay la tè* (work the land), while females *fè kòmes* (do commerce) and care for the family and home (Miller 2000). Approximately three-fourths of the population has some primary school education, but the majority cannot read or write (WHO/PAHO 2010). While everyone speaks Kreyòl, a small minority also speak French or Spanish, due to the proximity to the Dominican Republic.

Regarding impact of the 2010 earthquake, the Central Plateau sustained little direct or structural damage. However, some areas of the Central Plateau saw significant increases in population size due to influx of people displaced from Port-au-Prince. Additionally, many people we spoke with had family members killed or directly impacted by the earthquake, and several were helping to house displaced family or friends. Despite these devastating and far-reaching impacts, participants made it clear that the earthquake represents one among many challenges that impact mental health and ill-health.

Lahoye was chosen as the research site because of the presence of a non-governmental organization (NGO) that was interested in providing mental health services. The NGO partners with American medical schools and Haitian healthcare personnel to provide year-round medical care in several communes in the Central Plateau. While there are three hospitals within a two-hour drive from the research site, the time and resources required to reach these healthcare services by foot, horseback, or motorcycle puts them firmly out of reach for the majority of rural Haitians. Instead, they rely on small clinics, many run by NGOs. At the time of the research, the town of Lahoye had a small clinic with one doctor, one nurse, two auxiliary nurses, and one lab technician. The clinic was hosted by a private school but has since moved to a permanent building. Approximately once per week, clinic staff conducted mobile clinics, which allowed them to visit each zone in the communal section once every three months. During the single day of healthcare provision for the zone, dozens of patients would line up, with several often being turned away at the end of the afternoon when rains began. Rather than utilizing formal biomedical care, people could also purchase medicines and herbal remedies within the weekly markets or draw upon a range of traditional supports, including *hougan*-s and *manbo*-s (Vodou priests and priestesses), *doktè fey*-s (herbalist), and religious leaders (Brodwin 1992; Desrosiers and St Fleurose 2002).

Prior to the beginning of data collection, four research assistants were recruited from the surrounding communal areas through the assistance of the NGO. All four spoke fluent Kreyòl, French, and English. The research assistants were trained for a week in the project aims and methods, techniques for providing literal (rather than summative) translation, transcription of audio files, and issues of ethics and confidentiality. Two of the research assistants were either from Lahoye or had spent an extended time with family in the area, so they were familiar with the community. When deemed appropriate, non-local research assistants were involved in collection of more sensitive data in order to avoid participants having to share personal information with known community members.

Adapting screening tools

In adapting and developing various screening tools, we aimed to develop instruments that were both ethnographically valid and able to communicate results with international audiences through comparison with existing psychiatric instruments (Kohrt, et al. 2011a). To adapt screening tools into Kreyòl, we employed Van Ommeren et al.'s (1999) approach for transcultural translation of mental health instruments developed in different cultural settings. This approach entails a series of translations with a focus on comprehensibility, acceptability, relevance, and completeness of items. Before leaving the US, we had each item translated into Kreyòl by a bilingual individual and then adjusted by one of two Haitian doctors on visiting assignment to the US. We completed these initial preparations with the Beck Depression Inventory II (BDI) and Beck Anxiety Inventory (BAI) (Babor, et al. 2001; Beck and Steer 1990; Beck, et al. 1996; Weathers, et al. 1993).

At the heart of Van Ommeren and colleagues' transcultural translation are focus group discussions (FGDs) with lay community members, in which participants are

prompted to discuss acceptability, relevance, and comprehensibility of each item in the screening instrument. FGD participants suggest alternative wording if the item performs poorly on any of these equivalence measures. Focus group discussions were sex-differentiated, and each group discussed part or all of a single screening tool. Depending on the length of the screening tool, we held between two and four focus group discussions, in order to ensure that all items in a given screening tool were reviewed by both a male and female focus group. Discussion for each item also addressed what could cause someone to experience it and how it can be recognized by others. Focus groups were facilitated by a respected community outreach coordinator who was trained in the methods and aims of the project.

Focus group discussions were transcribed and translated from Kreyòl into English, including idioms of distress in their original Kreyòl form (see next section for description of identification of idioms of distress). Using these transcripts, each instrument item was assessed for comprehensibility, acceptability, and relevance, and wording changes were made to adjust for any problems. Finally, the original English version was compared to the English translation of the adjusted Kreyòl wording to determine completeness of the adjusted items.

Developing local screening tools for idioms and functioning

Two screening tools were locally developed, including a measure of local idioms of distress (the *Kreyòl Distress Idioms* [KDI] scale) and a function assessment (the *Kreyòl Function Assessment* [KFA] scale). The development of screening tools was part of a broader study that included multiple qualitative methods: (i) participant observation with 4 case studies thought to be experiencing mild to moderate mental illness; (ii) observant participation in hospital, clinic, and mobile clinic settings; (iii) 31 interviews with community leaders and healthcare providers; and (iv) 11 focus group discussions

with community members. These various forms of data collection – described in greater depth in the next chapter – explored how mental illness is discussed and experienced, the impacts of these experiences on stigma and function, and the types of treatment and care currently sought by community members.

While I use the term mental illness here for simplicity's sake, in reality our conversations often began with extended explanations of what we were interested in discussing. The French term *santé mentale* (mental health), as well as literal translations of terms such as depression and anxiety were not understood by most rural Haitians. In fact, we found that when we tried to approximate these phrases, it typically led respondents to discuss *fou* (crazy), which represents a severe psychosis, typically schizophrenia. We thus avoided using such terms and instead explained that we were interested in the ways that people suffer and experience distress, particularly if it becomes difficult to work and complete daily tasks. We found this approach to be generally well-understood among informants.

From these various forms of data collection, we drew 43 potential idioms of interest that represent somatic, emotional, cognitive, and psychological experiences that seem to express mild to moderate mental ill-health or associated sequelae. These 43 idioms were discussed with two Haitian clinicians and in a focus group discussion with lay community members. Following these conversations, idioms were removed from the list if they seemed to be caused solely by physical illnesses, were thought to be nearly universal experiences (i.e. not specific enough), were taboo topics of discussion that would severely stigmatize research participants, or were not well understood. Additionally, when multiple idioms seemed to represent very similar experiences, the better understood item was kept. The resulting KDI list included 17 items.

To develop the *Kreyòl Function Assessment* scale, we used Bolton and Tang's approach (2002). We began by eliciting activities and tasks that are central to functioning

in the rural Haitian setting, differentiated by sex. A trained research assistant collected free lists from a standard sample size (Borgatti 1998) of 30 men and 30 women, asking:

1. *What are things that men/women in your community have to do to take care of themselves?*
2. *What are things that men/women in your community have to do to take care of their family?*
3. *What are things that men/women in your community have to do to take care of their community?*

The free lists were analyzed using Anthropac (Borgatti 1996). The most frequently cited tasks within each category (self, family, community) were determined for each sex. The 9 most common tasks overall were included in the function assessment, with at least one item per category included. The screening tool asks participants to rate their level of difficulty experienced with each task, from “I don’t have any difficulty” to “I often cannot complete the task.” Participants could also respond that a task is not relevant for them. At the end of the instrument, participants are asked to provide the primary reason for their difficulty with any items that they rated as 3 (I have a lot of difficulty) or 4 (I often cannot complete the task). This question aims to distinguish economic difficulties from difficulties caused by health or disability.

The KFA was pilot tested with 25 females and 26 males. Participants were asked to rate their difficulty with each item and to offer an additional task to rate, in case the free listing missed significant activities. After each item rated, participants were asked why they gave that response, in order to assess understanding of the items, which is an approach used in cognitive interviewing (Willis 2005). Pilot results were assessed for understanding of the items, relevance (how many people reported not engaging in any task), and additional tasks to add. Based on these results, four items were reworded or replaced in the female function assessment, and two items were replaced in the male function assessment.

Pilot testing instruments

Both of the locally developed screening tools (KDI and KFA) were used in a pilot survey of 97 rural Haitians randomly sampled in the Central Plateau. Among these participants, 31 also completed the BDI, and 27 others completed the BAI. Because we did not yet have an effective referral system in place for persons identified as having potential suicidality or severe depression and anxiety, we aimed to keep our pilot small while still providing enough respondents to identify changes needed to the instruments. We had all participants complete the two locally developed screening tools in order to ensure more data to assess these instruments that had never been tested in any setting. Four trained research assistants conducted the surveys, which took approximately 15 to 30 minutes. Because accurate census data were not available for the zone level, random sampling proportional to population was not possible. Instead, cluster sampling was used, drawing on eight of twelve zones within one commune of the Central Plateau. Cluster sampling represents an established approach for identifying a quasi-random sample when population data are not available (Handwerker 2003). Within each zone, *lakou*-s (homesteads) were selected at set intervals, with smaller intervals used in less densely populated zones to ensure adequate sample size. To achieve variability among respondents, research assistants alternated by sex and among three age categories (18-30, 30-50, 50+). Basic demographic data were collected, and participants were asked to respond to each instrument item using a Likert scale ranging from either 0–3 (BDI and BAI) or 0–4 (KDI and KFA). Visual tools were used for all instruments to aid understanding.

These results were used to determine internal reliability (Cronbach's alpha) for each scale, as well as to determine item correlation with scale. Correlations between all pairs of screening tool summative scores were calculated. For the KFA, average score among items was used because respondents had the option to respond "I do not do that

task," meaning many respondents did not rank every item. Statistical tests were run using SPSS 18.0 (2009).

Qualitative Analysis

All focus group and interview transcripts and participant observation field notes were coded using MaxQDA 10 (VERBI 1989-2010). Codes were developed deductively after all data collection was completed. Both etic and emic codes were developed, with code families including causes of mental illness, Western and local symptomology, experiences and outcomes with mental illness, and existing resources. All translated texts were coded by one of three research team members after sufficiently high inter-coder reliability was established ($\kappa>0.7$). These qualitative data were used in complement with quantitative results to assess scale items, as has been done to adapt scales in other settings, including among Haitian migrants (Bolton 2001; Moreau, et al. 2009). In the final codebook there were 7 codes for causes of mental illness (251 instances), 19 codes for local and 18 for Western symptomology (954 and 465 instances, respectively), 16 for experiences and outcomes with mental illness (325 instances), and 18 codes for existing resources (652 instances).

This project received Institutional Review Board approval from Emory University and the Haitian Ministry of Health. All participants were verbally consented by either a research team member or a trained research assistant in their language of preference (Kreyòl or English). Because the majority of rural Haitians are not literate, verbal consent was used.

Results

Adapted screening tools

On the depression and anxiety screening tools, items with low item-total correlations ($r \leq 0.33$) or that seemed problematic in focus group discussions were adjusted (see Table 1). There were several reasons that items required adjustment: lack of specificity, interpersonal interpretation, conceptually not equivalent, and difficult to endorse. Each of these causes of non-equivalence is described below.

Lack of specificity

The BDI includes two items that inquire about changes in appetite (BDI#16) and sleeping (BDI#18). In focus group discussions, these items were associated with illness, pregnancy, aging, and not having enough money to buy food. Other causes mentioned seemed more relevant to depression, such as excessive worry to the point that it prevents sleep or disrupts appetite. Because of the association with various potential causes, changes in appetite and sleeping cannot be thought to indicate depression with any reliability. Indeed, in the pilot survey the mean score on these items was 1.6 and 1.7, compared to an overall item mean of 1.1 (on a 0–3 likert scale), (See Table 1). These differences suggest that people tend to rate high on these items even if they do not endorse other items more indicative of depression.

While these two items are thus not specific to the experience of depression, they are nevertheless considered important somatic sequelae of the disorder in Haiti. All four case studies and their families, as well as several other lay and medical interview respondents, mentioned changes in eating and sleeping as indicators of mental illness. For example, one woman who lost family members in the earthquake and appeared to be experiencing depressive symptoms explained:

> During my visit to the clinic they gave me two kinds of pills and I have been taking them; to this day I still have some left. They help me sleep better. But sometimes I think about my mother and it saddens me. I can be having a meal and I suddenly stop eating because I think about her. Every time we reach the 12th of every month I am very sad. I don't sleep because I cry so much (Female case study).

The two items regarding changes in appetite and sleeping were thus maintained in the screening tool with the acknowledgement that they likely inflate overall scores for participants. One item on the BAI was similarly interpreted in relation to physical illness. The original translation for numbness or tingling (BAI#1), which literally translates to your body poking or stabbing you, was associated with the heart, bad blood *(move san;* cf Farmer 1988*)*, and with illness or infection. The item was changed to focus on the sensation of numbness.

Somewhat similarly, the BAI contains two items that were seen to be common experiences: feeling hot (BAI#2) and fear of dying (BAI#16). In focus groups, feeling hot was associated with external temperatures or fevers, and in the pilot survey, scores on this item were nearly double the mean (1.9 compared to 1.1), (See Table 1). The item was reworded to ask about feeling hot when it is not due to outside temperature or illness. When asked about fear of dying, focus group members emphasized that this is a normal feeling:

> There are people that are going to the hospital, they're praying, they're waiting to pray. They go to the *hougan*'s [Vodou priest's] house so they can do something magic so that they won't die. But is anyone here not really afraid of death? (Male focus group discussant)

To inquire about unusual levels of fear, we altered the question to ask about fear of dying before one's time (*Èske ou pè w'ap mouri anvan tan ou?*).

Interpersonal interpretation

Several items were interpreted in an interpersonal sense in the Haitian context, compared to their intended use in the U.S. context, which entails a more individual focus.

For example, loss of pleasure (BDI#4) attempts to gauge anhedonia, or decreased enjoyment when engaging in familiar activities. In focus group discussions, this item was discussed in terms of enjoyment or pleasure from engaging with other people. Someone could thus experience a loss of pleasure if a friendship ends or if their friend does not come through for them. While this interpretation can be seen as satisfaction or fulfillment in relationships, the ultimate measure of receiving less pleasure in life appears to remain intact, so the item was not altered.

The item “loss of interest” (BDI#12) was likewise interpreted in an interpersonal context but was more problematic, as the intended meaning was lost. Rather than indicating motivation to engage in activities, interest was interpreted as concern versus disinterest towards others. One respondent contrasted two scenarios to describe when someone should be interested in others. He explained, “You may be passing near [someone’s] garden, and see that the garden is not maintained, and you say; this is not my business” (Male focus group discussant). In this case, interest in others is unjustified because it is seen as interfering in others’ business. In contrast, the respondent explained, “In terms of helping someone who does not have something, if I can give him a push and help, I have to be interested at that” (Male focus group discussant). To move away from the contrast between concern and disinterest, we changed the item to “I am not on it” (*m pa sou sa*), which more closely approximates lack of interest and desire to engage with people and activities.

Conceptually not equivalent

Two additional items were interpreted somewhat differently in the Haitian context, but these were not entirely attributable to an interpersonal interpretation of items. For example, indecisiveness (BDI#13) was not seen as lack of ability to make decisions but rather lack of power or freedom to make decisions. Respondents gave examples of not

having money to do what one wants or being demoted, hence losing the authority to make the same decisions as previously. Another person gave the example of a man getting married and having children: with these added responsibilities, he is no longer free to make quick decisions but must consult his family. While these examples point to an external locus of control that limits one's ability to make decisions, we wanted instead to gauge confusion or lack of resolve, in other words being confused about what decision to make rather than powerless to make a decision. The complete equivalent of this concept is difficult to capture in Kreyòl, but we reworded the item to incorporate a sense of confusion (*pa fouti ka pran yon desizyon*).

An additional item, flushed face (BAI#20), does not appear to have a conceptual equivalent in Kreyòl because it is a seemingly irrelevant experience for rural Haitians. In our focus group discussions, there was no coherent way that flushed face was explained. Rather, a series of circumstances were provided that could cause your face to change color – such as giving birth or being in the sun – but none of these seemed conceptually similar to facial sensations and discoloration associated with anxiety in the U.S. Because it appears not to be a relevant symptom, flushed face was dropped from the BAI screening tool.

Difficult to endorse

A final item was problematic because it appeared unacceptable or stigmatizing for participants to endorse. *Touye tèt mwen* (to kill myself) appeared to be too strong or direct of a reference to suicidal ideations (BDI#9). While focus group participants offered stories of people they knew who had considered or committed suicide, the group discussion moved quickly past the topic, and acceptability was difficult to gauge. Through informal conversations, we found that *anvi mouri* (to want to die) is understood to refer to thoughts or intentions about suicide, but because it uses a less direct

reference, it is seen as more acceptable to endorse. Table 1 provides an overview of the screening tools' reliability and total mean scores based on the pilot survey.

Table 1a: Beck Depression Inventory (BDI) psychometric properties in pilot testing among rural Haitians (n=31)

Item (English)[a]	Item (Kreyòl)[b]	Mean (Std Dev)[c]	Item-total correlation
1. Sadness	*Pa kontan*	1.06 (1.3)	0.65
2. Pessimism	*Dekouraje, pa gen espwa*	0.68 (1.1)	0.48
3. Past Failure	*Echwe*	0.87 (1.0)	0.70
4. Loss of Pleasure	*Bagay pa ba'm plezi*	1.16 (0.9)	0.58
5. Guilty feelings	*Santi m koupab*	0.61 (0.8)	0.59
6. Punishment feelings	*Santi y'ap fè'm mal*	0.77 (1.2)	0.68
7. Self-Dislike	*M pa renmen tèt mwen*	0.74 (0.8)	0.67
8. Self-Criticalness	*Kritike tèt mwen*	1.71 (1.1)	0.52
9. Suicidal thoughts: i. To kill myself ii. To want to die	 *i. Touye tèt mwen* *ii. Anvi mouri*	0.06 (0.2)	0.33
10. Crying	*Kriye*	1.10 (1.3)	0.68
11. Agitation	*Santi mwen boulvèse*	1.13 (1.1)	0.55
12. Loss of interest i. To lose interest ii. I am not on it	 *i. Pèdi enterese* *ii. M pa sou sa*	2.23 (1.1)	0.33
13. Indecisiveness i. Difficulty making decisions ii. Unable to make a decision	 *i. Difikilte pou pran desizyon* *ii. Pa fouti ka pran yon desizyon*	1.87 (1.3)	0.28
14. Worthlessness	*Santi mwen pa vo anyen*	0.77 (1.1)	0.52
15. Loss of energy	*Pa gen fòs*	1.26 (0.9)	0.64
16. Changes in sleeping	*Dòmi plis/mwens ke dabitid*	1.61 (1.3)	0.24
17. Irritability	*Nève anpil*	0.81 (0.9)	0.44
18. Changes in appetite	*Apeti pi piti/plis ke anvan*	1.71 (1.1)	0.13
19. Concentration difficulties	*Pa ka konsantre*	0.74 (0.9)	0.68
20. Tiredness or fatigue	*Santi mwen twò fatige*	1.19 (0.9)	0.54
21. Loss of interest in sex	*Pa enterese pou fè bagay*	0.81 (0.9)	0.41
Overall scale		**22.94 (12.2)**	**α=0.89**

[a] *Each item on the BDI consists of four statements from which respondents are asked to select the most applicable for them. This table includes the Kreyòl translation for the key phrases that are included in the statements.*
[b] *For Kreyòl items that were adjusted, both the original and new translation are included, along with corresponding English back-translations.*
[c] *The range was 0 – 3 for all items except self-dislike (0-2) and suicidal ideations (0-1).*

Table 1b: Beck Anxiety Inventory (BAI) psychometric properties in pilot testing among rural Haitians (n=27)

Item (English)	Item (Kreyòl)[a]	Mean (Std Dev)[b]	Item-total correlation
1. Numbness or tingling i. Body is stabbing you ii. Cannot feel your hands	*i. Kò'w ap pike'w* *ii. Pa ka santi men ou*	1.63 (1.3)	0.56
2. Feeling hot i. Feel you are hot ii. Feel your body is hot, without it being hot or being sick	*i. Santi ou cho* *ii. Santi kò'w vin cho, san gen chalè deyò ou san ou gen maladi*	1.89 (1.3)	0.72
3. Wobbliness in legs	*Pye ou ap tranble*	1.42 (1.4)	0.80
4. Unable to relax	*Pa ka detann ou*	1.68 (1.3)	0.73
5. Fear of the worst happening	*Pè pou bagay ki pi mal pa rive'w*	1.59 (1.3)	0.59
6. Dizzy or lightheaded	*Gen tèt vire*	2.07 (1.2)	0.71
7. Heart pounding or racing	*Gen batman kè*	1.70 (1.4)	0.58
8. Unsteady	*Ap bite*	1.52 (1.4)	0.72
9. Terrified	*Rive ou pè anpil*	1.35 (1.4)	0.82
10. Nervous	*Rive ou sou presyon*	1.19 (1.3)	0.64
11. Feeling of choking	*Santi w'ap toufe*	1.42 (1.4)	0.69
12. Hands trembling	*Men ou konn ap tranble*	1.36 (1.4)	0.84
13. Shaky	*Tout ko'w konn ap tranble*	0.81 (1.2)	0.68
14. Fear of losing control	*Konn pèdi kontwòl tèt ou*	0.65 (1.1)	0.59
15. Difficulty breathing	*Gen pwoblèm respirasyon*	0.54 (1.0)	0.55
16. Fear of dying	*Pè w'ap mouri anvan tan ou*	0.89 (1.3)	0.32
17. Scared	*Konn kraponnen*	0.96 (1.3)	0.67
18. Indigestion or discomfort in abdomen	*Konn gonfleman*	1.19 (1.3)	0.44
19. Faint	*Santi ou vanse endispoze*	1.00 (1.3)	0.68
20. Face flushed [Item removed from screening tool]	*Visaj ou konn chanje koule*	0.19 (0.7)	0.24
21. Sweating (not due to heat)	*Konn swe san pa gen chalè*	1.08 (1.3)	0.52
Overall scale		**23.07 (18.3)**	**α=0.94**

[a] *For Kreyòl items that were adjusted, both the original and new translation are included, along with corresponding English back-translations.*
[b] *The range for all items was 0 – 3.*

Locally developed screening tools

In developing the idioms of distress screening tool (KDI), we aimed to identify meaningful and locally relevant expressions that seem to fall on the depression-anxiety spectrum. Among the 43 potential items that we discussed with medical and lay

community members, we removed those that referred largely to physical illnesses or were not well understood. During our discussions, we identified additional problems that led us to remove items, including severely stigmatizing terms and idioms that are interpreted in multiple ways. The initial 43 items were narrowed to 17, and after the pilot survey this list was further adjusted to 13 items for reasons described below. See Table 2 for the KDI, with the idioms maintained in the final screening tool indicated.

Table 2: Kreyòl Distress Idiom (KDI) scale psychometric properties in pilot testing among rural Haitians (n=84)

Kreyòl idiom	Literal translation	Most common meanings	Mean (Std Dev)	Item-total correlation
*De la la**	[no equivalent]	Lack of energy	0.75 (1.0)	0.41
*Dekontwole**	Loss of control	Loss of control (temporary)	0.73 (1.1)	0.71
*Kè bat fò**	Pounding heart	Surprise, shock	1.38 (1.2)	0.58
*Kè fè mal**	Heart aches	Sadness, pity	1.60 (1.3)	0.65
Kè piti	Small heart	Hunger, acid reflux		
*Kè sere**	Tight heart	Loss of appetite, sadness	1.19 (1.2)	0.55
*Pèdi bon anj**[a]	To lose one's good angel	Loss of control (longer term)	0.35 (0.9)	0.62
Pèdi bon sans[†]	To lose good sense	Lose one's senses	0.21 (0.5)	0.20
Pèdi fey[†]	To lose one's leaves	Crazy, severe psychosis	0.08 (0.3)	0.08
*Reflechi twòp**	Thinking a lot	Thinking, reflecting too much	2.80 (1.1)	0.53
*Santi m prale**	I think I am going	Fear, especially of dying	0.77 (1.0)	0.61
*Tèt chaje**	Loaded head	Worry, too many things on one's mind	2.07 (1.3)	0.56
*Tèt cho**	Hot head	Socially unacceptable behavior	0.23 (0.8)	0.51
*Tèt fè mal**	Head hurts	Headache/migraine	2.23 (1.1)	0.64
Tèt pa dwat[†]	Head is not right	Going crazy	0.04 (0.2)	0.15
*Tèt pa la**	Head is not there	Forgetful, having many problems	1.15 (1.2)	0.48
Tèt pati[†]	Head is gone	Memory loss, crazy	0.39 (0.9)	0.09
*Tèt vire**	Spinning head	Vertigo, dizziness, weakness	1.34 (1.4)	0.74
Twoub mental	Mental trouble	Lose senses, can't think straight (uncommon term)		
Overall screening tool[b]			**17.02 (9.6)**	**α=0.89**

** Item included in final survey instrument*
[†] Item removed from survey instrument.
[a] Pèdi bon anj literally refers to losing one's good angel, which constitutes part of the soul. This idiom is used to refer to confusion, disorientation, or loss of control.
[b] Cronbach's alpha calculated after 4 problematic items removed

Stigmatizing terms

Four idioms were removed from the 17-item KDI screening tool because they showed a very low correlation with the overall scale ($0.08<r<0.20$) and seemed to be severely stigmatizing. Focus group as well as pilot survey respondents indicated that people will not readily admit to having experienced these items. While some level of stigma might be expected with any mental health evaluation, we wanted to remove the most stigmatizing terms in order to foster an atmosphere of open communication about mild to moderate mental health concerns. While we recognize the potential significance of stigmatizing items to one's experience of mental illness, we feel it would be more appropriate to discuss such concerns in the clinical encounter rather than when completing a standardized screening tool.

Several of the severely stigmatized idioms appeared to indicate a more severe form of mental illness in the realm of psychosis rather than common mental disorders. For example, *pèdi fey* (to lose one's leaves) is a near equivalent of *fou* (crazy) and refers to severe psychosis. Not only is this item conceptually less relevant for our screening tool, but it is also severely stigmatizing. The following conversation provides a commonly heard description of *fou*:

> Respondent: There are a lot of people who suffer from that illness; you can find them in the streets.
> Interviewer: How do you spot them?
> Respondent: By their clothes, their dirtiness, their general state of filth. All that, as well as their language. (Male community leader)

We thus removed items from the screening tool that were reported to be equivalent to or strongly associated with *fou*. Removing these items improved the internal reliability of the scale.

Somatic and multiple interpretations

As stated above, we removed items that represented somatic experiences with a physical cause that did not associate with an emotional or behavioral state. For example, *kè piti* (small heart) refers to hunger or acid reflux, and we rarely heard it explained with its associated cognitive or emotional meanings, such as jealousy. However, identifying idioms with purely physical interpretations was complicated by the fact that some idioms were interpreted differently by different groups. Specifically, clinicians often interpreted idioms to refer to a physical illness or symptom, which differed from the idiom's more common usage.

For instance, clinicians regarded *kè fè mal* (aching heart) as stomach pain or epigastric problems. However, in the community generally, this idiom usually refers to sadness or pity. Clinicians could readily articulate the more common usage of the expression, for example, "'*Kè m fè mal pou li!*' That's to say that she has pity for her child because he's suffering" (Nurse). Nevertheless, during our observation in clinics, we found that medical providers only drew upon the epigastric interpretation whenever the idiom was used in clinical settings and never probed for potential emotional or cognitive disruptions that might account for the patient's presentation. While these different interpretations are potentially problematic in clinical settings if they result in miscommunication, we did not remove any items from the screening tool solely for this reason.

Function assessment

The final items used in the *Kreyòl Function Assessment* for males and females are provided in Table 3. While there is some overlap in tasks between the sexes, a larger proportion of high-frequency items for females referred to family tasks, while for males there were more items in the 'self' category, which largely comprised economic

and production activities. Scores on this screening tool were relatively high, with a mean item score of 2.61 out of 4, which falls between moderate and great difficulty. The vast majority (80%) of survey respondents attributed their difficulty primarily to lack of economic means, with few citing sickness or disability. However, because only one reason was elicited – and economic needs are paramount among this population – these responses do not rule out difficulties associated with physical or mental illness.

Table 3a. Kreyòl Function Assessment (KFA) items and mean scores[a] in pilot testing among rural Haitians – Females (n=45)

Item (English)	Item (Kreyòl)	Mean (Std Dev)
1. Do commerce	*Fè kòmes*	2.86 (0.8)
2. Work the land	*Travay tè*	2.97 (0.8)
3 .Send the children to school	*Voye timoun yo lekòl*	3.07 (0.8)
4. Do services like wash and iron	*Pran sèvis tankou lave, pase*	1.70 (1.1)
5. Clean	*Netwaye*	1.56 (1.1)
6. Take care of your family	*Pran swen fanmi ou*	2.82 (1.0)
7. Give your family food	*Bay fanmi ou manje*	2.76 (0.9)
8. Clean the community	*Netwaye kominote a*	2.74 (1.1)
9. Participate in community activities, like make the road, heads together[b], and community meetings	*Patisipe nan aktivite kominotea, tankou fè wout, tèt ansanm, reyinyon kominotea*	2.61 (0.9)
Overall screening tool – mean across items[a]		2.53 (0.59)

[a] *Because participants had the option to respond "I do not do that activity," scores for the function assessment were generally based on fewer than 9 items. Too few participants responded to all items on the function assessment to calculate Cronbach's α or item-total correlations accurately. Also for this reason, summary statistics for the overall screening tool represent mean scores for all items completed, rather than a summative score.*

[b] *Tèt ansanm is a form of community support, in which people gather to help someone accomplish an activity that requires many people. Rather than receiving compensation, community members can expect those they help to return in kind when they later require the help of neighbors.*

Table 3b. Kreyòl Function Assessment (KFA) items and mean scores in pilot testing among rural Haitians – Males (n=52)

Item (English)	Item (Kreyòl)	Mean (Std Dev)
1. Work/job	*Travay*	3.03 (0.6)
2. Do commerce	*Fè kòmes*	3.23 (0.6)
3. Work the land	*Travay la tè*	2.92 (0.7)
4. Farm cattle	*Fè elvaj*	2.48 (0.8)
5. Send the children to school	*Voye timoun yo lekòl*	2.80 (1.0)
6. Give your family food	*Bay fanmi ou manje*	2.94 (0.6)
7. Support your family	*Soutni fanmi ou*	2.92 (0.7)
8. Heads together[b]	*Tèt ansanm*	2.38 (1.3)
9. Plant trees for reforestation	*Plante pyebwa rebwazman*	1.62 (1.2)
Overall screening tool – mean across items[a]		2.69 (0.51)

Comparison of screening tools

Correlations between the adapted instruments and the idioms of distress tool were moderate and positive (BDI: r=0.34, p=0.07; BAI: r=0.61, p<0.05, see Table 4). The BDI correlated more strongly with the function assessment (r=0.38, p<0.05) than did the KDI (r=0.23, p<0.05), and the BAI did not appear to be significantly correlated with the function assessment.

Table 4. Pearson correlations among screening tools in pilot testing among rural Haitians

Screening tool Correlation (r), p-value, N	KDI	KFA
Beck Depression Inventory*	r = 0.34, p=0.07 N=29	r = 0.38, p<0.05 N=31
Beck Anxiety Inventory*	r = 0.61, p<0.05 N=24	r = 0.20, p=0.28 N=30
Kreyòl Distress Idioms		r = 0.23, p<0.05 N=84

**No participants took both the BDI and BAI, so the correlation could not be calculated between these screening tools*

Discussion

To improve screening and intervention evaluation of mental health in central Haiti, my research team and I conducted transcultural translation of the Beck Depression Inventory and Beck Anxiety Inventory. We also locally developed an inventory of idioms of distress (the Kreyòl Distress Idioms scale) and a function assessment tool (the Kreyòl Function Assessment scale). From the qualitative transcultural translation process, we found that items on the BDI and BAI were not equivalent to original English language items due to lack of specificity, interpersonal interpretation, or conceptual non-equivalence. We also found that level of stigmatization of specific terms and idioms precluded accurate assessment of mental health needs. In addition, we found that differential interpretation of somatic idioms impacted endorsement of physical complaints for mental health screening.

All screening tools achieved high internal reliability (0.89 to 0.94), suggesting locally relevant consistency among the type of questions asked. Sample size was too small to conduct factor analysis of these results to identify potential symptom groupings within the instruments. The adapted screening tools and locally developed idioms of distress tool were moderately positively correlated, suggesting that they are tapping into related or overlapping experiences. Compared to the BDI, the BAI correlates more strongly with the KDI, suggesting that the idioms screening tool assesses anxiety-related experiences moreso than depressive symptoms. However, the BDI was more strongly correlated with the function assessment than either the BAI or KDI, suggesting that depressive symptoms are more associated with poor functional outcomes. The overall low correlations of screening tools with the function assessment might be due to the high levels of difficulty reported as being due to non-health related challenges. With a larger sample, it might be possible to distinguish health and disability related impairment, rather than economic difficulty.

Compared to the BDI and BAI ($\bar{x}$ = 23), mean scores on the idioms of distress screening tool were lower ($\bar{x}$ = 17), even though the range of potential scores were higher. While sensitivity and specificity were not evaluated, greater mean scores on the BDI and BAI compared to the KDI may reflect greater sensitivity of the former instruments and greater specificity on the KDI. If so, a combination of the idioms and function instruments would potentially provide a more useful means of identifying those in most need of care. This would result in fewer false positives that could result from inflation of scores on the BDI and BAI due to high burden of somatic complaints in the population, a phenomenon that has been observed in other rural impoverished settings with limited biomedical health care (Kohrt, et al. 2005; Kohrt, et al. 2007). However, additional data collection would be needed to test this hypothesis. If support were found for this hypothesis, it would reinforce the benefits of an integrated approach, as the idioms screening tool is perhaps more discriminant of locally-meaningful suffering, while the BDI and BAI provide more internationally-recognized measures that can garner greater funding and attention, as well as complement depression and anxiety directed treatment programs (Kohrt, et al. 2011b; WHO 2008).

In this context of working to expand healthcare provision to include mental health care, several important lessons can be taken from the process of adapting and developing screening tools. It has been argued that an essential component of identifying those in need of care is differentiating what are locally considered to be normal experiences or behaviors, such as communicating with ancestors, from potential mental illness (Azaunce 1995; Good, et al. 2007; Miller 2000; WHO/PAHO 2010). Our findings indicate that included in this process should be a delineation of atypical physical symptoms and interpersonal interactions. Direct translation of screening tools would have assessed a combination of both typical and atypical experiences. While adapting screening tools enables us to remove items that represent everyday or acceptable

occurrences, locally developing instruments provides a complementary approach to identifying signs and outcomes that indicate impairment.

As has been reported elsewhere (WHO/PAHO 2010), the notion of external causation associated with sent illnesses works to diminish potential stigma towards persons with mental illness in Haiti. Indeed, our informants reported that it is primarily more educated Haitians who believe there is something organically wrong with a mentally ill person, with the majority of rural Haitians attributing experiences to a curse or spirit possession. Thus, attempts to incorporate Western notions of causation, manifestations, and experiences with mental illness would potentially introduce stigma and cause harm to those suffering from mental distress. Instead, understanding and building upon existing notions and terminology around mental illness provides a more sensitive and ultimately effective foundation for care.

However, it is also important to recognize which local illness categories are likewise stigmatizing, which we found to be important in the development of our idioms of distress screening tool. Because stigma might be attributable less to symptoms and more to functional impairment – as individuals cease to contribute productively to the family (WHO/PAHO 2010) – it becomes all the more important to assess impacts such as functional impairment. It must also be recognized that concepts of the person and mental illness are bound with notions of appropriate care, which in Haiti largely depend on traditional healers and religious leaders (Desrosiers and St Fleurose 2002; Kirmayer 2007; Kleinman 1988; Kohrt and Hruschka 2010). As a complement to understanding how mental illness is conceptualized, appropriate mental health provision should build upon existing systems of care: “Clinicians must avoid an ‘either/or’ stance that forces patients to choose between biomedicine and traditional healing” (WHO/PAHO 2010).

Several shortcomings of this study have already been mentioned, including insufficient sample size to conduct factor analysis. In addition, the research team did not

have a strong enough familiarity with Kreyòl to conduct interviews, focus group discussions, and screening tool adjustments on their own. While we employed research assistants with a strong grasp of the Kreyòl language and the interpretations of idioms of distress, their relative lack of familiarity with mental illness and the general limitations of having interviews conducted through a translator might have led to miscommunication that could have been avoided had we been fluent in Kreyòl. Additionally, despite our attempts to remove less understood terms from the idioms of distress screening tool, there is always a degree of ambiguity inherent in the terms themselves. Likewise, these terms have regional variations, and we caution against applying these screening tools in other settings within Haiti without first confirming equivalence of items across contexts. It would be inappropriate to assume that there are single monolithic interpretations for these idioms of distress. They will vary by region, education, gender, and context of use. Practitioners and researchers in Haiti may encounter different interpretations; therefore it is important to further explore the psychosocial implications of idioms with individuals and their families. Forthcoming data collection will enable factor analysis among screening tools, as well as analysis of risk factors associated with symptoms of mental ill-health and functional impairment in the Central Plateau.

Conclusion

Identifying appropriate means for communication and measurement regarding mental health are key first steps for research and interventions in global mental health. This chapter describes efforts to address shortcomings in mental health assessment and care through a combination of culturally adapted and locally developed screening tools. The resulting measures provide both data that are comparable with other settings, as well as locally valid and comprehensible. Without these efforts to develop appropriate instruments, attempts at screening would have captured a combination of atypical

suffering, as well as everyday phenomena, irrelevant experiences, and potential psychotic symptoms. Together, these instruments can more appropriately identify those in need of care by providing ethnographically valid measures of locally salient symptoms of distress and their negative sequelae.

However, development of appropriate measurement tools in isolation of evaluating systems of care is inadequate and potentially harmful. Despite attempts to improve validity and local relevance of screening tools, there remain larger problems beyond lack of comprehension. During our observant participation in one mobile clinic, we witnessed an American doctor telling a patient Rose (pseudonym) that she (the patient) was “depressed” (*ou gen depresyon*) and should report to the clinic about her “depression.” Even if Rose understood the term that the doctor applied to account for her sadness, crying, lack of appetite, and inability to sleep, there is little that could be done for her. If she reported to the clinic doctor as recommended, the doctor would be unable to diagnose Rose. In fact, as the doctor explained to us, she probably would not attempt a diagnosis due to lack of adequate training or the possibility of referral. Even if Rose were to be diagnosed with depression, there are no biomedical services available short of sending her to Port-au-Prince. Thus, after her hypothetical consultation, she would likely be ultimately advised to continue seeing the priest or *hougan* (Vodou priest), as she had already been doing. In short, the problems of treating experiences of mental distress in the rural Haitian context extend beyond linguistic and ontological challenges to accurate screening. Ultimately, projects to develop locally valid screening tools need to be conducted alongside efforts to build upon local knowledge and understanding while exploring avenues to strengthen local resources for care provision. In this way, efforts that combine attention to meaning and structural violence are key.

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Chapter 2: *Reflechi twòp* – Thinking too much:

Description of a cultural syndrome in Haiti's Central Plateau

ABSTRACT**:**

Idioms of distress provide a promising avenue for exploring the interactions of systems of meaning-making and structural violence. A rich literature details Haitian ethnopsychology, explanatory models of illness, and forms of structural violence, all of which are relevant for understanding the complex meanings of idioms of distress. However, little research has engaged explicitly with idioms of distress in this context, and more work is needed in characterizing forms and communication of mental distress. Working in Haiti's Central Plateau, I aimed to identify idioms of distress that represent cultural syndromes. I used ethnographic and epidemiologic methods to explore the idiom of distress *reflechi twòp* ("thinking too much"). This syndrome is characterized by troubled rumination at the intersection of sadness, severe mental disorder, suicide, and social and structural hardship. Persons with "thinking too much" have greater scores on the culturally adapted Beck Depression Inventory and Beck Anxiety Inventory. "Thinking too much" is associated with 8 times greater odds of suicidal ideation, and untreated "thinking too much" is sometimes perceived to lead to psychosis. Recognizing and understanding "thinking too much" may allow early clinical recognition and interventions to reduce long-term psychosocial suffering in Haiti's Central Plateau. Participants drew explicit links between *reflechi twòp* and socioeconomic realities that shape life possibilities, suggesting that considerations of structural violence are likewise central to understanding this idiom. This chapter contributes to anthropological literature regarding idioms of distress and Haitian scholarship regarding illness models and structural violence.

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Introduction

Existing literature on Haitian ethnopsychology provides rich detail on Vodou explanatory models, concepts of personhood, and the place of persons in the universe of the natural, social, ancestral, and spiritual (Brodwin 1996; Kiev 1961; Sterlin 2006). At the same time, when work on Haitian ethnopsychology explicitly engages mental health, it is most often through reference to *fou* (madness), a term that mental health practitioners often liken to schizophrenia and other psychoses (Desrosiers and St Fleurose 2002). Potential milder forms of mental distress and everyday suffering have not been adequately explored, despite ethnographic evidence of mild to moderate mental health disorders in Haiti (Khoury, et al. 2012), as well as epidemiologic evidence of a high burden of common mental disorders in low- and middle-income countries (Collins, et al. 2011; WHO 2008a). One of the primary challenges in exploring mental distress in Haiti is limited research that identifies and describes appropriate language with which to do so. Indeed, the French term *santé mentale* (mental health) appears to have no widely understood equivalent in Kreyòl.

One way to engage locally salient forms of mental suffering is through exploring local explanations of distress, including idioms of distress (Hinton and Lewis-Fernández 2010; Kohrt and Hruschka 2010). Such idioms can prove equally or more useful than psychiatric categories in the identification of those suffering from mental illness (Bolton 2001; Kohrt and Harper 2008; Kohrt, et al. 2004). In this chapter, I explore the anthropological concept of idioms of distress and explore the example of “thinking too much” as an idiom that can both benefit mental healthcare communication in Haiti and provide insight into experiences and commentaries of structural violence.

Anthropological engagement with idioms of distress

Concepts like “idioms of distress” have been of interest to anthropologists, cross-cultural psychologists, and transcultural psychiatrists for decades, though the terminology used to describe them has changed. The categories of experience and suffering that these various terms attempt to capture, which Charles Hughes describes as occupying “a kind of ‘twilight zone’ of psychiatric phenomena” (Hughes 1985:3), are conceptually useful examples of constructs that are of interest to anthropology broadly, such as the interplay of biology and culture in shaping experience, the universality of phenomena like mental disorders, and the role of culturally specific meaning for shaping experience (Hughes 1985). Additionally, examining these phenomena from a critical perspective sheds light on ways that structural violence is experienced, communicated, and resisted.

Much of this literature uses the term “culture bound syndromes,” with some of the most studied including *latah, amok, koro, ataque de nervios,* and *susto* (Carr 1985; Guarnaccia 1993; Murphy 1973; Oths 1999; Rubel 1964; Rubel, et al. 1984; Yap 1963; Yap 1965). Scholars have criticized the term culture bound syndromes for several reasons (cf. Simons and Hughes 1985), including that such sets of behaviors can be found across settings, rather than being “bound” to a particular cultural setting (Hughes 1985). Indeed, I will explore to what extent this is the case for “thinking too much.” Additionally, the term culture bound syndrome implies that psychiatric diagnoses captured in the DSM are not equally shaped by culture, though such cultural influence is well-established within psychological anthropology (Simons and Hughes 1985).

Another critique of the term culture bound syndrome is that many of the behavioral patterns and means of expressing distress that are typically referred to by culture bound syndrome labels do not in fact represent syndromes – defined as “a correlated, co-occurring set of symptoms with a specific course and outcome” (Kirmayer

and Blake 2009:39). Instead, these expressions might refer to causes of suffering or symptoms, or even communicate broader forms of distress: “The degree to which an idiom of distress is understood and experienced as actual symptoms or used metaphorically as a conventional idiom may vary among individuals in a specific cultural context, and for the same individual across different settings” (Kirmayer and Blake 2009:39).

In response to such critiques, newer terms such as “idioms of distress” or “cultural concepts of distress” have largely been adopted by scholars and are included in the DSM (American Psychiatric Association 2013; Kohrt, et al. 2014; Nichter 1981; Nichter 2010). In his call for a research agenda explicitly focused on idioms of distress, Nichter (1981) puts forward a construct that addresses many of the critiques raised against scholarship on culture bound syndromes. For example, he moves away from a focus on disease categories, calling for attention to expressions of distress as means of communication that do not necessarily indicate psychopathology:

> “In some cases, idioms of distress are culturally and interpersonally effective ways of expressing and coping with distress, and in other cases, they are indicative of psychopathological states that undermine individual and collective states of well-being. When experienced along with significant pathology, idioms of distress express personal and interpersonal distress beyond that associated with universal disease processes” (Nichter 2010:405).

Idioms of distress can thus function as a means of expressing non-pathological, widely varied forms or causes of suffering – such as relationship conflict or structural violence – through either literal or metaphorical reference to bodily experiences like “nerves” (Low 1994; Nichter 2010). Similarly, as Nichter describes, idioms of distress can reference experiences that range from mildly stressful to incapacitating, disrupting normal social and economic functioning. Furthermore, while similar concepts like culture bound syndromes or cultural syndromes imply a fairly rigid set of experiences and culturally appropriate coping, idioms of distress are explicitly understood to be “often fragmentary,

tentative, and even contradictory" (Kirmayer and Young 1998:424). Similarly, rather than a static form of distress, the referent of an idiom of distress can change over time (De Jong and Reis 2010).

Idioms of distress in cultural context

When global health practitioners draw on idioms of distress, it is often to improve clinical communication and treatment provision. For example, Kohrt and Hruschka (2010) examine how terminology adopted by mental healthcare providers for communicating trauma-related distress can in fact *produce* distress among individuals in Nepal by perpetuating stigma. In contrast, situating trauma communication within Nepali ethnopsychology can not only improve communication but also reduce the potential for harm by ignoring local moral worlds. This is an example of how, for anthropologists, much of the value of idioms of distress derives from the way they reflect notions of personhood, local moral worlds, and participants' engagement with social change and struggle. It is such contextual embedding that lends idioms of distress their communicative power: "To fail to ask why *susto* exists as a concept is to extract the illness from its sociocultural context and, especially if it has psychosocial components, to lose its significance as a culture bound syndrome for the population which suffers it" (Crandon 1983:154). For example, in her examination of *pensando mucho* ("thinking too much") in Nicaragua, Yarris (2014) found that the idiom communicates a certain moral ambivalence in the context of transformed social lives. Yarris's broader study (2011a) explored experiences of grandmothers caring for their migrant daughters' children. While on the one hand appreciative of economic remittances, grandmothers nevertheless struggled with both persistent worry regarding daughters' safety, as well as feelings of abandonment, feeling the remittances were "morally insufficient to make up for mothers' absences" (Yarris 2014). Ultimately, their experiences of "thinking too much" and its

embodiment as *dolor de celebro* (brainache) reflect failure to achieve moral ideals of unity and solidarity within the family. These idioms of distress should thus not be considered as solely references to bodily aches or general psychological distress but as indexing a broader struggle to achieve moral goods while adapting to changing life worlds.

Beyond recognizing the centrality of socio-cultural context for understanding idioms of distress, some scholars emphasize the specifically metaphorical nature of idioms of distress. Rather than referencing “just any” culturally influenced form or expression of distress, an idiom of distress is specifically that which “derives its legitimacy from its shared metaphors, meaning and understanding in a group” (De Jong and Reis:302; Kirmayer 1989). In other words, an idiom of distress indexes suffering that cannot effectively be communicated otherwise within existing cultural structures and norms. In this way, idioms of distress are a powerful example of the importance of attending to cultural meaning as a central component in shaping, interpreting, and communicating experience. For example, de Jong and Reis (2010) describe the sudden rise in Guinea Bissau of the phenomenon of *kiyang-yang*, dissociative episodes of running around experienced by those called by the god Nhaala. The authors explore how this idiom of distress provides a legitimate means of communicating collective suffering brought about by war-related trauma and structural violence, particularly precarious social positioning due to gender and ethnicity. They argue that the structural problems and social tensions expressed by *kiyang-yang* could not effectively be communicated via other means.

Other anthropologists have specifically critiqued psychiatrists and public health practitioners for ignoring this broader context and meaning of idioms of distress, instead conflating them with psychiatric categories (Abramowitz 2010; Sakti 2013). Abramowitz presents an example of humanitarian organizations reducing a Liberian cultural

syndrome (*open mole*) to psychiatric phenomena like PTSD, largely because such biomedical categories more readily fit their epistemology. In this process of translation, organizations ultimately invalidated the narratives of suffering and loss that were being experienced and communicated as *open mole*. Similarly, Sakti (Sakti) describes that biomedical practitioners in Timor-Leste often interpret *hanoin barak* ("thinking too much") as a response to trauma, in particular the 1999 Passabe massacre. However, she argues that this idiom must be understood in the context of local linguistic and moral worlds. In her ethnographic study, she finds that "thinking too much" is in fact driven by the disruption of typical channels of communication and reconciliation among closely related kin groups, which produces ongoing social rupture. In each of these cases, anthropologists' extended examination of idioms of distress in socio-cultural and political perspective reveal the broader significance that is being communicated, yet is potentially missed, invalidated, or even exploited by outsiders through the adoption of narrower psychiatric interpretations.

Idioms of distress in global mental health interventions

Recognizing that idioms of distress communicate largely metaphorically within a historically and socio-politically situated framework, how – if at all – can they be incorporated into communication within global mental health interventions? The examples above from Abramowitz and Sakti demonstrate how misappropriation of idioms of distress can cause misunderstanding and potential harm. At the same time, effective incorporation of idioms of distress into measurement, communication, and care provision can improve understanding of suffering and its similarities and differences to the psychiatric categories that typically underlie interventions. For example, in Sri Lanka, idioms of distress predicted functional impairment above and beyond a PTSD scale and depression inventory (Jayawickreme, et al. 2012). In Tanzania, "thinking too much," as

well as other local idioms of distress, showed similar grouping patterns as Western biomedical screening tools (Kaaya, et al. 2010).

Beyond identifying idioms of distress and exploring their overlap or divergence with Western categories of mental illness, investigators have successfully incorporated them into therapeutic screening and program design. Among Cambodian refugees, effective therapies have been developed that target both PTSD diagnostic symptoms and culturally-meaningful experiences of orthostatic panic and *khyâl* attacks (Hinton, et al. 2005; Hinton, et al. 2008). Furthermore, "on-the-ground" interventions that combine both Western-based forms of trauma therapy and indigenous healing systems have resonated strongly with victims of war and displacement (Stepakoff, et al. 2006).

Idioms that represent a locally meaningful collection of symptoms, or a cultural syndrome, might prove to be particularly powerful as communicative tools for identification and treatment of mental disorders (Hinton, et al. 2010). Examples of cultural syndromes include *yadargaa*, a fatigue-related illness found in Mongolia (Kohrt, et al. 2004) and *umushiha*, which denotes extreme and persistent irritability in Rwanda (Betancourt, et al. 2011). At the same time, care must be taken not to assume equivalence with biomedical categories or to displace such syndromes with psychiatric terminology (Abramowitz 2010; De Jong and Reis 2010).

In this way, ethnographic research can be particularly informative because it facilitates the identification of idioms of distress that recognizes their complex meaning and socio-politically situated nature, while also attending to local notions of etiology, recognition, and response that might inform care when these forms of suffering can be considered pathological (Hinton and Lewis-Fernández 2010; Kohrt and Hruschka 2010; Nichter 1981; Rubel 1964). Prior research in Haiti has identified several "illness syndromes" with clearly delineated and recognizable symptoms, including *pedisyon* (arrested pregnancy), *move san* (bad blood), and *sezisman* (seized-up-ness) (Coreil, et

al. 1996; Farmer 1988; Mazzeo and Hoover 2010). These idioms of distress are often seen to occur in response to traumatic events or failure to meet cultural ideals such as reproduction, Yet, little work has explored idioms of distress that express mental distress in Haiti (Keys, et al. 2012).

This chapter addresses the gap in Haitian ethnopsychology, providing an initial description of the idiom of distress "thinking too much" and exploring how it reflects broader structural tensions and moral ideals. I also consider how "thinking too much" as a potential cultural syndrome can inform clinical communication and care provision. "Thinking too much" has been described in over 130 studies across many cultural settings and world regions as a common way of expressing mental distress (Kaiser, et al. in review). I compare my findings in Haiti to other idioms for "thinking too much" used in various contexts, as well as identifying cross-cultural similarities and differences in expression of mental distress that may highlight potential routes for intervention. I address the relevance of "thinking too much" for care providers and argue that this idiom of distress provides an important space for early recognition and intervention to limit long-term psychosocial suffering.

Methods

Like chapter 1, this chapter draws on an ethnographic study of perceptions of and provisions for mental illness conducted in the summer of 2010 in Haiti's Central Plateau. Methods included participant observation, semi-structured interviews, focus group discussions, observant participation of clinical practitioners, cognitive ethnographic techniques, and case studies of persons locally identified as suffering from mental illness (Kaiser, et al. 2013; Keys, et al. 2012; Khoury, et al. 2012). We identified a number of what Hinton and Lewis-Fernández (2010) refer to as idioms of overall "life distress" or "psychosocial functioning," which indicate impaired social or work functioning

(Kaiser, et al. 2013; Keys, et al. 2012). These idioms are linked to Haitian ethnopsychology and were developed into a local screening tool, as described in the previous chapter (Kaiser, et al. 2013; Keys, et al. 2012). In the current analysis, I examine the individual idiom *reflechi twòp* (thinking too much).

Qualitative data collection and analysis

Qualitative data collection included interviews, focus group discussions, and participant observation. Thirty-one semi-structured interviews were conducted with traditional healers, clinicians, religious leaders, municipal figures, and other community members. Individuals were selected through purposive sampling of those who interact with and provide support to a wide range of individuals, as well as through referrals from other community members. Interviews ranged from 30 to 120 minutes and were audio recorded. Focus groups with community members inquired about resources and needs in the community, perceptions of mental illness, and idioms of distress. Two clinically-trained researchers shadowed clinicians and one psychologist at a primary care clinic, mobile clinics, and during home visits with patients. Patient-clinician interactions were observed, and field notes were taken regarding history and presentation, language and terminology used by patient and provider, and treatment decisions made by the clinician. Four persons identified by community leaders as suffering from mental illness (typically *fou*) served as case studies. Each case study participant was observed in their daily activities and interviewed several times during the period of observation. Field notes were taken by co-investigators, and selected interviews were audio recorded. A follow-up study was conducted in the summer of 2011 that included the same qualitative methods. These follow-up data were not coded and analyzed exhaustively, but a small number of representative examples are provided here to complement the 2010 data.

MaxQDA10 was used for coding and to facilitate analysis (VERBI 1989-2010). To identify qualitative data analyzed in this paper, text segments were retrieved if they were coded for “thinking too much” (as a local symptom of mental illness) or sitting and thinking (as a cause of mental illness). To locate text segments referring to “thinking too much” that were potentially not included in these two codes, lexical searches were performed for thinking, *kalkile*, *kalkilasyon*, *reflechi*, and reflect. These text segments were analyzed for characterizations, causes, outcomes, and broader context of “thinking too much.”

When discussing “thinking too much,” participants used a variety of terms, even using multiple of them interchangeably within a single description. These terms include *maladi kalkilasyon* (calculation sickness)*, reflechi twòp* (thinking too much)*, kalkile twòp* (calculating too much)*,* and *egzamine* (examining). Although participants often alternated among these terms in their descriptions, *reflechi twòp* was the term used most often by informants. Additionally, terms such as *kalkile* refer to thinking in the sense of “figuring out” or “resolving.” Because “thinking too much” as a syndrome is instead marked by thinking without finding solutions, as discussed below, we prefer the term *reflechi twòp*, which translates to “mulling over,” “ruminating,” or “reflecting.” Throughout the chapter, I use the term “thinking too much” to refer to the English equivalent of the syndrome and include the exact Kreyòl phrase used by participants when possible.

Quantitative data collection and analysis

As described in the previous chapter, we drew upon our ethnographic findings (Keys, et al. 2012; Khoury, et al. 2012) to culturally adapt two screening tools (Beck Depression Inventory [BDI] and Beck Anxiety Inventory [BAI]) and locally develop two screening tools (Kreyòl Distress Idioms [KDI] and Kreyòl Function Assessment [KFA]) (Kaiser, et al. 2013). We used a series of focus group discussions to culturally adapt

measures of depression and anxiety, in order to ensure that concepts were comprehensible, acceptable, and relevant, using a standardized method for transcultural translation (van Ommeren, et al. 1999). The KDI was developed iteratively, by identifying potentially salient idioms of distress through the qualitative methods described above, exploring these idioms in two focus group discussions, pilot-testing a 17-item scale with a sample of 98 individuals, and removing poorly-understood or potentially stigmatizing items. See Table 1 for the final 13 items used in the screening tool. When used in conjunction with culturally adapted screening tools, the idioms of distress screening tool correlated strongly with symptoms of anxiety but appeared to constitute more commonly-used expressions of mental distress than the adapted tools (Kaiser, et al. 2013). The KFA was developed through free listing of sex-specific daily tasks that people must do to support themselves, their family, and their community (Bolton and Tang 2002). See chapter 1 for a more detailed description of the development of these screening tools.

Table 1: Items from Kreyòl Distress Idioms screening tool

Idiom of distress	Literal translation	Approximate meaning
Dekontwole	Loss of control	Loss of control, weakness, feeling overwhelmed
De la la	[No equivalent]	Lack of energy, fatigue, depressed mood
Kè bat fò	Heart beating strong	Racing heartbeat, surprise
Kè fè mal	Heart hurts	Sadness, pity, epigastric pain (reflux)
Kè sere	Tight/bound heart	Shock, sadness, pity
Pèdi bon anj	Lost good angel	Enervating spirit briefly departs body, loss of control, weakness, vulnerability
Reflechi twòp	Thinking too much	Persistent rumination, diminished affect, social isolation
Santi m prale	“I think I am going”	Thoughts of death, fear, dread, feeling overwhelmed
Tèt chaje	Loaded head	Worry, preoccupation, feeling overwhelmed but still in control
Tèt cho	Hot head	Being “on edge”, nerve-wracking, reactive
Tèt fè mal	Head hurts	Headache, variety of physical or non-physical causes
Tèt pa la	Head not there	Forgetfulness, absent-mindedness, poor concentration
Tèt vire	Spinning head	Dizziness, vertigo, unusual behavior

We applied the four instruments in a 408-person epidemiologic survey in the Lahoye region of Haiti's Central Plateau. The cross-sectional household survey took place between May and June 2011. Participants were identified through a modified version of the WHO "random walk" protocol (WHO 1991). Data were collected in 13 of the 17 zones of Lahoye, with the other zones considered too dangerous to access during the rainy season. Household identification began from the locally recognized center of the zone, then proceeding in opposite directions and visiting each *lakou* (household compound) encountered. Data are not available regarding the age structure of the Central Plateau, so research assistants selected participants by rotating among age categories: 18-30, 31-50, or 50+. Additionally, research assistants alternated by sex. Surveys were double-entered into Excel and crosschecked for consistency. See Wagenaar et al. (2012; 2013) for complete description of survey methods.

To explore the structure of the Kreyòl Distress Idioms (KDI) instrument, I performed principal components analysis (PCA) with the 13 screening tool items (Kaiser, et al. in press). PCA was performed using the correlation matrix, with principal components extraction and Promax rotation. Kaiser's rule was used to select components, with those having an eigenvalue of approximately 1.0 or greater retained. Variables were considered to load on a component if they had a factor loading of 0.4 or greater.

One item on the KDI was "thinking too much," which was analyzed as both a continuous variable (0-4) and as a dichotomous variable, comparing either endorsers/non-endorsers or those who endorsed low/no experience of "thinking too much" (0-1) and those who endorsed a higher level of experience (2-4). Correlations between "thinking too much" scores and BDI and BAI scores, as well as suicidal ideation – all treated as continuous variables – were evaluated using Spearman correlation coefficients. Spearman coefficients were chosen due to lack of normality of the

distribution of “thinking too much” continuous scores. T-tests were used to assess significant differences in BDI and BAI mean scores between endorsers and non-endorsers of “thinking too much,” as well as between those who endorsed low/no experience of the idiom and those who endorsed higher level of experience.

Results

I begin by presenting one participant’s experience of “thinking too much,” followed by a description of the idiom’s characterization, causation, links to severe mental disorder, and proposed solutions. I then examine associations of “thinking too much” with our culturally-adapted measures of depression and anxiety.

Case study: Elana[1]

Elana, a 43-year-old unmarried female, was suggested as a case study participant by a community member because she sought treatment from physicians, *hougan*-s (Vodou priests), and priests and pastors when she suffered from severe auditory hallucinations and paranoia. Elana’s family took her to a hospital in Port-au-Prince when she stopped eating for several days, stating that a voice was commanding her to do so. When physicians could not help her, the family turned to *hougan*-s and Catholic priests for a solution. Despite short-term improvement, Elana continues to experience symptom relapse. She often experiences headaches from “thinking too much,” particularly about her future and that she is back living at home. Unlike Elana’s sister and neighbors, who attribute her sickness to spirits, Elena and her mother think that the continued problems are caused by her “sitting and thinking.” Prior to her first illness episode, Elana had received a nursing diploma, and her mother believes that her current distress is caused by ruminating about not living up to her potential. Elana

[1] All names used in this dissertation are pseudonyms.

explains that she tries to create activities to occupy her time so that she does not sit idly and "think too much."

Elana's story highlights several of the key characteristics of "thinking too much" that were described by participants, including incessant rumination on a singular problem, somatic symptoms such as headache and changes in eating, and potential links to more severe mental illness. At the same time, Elana's case is unique in that her experience with severe mental illness – widely described in the community as *fou* (madness) – arose due to an unknown cause and subsequently resulted in her experience of "thinking too much."

It is noteworthy that explanations of causation diverged between neighbors and family members. Those in the community attributed her condition to spirits, while her mother explained that she suffered from personal setbacks in not achieving her goals. As I will discuss below, this speaks to the larger political economy of moral labeling associated with spirit attacks, in that those suffering from mental distress may feel it necessary to dispel suspicion of being guilty for provoking a spirit attack. Conversely, attribution to spirits may serve as a means to displace blame for persistent mental illness by assigning the etiology to forces beyond one's control, as opposed to an "innate" attribute. Additionally, for Elana, "thinking too much" appeared to be more an end-result, rather than the cause, of her troubling condition. Her story illustrates how "thinking too much" and severe mental illness are sometimes linked.

Characterization and recognition

"All of their time is occupied by thinking." – Jozèt, community member

Among participants, characterizations of "thinking too much" shared certain elements. Some of these core elements can occur in everyday experiences, but participants provided several indicators that demarcate when *reflechi* (thinking) becomes

abnormal *reflechi twòp* (“thinking too much”). As the term suggests, the central feature of “thinking too much” is persistent rumination, to the point of seeming detached or far away. While someone who does not have *reflechi twòp* can seem distracted, with their mind elsewhere, it is only considered abnormal if someone thinks and worries “totally,” “very often,” or “without ceasing”: “Someone who worries continuously, that’s a mental problem” (Social worker).

In addition to the extent of rumination, the characterization of “thinking too much” also depends on the subject of one’s thoughts, in particular an unwavering focus on a singular problem. For example, loss of a family member is expected to provoke thinking and reflection, and in such a case these behaviors are seen as both quite expected and time-delimited. In clarifying why such an example does not represent “thinking too much,” one teacher remarked that loss of a family member represents a “separation problem” rather than *maladi kalkilasyon* (calculation sickness). Instead, “thinking too much” occurs when someone ruminates on a particular problem, only able to focus on that one issue and often becoming tormented by it. Importantly, “thinking too much” is characterized by thinking that is *not* directed toward a solution, as one social worker explained:

> But when we say “*l’ap reflechi*” (he/she is thinking), it’s not in the sense of resolving a problem. It’s not that the person is in the midst of thinking in a scientific way. It’s someone who has a problem that torments them. Now at each instant they’re thinking of this problem, you see.

Participants indicated that “thinking too much” can be easily recognized when someone isolates from others, sitting in solitude, thinking. In fact, references to “thinking too much” were often phrased as “sitting and thinking” by informants. One member of a local protestant church explained, “It’s easy to see when someone is in a situation like this, because they will just stay by themselves. They won’t take company with anyone. He is thinking, pondering. It’s easy to see.” In addition to isolating themselves, people

with “thinking too much” can be identified if they become unusually quiet. In fact, one respondent explained that “sitting in silence” is what differentiates someone with “thinking too much” from those with other mental problems, such as *fou* and *tèt cho* (aberrant social behavior). Referring to people who are *egzamine* (examining), a pastor explained, “If you do not make them speak, they will not speak. [In contrast] those who are *tèt cho*, they empty their speech. You cannot understand what they are saying.”

A number of informants identified potential consequences of “thinking too much” as weight loss and trouble sleeping. People who are “thinking too much” are described as remaining distant and deep in thought instead of eating. Weight loss was listed as another possible sign to identify someone as “thinking too much.” In addition, one who is “thinking too much” often continues ruminating at night, thus having trouble sleeping:

> The word “*reflechi*” in Kreyol has different meanings. You can say, “Ah! *M’ap reflechi, m’ap kalkile*! [I’m thinking, I’m calculating]” Which is to say, someone has a problem, thinks about their problem, but doesn’t think about ways to solve the problem, just thinking about their bad situation. “Well! He doesn’t even sleep! *L’ap reflechi*!” [He’s thinking] OK? “He doesn’t eat, *l’ap reflechi*!” He starts getting skinny because “*l’ap reflechi*.” It’s all to say that he’s thinking too much about his situation. (Social worker)

As described below, these initial consequences are sometimes thought to lead to more extensive or prolonged illness.

Causation

“Bad thinking, calculating, you have work to do in front of you and you have nothing in front of you to be able to do it. You are not capable. All day I calculate; I want to do it, but I am not capable.” – Jonel, community member

Respondents indicated that many things can cause “thinking too much,” including economic, health, and broader structural factors. In particular, concerns over money – having “nothing in one’s pocket” – and lack of food were commonly named causes. When a landlord is seeking payment for a house or one’s children are going hungry, one can easily become fixated on the problem of how to feed and care for one’s family.

These situations are often tied to external factors, such as losing a job or failed crops. Beyond the material impacts, participants explained that "thinking too much" is driven by the fact that, when these losses occur, one can no longer achieve their goals, which is often a source of shame. This etiology is clearly demonstrated by Elana's case, as she "sits and thinks" about her lack of ability to live up to her potential as a nurse. Two participants also mentioned sickness, such as HIV/AIDS, as a potential cause of "thinking too much," but more often respondents discussed physical sickness as a consequence of "thinking too much."

Though not always named as a cause of "thinking too much," *mank d'aktivite* (lack of activities) was described as exacerbating the experience. When asked to explain expressions and manifestations of rumination, one nurse commented that people are not very busy, with little to occupy their time or distract their thoughts. The family of a man who was thought to have *fou* explained that he used to have a job and participate in activities, but now he can only *kalkile* (think) and cannot do what he wants. His lack of ability to contribute to the family is compounded by the negative effects of having ample time to "sit and think" without employment or activities to fill the time. To avoid similar exacerbating effects, Elana explained that she created activities to avoid "thinking too much," such as taking sewing classes. Similarly, one psychologist recommended to a female patient that she find work so as to avoid sitting at home thinking about her son who died the previous year.

While various chronic and acute factors can cause "thinking too much," respondents often discussed the syndrome as closely linked to sadness. In fact, a large number of references to "thinking too much" arose when participants were asked for expressions used to indicate sadness. This link is made in part because the signs of "thinking too much," such as seeming "distant in one's thoughts" or becoming quiet, are the main changes that participants noted as indicating when someone is experiencing

prolonged sadness. These behaviors are adopted at least in part as an attempt to avoid what are considered unacceptable responses to events such as loss of a family member. For example, two women who were observed in counseling with a psychologist commented that they cannot cry because they are supposed to be strong. Instead, they reflect quietly, and when this reaches the point of "thinking too much," it is noted by community members as an indication of sadness. As one community member explained, "Sadness really lies in one's thoughts."

Relfechi twòp *(thinking too much) and* fou *(madness)*

"Thinking like that, he can even lose his mind and drift in total madness." – Lwi, community leader

As described above, "thinking too much" was often associated with conditions of weight loss and trouble sleeping. Respondents indicated that these functional impairments can potentially lead to other sicknesses as a result of the syndrome. In addition to physical sicknesses, "thinking too much" can, in some cases, ultimately lead to more significant mental problems, such as memory loss and, at the extreme, *fou*. *Fou* ("crazy") is marked by aberrant behaviors and unusual dress or speech, with the prototypical description being of a person throwing stones. This shift can thus be thought of as parallel to experience of a common mental disorder leading to psychosis. People who are sad or "thinking too much" were described by respondents as not quite *fou* – but close. Participants clearly indicated that "thinking too much" must be severe and prolonged for a shift to *fou* to occur:

> Sometimes that person thinks too much; if he thinks more and more, after a certain period of time, that person may become *fou* ('crazy'), [but only] if he thinks from minute to minute, from day to day. (Community health worker)

The notion of progression from "thinking too much" to *fou* was put forth by at least seven participants, including a nurse, community health worker, teacher, pastor, community

leader, and one man describing himself. When observing counseling sessions run by a Haitian psychologist, we encountered a man who was described as having "explosive incidents," in which he became aggressive and threatening. When asked to describe how he felt before these incidents, he explained, "*Mwen te reflechi twòp*" (I thought too much) about "*tout bagay*" (everything). In addition, he experienced extreme sadness, as well as increased energy and uncontrolled thoughts. His behaviors, identified as *fou*, followed his experience of "thinking too much." Similarly, Elana's mother ascribes her experience of *fou* to "thinking too much," as she ruminates about what she has to offer but is not living up to: "She is smart, educated, could even be a nurse, but does nothing." Significantly, her mother offered this explanation to contradict others who attribute Elana's illness to spirits. Despite these connections, "thinking too much" and *fou* remain clearly delineated. For example, one participant explained that someone who has *fou* exhibits unacceptable behaviors, while someone with *maladi kalkilasyon* (calculation sickness) simply thinks a lot, unless they become *fou*:

> When a person has mental problems, that person can sometimes do things s/he isn't supposed to do. However, when a person has *maladi kalkilasyon*, s/he just thinks about the problem a lot. After some time though, if they think too much, that person can become someone like a person who has mental problems. (Teacher)

Another teacher followed this description by explaining the association through metaphor: "*Sante mentale* (here used to refer to psychosis) is like the oldest brother, and *kalkilasyon* (calculation) is like the youngest."

Proposed resources and supports

"Once you stop playing soccer or cards, you start thinking again about the roots of your problems." – Emanuel, community leader

When asked what could help people with "thinking too much," participants often addressed the immediate causes, such as lack of money or activities. One respondent

explained that if a person can get “some small help” (monetary support), they will not think too much. Another man, who participates in an HIV/AIDS support group, explained that he thinks a lot about his illness, but he receives encouragement from the support group and remains functional. Others suggested that organizing activities, such as soccer tournaments, dancing, or sewing lessons, would help people to occupy their time so that they do not sit and think as much. On the other hand, one community leader opined that helping someone manage stress by finding activities only provides temporary relief. After the activities are over, the sadness returns as one reflects on the true cause of their “thinking too much.” He thus explained that such solutions are probably most helpful among those with less severe economic problems.

Indeed, broader structural factors seem to drive “thinking too much” and closely associated experiences, leaving people with a lack of agency in improving their lives. Instead, they are left without jobs, unable to feed their children, and forced to sit idly, thinking about what they do not have. The family member of a man thought to have *fou* described these broader drivers of distress:

> There is no work! It is the impossibility; it’s poverty that puts everyone in all these things because people are sitting down, only sitting down (being idle), eating. And the food, they don’t know where it will come from, and they are thinking about how to get food […] You can’t think of anything else.

As the community leader suggests, contending with “thinking too much” perhaps requires addressing these broader structural factors.

Quantitative associations with depression and anxiety

Approximately one-quarter of the sample (N=97, 24%) endorsed no experience of *reflechi twòp* in the past two weeks, 28 (7%) reported “a little,” 63 (16%) reported a moderate amount, 111 (27%) reported a lot, and the remaining quarter (N=106, 26%) reported experiencing it all the time (missing N=3).

Table 2: Principal components analysis of Kreyòl Distress Idioms screening tool

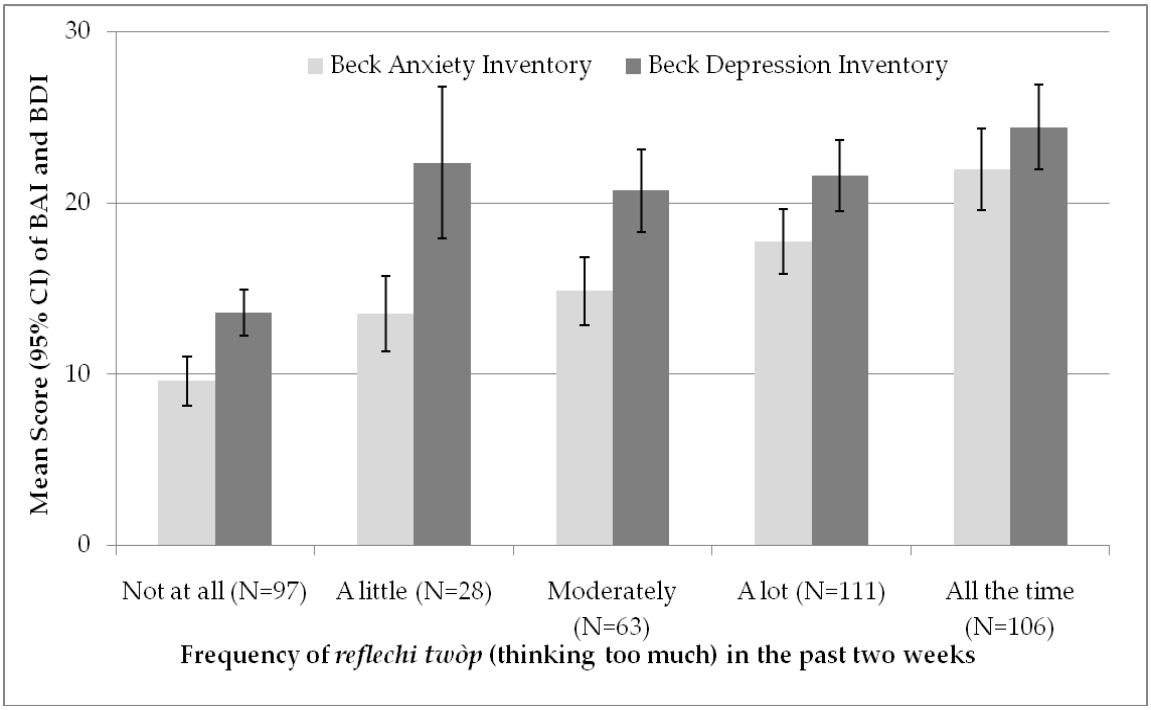
Factor loadings in rotated component pattern matrix[a]

Idiom of distress	Translation	Component			
		1	2	3	4
Pèdi bon anj	Lost good angel, loss of control	.91			
Tèt cho	Hot head, "on edge"	.79			
Tèt pa la	Head not there, forgetfulness	.65			
Dekontwole	Loss of control	.49			
Reflechi twòp	Thinking too much		.99		
Tèt chaje	Loaded head, worry, preoccupation		.69		
Kè sere	Tight/bound heart, shock, sadness		.50		
Tèt vire	Spinning head, dizziness		.46		
Kè fè mal	Heart hurts, sadness, reflux			.86	
Tèt fè mal	Headache			.77	
Kè bat fò	Heart beating strong, racing heart			.71	
De la la	Lack of energy, fatigue				.96
Santi m prale	"I think I am going," fear, dread				.88

a. Components extracted using principal components analysis with Promax rotation. Only factor loadings with an absolute value equal to or greater than 0.40 are shown.

In a principal components analysis of the 13-item Kreyòl Distress Idioms screening tool (KDI), *reflechi twòp* loads very strongly on the second component, which includes items indicating worry, rumination, sadness, and dizziness/vertigo (eigenvalue=1.5; see Table 2). This component explains 11% of the variance in total scores on the KDI. *Reflechi twòp* endorsement is more strongly correlated with scores on the culturally-adapted BAI than the BDI (ρ=0.42 and 0.30, respectively; N=405, $p<.001$; see Figure 1).

Figure 1: Mean anxiety and depression symptom scores by frequency of *reflechi twòp* (thinking too much) in the past two weeks



BAI: Beck Anxiety Inventory
BDI: Beck Depression Inventory
95% CI: 95% confidence interval
Spearman correlation of anxiety score (BAI) with "thinking too much," ρ=0.42, p<0.001.
Spearman correlation of depression score (BDI) with "thinking too much," ρ=0.30, p<0.001.

Furthermore, experience of "thinking too much" appears to be associated with greater differences in scores on the BAI than the BDI, but only at higher levels of endorsement. Those who endorsed *any* experience of *reflechi twòp* over the previous two weeks scored on average 9 points higher on both the BAI and BDI than those who responded "I have not experienced it" (BAI: 18.1 vs. 9.5; BDI: 22.3 vs. 13.5; both t-tests: p<0.001) (see Table 3).

Table 3: Mean depression and anxiety scores by endorsement of *reflechi twòp* ("thinking too much") (N=405)

	Instrument Mean Score (95% Confidence Interval)			
	No current *reflechi twòp* (N=97, 24%)	Any current *reflechi twòp* (N=308, 76%)	Total sample (N=405)	Independent t-test
Beck Depression Inventory (BDI)	13.57 (12.20, 14.93)	22.44 (21.12, 23.75)	20.31 (19.20, 21.42)	-7.09 (p<.0001)
Beck Anxiety Inventory (BAI)	9.58 (8.14, 11.01)	18.20 (17.0, 19.41)	16.14 (15.10, 17.18)	-7.41 (p<.0001)

While still statistically significant, the difference in average scores on the BDI was less marked between those endorsing high versus low experience of *reflechi twòp* (BAI: 19.7 vs. 11.9; BDI: 22.8 vs. 17.2; both t-tests: $p<0.001$). Any endorsement of *reflechi twòp* is associated with 7.7 times greater odds of any suicidal ideation in bivariate analysis (95% confidence interval: 1.03, 58.04).

Discussion

The Haitian idiom of distress *reflechi twòp* (thinking too much) is marked by persistent, troubling rumination on a singular problem, often causing someone to isolate oneself. Indeed, descriptions of *reflechi twòp* appear to be consistent enough that it could be thought of as a cultural syndrome, with shared notions of etiology, manifestation, and appropriate response that can nevertheless vary in individual cases. Participants clearly indicate when "thinking too much" deviates from "normal" and requires intervention, suggesting that this idiom of distress is an emic category can be usefully applied to clinical communication without pathologizing the phenomenon – as would perhaps be the case if "thinking too much" were always considered to be a normal expression of distress.

Beyond potentially indicating distress that could warrant intervention – an issue further explored below – "thinking too much" also presents a form of discursive complaint that is meaningfully embedded in local moral worlds. Two elements of descriptions of *reflechi twòp* are important for interpreting its significance in this regard. First, "thinking too much" is largely perceived to result from material deprivation due to lack of productive activity. Descriptions of this idiom of distress explicitly tie the experience to shame and failure to achieve one's goals or contribute to one's family. "Thinking too much" thus expresses personal failure within local moral worlds.

Second, while support from family and community appears to alleviate the problems of "thinking too much," there are enduring social and structural inequalities that ultimately drive experiences of "thinking too much." As of 2010, 40.6% of Haitians are unemployed, and fewer than one-third of the labor force have formal jobs. Although slight economic recovery was initiated in 2011, in 2012 GDP growth dropped in half following two devastating hurricanes that hindered agricultural output . Given the infrastructural context, these endemic levels of poverty and underemployment may

heavily influence an individual's perceptions of failure and lack of future opportunity. Explicitly tied to lack of activities, "thinking too much" serves as a social commentary on the abundant free time – ultimately filled by "sitting and thinking" – that is produced by forms of structural violence that result in lack of employment opportunities and food insecurity. Mains (2013; 2011) has made a similar argument in the context of Ethiopia. Thus, at the same time that *reflechi twòp* expresses feelings of personal moral failing, it likewise draws attention to the broader contextual factors to blame.

Thinking too much in cross-cultural context

Many of the core characteristics of "thinking too much" as described in Haiti are shared across settings. For example, many studies emphasize the central characteristic of persistent rumination (Betancourt, et al. 2011; Frye 1991; Harms, et al. 2009; Hollan and Wellenkamp 1994; Nepveux 2009) and the intense focus on a singular problem and lack of clear solution (Karasz 2005; Yarris 2011b). Several authors also link "thinking too much" to sadness and social isolation (Brown, et al. 2012; Okello and Ekblad 2006; Pedersen, et al. 2010; Yarris 2011b). Other authors have indicated that having too much free time – whether due to unemployment or domestic roles – can exacerbate the experience of "thinking too much" (Karasz 2005; Mains 2011). The association of "thinking too much" with sequelae such as diminished appetite, trouble sleeping, and physical illness are also common (Abbo, et al. 2008; Avotri and Walters 1999; D'Avanzo and Barab 1998; Hinton and Earnest 2010; Kirmayer, et al. 2009).

Just as "thinking too much" is potentially situated between sadness and *fou*, other authors have described "thinking too much" as being itself a spectrum or constituting part of a spectrum of mental disorder (Hinton, et al. 2012; Karasz 2005; Kirmayer, et al. 2009; Pedersen, et al. 2010), sometimes ending in psychosis (Abbo, et al. 2008; Mann 2010; Muecke 1994; Pedersen, et al. 2010; Roberts, et al. 2009). In

some settings “thinking too much” was thought to lead to death (Eberhardt 2006; Goodman 2004; Hinton and Earnest 2010; Hollan and Wellenkamp 1994; Nepveux 2009), which we did not find in our interviews in the Central Plateau. However, Bolton et al. (2012) have reported this finding in another region of Haiti.

A noteworthy distinction is that almost all references to causation in Haiti were tied to structural factors in some way, including poverty, unemployment, and lack of opportunity. In addition to similar structural causes, in other settings “thinking too much” is often tied to relationships and traumatic experiences (Avotri and Walters 1999; Goodman 2004; Hollan and Wellenkamp 1994; Okello and Ekblad 2006; Pedersen, et al. 2010; Roberts, et al. 2009). Because our study did not elicit information about “thinking too much” etiology in a systematic way, it is unclear whether such causes are not relevant in Haiti or simply did not arise during our interviews. Bolton and colleagues (2012) have reported factors such as illness and political violence as causes of “thinking too much” in northern Haiti.

Unlike many settings in Southeast Asia, where “thinking too much” is seen to represent a moral failing to uphold balance and harmony in one’s mind, *reflechi twòp* does not appear to be particularly stigmatizing in Haiti (Eberhardt 2006; Frye and McGill 1993; Lewis 2013; Merkel 1996). However, attributions of spiritual causation can lead to stigma, since spirits can be “sent” for some perceived underlying moral failure on the part of the victim (Lecomte and Raphaël 2010). Elana’s mother may have felt compelled to focus the etiology of Elana’s illness away from spirits in order to deny the possibility that she is “guilty” in the eyes of community members. Still, in much of our fieldwork, we have found that assigning spiritual causation is not always done to deflect blame (Khoury, et al. 2012). Instead, affirming spirit attacks can shift the apparent cause of mental illness away from personal failings or traits onto forces beyond an individual or family’s control. From a broader perspective, these causal pathways are reflective of the

"ontological insecurity" that Erica James describes as characteristic of the poor in Haiti, where the fundamental grounds of self, body, and social fabric are threatened by chronic and acute stressors (James 2008). Whether originating within an individual or in the realm of the spiritual, the etiology of spirit attacks and its potential relationship to "thinking too much" should be understood in the context of the social and structural vulnerabilities faced by rural Haitians. Chapter five will examine these issues in greater depth.

"Thinking too much" and psychiatric conditions

"Thinking too much" strongly overlaps with both anxiety and depression. This parallels descriptions of "thinking too much" in other cultural settings. A number of studies have specifically related "thinking too much" to symptoms of depression and/or anxiety, particularly in Africa (Abas, et al. 1994; Abbo, et al. 2008; Avotri and Walters 1999; Betancourt, et al. 2011; Okello and Ekblad 2006). Most of the parallels drawn between the idiom and psychiatric constructs are descriptive, but several studies used screening instruments or clinical diagnosis to demonstrate associations between them (Bass, et al. 2012; Okello, et al. 2012; Patel, et al. 1995; Stranix-Chibanda, et al. 2005).

"Thinking too much" may capture the common ground of depression or anxiety observed in European-originated psychiatric categorization (Ormel, et al. 1995). Nolen-Hoeksema (2000) argues that rumination may be a key reason behind the common co-morbidity of anxiety and depression. In African settings such as Zimbabwe and Ethiopia, Patel and colleagues (1995) and Mains (2011), respectively, indicate that "thinking too much" falls between depression and anxiety and cannot be distinguished as one or the other. Patel (2001) further suggests that in clinical settings in India and other low-and middle-income countries, distinguishing between anxiety and depression is not useful,

as the experiences are strongly intertwined. Such a claim is supported by the phenomenology of *reflechi twòp* in Haiti.

In the case of Elana, her symptoms of isolation, failure to engage in activities of daily living, and problems sleeping, eating, and concentrating are shared features with major depression as conceptualized in the DSM. At the same time, Elana described her daily suffering as stemming mainly from her rumination on her current condition, a symptom that may be more closely associated with anxiety. However, distinguishing whether her “sitting and thinking” stems more from depression or anxiety may not be as useful for Elana as finding effective and engaging treatments, as explored below. Elana’s widespread symptoms, including those similar to depression, anxiety, and thought disorder (i.e. command auditory hallucinations and paranoia) seem to support the notion put forward by some respondents that *reflechi twòp* may represent a “spectrum of mental disorders” and a complex cultural syndrome.

This does not exclude the possibility of unique aspects of depression and anxiety that do not overlap with one another nor with "thinking too much." Other studies in low- and middle-income country settings have found that anxiety and depression have different precipitating factors and trajectories over time {Kohrt, 2008 #2119;Kohrt, 2012 #2999}. “Thinking too much” may also represent a vulnerability state for more severe psychiatric symptoms related to psychosis, panic, and suicide. Literature on *nervios* and *ataque de nervios* among Puerto Ricans, *khyal* attacks among Cambodian refugees, multiple trauma idioms among West Africans, and heart-mind problems among Bhutanese and Nepalis also demonstrate ethnopsychologies where moderate idioms and cultural syndromes can progress to severe mental health problems (Fox 2003; Hinton, et al. 2010; Ivers, et al. 2011; Jerome and Ivers 2010; Kohrt and Harper 2008; Kohrt and Hruschka 2010; Mukherjee and Eustache 2007).

Treatment implications for "thinking too much"

As with characterizations of "thinking too much," solutions proposed by informants across settings are largely similar to those found in our study. These include recommendations not to isolate oneself (D'Avanzo and Barab 1998; Fenton and Sadiq-Sangster 1996; Frye and D'Avanzo 1994; Nepveux 2009; Roberts, et al. 2009) and to engage in activities and busy oneself so as to avoid thinking (Frye and D'Avanzo 1994; Goodman 2004; Hollan and Wellenkamp 1994; Mains 2011; Mann 2010; Muecke 1994). Others suggested talking to friends or family about their problems (Avotri and Walters 1999; Harms, et al. 2009; Karasz 2005), seeking spiritual help (Frye 1991; Muecke 1994; Nepveux 2009; Yarris 2011b), and using medications to ameliorate associated symptoms (Avotri and Walters 1999; Fenton and Sadiq-Sangster 1996). While some participants reported trying to suppress or avoid troubling thoughts (Goodman 2004; Harms, et al. 2009; Hollan and Wellenkamp 1994; Mann 2010; Muecke 1994; Okello and Ekblad 2006), others felt that recommendations to stop "thinking too much" are unhelpful and unrealistic (Fenton and Sadiq-Sangster 1996; Schatz and Gilbert 2012).

In other settings, successful interventions for "thinking too much" have included the use of locally-relevant training materials that utilize existing idioms of distress and incorporate traditional healers and community leaders in the design of interventions (Abas, et al. 1994). Such approaches could be particularly successful in Haiti, where individuals suffering from mental distress are more likely to seek care from such community-based supports rather than biomedical care providers (Wagenaar, et al. 2013). Other idioms have been used successfully in identification of those in need of psychosocial care (Kohrt and Harper 2008; Thorpe, et al. 2010; Tinkle, et al. 2013). Abramowitz (2010) describes how the idiom *open mole,* ("hole in the head") – a disease state brought on by chronic adversity and stress, often related to the Liberian Civil War – has been used by local NGOs to diagnose trauma-related mental illnesses. Although the

term has been helpful for communicating distress, she also warns that local idioms can become appropriated in clinical encounters leading to transformations of meaning. She argues that *open m*ole has been converted from a locally-meaningful idiom of distress into a gateway diagnosis for PTSD that comes about through an abbreviated clinical interview, resulting in an overuse in psychopharmaceutical treatment, especially anti-psychotic medication. Therefore, care must be taken when incorporating idioms into clinical care.

Because “thinking too much” is characterized by rumination that is not aimed at identifying solutions, there is clear space for therapy that can support shifts towards more positive thought patterns. One potential avenue for intervention is cognitive behavior therapy (CBT) that focuses on positive cognition. There is evidence that CBT is appropriate for treatment of idioms of distress and cultural syndromes across cultural groups (Hinton, et al. 2005). Studies of culturally-adapted CBT, which include eliciting patients’ ethnophysiology of cultural concepts of distress*,* show improvements, such as with *ataque de nervios* among Latinas and *khyal* attacks among Cambodian refugees (Ventevogel, et al. 2012; WHO 2008b). CBT has also been recommended for use among Cambodian refugees because it can be used to restore balance and harmony of thoughts, thus countering feelings of hopelessness (Frye and McGill 1993). A pilot randomized controlled trial from Sri Lanka found that CBT administered by a psychiatrist was effective in treating medically unexplained symptoms indicative of psychological distress (Ali, et al. 2013). CBT has led to improvements for “heart-mind” idioms of distress in a case series with Nepali Bhutanese refugees (Murray, et al. 2011).

Other researchers have recommended this approach where mental distress is characterized by excessive thoughts and worries (Frye and McGill 1993; Okello, et al. 2012). Behavioral activation, which assumes that positive cognition leads to positive feelings, may be particularly appropriate for addressing ruminating or “thinking too much”

in low-income countries, as it is relatively simple and feasible for use in non-specialized health care settings (Ekers, et al. 2008). Okello and colleagues (2012) recommend CBT in Uganda for comorbid HIV patients, where the most common symptom of depression is "having too many thoughts" because the therapy specifically works to promote more helpful ways of thinking, thus downplaying depressive thought content.

The lack of mental health professionals to implement such interventions can, however, present a major challenge, including in Haiti (Patel, et al. 2007; Saxena, et al. 2007). There is nevertheless growing evidence that CBT can be delivered by lay health workers. For example, it has been successfully used by community health workers to treat depression in rural Pakistan, resulting in less disability and improved social functioning in study participants, effects that were sustained after one year (Rahman, et al. 2008). There is reason to believe that outcomes of CBT may be similar if implemented in Haiti's Central Plateau, given that this study was likewise conducted among a rural population with similar socioeconomic circumstances and limited access to professional mental health care.

Recognition of the broader context of "thinking too much" highlights further avenues for intervention. For example, because overt displays of sadness like crying are culturally discouraged, unusual or prolonged sadness may not be recognized until it is manifested as "thinking too much." Additionally, some individuals expressed that when "thinking too much" persists or becomes amplified, it can lead to *fou*. As mentioned above, this is similar to ethnopsychologies in other cultures that suggest a progression model of thinking too much, worries, or sadness to panic and psychosis if the former problems are not addressed (Fox 2003; Hinton, et al. 2010; Jerome and Ivers 2010; Kohrt and Harper 2008; Mukherjee and Eustache 2007; Murray, et al. 2011). Identifying those experiencing "thinking too much" might thus provide an avenue for secondary prevention. People who are labeled as *fou* are often teased or mocked so as to prompt

the violent, atypical behavior that is considered characteristic of *fou* (Khoury, et al. 2012). It is important to identify those at risk of being labeled *fou* to prevent this cycle of socially-induced aberrant behavior. Further research is needed to understand the potential association between “thinking too much” and *fou* and to identify the most effective forms of intervention.

Our survey and qualitative data indicate that depressive symptoms, including suicidal ideation, are reported at a significant level in the Central Plateau (Hagaman, et al. 2013; Kaiser, et al. 2013; Wagenaar, et al. 2012). *Reflechi twòp* is associated with 8-fold greater odds of suicidal ideation and may be helpful to identify those at risk. Identification of those in need of care should include both clinical and community-based providers, as we found that individuals endorsing depressive symptoms or suicidal ideation were more likely to seek care from family, religious leaders, and Vodou priests (Wagenaar, et al. 2013). Similar approaches have been taken in utilizing idioms of distress to provide appropriate, non-stigmatizing mental health care (Hinton and Hinton 2002; Kohrt and Harper 2008; Kohrt and Hruschka 2010).

Because idioms of distress often reflect the social imbalances between the powerful/dominating and the powerless/dominated (Rechtman 2006), incorporating local illness nosologies and healing systems within mental health interventions can potentially empower those who have long faced stigma and disenfranchisement within their societies. By increasing clinicians’ and lay health workers’ ability to recognize and provide support for psychosocial suffering, the country’s capacity to provide much-needed mental health services will begin to grow. Utilizing the concept of *reflechi twòp* may serve as a meaningful tool for healthcare workers and health educators, particularly at the community level, to prompt faster recognition, referral, and intervention to prevent or alleviate long-term psychosocial suffering.

The provision of reliable mental health services in rural Haiti remains an issue of great concern that has yet to be addressed. However, due to the chronic structural factors that continue to trigger experiences of "thinking too much" and other expressions of distress, therapeutic interventions alone will likely fail to improve the burden of mental illness. Such root causes demand larger economic, social, and political responses beyond simply the provision of appropriate mental health services. Fundamentally, the need to address broader structural factors has been advocated as the definitive solution for "thinking too much" (Hinton and Earnest 2010; Mains 2011; Okello and Ekblad 2006; Yarris 2011b). Additionally, attending to these broader causes enables us to understanding "thinking too much" in the full complexity intended by participants: as referencing not only an illness state but also a complaint regarding structural violence. Anthropologists warn of the threat of pathologizing normal experiences (Scheper-Hughes and Lock 1987). While it seems clear that "thinking too much" – sometimes referred to by the term *maladi kalkilasyon* (calculation sickness) – can for Haitians refer to an illness, maintaining a broad lens that attends to the full meaning of the idiom is vital.

Limitations

As this chapter represents a first report of this cultural syndrome in Haiti, more work is required before any recommendations are ready for implementation. First, although we were interested in idioms of distress generally, our data collection did not aim specifically to elicit information about "thinking too much." A more rigorous elicitation process might have yielded additional insight, for example regarding whether "thinking too much" can lead to death or suicidal ideation. Future research would benefit from closer examination of nuances among the terms used to describe "thinking too much." Second, the research team were not fluent Kreyòl speakers, and use of a translator might have led to miscommunication that could have been avoided otherwise. Third,

idioms such as “thinking too much” likely have regional variations, so these findings cannot be assumed to apply in other settings within Haiti. Although it represents a strong communicative tool, practitioners and researchers in Haiti may encounter varied interpretations.

Finally, only one-quarter of our survey sample indicated *no* experience of *reflechi twòp*, with roughly half of respondents indicating that they had experienced it “a lot” or “all the time” over the past two weeks. It is not uncommon in the idioms of distress literature to see reports of half of a population in conditions of high stress reporting experiencing suffering in line with a certain idiom of distress. This speaks to the need to better understand the full spectrum of distress – particularly that driven by structural violence – that does not necessarily indicate mental illness. Further research is thus needed to understand degrees of severity and identification of those most in need of psychosocial support, including development of a screening tool with optimal sensitivity and specificity. Such findings also highlight the need to attend to idioms of distress as having meaning within local ethnopsychologies, moral worlds, and structural realities. Keeping all of these factors in view when interpreting idioms of distress will help to avoid potentially reducing idioms of distress to psychiatric categories.

Conclusion

Reflechi twòp (“thinking too much”) is a Kreyòl idiom of distress associated with a cultural syndrome in the Central Plateau of Haiti. The syndrome is characterized by rumination, isolation, and trouble sleeping, among other symptoms. The relation between *reflechi twòp* and *fou* (psychosis) is an area that deserves further study. It may be, as findings suggest, that *reflechi twòp* is associated with *fou*; however, the direction and mechanisms of this association warrant further study. *Reflechi twòp* in Haiti has strong overlap with “thinking too much” conditions described in many other regions of the

world, including Africa, Asia, and Central and South America. The strong overlap with both depression and anxiety symptoms suggests that “thinking too much” in Haiti parallels a general category of neurotic illness as has been suggested regarding “thinking too much” conditions in other cultural groups. Through understanding the concept of “thinking too much,” mental health providers and other clinicians can better address patients’ needs, as well as identify potential avenues for intervention aimed at prevention and treatment employing existing community resources. Links between “thinking too much” and socioeconomic vulnerability suggest that understanding and intervening regarding the mental distress expressed via this idiom requires not only attending to psychiatric analogues but to broader structural drivers of distress.

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Chapter 3: Anthropological and epidemiological approaches to understanding mental distress: Methods of data collection and scale development

Research design overview

Having explored issues of language and measurement, as well as development of locally appropriate mental health screening tools, I move now to addressing study questions regarding predictors of mental distress. In this chapter, I describe my formal data collection strategies used during a year of conducting research in Haiti (January – December 2013). I refer to these as "formal data collection strategies" to distinguish them from the informal data collection that was ongoing, as I observed and conversed with individuals in my day-to-day life. My interactions outside of the primary research communities – at the cultural center, the hospital, and the town of Mirebalais, primarily – informed how I understood my data, my participants, and life in Haiti generally. I occasionally refer to particularly influential or compelling interactions throughout my dissertation, but as these were unplanned, they are not included in this research design chapter. However, my notes from many of these interactions were typed, coded, and included in analysis.

My formal data collection consisted of three rounds, each of which built on the former: an exploratory phase, an epidemiologic survey, and extended period of participant observation. First, I spent approximately three months conducting interviews and participant observation and otherwise gaining a general sense of both the setting and the issues of interest in my research. This phase was the most exploratory and thus the least structured. Included within this round was basic qualitative data analysis with the aim of developing and adapting survey instruments to be used in round two. This second round consisted of a 322-person community-based epidemiologic survey with biomarker collection, which took five weeks to complete and one month to analyze.

Finally, drawing on survey results, I used ideal case sampling (Schensul 1999) and systematic anomalous case analysis (Axinn and Pearce 2006) to identify “resilient” and “distressed” individuals, whom I followed closely through participant observation and interviews over the course of five months. Below, I describe my research methods in greater detail.

Round 1: Exploratory data collection and developing survey instruments

During the first three months of data collection, I engaged in formal and informal interviews and participant observation to gain a sense of Mirebalais town, to gather preliminary qualitative data regarding resilience and coping, and to develop measures to be used in the survey. I also used structured elicitation techniques – free lists and pile sorting – to provide supplementary data for measure development. Although survey data collection took place in more rural areas, I felt that topics being assessed would not vary substantially between individuals living in Mirebalais town compared to their more rural counterparts. At the same time, I made efforts to ensure that measures accommodated any differences that might exist; for example, although houses in town typically had tin or concrete roofs, the socioeconomic status measure included options such as woven leaves, tent, and wood as roofing options because these are more common in the countryside. Additionally, much of our initial data collection involved recruiting participants in the town’s market, which draws both sellers and buyers from adjacent rural areas.

Measures developed for the survey included socioeconomic status – consisting of measures of material and human capital – traumatic events, earthquake-related trauma, daily stressors, social support, locus of control, and spirit-related locus of control. Below, I describe data collection that informed development of each of these scales.

Sampling

Recruitment for round one data collection was through a combination of gatekeepers, purposive sampling, or convenience sampling (Bernard 2011; Hennink, et al. 2011). I recruited many semi-structured interview participants through referral by a social worker whom I knew from my team's earlier research trips and who was employed at the time of my research by an NGO working in the region. These participants included pastors, school principals, community leaders, businessmen, a lawyer, and a journalist. I also purposively sampled priests and *hougan-s* (Vodou priests) by visiting churches and *hounfò*-s (Vodou temples) and asking them to participate in an interview, allow me to observe their practices, and/or refer me to community members who would be appropriate to interview based on their experiences. Additionally, I purposively recruited individuals attending Vodou ceremonies at *hounfò*-s, as well as individuals referred by their neighbors as having undergone experiences considered salient to the interviews (such as *ekspedisyon*-s[1] [sent spirit] or the earthquake). Finally, I or a research assistant used convenience sampling for data collection involving structured elicitation techniques and informal interviews. We walked in neighborhoods on the outskirts of Mirebalais town or through the market on market days and approached individuals to ask whether they would participate. All data collection occurred at the participant's home or place of work or a place of religious practice.

Interviews

Semi-structured interviews (N=52) ranged from 30 minutes to 1.5 hours, with most lasting approximately one hour. Interview topics varied by participant but included participant's role in the community; problems, supports, and resilience in the community;

[1] An *ekspedisyon* or sent spirit is one of multiple ways that harm can be wrought via the spirit world. I explore this phenomenon in greater depth in chapter 5.

traumatic events; daily stressors; socioeconomic indicators; spirits, spirit-related harm, and *hougan* services; and social supports. While I typically came to interviews with a list of topics that I intended to cover, I allowed participants to direct the flow of the interview and, in this exploratory phase, new topics often arose and became central points of interviews (Bernard 2011).

Earthquake-related trauma and general trauma

Recognizing the strong links between trauma and mental distress (Norris, et al. 2002; Porter and Haslam 2005), I assessed experiences of both earthquake-related and general trauma in the survey. Although 55 kilometers from the epicenter of the earthquake, areas of Mirebalais commune did experience structural damage, and many individuals and families displaced from Port-au-Prince moved back to the Central Plateau. Additionally, in previous fieldwork, I have found that even communities too distant to experience physical damage were otherwise impacted by the earthquake, for example by death of family members or housing displaced individuals (Kaiser, et al. 2013). Portions of semi-structured interviews with individuals who experienced the earthquake aimed to identify the range of traumatic effects related directly or indirectly to the earthquake (e.g. loss of family member, injury, displacement). This was accomplished by asking participants to describe their experience of the earthquake, their emotional response, and coping. Additionally, some participants were asked to describe events that could cause someone to experience *chòk* (shock) or *sezisman* (seized-up), in order to elicit general traumatic events. However, most items for the general trauma scale were collected via structured elicitation techniques, described below.

Daily stressors

In addition to traumatic events, anthropologists and others have recently argued that greater attention must be paid to daily stressors (Miller and Rasmussen 2010; Panter-Brick, et al. 2008; Pike, et al. 2010; Weaver and Hadley 2009). These interviews thus elicited stressors that are experienced by some on a near daily basis (such as overcrowding, water insecurity, difficulty securing education for their children, and supporting ill family members). These were elicited by asking broadly about problems and stressors in the community and then probing so as to have participants focus on those issues that are experienced on a continuous or near-daily basis.

Socioeconomic status

The relationship between socioeconomic status (SES) and mental health is "one of the most firmly established patterns in psychiatric epidemiology" (Ng, et al. 2014: 2232). However, standard measures of SES are insufficient to capture variability in rural Haiti. For example, 90% of households in the Central Plateau do not own any of the items used as standard DHS indicators for assessing SES. Applying this standard measure would thus return next-to-no variance in SES. I thus aimed to develop a locally relevant SES measure, drawing on qualitative data collection to ensure that items measured are relevant and applicable, in other words that they actually exist locally and are perceived to indicate social differentiation.

In a sub-set of my exploratory interviews, I asked participants to name things that could distinguish among various social classes; responses typically focused on housing materials and assets. These interviews were also useful for eliciting typical terms used to refer to social classes, which were used in the pile sort activity, described below. Additionally, a research assistant and I used observation to generate additional potential items for the SES scale. While walking around Mirebalais town and its outskirts, we

noted the range of housing materials and assets and discussed which social classes likely owned them. The results of these interviews and observation were used in a pile sort activity (described below).

Supports and protective factors

The positive association between social support and mental health is one of the more robust findings in cross-cultural mental health research (Thoits 2011). Social support can be thought of as constituting many sub-components – instrumental and emotional support, social connectedness, social capital, etc. (Almedom 2005) – a complexity that I address in the next chapter. In initial interviews, I explored what forms of support participants considered to be most significant or beneficial. These interviews typically elicited problems and traumatic events that are encountered in the community, followed by questions regarding forms of support that help community members to face or traverse these problems.

Locus of control and spirit-related locus of control

Decades of research have found that an internal locus of control is associated with better mental health and wellbeing (Benassi, et al. 1988; Bond and Bunce 2003; Gadalla 2009; Krause and Stryker 1984; Skinner 1996). However, among vulnerable populations and in settings of extreme structural violence – in short, where actual agency is likely to be lower – this pattern does not appear to hold (Bhugra 2004; Thompson and Spacapan 1991). Because this study regards relationships with other individuals, as well as powerful sources including spirits, I wanted to assess perceptions of locus of control regarding oneself, powerful others, powerful forces (e.g. nature, God), and spirits.

In a sub-set of exploratory interviews (N=11), I used a series of vignettes regarding examples of misfortune or good fortune and asked participants to explain why these events might have occurred, in order to elicit perceptions of causation and locus of control. In interviews, I probed for participants to explain why they gave these attributions, as well as asking them what other explanations they could think of. I also had a research assistant conduct six of these interviews on his own, in case responses varied for a Haitian versus American interviewer. Additionally, one focus group discussion was conducted, both as a pilot test of the vignettes, as well as to examine perceptions of causation as discussed in a group setting and as reflected in community norms (Hennink 2007).

To understand spirit-related locus of control, a quite abstract phenomenon, I engaged in more in-depth participant observation over the initial three months of data collection. I attended multiple Vodou healing ceremonies, during which my research assistant and other participants occasionally described the practices and their purpose. I also conducted semi-structured interviews with *hougan*-s, ceremony participants, and locally recognized victims of sent spirits. I considered these individuals to be particularly knowledgeable about socio-spiritual relations. In these interviews, I explored narratives about sent spirits and healing, threats to elements of the person, the role of other people in sent spirits, and fears and concerns associated with socio-spiritual relations. In particular, I focused on the extent to which they believe that they and other people have control in the spirit world, both for causing and preventing sent spirits.

Structured elicitation techniques

Free lists

Several of the hypothesized predictors of distress required in-depth qualitative data collection to inform development of appropriate measurement scales, such as locus

of control. Other hypothesized predictors were less complex and thus enabled more straightforward measurement development. In order to efficiently generate lists of items that did not require extensive explanation, as well as to supplement items elicited through interviews, my research assistant conducted free listing. I elected to have him collect these data alone because free lists constitute short-term interactions, during which there is little time to develop rapport, and I wanted to minimize the risk that participants would expect to receive any benefit based on their responses. He recruited participants (N=65) through convenience sampling by walking through the market or approaching people at their homes around Mirebalais town. These free lists elicited traumatic events, forms of resilience, forms of social support, and daily stressors. The following prompts were used:

> *Traumatic events: What are things that would cause someone to experience* chòk *(shock),* sezisman *(seized-up), or* twomatize *(traumatization)?*
> *Resilience: What would prevent people from having* chòk *or* sezisman *if they experienced these things?*
> *Social supports: What are things that can help people to complete the tasks they have to do each day?*
> *Daily stressors: What are things that make daily life difficult?*

Initially, an additional item eliciting characteristics of a resilient person was used; however, we soon realized that the term used to inquire about resilience in fact translated to a person who resigns. These items were thus not included in analysis.

Pile sorts

To continue the development of the local SES measure, I conducted a pile sort activity. Throughout my first round interviews and observation (described above), I generated an ongoing list of items named by at least two participants as potential indicators of class differentiation. I narrowed the list to concrete or objective items that could be assessed on a survey (e.g. “house made of concrete” rather than “large

house"). I wrote these items on individual index cards, which a research assistant and I used in a pile sort activity. There were 55 items total, though not all were used with every participant (for example, the item "lamp" was replaced early on by two items that participants indicated as belonging to different classes: "gas lamp" and "can lamp"). Walking around the outskirts of Mirebalais town, we recruited 23 individuals (11 males, 12 females) using convenience sampling. With each item, we either read the index card or had participants read them and asked them to indicate which social class/es would typically own it. Class categories were upper middle class (*mwayen klas wo*), lower middle class (*mwayen klas ba*), unfortunates (*malere*), and poor (*pòv*). Participants could indicate as many or as few classes as they considered applicable for any item. Using a visual tool of a table with four columns, one per social class, we had participants physically indicate within which column/s the item should be included. I then took notes to indicate participants' responses. For most participants, the pile sort activity was conducted along with exploratory interviews regarding social support and daily stressors.

Analysis to develop scales

After three months of exploratory data collection, I completed an initial analysis of interview notes, field notes, free lists, and pile sorts to isolate relevant items for the survey scales. For earthquake-related trauma, general trauma, daily stressors, and social supports, I began by analyzing free list results to generate a list of items ordered by frequency of mention by participants (Bernard 2011; Borgatti 1998). I then read interview notes and field notes to identify other items named frequently or otherwise emphasized by participants. I then removed items that did not fit the scale – for example, traumatic events that do not represent singular events or which did not seem to qualify as traumatic – and selected the top items for each scale.

Scales based on traumatic events elicited dichotomous (yes/no) responses, such as: “Did you experience a family member or close friend who died as a result of the earthquake?” “Yes” responses were followed by a question asking, “To what extent did this affect you?” with responses on a Likert scale ranging from “Not at all” to “I could barely handle it.” The daily stressors scale asked participants to what extent each item bothers them everyday or almost everyday, with Likert scale responses ranging from “Not at all” to “So much I can’t handle it.” The social support scale asked participants how difficult it would be to find help for a series of tasks, such as “Finding someone who can care for you when you are sick.” Potential Likert scale responses ranged from “Very easy” to “Very difficult.”

Socio-economic status

For the socio-economic status scale, I analyzed pile sort data quantitatively to identify the items that were most likely to differentiate between social classes. I first calculated what class, on average, participants placed any given item into by creating an average position weighted by class (from upper middle class=4 to *pòv*=1). I then rank-ordered items to identify those that fall to the extremes (i.e. are almost always associated with upper middle class or *pòv*). Because I anticipated that my survey sample would largely include individuals who would identify as *malere* or *pòv*, I focused particularly on items that would differentiate these social classes, rather than, for example, between upper and lower middle class. My next step was thus to calculate how many participants placed any item within each of the four class categories and identify those items that had the greatest difference between classes, giving greater weight to *malere*/*pòv* distinctions. For example, if an item was considered equally likely to be owned by three or four classes, it would not contribute to variable outcomes on an SES scale. I included both items associated with higher class (e.g. owning a horse), as well

as those associated with lower class (e.g. owing a can lamp or using a woven mat as a bed). I also removed items that were nearly identical.

For the SES scale, response format varied by item. For most assets, an initial dichotomous (yes/no) question was asked, followed if relevant by a question asking how many of that item they owned. For each housing component (e.g. wall, roof, floor), a single question with multiple response options was asked. An “other” option was also provided, asking participants to specify their response.

Because these items were entirely focused on material capital, I also added items regarding human capital. These items attempted to gauge education and training, as well as perceived capacity to complete alternative income-generating activities. Items included level of education, apprenticeships, and type of work. There was also a set of items asking participants to rate how difficult they think it would be to work a particular job (e.g. teaching, selling cell phone credit) if they did not have their current work.

Locus of control

For locus of control and spirit-related locus of control, I analyzed interview transcripts and notes, as well as field notes. I coded these data sources throughout data collection for themes of causes of fortune and misfortune; notions of control and predictability; socio-spiritual relations; and sent spirits. I then reviewed these text segments, identifying the most relevant concepts through repetition and indigenous categories (Ryan and Bernard 2003).

For general locus of control, I identified various entities that are considered to have control over life events (e.g. God, nature, powerful others), as well as shared perceptions regarding control (e.g. “I must work hard if I want God’s help” or “If I advance too much in life, others will try to bring me down”). For spirit-related locus of control, I closely read text segments to identify causes, forms, and effects of sent spirits;

protection and treatment; and fears and concerns regarding sent spirits. Drawing on these data, I identified central elements of spirit-related locus of control and perceptions regarding what level of control is possible.

Rather than past experiences (e.g. encounters attributed to spirits), I am particularly interested in the extent to which people's *perceptions* match a cultural model that could be deemed "internal" or "external" regarding each type of locus of control (Dressler 2005). I thus designed scales measuring perceptions rather than experiences. Items were worded as statements, and participants were asked to what extent they agree with the statement (from "Strongly agree" to "Strongly disagree"). Items elicited opinions regarding control by God, nature, other persons, or individuals, as well as predictability, prevention, and healing following sent spirits.

Other measures

The survey consisted of these newly developed scales, as well as existing scales for mental health and demographic questions. The mental health scales included a locally validated depression screening tool, the Zanmi Lasante Depression Symptom Inventory[2] (Rasmussen, et al. 2015), the culturally adapted Beck Anxiety Inventory, and the locally developed Kreyòl Distress Idioms screening tool (see chapter 1; Kaiser, et al. 2013).

I did not include a resilience scale in the survey, as my research design aimed at using ethnographic methods to identify what constitutes resilience in this setting. However, I did want to gain initial insight into quantitative relationships between potential protective factors (some crudely measured) and mental health outcomes. The social

[2] Note that this depression symptom inventory is different from the screening tool described in chapter 1. After we culturally adapted the Beck Depression Inventory, Zanmi Lasante developed and locally clinically validated the Zanmi Lasante Depression Symptom Inventory, which I then adopted for my epidemiologic survey.

support and SES measures largely aimed at filling this gap. I also drew on free list and exploratory interview results to develop additional questions for the survey regarding social connectedness (marital status, number of children, membership in organizations, number of close relationships) and environment and physical connectedness (distance from clinic, distance from work/field, number of *lakou* [household] members).

Round 2: Epidemiologic survey

Pilot testing of scales

Training research assistants

I recruited Haitian research assistants (RAs) to conduct the survey for several reasons. First, surveys do not allow a great deal of time to establish rapport and overcome widely-held expectations that individuals or communities will receive benefit from me (as a white expatriate). Additionally, because I collected biomarker data – which presumably were not influenced by my characteristics as a researcher – it was more efficient to have multiple survey enumerators working simultaneously as I collected biomarkers.

I recruited five RAs, two females and three males, from Mirebalais and nearby towns in the lower Central Plateau through referral by colleagues and former RAs. One RA had been a first-round interview participant, whom I invited to join the research team because she seemed particularly gregarious, enthusiastic, and capable of completing the required tasks. Most RAs were young (20s-30s), along with one male in his 60s. All were fluent in spoken and written Kreyòl, and two males were also fluent in English (one was the RA with whom I have worked since 2010). In addition to piloting and conducting surveys, RAs provided invaluable insight regarding survey items, including their structure and comprehensibility.

RA training took place over the course of two weeks and included didactic and discussion components; classroom practice with direct feedback; biomarker training; and pilot data collection, both with and without supervision. First, I provided an overview of the survey, sampling and data collection methods, and potential ethical challenges and ways to protect confidentiality and anonymity. We then discussed all survey items as a group to ensure comprehensibility of both the item and its purpose. Additionally, RAs provided feedback regarding items that might be difficult to understand or were poorly worded. RAs then practiced conducting the survey, beginning with a demonstration by an experienced RA and then coaching of all RAs as they practiced in pairs.

Biomarker training included height, blood pressure, pulse, peak air flow, and clinical signs of anemia. During survey data collection, RAs asked participants to go to a central location in order for me to collect these measures, as well as additional biomarkers. However, I was uncertain what response rate to expect, so I trained RAs in this sub-set of measures so that they could collect data on participants who declined to participate in full biomarker data collection. We began with classroom training regarding methods of data collection, potential challenges and solutions, and recording results. RAs then practiced these methods on each other. We then recruited community members to gather at the cultural center for biomarker piloting, which also provided them with basic health information such as blood pressure and hemoglobin status. A local physician conducted classroom training with RAs regarding identifying clinical signs of anemia (conjunctival, palmer line, tongue, and fingernail pallor). We then shadowed an intake nurse at a local hospital, in order to gain experience identifying these signs.

Piloting survey

Ongoing training and supervision was provided while piloting the survey and biomarker collection in Mirebalais and nearby towns. First, surveys were conducted by

one RA with all research team members present in order to observe, discuss, and provide feedback. Then RAs piloted the survey in pairs of experienced and new RAs. Finally, RAs piloted the survey individually, followed by debriefing and feedback. The final formal day of training mimicked actually data collection, with RAs individually piloting the survey in a nearby locality and referring individuals to a central location where I collected biomarkers. Throughout the piloting phase, cognitive interviewing questions were included for certain items, in order to gauge how participants understood the items and identify potential problems with content, wording, or response options (Willis 2005).

Overall, the survey was piloted with 44 individuals. Response patterns were reviewed in order to ensure that the items were understandable and acceptable, that they detected heterogeneity of responses, and that the Likert scale and other response options were well-understood. This process enabled me to identify potentially problematic items and wording of questions. Some problematic items were removed: for example, several locus of control items appeared to elicit culturally scripted or socially desirable responses and thus yielded minimal variance (e.g. “I can turn my problems over to Jesus; I know he will help me with them”). Other items were adjusted: for example, I realized that questions worded negatively (e.g. “prayer is *not* the most important thing to help me remain in good health”) were sometimes understood and responded to as positive items because this is a common linguistic structure in Haiti. After reviewing pilot results, I worked with the RAs to determine the best strategies for adapting items. We then reviewed the final survey together, in order to ensure that all research team members understood and delivered items in the same way.

Survey data collection

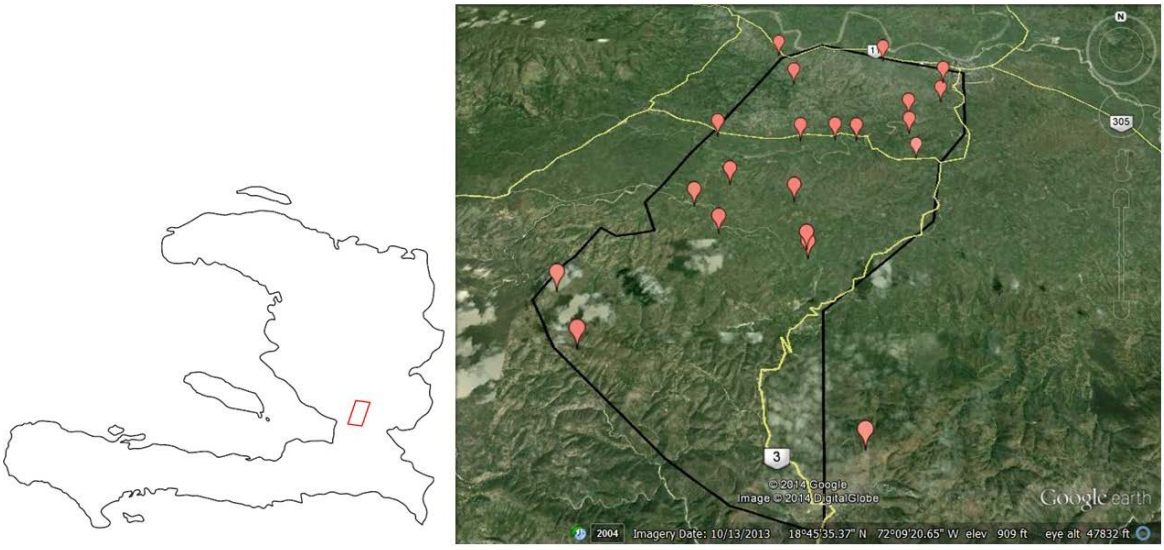
Sample

Over 6 weeks in April-May 2013, we conducted a cross-sectional, community-based survey in the Mirebalais commune. A minimum sample size of 300 was chosen because it would allow us to detect differences on the mental health scales of 5 points with 80% power and an alpha of 0.05. We conducted the survey among 322 adults; of these, 303 individuals had at least some biomarkers collected, and 278 had dried blood spots collected.

We used a modified stratified random sampling approach, with the stratification factor being localities (also called zones) in Mirebalais commune (Bernard 2011; Handwerker 2003). A local NGO provided a list of localities in the commune, which I reviewed with multiple people familiar with the region in order to identify potentially missed localities. One of these individuals – a man who worked for the cultural center – provided information regarding relative population size and density, distance from the national highway, and accessibility for each locality. I then selected 25 localities for data collection, aiming to maximize variation on these factors. The cultural center employee also provided contacts in almost all localities. We visited 20 of these localities before reaching our sampling goal.[3] I later visited each locality to take GPS coordinates; see Figure 1 for mapping of localities included in sample.

[3] One of these 20 was visited twice because on the initial visit, only 3 participants were recruited before research activities were halted due to identifying a participant requiring transport to the hospital.

Figure 1: Map of localities visited for survey data collection



Within each locality, we used a modified version of the World Health Organization "random walk" protocol, which approximates a random sample in the absence of a sampling frame (WHO 1991). With the help of local contacts, we identified a central location in the zone, such as a church, school, or home. Beginning from that location, RAs took paths in separate directions and sampled one participant from every *lakou* (homestead) encountered along the path. RAs alternated asking for male/female participants, as well as rotating age categories (18-30, 30-50, or 50+) when recruiting participants. This approach replicates what my research team had done in previous surveys in the Central Plateau (Kaiser, et al. in press; Wagenaar, et al. 2012; Wagenaar, et al. 2013).

Survey

RAs asked survey items orally in Kreyòl and recorded responses on paper. Visual tools were used to aid respondents with more complicated Likert scales (see Appendix). Surveys took approximately one hour to complete. RAs then asked

participants to go to the central location where I was collecting biomarker data. Participants were given the option of going later but were encouraged to go immediately if possible. For participants who declined (N=3), RAs collected data on height, blood pressure, pulse, and peak air flow. They also assessed clinical signs of anemia using conjunctival, palmer line, tongue, and fingernail pallor.

For all other participants, I measured height using a stadiometer and weight using a spring scale (both in duplicate). After each participant was seated for at least 10 minutes, I measured blood pressure and pulse in triplicate using an Omron sphygmomanometer, as an indicator of cardiovascular health and short-term stress (Dressler and Bindon 2000; McGarvey 1999). I then collected peak air flow, an indicator of cumulative stress, by having participants blow into a peak air flow meter using a disposable tube. After three attempts, I kept the highest number attained. Finally, I collected dried blood spots and hemoglobin. Using a disposable finger-stick lancet, I collected approximately 5 blood spots on filter paper and filled two microcuvettes to measure hemoglobin levels using a HemoCue meter. This allowed me to assess whether certain somatic symptoms – particularly on the BAI – could be attributed to anemia, as well as to measure C-reactive protein (CRP) as a longer-term indicator of stress. Dried blood spots (DBS, McDade 2009) are a methodology that provide a minimally invasive, cheap, easy-to-use alternative to whole blood collection through venipuncture (McDade and Shell-Duncan 2002).

Referrals to the closest Zanmi Lasante/Partners in Health hospital were offered as appropriate, particularly for those with hemoglobin levels indicating moderate to severe anemia, with blood pressure indicating severe hypertension, or anyone indicating thoughts of suicide. The RA or I discussed options for referral and arranged transportation if requested.

Round 3: Participant observation with *"resilient" and "distressed" individuals*

I conducted preliminary analysis of survey results in the field to identify significant predictors of mental distress (see chapter 4). I then drew on these results to identify a subset of individuals who – despite enduring significant traumatic events – maintain positive mental health outcomes, as well as a comparison of individuals who have endured similar stressors and experience significant mental distress as a result. This recruitment strategy represent a combination of ideal case sampling (Schensul 1999) and systematic anomalous case analysis (Axinn and Pearce 2006) and allows me to identify those individuals who can yield the most relevant data regarding experiences of distress and resilience.

In order to identify these individuals, I first created a summary statistic that combined depression and anxiety scores, in order to capture total burden of mental health symptoms. I did not include the KDI, as items on this screening tool were shared with the ZLDSI and BAI. I then standardized variables for mental health sum score, general trauma, and earthquake-related trauma and sorted participants into quartiles for each variable. I then identified individuals whose z-scores on the trauma measures fell into the top two quartiles and who either fell into the lowest or highest quartiles for mental health sum score ("resilient" and "distressed," respectively).

Within these sets of "resilient" and "distressed" individuals, I identified pairs who were matched on sex, age (within 5 years), and quartile ranking for number of general traumatic events and earthquake-related trauma. I identified 15 individuals in each category (total N=30), each of whom I interviewed for approximately 1-1.5 hours. These interviews clarified survey responses, explored family and social relationships, inquired about activities in the past 24 hours and past week, and elicited perceptions and experiences regarding problem-solving. Based on these interviews, I identified 4 participants within each category ("distressed" and "resilient") to follow-up with as focal

individuals (N=8). Selection of focal individuals was based largely on how readily participants expressed their experiences and perceptions, as well as their willingness to participate in multiple, extended visits. Over the course of four months, I engaged in participant observation, visiting them multiple times, participating in daily activities, and occasionally engaging in more formal interviews, including a final interview that typically lasted 2-3 hours. Final interviews explored social support, problem-solving and particularly the role of religion in coping with problems, perceptions and experiences of sent spirits, and planning for the future.

In the remaining chapters, I describe analytic strategies and results of the epidemiologic survey and qualitative data collection.

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Chapter 4: Predictors of mental distress: Epidemiologic survey results

ABSTRACT

In this chapter, I describe how I finalized the scales for measuring predictors of mental distress, as well as the quantitative associations among these predictors and mental health outcomes. I finalized the measurement scales using qualitative and quantitative data collected during piloting of instruments, as well as through principal components analysis and assessing internal consistency of scales using the data collected during the main survey. Quantitative analyses to test associations between hypothesized predictors of mental distress and mental health outcomes included assessing bivariate correlations, followed by multivariable linear regression. Many of the epidemiologic findings are consistent with those seen in other settings. For example, linear regression models found that female sex and increasing age are associated with more mental distress, assessed based on depressive and anxiety symptoms and the idioms of distress screening tool. Traumatic events, earthquake-related trauma, and daily stressors were all associated with increased burden of mental distress, while socio-economic status and social support were associated with lower mental distress. Other findings were less in line with anthropological literature. For example, non-material stressors like locus of control were not significantly associated with mental distress in final regression models. In this chapter and the conclusion of my dissertation, I consider future directions for advancing the epidemiologic study of mental health in Haiti.

Finalizing measurement scales

In chapter 3, I described the ethnographic data collection that informed the development of measurement scales for my hypothesized predictors of mental distress. I also described the implementation of a community-based epidemiologic survey to test the association of these hypothesized predictors with mental health outcomes. In this chapter, I describe the process of finalizing these measurement scales, strategies used for data analysis, and findings regarding predictors of mental distress.

For most of the predictor scales, item reduction consisted primarily of identifying problematic items (see Table 1). For example, with the general traumatic events scale, I wanted to identify those items that do not seem to represent genuinely traumatic experiences within the study population. To attempt to identify such problematic items, I used several analytic strategies. First, I identified items that seemed to be extremely common and – based on round 2 interviews – seemed to represent "shared trauma" rather than necessarily representing an individual's close experience of trauma. For example, almost all participants endorsed having experienced the earthquake and flooding, so these items do not effectively distinguish individuals who experienced the most severe effects of these events. Other participants endorsed having experienced robbery, whereas in interviews it became clear that the robbery occurred in the neighborhood.

Other items were problematic in that they appeared to be interpreted in multiple ways. For example, *pèdi rekòt ou nèt* ("losing your whole harvest") was sometimes interpreted as losing all of one's belongings, which seemed at times to reference falling into debt. The problematic items also showed low correlations with the overall traumatic events scale, as well as with the mental health scores. These quantitative patterns suggest poor convergent and construct validity.

The earthquake-related trauma scale had fewer problematic items. More participants endorsed that their house was destroyed (N=208) than endorsed living in an area damaged by the earthquake (N=111), suggesting a problem with the former item. Based on RA input, it is likely that participants were responding based on ever having experienced significant damage to their home. Additionally, the item regarding housing displaced individuals had a low correlation with the rest of the scale, and I decided that it is unlikely to capture a specifically traumatic experience related to the earthquake.

On the daily stressors scale, I removed three items that showed low correlations with the rest of the scale. One item was endorsed by all participants (*lavi che*, “life is expensive”), while the other two items did not reference difficulties related to material deprivation like the rest of the scale. These items were humiliation and lack of ability to accomplish one’s objectives. Although qualitative data collection suggested that these concepts are potentially relevant to vulnerability to mental distress, they do not appear to represent daily stressors related to structural inequality. Two items on the social support scale showed negative or low correlations with the rest of the scale. These items referred to finding someone to buy or sell merchandise in the market.

Table 1: Hypothesized predictors scales

All items measured in the survey are listed. Items that were removed for analysis are indicated with strikethrough.

Traumatic events scale	Human capital scale[a]	Earthquake-related trauma	Social support scale
~~Car or motorcycle accident~~	~~Sell telephone minutes~~	~~Lived in damaged area~~	Difficulty finding someone to help in garden
House fire	~~Sell merchandise~~	House destroyed	~~Difficulty finding someone to help sell merchandise~~
~~Hurricane or flood~~	~~Work the land~~	~~Badly injured~~	Difficulty finding someone to help with daily tasks
Mudslide	~~Sew clothing (tailor)~~	Family or friend died	Difficulty finding someone to give advice
Experienced life-threatening illness	Teach	Lost almost everything	Difficulty finding someone to help when sick
~~Lost whole harvest~~	~~Cook and sell food~~	Displaced to another area	~~Difficulty finding someone to go to market for you~~
~~Robbed~~	Education	~~Housed displaced~~	Difficulty assembling people for a *tèt ansanm*
~~Raped~~	Literacy	~~individuals~~	Difficulty borrowing food for meal
Witnessed car hit someone	Apprenticeship		Difficulty borrowing 25 *goud* (about USD 0.63)
Death of family or close friend	Work type		Difficulty borrowing 50 *goud* (about USD 1.25)
Witnessed someone hit or injured	~~Work in family store~~		Difficulty borrowing 100 *goud* (about USD 2.50)
Witnessed sudden death			
Family or friend kidnapped			
~~Experienced earthquake~~			

Socio-economic status scale		Daily Stressors scale
Roof material	Ownership of assets (continued)	Flooding in rainy season
Wall material	Cow/s	Overcrowding in house
Floor material	Horse/s	Illness
~~Fence material~~	Pig/s	~~Life is expensive~~
Number of rooms	~~Donkey/s~~	~~Insecurity~~
~~Own/rent house~~	Goat/s	Not enough food
~~Number of household members~~	Chicken/s	Lack of irrigation system
~~Water source~~	~~*Refrigerator/s*~~	~~Humiliation~~
~~Toilet/latrine~~	~~TV/s~~	Lack of treated water
~~Electricity~~	~~Store/boutique~~	Lack of work
Ownership of assets	~~Bank account~~	Missing family who live far away
~~Property/land~~	~~Closet/s~~	Environmental problems like pollution
~~Car/s~~	Gas lamp/s	Hurt or frightened by someone in home
~~Motorcyle/s~~	~~Can lamp/s~~	People don't help each other
~~Bicycle/s~~	Bed/s	Lack of sanitation
~~Fan/s~~	~~Mat/s for bed~~	Difficulty sending kids to school
		Can't accomplish objectives in life

a. *The first six items of the human capital scale asked questions of the form, "If you didn't have your desired work, how easy would it be for you to ____?"*

Table 2: Mental health outcome measures

All items measured in the survey are listed. Items that were removed for analysis are indicated with strikethrough.

Zanmi Lasante Depression Symptom Inventory	**Kreyòl Distress Idioms**
Low energy	Lost good angel (loss of control)
Tight heart	Hot head (on edge)
Thinking too much	Head not there (forgetfulness)
Crying/wanting to cry	Loss of control/overwhelmed
~~Little interest in things~~	Thinking too much
Discouraged, hopeless	Loaded/charged head (worry)
Difficulty sleeping	Tight/bound heart (shock)
Fatigued, weak	Spinning head
Lack appetite	Heart hurts
Failure, feeling bad	Headache
Move/speak slowly	Racking heart
Thoughts of self-harm	Lack of energy
Waking early	Fear/dread

Beck Anxiety Inventory	**Function Assessment (Female)**
Shaky	Do commerce
Unsteady	Work the land
Faint	Household tasks like washing, ironing
Dizzy/lightheaded	Clean
Wobbliness	Clean the community
Choking	Engage in community activities
Hands trembling	
Indigestion	
Heart pounding	**Function Assessment (Male)**
Fear of losing control	Work (employment)
Fear of dying	Do commerce
Fear of worst happening	Work the land
Scared	Care for animals
Terrified	Participate in *tèt ansanm*
Numbness/tingling	Plant trees/reforestation
Unable to relax	
Sweating (not because of heat)	
Nervous	
Feeling hot	
Difficulty breathing	

Principal components analysis

I used principal components analysis to identify problematic items, explore the structure of scales and reduce them as appropriate, and develop weighted composite scores on scales. Because items on scales are assumed to be highly correlated, I used principal components analysis with promax rotation. Kaiser's rule was used to select components, with those having an eigenvalue of approximately 1.0 or greater retained. Variables were considered to load on a component if they had a factor loading of 0.40 or greater.

Among the mental health screening tools, there was only one problematic item, which was on the Zanmi Lasante Depression Symptom Inventory (see Table 2). This item aimed to assess loss of interest: *santi ou enterese yon ti kras nan tout bagay* ("feel you are a little interested in everything"). In principal components analysis, this item had a negative correlation with the rest of the screening tool ($r = -0.14$). It appears to have been interpreted positively, as having interest, rather than negatively, or indicating a lack of interest. This item was thus removed from the scale for analysis, which increased the scale's internal reliability from 0.71 to 0.75.

I used a single principal components analysis to develop measures of socioeconomic status and human capital. This was done because much literature considers human capital to be a component of socioeconomic status, and I wanted to approach analysis in a way that would allow for items regarding material capital and human capital to "hang together" in a single measure of socioeconomic status. Beginning with all measures of assets, housing materials, infrastructure, and human capital, I began with an item reduction process based on the theoretical construct of socioeconomic status. Because this measure aims to assess a combination of material capital and perceived place in society relative to others, I began by examining correlations of potential scale items with survey questions regarding income and

perceived place on a ladder that represents society. I removed from consideration those items that were not significantly correlated with either variable or that were correlated in the opposite direction of that expected theoretically.

I then conducted a principal components analysis with remaining items and removed those that did not load significantly (factor loading>0.30) on any of the first 3 components (those that fell above the scree). I also removed items that were complex, indicated by loading equally on multiple components. I then conducted the analysis with the remaining items (N=16), which extracted 2 components, one representing material capital and the other human capital. The weighted variables produced by the principal components analysis were used in linear regression models.

The final two scales were locus of control and spirit-related locus of control. I used principal components analysis with all possible variables to identify those variables that loaded significantly on the first component. However, because weighting based on principal components analysis did not significantly change scores on the scale compared to straightforward sum scores, I elected to calculate locus of control variables based on simple sum scores.

Quantitative data analysis

All survey data were double-entered into Excel and checked for discrepancies using Excel Compare. Mistakes were corrected by returning to hard-copy surveys. All variables of interest were coded as either binary (1/0) or continuous variables. Categorical variables (e.g. water source, type of work) were converted into a series of binary (dummy) variables. Items on each scale were finalized and then converted into sum scores, as described below, for univariate, bivariate and multivariable analyses.

Sum scores for each scale were calculated based on the scoring system used. Instruments assessing general trauma, earthquake-related trauma, and daily stressors

consisted of a series of dichotomous questions (yes/no), so scores on these scales were calculated by summing participants' responses on each question (coded as 1/0). For general locus of control, spirit-related locus of control, social support, and the three mental health screening tools, scores for each item ranged from 0 to 4 and were summed. For socio-economic status and human capital, principal components were converted into weighted variables, which were used as continuous variables for bivariate analyses. For multivariable analyses, scores were converted into quintiles to facilitate interpretation.

Exploring hypothesized predictors of mental distress

Because specific *a-priori* hypotheses were not being tested, I began analysis with an exploration of variables potentially associated with each of the mental health measures. I assessed psychometric properties of all measurement scales and descriptive statistics for all variables. I then calculated bivariate correlations between possible predictor variables and the mental health screening tools. Finally, I constructed multivariable linear regression models using backwards selection procedures, considering for inclusion all variables with significant bivariate associations with the mental health outcomes. I describe these steps in greater detail below.

I assessed internal consistency of each scale using Cronbach's alpha, as well as examining the influence of each item by calculating the resulting Cronbach's alpha if that item were to be removed from the scale. I then used Pearson coefficients to calculate bivariate correlations among summary scores on the mental health screening tools (Zanmi Lasante Depression Symptom Inventory (ZLDSI), culturally adapted Beck Anxiety Inventory (BAI), Kreyòl Distress Idioms screening tool (KDI), and Kreyòl Function Assessment (KFA)) and the hypothesized predictor scales (traumatic events,

earthquake-related trauma, daily stressors, social support, socio-economic status, human capital, locus of control, and spirit-related locus of control).

To identify predictors of mental distress, I constructed a series of multivariable linear regression models. I used mean imputation to account for missing values on the mental health screening tools, with mean scores on answered items multiplied by the number of items on the scale. These imputed sum scores were treated as continuous dependent variables. In addition to the hypothesized predictor variables described above, variables considered for inclusion in the models were: age, sex, religion, engages in agricultural work, alcohol use, having a household member with significant mental distress, and the hypothesized predictor scales discussed above. Socio-economic status and human capital were converted to quintiles. All other predictor scales were standardized to facilitate comparison across a one-standard deviation change in each scale.

I used ordinary least squares and backward elimination procedures (α to stay=0.05) to arrive at final models. For individual predictors, t-tests were used to assess significance of predictor variables (α=0.05), and for significance of the group predictor (religion), chunk F-tests were used. The fit of the linear model was evaluated using residual diagnostics, partial residual plots, Cook's distance, and variance inflation factors.

Results

Sample

Overall, there was a 96% response rate among those approached to complete the survey, with a total of 322 respondents. Table 3 shows the demographic, socioeconomic, and mental health characteristics of the sample. Our sampling strategy is reflected in the equal numbers of males and females. Mean age was 39, with a mean

of approximately four children. Eighty-six percent reported working the land, and half reported having no work. Participants had a mean three years of education, with half endorsing ability to read.

Of the eight traumatic events inquired about on the survey, respondents had experienced a mean of three. Additionally, of the four earthquake-related traumatic events, participants reported a mean of two. Mean score on the ZLDSI following mean imputation was 13.4, with 46% of participants meeting the cut-off indicative of depression. Mean score on the BAI following mean imputation was 16.0, for the KDI 14.0, and for the KFA 9.2. Approximately twelve percent of respondents indicated current suicidal ideation, and one percent reported a past attempt. These individuals were referred to Zanmi Lasante's Mental Health and Psychosocial Services team.

Table 3a: Demographic and mental health characteristics of survey participants, April – May, 2013 (N=322)

Variable	N (%)	Mean (range)
Demographics		
Female	160 (49.7)	
Age		38.6 (18 – 85)
Married (including common law)	231 (71.7)	
Number of children		3.7 (0 – 14)
Religion		
Catholic	175 (54.4)	
Protestant	139 (43.2)	
Hypothesized predictors of mental distress		
Social support[a]		11.6 (3 – 24)
Traumatic events		3.1 (0 – 8)
Daily stressors		7.4 (1 – 14)
Earthquake-related trauma		1.8 (0 – 4)
Mental health		
ZL Depression Symptom Inventory		13.4 (0 – 30)
Depression	147 (45.8)	
Beck Anxiety Inventory		16.0 (0 – 55)
Kreyòl Distress Idioms		14.0 (0 – 30)
Kreyòl Function Assessment		9.2 (0 – 18)
Any suicidal ideation	38 (11.9)	
Previous suicide attempt	3 (0.95)	

a. The social support scale is based on reported ease of receiving help or support for a set of 9 items (scored 1-4); higher score represents greater social capital.

Work		
Works the land	277 (86.0)	
Employment		
No work	164 (50.9)	
Skilled	67 (20.8)	
Commerce	62 (19.3)	
Unskilled	29 (9.0)	
Time to work (min)		45.6 (0 – 360)
Socioeconomic status		
Education (years)		2.9 (0 – 15)
Literate	162 (50.3)	
Income (Haitian goud; 1 USD = 42 goud)		1,616.7 (0 – 15,000)
Owns property	167 (51.9)	
Owns house	261 (81.1)	
Perceived place on social ladder[a]		3.4 (1 – 8)
Living Conditions		
Household members		5.4 (1 – 16)
Time to clinic (min)		69.8 (4 – 300)
Drinking water source		
Spring	205 (64.3)	
Well/pump	86 (27.0)	
Lake/river	22 (6.9)	
Time to water (min)		41.2 (0 – 240)
Housing materials		
Walls		
Mud	132 (41.1)	
Rock	72 (22.4)	
Cement	67 (20.8)	
Wood	47 (14.6)	
Roof		
Tin	247 (76.7)	
Straw/leaves	68 (21.1)	
Floor		
Dirt	247 (76.7)	
Concrete	58 (18.0)	
Fence	41 (12.9)	
No toilet	217 (68.0)	
Latrine	101 (31.7)	

Table 3b: Socioeconomic characteristics of survey participants, April – May, 2013 (N=322)

a. *Based on the question: "Imagine this ladder represents your society. The top rung is people who have more money and assets and better work. The bottom rung is people who have less money, fewer assets, and worse work or no work at all. Please touch where you think you are on the ladder rungs."*

Psychometric properties and bivariate correlations

For the mental health screening tools, Cronbach's alpha was high (ZLDSI: α=0.75; BAI: α=0.88; KDI: α=0.79; KFA: α=0.73; see Table 4). The daily stressor, social support, socio-economic status, and human capital scales likewise showed good internal consistency (0.77, 0.78, 0.74, and 0.77, respectively). Cronbach's alpha was lower for the two traumatic even inventories, but we would not necessarily expect these experiences to move together (traumatic events: α=0.65; earthquake-related trauma: α=0.60). The locus of control and spirit-related locus of control scales also had slightly lower internal consistency (0.57 and 0.63, respectively). This could be partially due to the low number of items on these scales but also reflects a need for more work to improve the scales and ensure that they are measuring a unidimensional construct.

As expected, the traumatic event inventories and daily stressor scale showed moderate positive correlations with the depression, anxiety, and idioms of distress screening tools ($0.30 \leq r \leq 0.46$) and low correlations with the function assessment ($0.12 \leq r \leq 0.17$). The social support scale showed moderate negative correlations with all of the mental health screening tools and the function assessment ($-0.46 \leq r \leq -0.34$). Socio-economic status showed only a small negative correlation with depressive symptom score ($r= -0.18$) and was not correlated with other mental health screening tools, while human capital showed a low negative correlation with all scales ($-0.28 \leq r \leq -0.17$). Locus of control showed low to moderate negative correlations with all mental health screening tools ($-0.37 \leq r \leq -0.20$), while spirit-related locus of control show low correlations with only the idioms of distress ($r= -0.13$) and function assessment screening tools ($r= -0.28$). There were also moderate to high correlations among the mental health screening tools ($0.31\leq r \leq 0.80$), in particular between the ZLDSI and KDI, which share three items.

Table 4: Psychometric properties and bivariate correlations of hypothesized predictor scales and mental health screening tools

			Correlations			
Scale	α[a]	# items (final) / # items (initial)	ZLDSI (depression)	BAI (anxiety)	KDI (idioms of distress)	KFA (function)
Traumatic events	0.64	8 / 14	0.42**	0.46**	0.42**	0.17
Earthquake-related trauma	0.60	4 / 7	0.39**	0.34**	0.32**	0.14*
Daily stressors	0.76	14 / 17	0.38**	0.42**	0.30**	0.12*
Social support	0.79	9 / 11	-0.46**	-0.38**	-0.44**	-0.34**
Socio-economic status[b]	0.74	11 / 30	-0.15	n.s.	n.s.	n.s.
Human capital	0.77	5 / 11	-0.18	-0.17	-0.28**	-0.27**
Locus of control	0.57	6 / 15	-.23**	-.20**	-.30**	-.37**
Spirit-related locus of control	0.63	4 / 5	n.s.	n.s.	-0.13	-0.28**
Zanmi Lasante Depression Symptom Inventory	0.75	12 / 13	-	0.63**	0.80**, [c]	0.31**
Beck Anxiety Inventory	0.88	20 / 20	-	-	0.72**	0.35**
Kreyòl Distress Idioms	0.79	13 / 13	-	-	-	0.38**
Kreyòl Function Assessment	0.72	6 / 6	-	-	-	-

a. Standardized Cronbach's alpha
b. In regression models, socioeconomic status is measured as rank quintiles. Here it is treated as a continuous variable to be able to assess Pearson correlations
c. 3 items from the ZLDSI and KDI are the same
** p<.01*
*** p<.001*
All other correlations significant at the p<.05 level unless indicated

Predictors of mental distress

In the multivariable linear regression model for the Zanmi Lasante Depression Symptom Inventory (Table 5), 44% of the variance in depressive symptom score can be accounted for by the variables in the model. Females scored on average 3.28 points higher than males, while a 10-year increase in age was associated with an additional 0.66 points. Each step-wise increase in socioeconomic quintile was associated with a decrease of 0.58 points on the ZLDSI. Number of traumatic events experienced and earthquake-related trauma were both associated with depressive symptoms, with earthquake trauma showing a slightly higher effect size (aβ=1.05 vs. 0.87). Daily stressors showed a smaller effect size again (aβ=0.68). After female sex, social support was the predictor with the largest effect size, with a one standard deviation increase in social support associated with a drop in 1.33 points on the ZLDSI. Imputing did not meaningfully change the magnitude or significance of associated factors.

Table 5: Linear regression model of scores on Zanmi Lasante Depression Symptom Inventory, r^2 = 0.44 (N=287)

Variable	Adjusted β (95% CI)
Female	3.28 (2.21, 4.35)
Age (10 year increase)	0.66 (0.31, 1.00)
General traumatic events (z)	0.87 (0.25, 1.50)
Earthquake-related trauma (z)	1.05 (0.45, 1.65)
Daily stressors experienced (z)	0.68 (0.07, 1.29)
Amount of social support (z)	-1.33 (-1.90, -0.77)
Socioeconomic status (quintile)	-0.58 (-0.95, -0.21)

95% CI: 95% confidence interval

There were similar associations of predictor variables with the BAI and KDI. This is consistent with previous findings that items on the KDI are more closely associated with the BAI than the BDI (Kaiser, et al. in press). In linear regression models for both screening tools, these variables collectively explained a high percent of variance in outcome measure scores (BAI: r^2=0.43; KDI: r^2=0.47). For both screening tools, females had higher scores than males (BAI: aβ=5.78; KDI: aβ=4.04). Likewise, general traumatic events were more strongly associated with symptom score than earthquake-related trauma, with approximately twice the effect size (BAI: aβ=2.15 vs. 1.05; KDI: aβ=1.38 vs. 0.83). Social support and human capital score were associated with lower scores on both screening tools (BAI: aβ= -1.65 and -1.14, respectively; KDI: aβ= -1.54 and -1.18, respectively). Working the land and daily stressors were only associated with BAI and not KDI scores (aβ=3.33 and 1.57, respectively), while a 10-year increase in age was associated with a half-point increase on the KDI only.

Table 6: Linear regression model of scores on culturally adapted Beck Anxiety Inventory, r^2 = 0.43 (N=287)

Variable	Adjusted β (95% CI)
Female	5.78 (3.85, 7.72)
Works the land	3.33 (0.75, 5.91)
Total traumatic events (z)	2.15 (1.06, 3.23)
Earthquake-related trauma (z)	1.05 (0.02, 2.08)
Total social support (z)	-1.65 (-2.62, -0.68)
Daily stressor total (z)	1.57 (0.51, 2.64)
Human capital score	-1.14 (-2.05, -0.22)

95% CI: 95% confidence interval

Table 7: Linear regression model of scores on Kreyòl Idioms Distress screening tool, r^2 = 0.47 (N=292)

Variable	Adjusted β (95% CI)
Female	4.04 (2.90, 5.19)
Age (10 year increase)	0.50 (0.13, 0.88)
Total traumatic events (z)	1.38 (0.77, 1.99)
Earthquake-related trauma (z)	0.83 (0.23, 1.42)
Total social support (z)	-1.54 (-2.11, -0.98)
Human capital score	-1.18 (-1.75, -0.61)

95% CI: 95% confidence interval

Discussion

Predictors of mental distress

In this chapter, I present the results of my community-based epidemiologic survey (N=322) exploring vulnerability and resilience to mental distress. For the most part, the findings are similar to those from my research team's previous work in Haiti (Kaiser, et al. 2013; Kaiser, et al. in press; Wagenaar, et al. 2012; Wagenaar, et al. 2013) and is consistent with literature from other settings. At the same time, there are several findings that are inconsistent with existing literature. Below, I explore what might account for such differences in the context of Haiti and describe future directions in qualitative and quantitative research to further investigate and make sense of these findings.

On all measures of mental distress, females scored substantially higher than males. Similarly, increased age was associated with higher scores on both the depressive symptom inventory and idioms of distress screening tool. These two findings are consistent with much literature in both high and low-and-middle-income countries (Cochrane 1993; Paykel 1991; Thapa and Hauff 2005; Wilhelm, et al. 2008; Worthman

and Costello 2009). Future research could explore why these patterns are seen in Haiti in particular. Ethnographic research that examines gender roles, decision-making, and sense of agency might be particularly informative. For example, in a comparison of social support and depressive symptom burden by sex, social support was associated with a stronger decrease in depressive score among males than among females. Likewise, human capital score was associated with a greater decrease in anxiety symptoms among males than among females. Both of these interaction effects disappeared in multivariable models. Nevertheless, these findings suggest that there might be sex differences in ability to capitalize on perceived or actual non-material resources, including support from others in one's social network, as well as opportunities that are possible due to one's education and training. It might be that the case that males are more able to benefit from or actualize these potential supports, and future research should explore this possibility.

Another consistent finding was the positive association between trauma and mental distress, as measured by all screening tools. These findings are in line with those of multiple systematic reviews and meta-analyses (Norris, et al. 2002; Porter and Haslam 2005). While experiences of earthquake-related trauma and general trauma had similar effect sizes in relation to depressive symptom scores, for anxiety symptom scores, the effect size was almost double for general trauma compared to earthquake-related trauma, with the idioms of distress screener showing a similar pattern. This finding might be attributable to differences in the scales: the general trauma scale assessed experience of multiple traumatic events, whereas the earthquake-related trauma scale assessed extent of impact of a singular event. As I explore in the next chapter, experience of multiple traumatic events can be related, as one traumatic event can leave one vulnerable to another. Future research could explore what types of trauma are most impactful in this setting, as well as identifying underlying vulnerabilities

– perhaps tied to structural violence – that make certain individuals more susceptible to the experience of traumatic events that shape mental distress.

In my survey, I also found that greater perceived social support is associated with less mental distress across all measures. Such findings are also well-established in previous literature, as the positive association between social support and better mental health is one of the more robust findings in cross-cultural mental health research (cf. Almedom 2005; Pilgrim, et al. 2009; Thoits 2011). It is also clear in this literature that social support is a complex, multifaceted construct, and future research should explore what aspects of experience the perceived social support scale is measuring and the mechanisms whereby it shapes mental health in this setting. For example, researchers have proposed that social support includes emotional, appraisal, informational, and instrumental components, and each of these could be separately measured to assess what components are most influential (House 1981). Other researchers have suggested that related constructs such as social networks, social integration, and social capital might be accounting for the positive effects on mental health outcomes (Almedom 2005; Berkman and Glass 2000; Cruwys, et al. 2013; Kawachi and Berkman 2000; Kawachi and Berkman 2001). These constructs could also be teased apart through more in-depth ethnographic work to inform development of nuanced measures.

My ethnographic findings from the third round of data collection lend support to the argument that these effects must be further differentiated. For example, I found that the "resilient" individuals with whom I spent a great deal of time did not necessarily have a greater number of social interactions compared to "distressed" individuals.[1] However, the "resilient" individuals did appear to have more consistent and predictable – often scheduled – social interactions. They were also further embedded in social organizations

[1] See chapter 3 for description of how "resilient" and "distressed" individuals were defined and identified.

and had wider social networks. I did not quantitatively assess these differences, but future research could do so in order to directly test the differential effects of these various components of social integration and social networks.

Additionally, I found that “resilient” individuals engaged more frequently in social interactions centered on helping others, such as being called upon to pray for people who are sick or undergoing surgery, going regularly to a mission or fast to support others, or serving as a church deacon and counseling others. Scholars have likewise found in other settings that providing social support is associated with better mental health (Brown, et al. 2003; Maes, et al. 2010). For example, Maes and colleagues (2010) found that, despite the onset of the global food crisis, volunteer caregivers in Ethiopia experienced a decrease in symptoms of common mental disorders, which was the opposite direction of that seen in a population sample. Such findings could potentially reflect several things, such as the satisfaction of being needed or a shift in perspective from gaining insight into the lives of those who are worse-off. Indeed in my sample, many participants made statements along these lines. For example, I spoke with one participant the day after she found out that she had failed her final year of schooling and would have to repeat it. Describing her reaction, she said, “Other people have bigger problems, so I will work even harder next time.” Another possibility is that helping others provides a sense that one will receive one’s due. For example, one participant explained, “When you go far away to do God’s work, when you do good things, He hears your prayers.” Another explained, “Christians don’t have problems; they have projects.” Future work could focus more explicitly on testing these hypothesized explanations for the association found between social support and better mental health outcomes.

Importantly, these findings do not necessarily mean that the social world – whether social integration, social capital, social networks, etc. – has a positive effect on mental health. It might be the case that individuals with better mental health are more

inclined and able to engage socially. Alternatively, this could simply be a spurious relationship; perhaps a third variable like wealth accounts for both better mental health and social engagement outcomes. Indeed, my findings – and that of much scholarship – shows a positive association between socioeconomic status and mental health (cf. Ng, et al. 2014). A combination of longitudinal quantitative and ethnographic work could begin to gauge both the mechanisms and direction of causality regarding these complex phenomena.

The demonstrated associations of my mental health screening tools with several well-established predictors of mental distress, as described above, provide strong evidence of convergent validity of these locally developed and culturally adapted instruments. At the same time, several elements of my findings differ from other anthropological work and raise questions to be explored in future research. For example, although daily stressors are significantly associated with mental distress in this sample, the effect size is smaller than that of traumatic events. Furthermore, measures of non-material stress, including locus of control, were not significantly associated with mental distress in any of the final multivariable regression models.

Other researchers have found associations of mental distress with daily and non-material stressors to be equal to or even stronger than that of traumatic events (Baker 1990; Kohrt, et al. 2008; Konstantareas and Lampropoulou 1995; Miller, et al. 2008; Panter-Brick, et al. 2008; Punamaki 1990; Weaver and Hadley 2009). Perhaps in Haiti, traumatic events are a more salient driver of variation in mental health outcomes than daily stressors. At the same time, it might be the case that measures of daily stressors and non-material stressors require further work to improve their ethnographic validity. For example, I incorporated a food insecurity measure into my survey, but it yielded so little variability that I did not include it in further analysis. On the measure – Perez-Escamilla et al.'s (2009) Kreyòl translation of the Latin American and Caribbean

Household Food Security Scale – almost all participants scored between 14 and 16 points on a 16-point scale. In chapter 5, I explore ethnographic findings that appear to question my quantitative results regarding spirit-related locus of control. Such findings emphasize the necessity of strong measures that are both ethnographically valid and able to detect variability in experiences. Future research should ensure that measures of daily stressors and in particular non-material stressors have undergone extensive development and testing to ensure their functionality and validity and lend confidence to conclusions drawn based on such measures.

Conclusion

This community-based epidemiologic study for the most part yielded results that are consistent with anthropological and other literature regarding vulnerability and resilience to mental distress. My findings also raise several questions and generate hypotheses that can be tested in future research. One important area will be to explore the mechanisms accounting for the association between social support and better mental health outcomes, in particular differentiating social networks, social integration, and social capital. Future work should also engage in rigorous measure development that assesses systems of meaning-making like locus of control, as well as non-material stressors, in order to use anthropological theory to inform hypothesis testing in the realm of mental health. The combination of measures of mental distress used in this study highlight the strengths of merging anthropological and epidemiological theory and methods. The use of ethnographically-grounded measures enables identification of predictors of mental distress that are locally-meaningful. Furthermore, two of the screening tools – a culturally-adapted measure of anxiety and a locally developed and validated measure of depression – allow for cross-cultural comparison to Western psychiatric constructs. Used in combination, these screening tools achieve an effective

balance between potentially competing aims of ethnographic validity and cross-cultural comparison within cross-cultural mental health work (Weaver and Kaiser 2014).

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Chapter 5: Sent spirits, locus of control, and the socio-spiritual world in Haiti

ABSTRACT

As described in chapter 3, my survey was an effort to unite anthropological and epidemiological approaches in exploring drivers of mental distress and wellbeing. In particular, I included among the survey measures not only traumatic events and material stressors – which have well-established associations with mental illness – but also non-material stressors, social relationships, and locus of control. In this way, I sought to expand the lens of consideration beyond typical epidemiologic measures, in order to consider how "culture" and socio-ecology play into mental health and illness. Among the novel elements that I explored were notions of control regarding the spirit world. In previous interviews, I had encountered numerous stories regarding "sent spirits," or examples of individuals using the spirit world to inflict harm, including mental or physical illness or even death. In my survey, I hypothesized that an external locus of control regarding the spirit world – believing that one had neither cognizance nor control over the occurrence of "sent spirits" – would be associated with poorer mental health. On the contrary, I found that in certain contexts, an external spirit-related locus of control is associated with *better* mental health outcomes.

It is this counter-intuitive relationship that I explore in chapter 5. I suspect that the key to understanding how an external spirit-related locus of control could be protective lies in the links between the social world and the spirit world. During my fieldwork, I collected narratives of sent spirits, the quintessential example of the social and spirit worlds colliding. I argue that narratives regarding sent spirits are fundamentally social narratives, reflecting links among structural forces, socioeconomic status, and restricted social mobility. These stories are rife with jealousy, inequality, and forms of social control, born in the material world, yet enacted via the spirit world. I argue that narratives that draw on the spirit world as a means of explaining misfortune potentially function to displace blame from impoverished, disempowered individuals, yet at the same time draw attention away from the social inequalities and forms of structural violence that are the root causes. Sent spirit narratives thus provide another example of the way that a dual focus on systems of meaning-making alongside structural violence provides nuanced insight into experiences and expressions of mental distress.

Introduction

During my team's fieldwork in 2010 and 2011, we heard numerous stories of the ways that people interact with, seek help from, and can be harmed by the supernatural world. Haitian concepts of the supernatural world are complex and have been described by a vast literature (e.g. Brodwin 1992; Brodwin 1996; Brown 1991; Dayan 1995; Larose 1977; Métraux 1972[1959]). Interactions with the supernatural world are likewise both diverse and complex, including numerous ways that benefits can be bestowed and harm can be wrought.

These issues were of particular interest and relevance to us as we planned our study, due to the way that international scholars and humanitarian workers described that notions of supernatural harm relate to mental health and illness. We heard numerous examples of individuals stating that Haitians make sense of mental illness as having supernatural causation, including in the oft-cited WHO/PAHO literature review of culture and mental health in Haiti, which was released following the 2010 earthquake (2010). Scholars linked supernatural explanations of mental illness to treatment-seeking behaviors, claiming that Vodou explanatory models for mental illness precluded biomedical treatment-seeking. We found this claim regarding treatment-seeking not to bear out, as people instead seek multiple sources of care and report that biomedical care is inadequate. At the same time, we did find explanations of supernatural harm to be one of the key ways that rural Haitians make sense of mental illness (Khoury, et al. 2012). Indeed, we heard numerous stories of ways that community members could do harm to each other via the spirit world, with the help of an *hougan* (Vodou priest). While any particular case was typically marked by ambiguity – this *could* be due to spirits, but it could be something else – it certainly was the case that these forms of supernatural harm were widely perceived to be very real possibilities that existed.

Recognizing that supernatural harm is considered to be a very real, yet ambiguous threat, I hypothesized that this threat could represent a particularly anxiogenic experience. This chapter explores this hypothesis, asking whether threats of supernatural harm might come to generate atypical distress. Collectively, anthropological theory could enable us to explain how life experiences, understood through the cultural lens of Vodou, might in some cases produce anxiety that becomes all-consuming. I do not suggest that spirit-related anxiety is somehow a hallmark of Haitian Vodou; rather, I explore why some people might experience this phenomenon and suggest how it might be studied in other contexts. An alternate explanation is that mental distress simply reflects deeper structural inequalities (Farmer 1992), a theory that discounts any potential causal role of meanng-making, including notions of supernatural harm. This chapter assesses the explanatory power of these competing anthropological theories, examining whether cultural explanations represent an important component of the production of mental distress independent of structural inequalities.

Anthropology of religion

As part of their recommendations for the “next fifty years” of medical anthropology, Marcia Inhorn and Emily Wentzell (2012) explicitly call for medical anthropologists to engage in interdisciplinary work that attends to religion and faith, particularly as they relate to health and healing and recognizing how they shape local moral worlds. Within the vast anthropological literature regarding religion, several key concepts are particularly relevant for understanding the association between threats of supernatural harm and mental health. The first set of key concepts involves a seeming contradiction within work undertaken by anthropologists focusing on the psychological or affective effects of religion. While many such scholars have highlighted that religion and ritual involve a psychological function of enabling coping with unpleasant emotions and

uncontrollable situations (Crapo 2003; Malinowski 1935; Morris 2006; Sosis and Handwerker 2011), other anthropologists have theorized that religion can not only alleviate but actively produce anxiety (Homans 1941; Kroeber 1963; Radcliffe-Brown 1933; Tomlinson 2004). I explore both sides of this apparent tension and how they might relate to meaning-making and mental health in Haiti. The second set of concepts that are particularly relevant here derive from central tenets of a sociological approach to the anthropology of religion: that religious beliefs, values, and practices are the products of social relations and social structures and that religion can, in turn, influence social life and cultural meanings (Durkheim 1961[1912]; Radcliffe-Brown 1922; Weber 1930[1904]). Below I review these core concepts from the anthropology of religion, with a focus on studies of witchcraft and sorcery, an area in which concepts regarding psychological/affective and sociological interpretations of religion interplay. I then examine how these broader themes relate to scholarship on religion, sorcery, and meaning-making in the context of Haiti.

Scholars have long argued that religion and magic have a role in either contributing to or alleviating anxiety. Much of this work is in the context of ritual, particularly examining the cathartic and anxiolytic effects of ritual (Geertz 1973; Obeyesekere 1981; Scheff 1977; Sosis and Handwerker 2011). For example, Malinowski contrasts scenarios in which Trobriand Islanders do or do not use rituals, in order to argue that religion and magic are systems of practice for coping with uncertainty (Malinowski 1935). Before embarking on dangerous fishing expeditions on the open sea, where storms could arise suddenly and prove life-threatening, fishermen would engage in rituals to ensure success. However, when fishing in relatively safe lagoons, they would not engage in ritual preparation. Malinowski thus argues that religion makes life more predictable and secure, ultimately helping to reduce anxiety surrounding uncertainty. Such arguments have been adopted by many anthropologists of religion (see Crapo

2003; Hicks 2010; Morris 2006). At the same time, anthropologists have argued that religious beliefs can act to *produce* anxiety, including in the context of Haiti (Bijou 1963; Métraux 1972[1959]; Philippe 1981). For example, some have argued that religion presents a source of stress, raising uncomfortable questions, enhancing interpersonal tensions, or engendering social separation (Crapo 2003). In particular, witchcraft and sorcery beliefs are held to be a source of fear and anxiety (Métraux 1972[1959]).

Witchcraft, sorcery, and society

"Witchcraft and the occult in Africa are a set of discourses on morality, sociality and humanity: on human frailty. Far from being a set of irrational beliefs, they are a form of historical consciousness, a sort of social diagnostics […] that try to explain why the world is the way it is, why it is changing and moving in a particular manner at the moment" (Moore and Sanders 2003:20).

There is extensive anthropological scholarship on witchcraft and sorcery (e.g. Auslander 1993; Bockie 1993; Geschiere 1997; Jackson 1989; MacGaffey 1986; Van Binsbergen 1981). Traditionally, sorcery – the use of ritual practices to inflict harm on another – is considered as distinct from witchcraft – an innate and sometimes unrecognized ability to harm another without the use of ritual (Crapo 2003). While early anthropologists worked to differentiate witchcraft from sorcery, others have found this distinction to be impossible in many settings and have argued that each context should instead be described in its own particular terms (Ashforth 2001; Crick 1970; Evans-Pritchard 1937; Favret-Saada 1980; Moore and Sanders 2003; Stewart and Strathern 2004). Haiti is one such setting where traditional distinctions are less useful. While the below discussion will focus on witchcraft, many of the anthropological analyses have been equally applied to sorcery (Crapo 2003; Swanson 1964; Whiting 1950).

Evans-Pritchard's *Witchcraft, Oracles, and Magic among the Azande* (1937) is considered the most influential contribution to an anthropological understanding of witchcraft, and this early work presents many concepts that remain central to

anthropology today. His psychological and sociological study is one of those supporting the notion that witchcraft beliefs can have positive effects on mental health by decreasing anxiety (Beattie 1964; Favret-Saada 1980). Evans-Pritchard argues that witchcraft provides explanations for misfortune, attempting to answer ultimate "why" questions, as well as offering a means to address them. To understand the implications of such magical interpretations, it is important to recognize that witchcraft is considered a part of everyday experience, with Zande expecting to be bewitched from time to time. Other scholars have adopted a similar approach in emphasizing witchcraft's pragmatic nature, claiming that witchcraft is not an issue of belief or disbelief but – within the societies being studied – it is a given aspect of the world, "a force that is both self-evident and solemnly real" (Ashforth 1996; Ashforth 2001; Bastian 2001; Moore and Sanders 2003:4; Van Dijk 2001).

Evans-Pritchard further posits that witchcraft has a moral dimension, serving as an expression of what society deems moral and immoral. Evans-Pritchard reasons that, rather than simply reflecting moral principles, witchcraft beliefs function to *control* social behavior in a dual manner. First, individuals are careful not to offend others in order to avoid being bewitched, and second, they attempt to conform to socially acceptable behaviors so as not to be accused of witchcraft, as "witches are those whose behavior is least in accordance with social demands" (Evans-Pritchard 1937:112). Scholars who followed Evans-Pritchard often emphasized this social control aspect of witchcraft, particularly the notion that witchcraft functions as a set of injunctions regarding social relations and moral behavior (Gluckman 1944; Marwick 1964; Mitchell 1956; Turner 1957). To these scholars, witchcraft is meaningful precisely because it *does* something, in addition to serving as a "social strain-gauge" (Marwick 1964) or "matter of social diagnostics" (Moore and Sanders 2003).

The moral injunctions imposed via witchcraft also highlight the particularly social elements of religion and magic. For example, many have found that the effects of witchcraft are strongest within closer relationships or that it only functions within relationships already marked by tension (Douglas 1970; Evans-Pritchard 1937; Marwick 1964; Van Binsbergen 1981). Evans-Pritchard and others argue that witchcraft accusations are not random but that it is rivals or enemies who are accused. Beattie (1964) makes a similar argument regarding ghosts, arguing that they attack people as a means to avenge mistreatment they encountered during life, in a system that is both a social sanction against immoral behavior and a powerful incentive to treat others well.

More recently, anthropologists have explored witchcraft and sorcery in relation to social change, particularly in the context of modernization and globalization (cf. Comaroff and Comaroff 1993; Moore and Sanders 2003; Stewart and Strathern 2004). These studies often tie witchcraft to moral injunctions against illicit power and illicit accumulation: “A large body of evidence from Africa suggests that witchcraft and other occult practices are intimately bound up with people’s ideas about production, exchange and consumption […] the processes of differentiation and privation that result are viewed as predatory and illicit forms of exchange” (Moore and Sanders 2003:15). Some anthropologists have argued that witchcraft can be seen as a form of political action “from below,” preventing improper accumulation or the expansion of social inequalities to a level beyond a community’s control (Masquelier 2000; Moore and Sanders 2003). Many of these scholars explicitly critique prior scholarship of witchcraft, sorcery, and the occult for portraying systems of beliefs and practice as static, whereas studies in relation to modernization, globalization, and social change underscore the changing nature of both magic phenomena and their interpretations.

Vodou

This review of anthropological literature is helpful for situating scholarship regarding Vodou, which remains one of the most misunderstood religions (Mintz 1972). Sociological interpretations are particularly relevant: anthropological theorists have argued that uncertainty around Vodou ritual is vital in maintaining social structure, and Vodou spiritual concepts can mirror one's disparate social relationships (Brown 1987; James 2010a; Laguerre 1987; Larose 1977; Richman 2005). From a psychological or affective perspective, much has been written about the cathartic effects of ritual and trance, including in Haiti (e.g. Bourguignon 1973; Lowenthal 1978; Scheff 1977). At the same time, several scholars have argued that Vodou notions of supernatural harm might be anxiogenic (Bijou 1963; Métraux 1972[1959]; Philippe 1981): "It must be remembered that beliefs and 'folklore' practices are not always harmless superstitions. For many they are a source of anxiety and a cause of serious expense" (Métraux 1972[1959]:268).

Just as witchcraft is taken to be a given in many African societies – rather than something that is "believed" in or not – so too are Vodou concepts regarding spirits widely if not entirely taken for granted in Haiti, regardless of the extent to which one engages in Vodou practices (Brodwin 1996; Deren 1953; Farmer 1994; Métraux 1972[1959]). Instead of a mystical focus, people are concerned with the pragmatics of how Vodou ritual and interactions with the supernatural world play out in their daily lives. In this way, Alfred Méxtraux (1972[1959]) and Maya Deren (1953) have described Vodou as a practical and utilitarian religion. Vodou "does not assume the existence of a two-storey universe" (Brown 1991:347); instead, God and *lwa*-s (spirits) actively engage in ordinary human life. In particular, *lwa*-s are seen as guardians and are actively involved in issues of relationships, employment, sustenance, and other everyday human concerns (Brown 1991).

Lwa-s are considered particularly relevant in relation to misfortune. Although illness and misfortune are sometimes explained as punishment for neglect of familial *lwa*-s (Dayan 1995; Deren 1953; Kiev 1961; Lowenthal 1978), supernatural harm can also be sent from one person to another by multiple means via a *boko* (sorcerer) (Brown 1991; Larose 1977; Métraux 1972[1959]; Richman 2005). Within Haitian ethnopsychology, such harm is possible because the person is thought to be susceptible to having other beings enter and control them (Brodwin 1996; Métraux 1972[1959]). While *hougan*-s and *mambo*-s (Vodou priests and priestesses) are associated with healing, they can sometimes "serve with both hands," engaging in black magic (Larose 1977). It is common for *hougan*-s and *mambo-s* to proclaim that they do not engage in such bad magic (Métraux 1972[1959]).

Harm or even death might be wrought by a *boko* sending an invisible entity or the spirit of a dead person upon someone *(*alternatively called *ekspedisyon* or *maladi mò*). Alternatively, they can cause someone to come in contact with an object or powder that has been endowed with magical power (often called *kout batri* or *kout poud*; Brodwin 1996; Métraux 1972[1959]). When the harm that results from a sent spirit takes the form of illness, it is referred to as *maladi Satan* (illness of Satan), in contrast to *maladi Bondye* (illness of God; Brodwin 1996). These illnesses are not attributed to the supernatural agents after which they are named but simply denote human-caused versus natural illness.

These forms of "sent spirits" are distinct from the phenomenon of zombification, which is revivifying someone thought to be dead, which allows a *boko* to control and ultimately enslave them (Brodwin 1996; Brown 1987; Larose 1977). Sent spirits and zombification – all acts of a *boko* – are further distinguished from the supernatural harm

wrought by *lougawou,* female "werewolves" or shape-shifters[1] who eat children and are thought of as analogous to witches in other settings (Métraux 1972[1959]).

Within this landscape of supernatural threats, I will be focused on the various ways that harm can be sent at the request of a *boko*. Although some authors refer to these collectively as "sent sickness" (Brodwin 1996; Farmer 1990), I use the term "sent spirit" to denote that such forms of harm are not limited to illness but can include business failure, accidents, and other misfortunes. As we saw in chapter 2, such experiences of supernatural harm can raise questions of moral status, as it is ambiguous whether or not the misfortune was potentially merited (Brodwin 1996). Brodwin points out that his informants are careful to proclaim their innocence in such scenarios.

Spiritual insecurity

Some have argued that the mere existence of such supernatural threats would inevitably produce anxiety and uncertainty (Bijou 1963; Métraux 1972[1959]; Philippe 1981). Within the anthropology of religion, scholars have conceptualized various means of understanding anxiety brought about by religion. Adam Ashforth (2002; 2011) coined the term "spiritual insecurity" to describe uncertainty regarding relations with the supernatural world. Examining witchcraft and modernization in Sub-Saharan Africa, Ashforth highlights the uncertainty that can arise due to rapid social change in a context where numerous "frameworks of interpretive authority" exist. He examines how dynamic and sometimes competing interpretations of relations with the supernatural world can become a source of anxiety. He defines spiritual insecurity as "the sense of danger, doubt, and fear arising from efforts to manage relations with invisible forces" (Ashforth 2011:S133). For Ashforth, other humans are a significant component of spiritual

[1] The typical translation for *lougawou* is werewolf, but the concept of *lougawou* shares few characteristics with the mythological figure of a werewolf. I prefer the term "shape-shifter," which more accurately captures the description of *lougawou*.

relations, often initiating misfortune sent via spirits. Importantly, *awareness* of spiritual beings is not sufficient to produce insecurity; rather, spiritual insecurity is marked by several further components. First, it occurs in the context of some experience of distress, which can range from mild anxiety to life-and-death fears. Second, this suffering is interpreted as harm or malevolence.

The concept of spiritual insecurity fits clearly with Haitian ethnopsychology and Vodou reviewed above (Brodwin 1992; Brodwin 1996; Métraux 1972[1959]; Richman 2005). There is perceived susceptibility to supernatural harm initiated by other humans via sent spirits. The effects of sent spirits can range from bad luck to illness and death (Brodwin 1996; Farmer 1994). As a result, when a supernatural causation of illness is possible, one might become obsessed with identifying its origin (Farmer 1994). These elements of Haitian ethnopsychology fit clearly in the paradigm of spiritual insecurity, as there are myriad ways in which the social and spirit world interact to produce misfortune; fear of such attacks can become all-consuming, generating significant anxiety; and harmful effects can be mild or severe. In this way, spiritually insecure individuals might be those who consider themselves (or humans generally) as particularly vulnerable to sent spirits, while spiritually secure individuals believe that they can either prevent such harm or are otherwise immune to attack. These differences do not represent general religiosity or religious engagement but are specific to perceived susceptibility to one particular form of supernatural harm.

In this chapter, I explore the potential relationship between perceived hreats of supernatural harm and mental health. Spiritual insecurity is a useful construct for such an investigation. First, as many anthropologists have agued regarding witchcraft and sorcery, the occurrence of sent spirits is not a question of beliefs – since these phenomena are assumed to exist. Instead, we are interested in the perceived level of personal susceptibility to harm enacted via the spirit world. Unlike beliefs in the

possibility of witchcraft and sorcery, which essentially do not vary, beliefs in the *probability* of personal harm likely vary within a society, making it possible to gauge the relationship between perceptions of susceptibility and mental health. In this way, the concept of spiritual insecurity is a useful means of tapping into *differential* interpretations in relation to the spirit world. Second, although many anthropologists have established that religion and magic can decrease anxiety, spiritual insecurity might be considered a breakdown in the extent to which magico-religious beliefs can be actively anxiolytic. A third and related point is that examining the potential relationship between spiritual insecurity and mental health allows us to test hypotheses generated by the seemingly competing claims regarding the anxiolytic versus anxiogenic effects of religion.

The relationship between these supernatural ways of making sense of the world and mental health has not been rigorously explored in Haiti. However, the dynamics of uncertainty, distrust, and fear surrounding spirit relations appear to be a potentially important system of distress. In fact, in our 2011 epidemiologic study involving 408 people in the Central Plateau, we asked participants what might cause mental distress, with response options such as relationships and traumatic events. We found that those who named spirits as the primary cause of mental distress had depressive symptom scores[2] three times greater than those who named other causes as primary, and these individuals were significantly more likely to endorse thoughts of suicide (unpublished data; cf. Kaiser, et al. in press; Wagenaar, et al. 2012; Wagenaar, et al. 2013). However, spirit-related notions of causation of mental distress represented, if anything, a crude proxy for perceived threats of supernatural harm. I expected there to be variation in the extent to which people endorsed threats of supernatural harm and sought to capture these perceptions in a more nuanced way. Furthermore, I anticipated that it would be

[2] These scores were based on the culturally adapted version of the Beck Depression Inventory, which we used to measure depression symptom burden before a locally validated scale was available.

possible to test whether differences in perceived threat of supernatural harm relate to differences in mental health outcomes. These questions were incorporated into the development of my epidemiologic survey.

Spiritual insecurity: quantitative findings

As described in chapter 3, my 2013 survey included a measure of spirit-related locus of control. This measure sought to assess the extent to which people's perceptions match a cultural model of "external" spirit-related locus of control (Dressler 2005). This measure could also be labeled according to Ashforth's concept of "spiritual insecurity." I will adopt this term throughout the chapter, as it neatly captures the uncertainty that I am attempting to explore through the survey measure, as well as situating it within anthropological literature.

I developed the measure of spiritual insecurity by drawing on ethnographic work. During my first round of interviews and participant observation, I identified various perceptions regarding sent spirits, including whether one can predict or prevent sent spirits; what forms of harm are possible; and how to reverse or treat spirit attacks. I selected those concepts that had yielded variable opinions in initial interviews for inclusion in the spiritual insecurity scale. I developed these concepts into statements with which participants could agree or disagree, drawing on common forms of expression used in interviews (see Table 1). For example, participants often drew parallels between prevention of natural sickness and prevention of supernatural harm, so an item was developed based on this framing: "Just like protecting myself from illness, I can protect myself from bad spirits."

In the survey, participants were asked to what extent they agreed with each statement, based on a 4-item Likert scale from strongly disagree (scored as 1) to strongly agree (4; see Table 1). The final four-item scale had a moderate degree of internal consistency (Cronbach's α = 0.63), which is somewhat to be expected with a scale of this length. Two of the items were reverse scored so that higher scores consistently represented spiritual insecurity. Potential scores ranged from -6 to 6, with actual scores ranging from -5 to 5 and a mean of -1.56 (sd=2.47). The scale thus demonstrated a good amount of variation in the extent to which people endorse notions of the potential for and level of control over supernatural harm.

Table 1: Items included in the spiritual insecurity scale, with number of individuals endorsing agreement and disagreement (N=312)

Spiritual insecurity items	**Endorsed (strongly) agree**	**Endorsed (strongly) disagree**
Just like protecting myself from illness, I can protect myself from bad spirits*	267 (85.9%)	44 (14.1%)
Even if I engage in good behaviors, *kout zonbi* can happen to me	117 (37.6%)	194 (62.4%)
I do not have the capacity to protect myself from bad spirits	79 (25.3%)	233 (74.7%)
I will know/feel if someone tries to persecute me (send a bad spirit to me)*	107 (34.3%)	205 (65.7%)

**These items were negatively weighted, in order to have higher scores consistently represent stronger notions of spiritual insecurity.*

According to my initial hypothesis, spiritual insecurity would be associated with worse mental health outcomes, here measured with the depression and anxiety symptom inventories, as well as the idioms of distress screening tool. However, in bivariate correlations, there was no significant association of spiritual insecurity with either the depression or anxiety screening tools ($p>0.05$). There was only a low correlation between spiritual insecurity and idioms of distress ($r= -0.13$, $p=0.02$; see chapter 4).

A stronger association was seen, however, when spiritual insecurity was considered in combination with daily stressors. Except among those experiencing the greatest burden of daily stressors, spiritual insecurity was associated with *lower* depressive symptom burden (see Figure 1, Table 2). When we consider separately those experiencing above- and below-average levels of daily stressors, this pattern becomes more apparent (see Table 3). Among those endorsing experiences of daily stressors that fall below the mean, participants endorsing perceptions in line with spiritual insecurity score on average 3 points lower on the Zanmi Lasante Depression Symptom Inventory (ZLDSI). Those above the mean for daily stressors appear to experience a higher depressive symptom burden regardless of spiritual insecurity. It is important to keep in mind the reality of life in rural Haiti, as low to moderate levels of daily stressors relative to the overall sample nevertheless represent a substantive burden of stressors. It might be the case that among those experiencing the highest levels of daily stressors, mental distress will remain high regardless. However, among those experiencing a slightly lower burden of stressors, what might explain the differing mental health outcomes between those whose perceptions might be deemed spiritually insecure versus spiritually secure?

Rather than being a source of mental distress, it might be the case that explanations of supernatural harm are protective in terms of mental health. Alternatively, it could be that supernatural notions of causation and depressive symptoms are both driven by experiences of daily stressors. It is these questions and hypotheses – in particular the counter-intuitive relationship between spiritual insecurity and mental health – that I explore in the rest of this chapter. I first began to make sense of the way that explanations of supernatural harm might be beneficial during an interview with a woman I call Marie. I begin with her story as a way of exploring these questions.

Figure 1: Association between daily stressors experienced and depression score, by experience of spiritual insecurity (N=305)

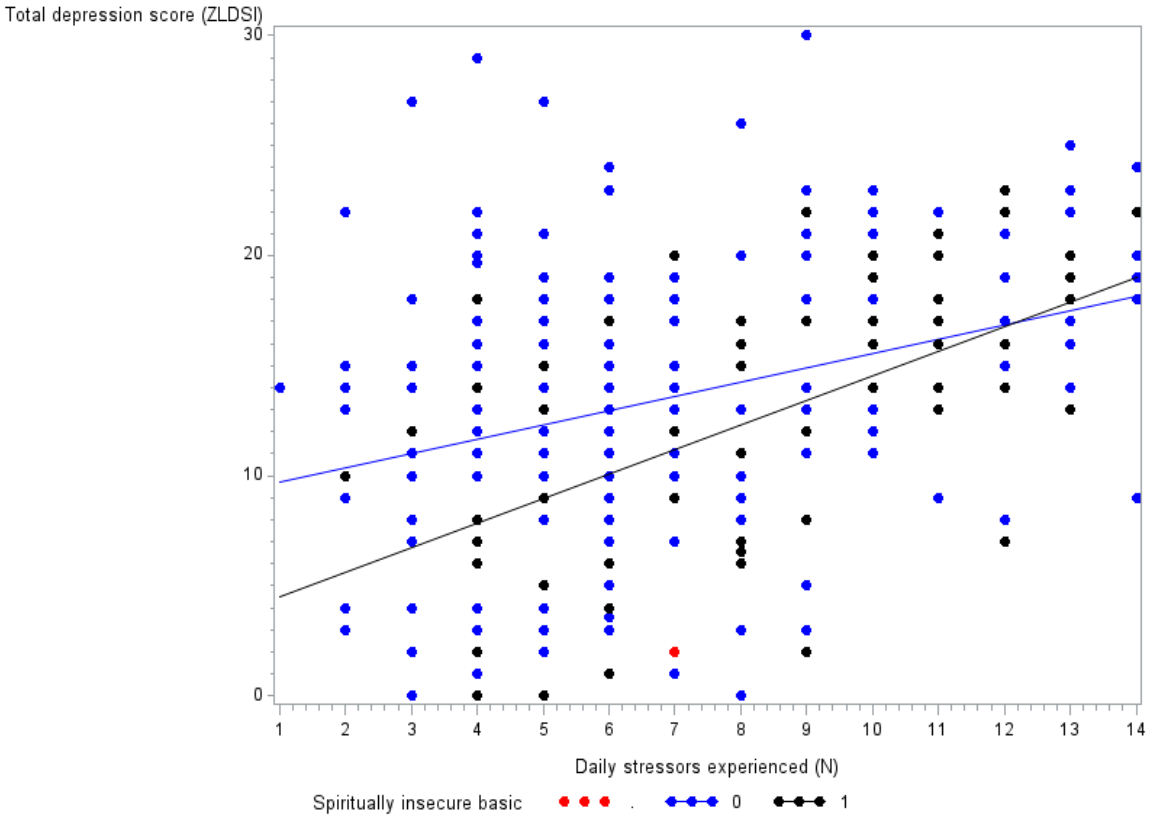

Table 2: Multivariable linear regression model for Zanmi Lasante Depression Symptom Inventory (ZLDSI) score (N=305, r^2= 0.22)

Variable	Adjusted β (95% CI)
Daily stressors experienced (N)	1.08 (0.85, 1.31)
Spiritual insecurity	-1.65 (-2.33, -0.98)
Daily stressors * spiritual insecurity	0.14 (0.06, 0.23)

95% CI: 95% confidence interval

Table 3: Mean depression score by daily stressors and spiritual insecurity

	Daily stressors	
	Low (<8)	High (≥8)
No spiritual insecurity	12.5	16.0
Spiritual insecurity	9.5	15.6

Nb. Overall Zanmi Lasante Depression Symptom Inventory (ZLDSI) mean score = 13.4

Marie's story

I was referred to Marie by Louis, a journalist I had interviewed. During his recounting of cases of kidnappings, accidents, and curses, he told me one story that stood out: a complex account of sent spirits, betrayal by neighbors, and injustice. Louis hosted a radio show, so he met Marie when she came asking for his help. In addition to advice, she wanted him to tell her story on the radio:

> In our culture, maybe if someone just sends a ghost on you, just spread the powder for you and then you die,[3] that means justice [the legal system] cannot do anything for you – you understand? Yeah, that's why she come to me. But me as a professional, I'm not just going to take the complaint and spread that on my radio show. I just give her some advice, that means, what to do and what she cannot do.

The following week, my research assistant Wilfrid and I follow Louis's directions to Marie's house. On the outskirts of Mirebalais town, we ascend steep hills on a road that snakes back and forth. On either side of us are houses made of stone, iron sheeting, and mud, though there is an occasional concrete house. These are often perched on steep inclines. Fences of sticks, tin sheets, and woven mats surround the yards, topped with barbed wire. Clothes are hung out to dry, thrown over the fences and atop plants. We pass one house that has a curtain over the doorway that hangs half-

[3] *Kout batri* or *kout poud* involves spreading a powder on the ground for an unsuspecting victim, who, upon crossing the powder, experiences misfortune ranging from sickness to death.

open, revealing a room of plastic chairs with a TV playing inside. I ask Wilfrid if they charge people to come watch TV. He says if the electricity is off, they'll have people pay to watch the TV. If the electricity is on, they won't. He explains that people come to watch soccer matches like Barcelona and Madrid. Nearby, kids play soccer in the street.

We arrive outside a mudbrick house where a man and two naked boys, about 7 and 5, are standing. We greet Msye Pierre, Marie's husband. He asks us to wait while he calls her. He and the two boys bring out plastic chairs for us and set them on the parched, cracked earth in front of the house. We sit and watch as four ducks waddle around, occasionally picking at food on the ground and nipping at each other. Msye Pierre explains – as the ducks waddle into his house – that these are the neighbor's ducks, but they occasionally come over to his yard. I will come to realize that this is a *peyizan*'s (peasant)[4] way of ensuring that we don't think he owns more than he does. The view is beautiful from up here: we look out over rolling hills dotted with houses and mountains in the distance.

After about 10 minutes, a woman arrives at the house, panting a bit from the ascent. She wears a long skirt and blouse and carries a bucket on her head. She apologizes for being late, explaining that she needs a cord to tie around her waist for the pain, and when she doesn't have it, she can't walk. After we greet her, Wilfrid asks if we could talk to her in private somewhere, and she leads us across the street to sit under a tree, in a place I recognize as a site where people gather to pray.

Marie, her eyes tearing up, quickly jumps into an explanation that she just lost her daughter, and her daughter was her life; it was a great trauma (*twoma*). We ask her to tell us the story, so she starts at the beginning.

Marie's daughter Jozèt was 20 and living in Port-au-Prince, when she decided to return to Mirebalais and live with her parents. *I said it's not a problem; you can stay with*

[4] In Kreyòl, *peyizan* (peasant) simply refers to a rural person and is not considered derogatory.

me. She began a friendship with another young woman from the neighborhood, Nikòl. Marie indicates that both women's parents were against the friendship, although it is unclear why. Several months ago, Nikòl wanted to get a particular man to marry her, so she went to an *hougan* (Vodou priest) for help. The *hougan* gave her something to put on the man, but – at this point Marie becomes animated, explaining – Nikòl did it wrong, and as a result, the man died.

The *hougan* then told Nikòl that because of her mistake, she must bring another person to him to exchange for her own life, by December 25th:

Marie: The hougan told her if she didn't bring someone before then, she would die instead. The friend came and said to my daughter, "Come with me." I said no. She said she's going away; "don't worry."
BK: Why did she choose to trade her if they were friends?
Marie: She's not going to give her sister or her brother. She's going to give her best friend.

Although Marie knew nothing of the deal brokered with the *hougan*, she tells me that she had hesitations about Nikòl: *I saw that she could do bad actions. I told my daughter don't make friendship with her.* However, Marie explains that Nikòl was careful leading up to Jozèt's death: *She said not a word [to indicate] when there is going to be crying in my house.* Marie explains that had she and her husband known, they could have prevented it, though she does not elaborate how.

Jozèt hadn't been sick, but after the visit to the *hougan*, she developed a headache and fatigue. *I said, "Pierre, what happened to our daughter? She lost her mind." She said, "Mom, you are going to make Philo (the highest level of secondary school) next year." I said, "No, it's you."* Marie continues, almost in tears. Late that night, around midnight, Jozèt began crying; she couldn't talk. She began breathing quickly [Marie moves her hand towards and away from her chest, mimicking a chest rising and falling rapidly]. Jozèt eventually lost consciousness.

Marie: At midnight, I heard a big truck come to get my daughter.

BK: They took the body?
Marie: No, the ghost. If the *hougan* lives far away, they send a truck to get the ghost.

After she finished to die, her body was very warm (li chò, li chò). In Haiti we say if the body is warm, we say it isn't a good death. Marie explains that Nikòl's parents came "to help cry," but they did not permit Nikòl to attend the funeral: *In my daughter's funeral, her father hid her (Nikòl). He put her in another place. Her father said when you kill someone, you don't go to the funeral.*

During the interview, I thought perhaps Nikòl and her family would have been reticent to accept Marie's explanation of the death. Many people had told me that Haitians make an effort to conceal responsibility for harm done via the spirit world so that the victim does not themselves seek an *hougan*'s services to impart revenge. However, Marie explains that since Jozèt's death, Nikòl and her parents have broadcast to the neighbors what happened, unafraid to claim responsibility. Marie says that this happens precisely because they know her family is too poor to avenge their daughter's death: *In Haiti if I kill someone for you, there is going to be a funeral for me too. Usually there is payback. I slap you; you slap me. They know we don't have money. We can't pay back.* Knowing this, Nikòl's family mocks her:

> They just brag, they say they're strong. They have strength; they have money. You can't pay it back; you can't revenge […] They say [mocking voice], You don't have teeth; you don't have money. Those people who have no teeth can't eat. What about the ones who have gums?" That's the way they bother me. "If you want to revenge your daughter, put money in your pocket each day." That's the way they make fun of me. "You don't have money. If you can't eat, how can you revenge?" One morning, the woman, she got up and said, "This morning, I drank coffee with white milk. I ate spaghetti. You ate nothing; your mouth is white" (meaning you have nothing in you).

Louis, the journalist, had mentioned that Marie came to him for advice about seeking justice. I wondered whether she had tried to pursue a case:

BK: Because she was killed by an *hougan*, is there nothing you can do in terms of the justice system?

Marie: Yes, you can do something if you have money to pay a lawyer. But I don't have money. Because there is evidence, because the people bother me. But I don't have money.
[…]
BK: Is that usual?
Marie: It's usual. If you don't have money, you could be right, but they'll put you in jail. That's how it works in Haiti. It's like in a dream I saw my daughter come. She said, "I'm not dead. I'm in a bad situation in the *hougan*'s house. I'm not totally dead."

As the interview continued, it became difficult to gauge whether Marie in fact believed that her daughter could be brought back to life or whether justice, to her, would take a different form. But the fact remains that, for Marie, what prevented her from seeking justice was her family's poverty: *They know we don't have money to revenge and know we don't know about the* hougan *(i.e. we don't know the ways of the* hougan*). Her parents said, "My daughter is gold. Yours is nothing. I'm going to prepare mine to be a nurse, but yours is nothing."*

As our interview comes to a close, Marie explains the suffering that she experiences, two months after her daughter's death:

> I'm very *chagren* (sad). I lived in my house; I had love. She made jokes, made me laugh. But I don't have love now. I don't stay in the house now. I go with my godfather. I cry; I have pain. I have to tie a cord because my belly hurts [she shows us the cloth belt tied around her waist]. It's like I'm going to give birth to a baby. I can't support it. Even my husband, he's got problems. I went to the hospital with him, and he has high blood pressure.

Understanding Marie's story

When I tell this story, people often ask, "But how did the daughter actually die?" In fact, I presented this example to a university class in Mirebalais, and one student claimed that he knew the girl and that it was not a ghost that killed her; she actually died of sickle cell anemia.[5] To me, the "facts" of the daughter's death are not what matter;

[5] It is highly unlikely that this was in fact the same girl; the student was likely just telling me about another story he had heard about a sent spirit.

rather, it is Marie's reading of the situation that has significance. In the story of Jozèt and Nikòl's families, there are two parallel narratives we could tell: Marie's narrative occurs in the spirit world, involving ghosts, brokered deals, and secret concoctions. But one could easily tell a narrative rooted in the material world, a story of structural violence and social inequality. This latter narrative would likely pin Jozèt's death on malnutrition, or perhaps an infection gone untreated due to lack of medical care, and ultimately abject poverty. But it is the family's relative poverty – of which their neighbors constantly remind them – that exacerbates their suffering and makes them particularly vulnerable.

Regardless of how the story is told, the lack of control Marie felt was apparent. She not only expressed her lack of agency in that she didn't know of the problem in order to intervene before the death of her daughter, but also her powerlessness to exact revenge, whether via an *hougan* or the court. Her inability to exact revenge is certainly due to poverty, a central element to the narrative in both the material and spirit worlds. Marie's neighbors remind her that she could not feed her daughter, could not prepare her for a respectable job. This social and structural reality for Marie, Jozèt, Nikòl, and their families – where the stark inequality between neighbors is apparent – carries over into the spirit world, the realm in which, for Marie, the "battle" between families is ultimately played out.

How does this relate to notions of supernatural harm and spiritual insecurity? In Marie's framing of the story, the supernatural explanation could be conceptualized as a form of blame displacement. Marie already must grieve the loss of her daughter; if she were also to frame her daughter's death as due to her own lack of ability to properly feed and care for her, this would surely only exacerbate her experiences of grief with guilt. Perhaps, then, threat of supernatural harm serves as a means of making sense of negative life events as being outside of one's control, an explanation that could be protective for one's mental health.

In the rest of the chapter, I examine other narratives of sent spirits and examine how Marie's experience is illustrative of common experiences in Haiti. At the same time, there are some important ways that Marie's story differs from those contained in other narratives of sent spirits. In particular, Marie's telling is marked by much less ambiguity than seen in other narratives. Her certainty and her neighbors' reported boldness in claiming responsibility for the death are not reflected in other stories. Additionally, the fact that a relatively wealthier family targeted a poorer family does not fit the pattern typically described in sent spirit narratives. In analyzing these stories, I lay out how notions of the spirit world map social relationships and can be understood as a form of social control and even as the complement of solidarity.

Examining sent spirit narratives

To explore how others discussed and made sense of sent spirits, I first identified all examples of sent spirit narratives from my year of data collection in 2013. These stories were collected during the first and third rounds of data collection (as round two was a survey) and came from a variety of participants. The vast majority of stories were not elicited but spontaneously shared by participants. Exceptions to this included *hougan* and participants who were interviewed at a *hounfò* (*hougan*'s ceremonial site), who were asked about reasons for treatment-seeking, which is presumably related to spirit-related harm. I also directly elicited sent spirit narratives in final interviews of the third round of data collection, with my final eight participants. However, by that point, five of the eight participants had already shared sent spirit narratives in earlier data collection, and two of the remaining three reported never having experienced a sent spirit, while the third related short stories with minimal detail.

In order to be considered a sent spirit narrative, the story had to involve some form of misfortune, such as illness or death, which was interpreted as harm sent

intentionally by another person. Examples of harm directly delivered – rather than via the spirit world – or harm initiated directly by spirits themselves were thus excluded. I did not differentiate analysis of narratives based on the various forms of harm that are possible – *kout batri, kout poud, kout zonbi,* etc. – as it is the fact that these all involve intentionally sent harm that matters for my purposes. As described above, these forms of harm cannot be sent directly by any individual; rather, they are performed by a *boko,* who is hired for the specific purpose.

Table 4 provides an overview of the 22 narratives included in this analysis. Within each narrative, I identified what form of harm was described, why participants think it was sent, how it was sent, who initiated it, what evidence they provided, the level of certainty they conveyed, what treatment was sought and/or received, the outcome, any protection sought, and any comments regarding seeking revenge. Reviewing the narratives, I noted common themes regarding both content of the stories – such as perceived motivation for the sent spirit – as well as broader themes of meaning-making and social relationships that were reflected in the narratives. Below I examine these broader themes and consider how sent spirit narratives can reveal concepts that extend beyond the stories themselves.

Of the 22 stories, almost half were about death or an attempt to kill someone, whereas one-third were regarding illness. Three stories were about car or motorcycle accidents; two related another misfortune, including a house burning down and a vehicle being sabotaged; and one was an unreported form of harm. Approximately half of the stories regarded personal experiences, and five regarded family member's experiences. Six stories were from two *hougan* reporting about their patients' experiences, although one included a story about his wife. The remaining three stories were about other community members.

Table 4: Overview of sent spirit narratives

Story	Story-teller	Timeframe	Victim	Form of harm	Why sent	Who sent
1*	Journalist	2012	Other	Death	-	Neighbor's daughter
2*	Market woman	2012	Daughter	Death	Avoid own death	Neighbor's daughter
3	*Hougan*	Ongoing	His wife	Attempted to kill	Jealous of business success	-
4	*Hougan*	-	His patient	Leg sickness	-	-
5	*Hougan*	-	His patient	Went blind	-	-
6	*Hougan* patient	2013	Self	Motorcycle accident	Jealousy, to prevent advancing	Family members
7	*Hougan* patient	Current	Self	Heavy period lasting 3 months	Sent to whole family	Family members
8	*Hougan*	-	His patient	Sickness	-	-
9	*Hougan*	-	His patient	Death	-	-
10	*Hougan*	2007	His patient	Always has period	-	-
11	Lottery seller	2010-2011	Self	Vehicle broke	To prevent advancing	*Hougan* won't tell
12	Evangelist	2013	Self	Leg sickness; attempted to kill	-	-
13	Market woman	2013	Self	Motorcycle accident	Hatred	Don't know who
14	Farmer	1983	Other	Suicide	-	-
15	Farmer	2002	Self	Hospitalization	Hated because of garden	Neighbor ("only an idea")
16	Lottery seller	2013	Other	Death	-	*Hougan* won't tell
17	Farmer	1977	Self	Car accident	Jealousy, hatred	Family friend
18	Farmer	1960	Self	Tuberculosis	To get land	-
19	Former lottery seller	1997	Self	House burned down	Jealousy, to prevent advancing	Family friend
20	Farmer	-	Cousin	-	-	-
21	Farmer	2007	Father	Death	To buy land	Good friend of father
22	Farmer	-	Uncle	Death	Wanted money they had lent	-

**This represents the same story told independently by two separate individuals. See "Marie's story" in text*

Ambiguity and certainty

One of the primary ways that Marie's story differs from the others is that hers is marked by certainty, whereas many of the narratives are full of ambiguity. Significantly, this ambiguity did not result from a lack of probing questions during interviews but was explicitly stated by participants. Statements indicating uncertainty, like "maybe" it was a spirit or "maybe" this person sent it, were common elements of narratives. During early interviews, such statements would frustrate me, as I struggled to understand how it was that people seem unconcerned not to have themselves received more of an explanation regarding their situation. For example, the following statements from an interview with a young female indicate how little information she was privy to, despite it seeming to be the case that others could have provided further explanation: "[The *lwa*] won't explain it to the sick person; he will just explain it to a member of the family, a brother, sister […] The *hougan* or *lwa* knows and said it to my parents […] My parents didn't explain it to me […] You won't ever have the answers about treatment; only the *hougan* knows." Considering the pattern seen in other sent spirit narratives, I somewhat doubt whether her family in fact would claim to have all of these answers. What is significant, though, is the woman's seemingly easy acceptance of ambiguity regarding her situation.

An interesting component of this uncertainty came from the *hougan*-s I interviewed, who would sometimes state that they do not know the details of any individuals' case, including why they came for services or what treatment was given. Rather, it is the spirit who knows. One *hougan* explained it as follows: "When I call the spirit, it is like I fall asleep. I don't have my good sense on." Such ambiguity regarding sources of information is reflected in the young woman's statements quoted above, which alternate between saying "the *hougan*" and "the *lwa*" when describing who knows what happened. Participants also explained that individuals can only *suspect* spiritual harm; it is *hougan* who can confirm it. A farmer explained that "You can think someone

did it, but you cannot be certain. You can think this." Similarly, a lottery seller stated, "You can suspect that it was someone, but you can't confirm if you don't do research at an *hougan*'s house." *Hougan*-s I interviewed confirmed these statements, saying that individuals might have dreams or suspicions leading them to believe that they are experiencing a sent spirit, but it is "research" at an *hougan*'s house that can confirm their suspicions.

Even when individuals felt more certain that their misfortune was from a sent spirit, it was very common for participants to state that they do not know who sent it; nor can they know. Many pointed out that only an *hougan* could divine who is responsible, and they refuse to tell you so that you will not avenge the harm or death. For example, one man who described his visit to an *hougan* following a sent spirit stated, "He told me it's a person, but he didn't tell me who because he doesn't know my intentions." He further explained that the *hougan* likely suspects that he would try to kill the responsible person, an outcome that would implicate the *hougan* for revealing that person's identity. Marie's story also supports this finding, as she explained that revenge is expected yet impossible in her case because she cannot afford it. Other studies, including in Haiti, have found similar reports that only a diviner can confirm supernatural causation for misfortune (Beattie 1964; Brodwin 1996).

While ambiguity appears to be the norm in such narratives, it is not the case for everyone. Several participants seemed to adopt sent-spirit explanations immediately and with greater certainty. These participants often described the logic and evidence that led them to such conclusions. For example, I spoke with a man who sought treatment and protection from an *hougan* after a motorcycle accident:

> I wasn't riding fast, but I was injured greatly. I shouldn't have gotten injured like that. As soon as I finished to be injured, I knew I was not injured naturally […] I was running the moto on 2nd gear, so it was not too fast. I didn't fall in a hole; nothing passed in front of me. I just fell down and was injured like you see today [indicating extensive scarring]. It's like I'm just sitting in a chair and just fall.

Marie, too, provided detailed evidence linking her daughter's death to sent spirits, including the truck that was parked in front of her house until the time of her daughter's death, the fact that the body was warm ("In Haiti we say if the body is warm, we say it isn't a good death"), and of course the fact that the neighbors explicitly claimed the supernatural death. It is important to note that "accusations" are not typically verbalized. In fact, people will hide their suspicions regarding the sender of a spirit in order to avoid further harm (Brodwin 1996). What explains these differences in level of confidence? It might reflect different levels of evidence or apparent veracity of alternate explanations, or it could be that some people are more willing to make supernatural claims. Regardless, what is significant for understanding these narratives is that it appears that sent spirit claims can be made despite great uncertainty and lack of clear evidence.

Sometimes people would describe illnesses as spirit-related only after they found that a doctor could not treat it. One woman who explained that she was experiencing harm from a familial spirit, rather than a sent spirit, explained that doctors could not identify the cause of a large growth on her neck, so she was taking care of the spirit problem and then planning to have surgery. She and others described having sought medical care, usually multiple times, and determining based on the lack of success that it must be a spirit-related illness. Such explanations are reminiscent of our findings among people suffering from mental illness in Haiti's Central Plateau (Khoury, et al. 2012). We found that participants did not necessarily draw immediately on Vodou explanatory models for mental illness. However, they often adopted such explanations after biomedical services failed to provide improvement, whereas pastors or *hougan*-s did provide relief, as well as a spirit-related explanation. Similar sentiments were expressed in my latest data collection. For example, one woman, in explaining her brother's hospitalization, remarked that "If they can't find anything [i.e. a definitive diagnosis], it's a sent spirit." Such explanations – based largely on lack of evidence

rather than presence of it – help to clarify why many participants seemed so comfortable with the uncertainty surrounding their possible experience of a sent spirit. (Brodwin 1996) found a much stronger relationship between failed biomedical treatment attempts and claims of supernatural causation, as his participants relied on such biomedical failures to make a claim that it is a *maladi Satan.*

Motivations

Even when participants were not totally certain whether they were the victim of a sent spirit or who might have sent it, they could often describe why they *might* have been the intended victim of a sent spirit. Such explanations often centered on jealousy, described below by one *hougan*:

> Participant: In Haiti, if the other people know you are well-fed, they can send a *kout batri* (type of sent spirit) for that. That's our culture.
>
> BK: Why do people do that?
>
> Participant: *Egri, egri* (jealousy) […] Because they want you to be the same as them, not in front of them.

This *hougan* explained that his wife has been the intended victim of three *kout batri*, against which he protected her. The man I interviewed after his motorcycle accident explained his accident as caused by people who were jealous of his work as an agronomist, while two other men who ran lotteries were targeted for their successful businesses, which were either undermined or totally destroyed. After the sent spirits, one of these men was forced to sell his broken car piece-by-piece to pay off the resulting debt, while the other man, who experienced a house fire, never returned to running a lottery business. Claims that sent spirits were motivated by jealousy or hatred are consistent with much anthropological scholarship regarding witchcraft and sorcery, including in Haiti (e.g. Brodwin 1996; Brown 1991; Evans-Pritchard 1937). It is worth noting that none of these stories referenced jealousy regarding love relationships –

although I have heard other stories regarding sent spirits in such contexts. In this way, envy might be a more accurate term to describe these motivations, but I use the term jealousy to remain consistent with most anthropological literature regarding witchcraft and sorcery.

I also found similar descriptions of jealousy and supernatural harm outside of the sent spirit narratives. As part of my initial exploratory interviews with a convenience sample of community members, I used a series of vignettes to understand how participants make sense of both good and bad fortune. One of these stories involved a fictional character named Olès, who fell ill to the point that he could not continue working in his business, yet doctors could not determine what was wrong with him. One participant, a female market vendor, described various supernatural explanations:

> If there was another person who works at the little business, Olès can be hated by that person, and he can send something on Olès. Or if the business is Olès's own business, the neighbors or another person who has one sees that Olès's business works more; he can send something on Olès too. Somebody else who sees Olès has the business, he can send *fetich* (magic) on Olès to destroy Olès.

The act of sending spirits motivated by jealousy appears to be a common motif, not only in narratives describing one's own experiences but also more broadly speaking. While some descriptions seemed to imply that anyone might send a spirit out of jealousy, several participants stated that it is only "wicked" people who will do this. It is unclear how many people they might believe to fall in this category. I return to the notion of motivations for sent spirits below.

Balance, resolution, and limited good

Sent spirit narratives also tend to reflect a sense of balance regarding notions of harm, wealth, and good and bad. One way in which this theme appears in narratives is the implication that if some harm is sent, it must befall someone, whether or not this is the initially intended recipient. This perception is reflected in statements by participants

that if a sent spirit does not "arrive on" the intended recipient, a weaker family member will receive it. One participant used this reasoning to explain why she in particular received a sent spirit: "Someone didn't choose me in particular; they made an *ekspedisyon* [sent spirit] in the family, and the spirit saw I am weaker." Such notions also contribute to ambiguity, in this case regarding both the initiator and intended recipient of a sent spirit. Marie's story, too, reflects perceptions that there must be a victim, as her daughter's friend was told that she must either die or exchange someone to die in her place.

Additionally, descriptions of preventing harm from sent spirits include a component of balance. Narratives give the impression that a sent spirit cannot simply be deflected, such that no one is harmed. Instead, a spirit can be sent back to target the initiator, via another *hougan*. In explaining this phenomenon to me during initial fieldwork in 2010, a research assistant described it as potentially becoming like a game of tennis, with two *hougan*-s sending spirits back and forth. Even Marie implies that if they had known their daughter was being exchanged to an *hougan*, there was the possibility to intervene and that the neighbor's daughter is who should have died instead. Brodwin (1996) explains that his participants initially described the process of removing sent spirits by referencing a Haitian proverb: "The block of wood cannot cut the saw; only a saw can cut another saw. Only by resorting to pathogenic magic can you cure an illness caused in the same way" (2).

Such notions of balance in regards to spirits closely parallel those seen in regards to wealth. Descriptions of motivations for sent spirits reflect a sense that there is a finite amount of good fortune and wealth. As seen above, participants would often tell stories about jealousy, in which one person's job promotion, new asset, or other good fortune is interpreted by others as "this should be mine." The man who experienced a motorcycle accident explained, "I guess the reason, in Haiti sometimes people have the

conception if you've got money you can move up. Others are jealous. If I get a nice car, they think, 'That's supposed to be mine.' You'll possess nice things, and they won't have them." Such descriptions are reminiscent of a zero-sum conception of reality, in which all profit is gained at someone else's loss (cf. Austen 1993; Foster 1965).

In this way, participants often described that jealousy leads people not to want others to advance (*avanse*) too much in society. In describing how *avanse* can be recognized, participants described home improvements, such as replacing a roof of woven leaves with tin; gaining new assets, such as a horse or motorcycle; or achieving success in one's business. In response to these "conspicuous" displays of wealth, people will send harm via a spirit, as a means of pulling that person back down. In this way, there is a sense of finite wealth, resulting in a notion that one has to pull someone else down in order to have the potential to be lifted up themselves. This is reflected in the logic of the quote above: "You'll possess nice things, *and they won't have them*" (emphases mine). This zero-sum conception of reality is in stark contrast to notions such as "a rising tide lifts all boats." These findings in Haiti are thus consistent with studies arguing that witchcraft in Africa is interpreted as selfish individuals appropriating limited goods, often via illicit means: "A large body of evidence from Africa suggests that witchcraft and other occult practices are intimately bound up with people's ideas about production, exchange and consumption […] The processes of differentiation and privation that result are viewed as predatory and illicit forms of exchange" (Moore and Sanders 2003:15). Métraux (1972[1959]) has likewise argued that in Haiti, people regard others' wealth or success as indicative of sorcery.

Such explanations of a zero-sum universe are not limited to sent spirit narratives, as they also featured in stories that participants told of harm imparted directly via *kout vizib* (visible attacks), as opposed to supernatural means. The story below, told to me by a middle-aged male farmer, is illustrative of the types of harm depicted in such stories:

> The human can have a bad heart, a bad conception. Around here you can't just make an iron sheet house (referring to a tin roof); they will hate you. They want you to stay the same as they are. Let me explain a story. There were two good friends, they worked together in [large town]. They were neighbors working on the garden. Every year one of them, after he finished to harvest, would buy an animal, an oxen or a horse. The other says, "Why does he do that? I'm going to kill him." He puts some poison on the animal's rope. So that he touches it, when he goes to eat, and he touches his mouth, he's going to die. Jesus comes to the man and says,[6] "Don't send your children to take care of the animals today; go yourself." So he goes to take care of the animals. He smells something bad on the animal's string. He just keeps taking care of the animals. He returns home, and his friend sees him and says, "Oh you still alive? I'm not going to do it again, but it was me who put the poison on the animal's cord. Every year when you finish to harvest, you buy an animal, and I can't do anything."
>
> After 3 months, the man with the animals went to [smaller town] to sell a horse. The neighbors conspired to wait for him and take his money. He was coming late at night, around 8pm, and many men took him. They injured him with a machete. He was lucky, and he had a knife. He injured the other person. That person came to die in the hospital.

These stories of directly imparted harm, like those narratives of harm enacted via the spirit world, likewise draw on notions of jealousy and advancing too much. However, in sent spirit narratives, the supposed benefit to the sender is only implied. In contrast, in these stories of direct harm, such benefits are clearer, such as gaining animals or money. However, these stories help to shed light on notions of balance and limited good conceptions of wealth that are seen in sent spirit narratives.

How can such stories of harm be reconciled with the strong sense of solidarity that is also characteristic of Haiti? The latter is encapsulated in the phrase *tèt ansanm* ("heads together), which both references solidarity and a specific form of community collaboration (Dubois 2012; Keys, et al. 2014) that derives from similar phenomena seen in West Africa (Herskovits and Mintz 1937). When someone has a task that requires many hands for which they cannot afford to hire workers – such as harvesting work or constructing part of a house – neighbors will gather to collaborate in completing the task. Rather than payment, neighbors can expect reciprocal participation in activities when

[6] This is most likely referencing a dream. Dreams are commonly seen as providing guidance, warning, and even direction regarding lottery numbers.

they require help. The seemingly opposing concepts of *avanse* and *tèt ansanm* are captured in common proverbs regarding social relations that appear to tell contradictory stories. For example, *vwazinaj se dra blan* (“the neighbors are white sheets”) describes the assurance that neighbors will cover for each other. On the other hand, *chak koukouy klere pou je pa yo* (“each firefly produces enough light for its own eyes”), *zafè kabrit pa zafè mouton* (“the business of the goat is not the business of the sheep”), and other proverbs reflect a sense of “each man for himself.” How can notions of solidarity co-exist with the jealousy, distrust, and desire to prevent others from advancing too much, as described in narratives? I return to these questions below.

Other ways of explaining misfortune

As described above, sent spirit narratives describe one among multiple ways that supernatural harm can befall a person. They also represent one means by which a person can harm another. I have focused specifically on sent spirit narratives because they reveal several important facets of the way that rural Haitians make sense of the world. At the same time, all of the narratives considered thus far have involved some way that people interpret harm as caused intentionally by one person or supernatural being. What would it look like if we instead told a story rooted in the material world, a story of structural inequality and vulnerability?

Michelle’s story

I met Michelle on the second day of data collection for the survey that I conducted in 2013. One of my research assistants completed the survey with Michelle and then asked her to come to the church where I was collecting biomarkers for the study. Later, while analyzing my data, I found that Michelle had experienced a high number of traumatic events. As might be expected, she scored high on measures of

depression and anxiety.[7] I thus decided to ask Michelle whether I could follow-up with her, conducting interviews and participant observation so as to better understand her experiences.

When I later returned to the community to interview Michelle, I was greeted by her cousin and told that Michelle's 19-year-old daughter had died suddenly the day before. He led me – along with the research assistant who had accompanied me – to a neighbor's home. As we walked along the narrow dirt path that weaved its way through corn fields, he explained that she was receiving visitors at another house because her home was too small. When we arrived, there were many people gathered both inside and outside the house. We entered the home and saw Michelle lying on a woven mat on the ground, neighbors physically supporting her body and her young grandson lying beside her, oblivious to the significance of the gathering. When we offered our condolences, she thanked us and smiled weakly, through what appeared to be a great effort.

As her cousin escorted us back to the road, he explained that her daughter had been suffering from *maladi souf kout* (an illness marked by shortness of breath, perhaps asthma) for over two years. She had been sick for a long time, and Michelle had tried taking her to multiple hospitals and an *hougan*. She had been rushed to the hospital yesterday afternoon and died there; her body was now in the hospital morgue.

Several weeks later, I visited Michelle again. I was again greeted by her cousin, who told me Michelle had been in a motorcycle accident the day before. This time I found her at home, lying on her side on a blanket and pillow on the floor, one leg swollen and clearly in pain. She had a white bandage wrapped around her left knee and a gauze and bandage wrap on her left foot. She had a dark red bruise beneath her left eye. She

[7] Traumatic events: 5 out of 8 measured, compared to a mean of 3. Zanmi Lasante Depression Symptom Inventory: 20 out of 39, compared to a mean of 13.4. Culturally adapted Beck Anxiety Inventory: 26 out of 55, compared to a mean of 16.

explained that she had hit her head and dislocated her knee; at the hospital they had put it back in place and wrapped it with a bandage. Her grandson was again sleeping beside her. As he moved around, he occasionally leaned on her leg or side, and she would wince; she grimaced with each slight movement she had to make.

There were several visitors – an older couple and two young teenagers, as well as her son who was visiting from Port-au-Prince and her husband. As we all sat and talked, an older woman passed by and stuck her head in the door. Someone offered her a seat, and she said she's just passing by on her way from the field. The older woman commented that you have a lot of visitors, and Michelle said, "No, not that many; when I had the death, everyone visited me."

For Michelle, the reason for the accident was closely tied to the death of her daughter. As she grieved, Michelle had taken a couple weeks off from her work *fè komès* (doing commerce). When she decided she must finally return to work, she went to buy bread at the nearby bakery to sell at a local market. However, feeling low and fatigued, she did not have the energy for the usual two-hour walk to the market. Instead, she called her friend with a motorcycle taxi and asked for a ride. When I visited Michelle, she explained that the driver was severely injured and still in the hospital. He would die in the coming days.

Understanding Michelle' story

Michelle's story is one of trauma begetting trauma. These events are not the result of natural disaster or happenstance. They flow directly from vulnerability to misfortune: her daughter's vulnerability due to illness and poverty, combined with Michelle's socio-economic vulnerability that pushed her back into income-generating activities before she was ready, leading to yet more trauma, an accident and the death of a friend. When I asked Michelle months later whether she had ever experienced a

sent spirit, she said that the accident *might* have been one, but she doubts it. How does the telling of a story that forefronts material reality and structural inequality produce different notions of blame than that which tells a story in the spirit world? Can Michelle's ongoing experience of depression and anxiety symptoms be thought of as in some way connected to her ways of making sense of misfortune? Or are her experiences of mental distress strictly a result of social and material vulnerability, which for some people happens to co-exist with notions of spiritual insecurity?

Indeed, as we saw in chapter 4, mental health outcomes were associated with socio-economic status, with each increase in socio-economic quintile associated with just over a one-half point decrease in depression scores. Additionally, exposure to more daily stressors was associated with worse mental distress as measured on both the depression and anxiety screening tools. Human capital was associated with lower scores on both the anxiety and idioms of distress inventories. Human capital, a measure of education, training, and work, can perhaps ultimately be thought of as reflecting potential ability to capitalize on alternate opportunities, including work. These quantitative findings suggest that different positions in respect to structural inequalities are reflected in mental health outcomes.

My qualitative findings reinforce these patterns seen in the survey. I encountered numerous examples of individuals grappling with problems, finding themselves either bolstered or constrained by their socio-economic possibilities. Being present frequently in people's daily activities enabled me to witness decision-making firsthand. During my first participant observation visit with a lottery seller, he received a letter informing him that his son had been expelled from a free school in the area. Although distraught by the decision, he resolved to hire a tutor until he could find a place for his son in one of the other schools. Due to his relatively successful business, he could afford both a short-term tutor and tuition at another school. In contrast, while visiting other individuals, I

joined them in income-generating activities like making charcoal for sale so that they could scrape together enough money for their children's school fees, already weeks after the school year began. In the remainder of the chapter, I consider how these various experiences and explanations, which move fluidly across the social, material, and spirit worlds, can be brought together to give a more coherent picture of experiences and meaning-making in rural Haiti and ultimately help us to make sense of mental health outcomes.

Discussion

Here I have reviewed narratives regarding experiences of misfortune perceived to be sent via spirits. I found that these narratives are often marked by ambiguity, including whether the experience in fact represents a sent spirit, who sent it, and who was the intended victim. Rather than ambiguity arising from lack of detail in stories or lack of probing in interviews, this ambiguity was often explicitly stated by informants through statements such as "I don't know" or "You can't know; only an *hougan* knows." Motivations for sent spirits centered on jealousy and a desire to prevent others from advancing too much. They also reflected a sense of balance and need for resolution, as well as a notion of a zero-sum universe. Such stories, although placed in the spirit world, are revealing of social interactions and ways of making sense of the world, and ultimately they can help us resolve our original question regarding apparent better mental health outcomes among people with spiritual insecurity.

Function of sent spirit stories

In anthropological and other research, uncertainty is often linked to mental distress, in what is usually considered to be a causal relationship. In fact, multiple forms of insecurity – food and water insecurity; social, economic, and political insecurity, etc. – have been theoretically and empirically tied to poor mental health outcomes (Hadley and Crooks 2012; Hadley and Patil 2006; Hadley and Patil 2008; James 2010a; James 2010b; Stevenson, et al. 2012; Wutich and Ragsdale 2008). I hypothesized that spiritual insecurity would be similarly associated with worse mental health outcomes, as have Haitian scholars (Bijou 1963; Philippe 1981). It appears, however, as though spiritual insecurity is for many associated with less mental distress. How is it that sent spirit narratives are so pervasive, yet often uncertain in their source, purpose, or evidence – at times, even their veracity?

It is not the case that these stories are atypical; other researchers have similarly reported that in Haiti, illness representations are rarely definitive (Vonarx 2007). Rather than undermining the potential force of such stories, I see the ambiguity inherent in these narratives as lending them explanatory power, allowing them to seem true – or at least very possible – in the absence of strong evidence. Reflecting on where this ambiguity derives from, it seems clear why it seemed so acceptable to participants, rather than causing frustration (as it did for me). Rather than all individuals, only *hougan* can discern the veracity and source of sent spirits. Their reticence to share this information is widely considered acceptable, as a way of preventing vengeful acts. *Hougan* themselves often claim not to know this information personally, as it is the spirits – who "mount" *hougan*-s during ceremonies – who know. What purpose might it serve to have such a feasible yet uncertain potential explanation for life events?

I propose that sent spirit narratives serve a specific purpose that helps make sense of why spiritual insecurity is associated with lower depressive symptoms for many people. In sent spirit narratives, forces outside of the individual provide a way of

explaining why misfortune occurs, through no fault of one's own. In this way, they function as a form of blame displacement. Although Brodwin (1996) has argued that sent sickness might implicate one's own guilt or implied deservingness, the tenor of the stories I heard did not seem to fit this pattern. We have reported previously on the tension between sent spirit narratives potentially implying guilt versus exonerating it (Khoury, et al. 2012).

Importantly, these stories do not suggest that one should *reziye* (resign) and rely fully on outside powers to bring about good or bad fortune. In fact, I found that among those eight individuals I followed closely, it was common for the "distressed" individuals to describe that only a significant outside force – an NGO providing a motorcycle for them to use as a taxi, an American university offering a scholarship – could improve their lot in life. Some likewise explained past good fortune in this way. For example, one participant, a young man, explained that the reason his region was recently added to the electrical grid is that the president had visited the area for the first time and decided that it should have electricity. This explanation – which hinges on a powerful other – contrasts with the explanation provided by others in the region, who attributed the grid connection to frequent protests by the community demanding electricity. These qualitative findings from focal individuals suggest that relying fully on external sources might be harmful for mental health or otherwise associated with poor mental health outcomes. In contrast, having spiritual insecurity does not imply that individuals believe that everything is outside of their control. Rather, it provides an explanation for why, despite their best efforts, misfortune might still befall them.

We similarly found that sent spirits might serve the purpose of blame displacement in stories regarding suicide in rural Haiti:

> Suicide may be considered a "spirit sickness" related to Vodou explanatory frameworks, rather than a biomedically-framed mental health issue. Our findings suggest that attributing suicidal ideation to sent-spirits makes it legitimate for

> help-seeking, whereas suicidal ideation related to perceived personal failure is shameful and hidden from others (Hagaman, et al. 2013:67).

Within stories that we collected regarding attempted and completed suicides, sent spirits seemed to exonerate individuals from blame for suicide, which is considered sinful according to a Christian worldview. Sent spirits instead explained suicide as something outside of an individual's control (Métraux 1972[1959]).

Returning to Marie's story, we can see how blame displacement might ultimately be protective in terms of mental health. She has already lost her daughter, clearly a source of considerable grief. If she were additionally to interpret the death as due to her own lack of ability to adequately care for her daughter – the explanation ultimately put forth by the neighbors – what effect might this have had? One could imagine that it might have only exacerbated her grief by adding a layer of guilt or worthlessness, those depressive symptoms that are lower among those with spiritual insecurity. One might ask whether spirit versus material explanations are ultimately any different. After all, Marie does acknowledge that her family is too poor to avenge the death, and the neighbors cite her lack of ability to appropriately feed and educate her child. At the same time, I argue that attribution of the *death itself* to a malicious, outside act is indeed sufficient to displace blame, in the sense that such explanations could prove protective for mental health.

Making sense of the socio-spiritual world

We have seen the multiple, complex ways that, in Haiti, the social world and spirit world meet in the phenomenon of sent spirits. Other scholars have likewise elucidated ways that interactions with the spirit world reflect realities of the social world. Vonarx (2007) describes how illnesses initiated by *lwa* represent a punishment for one's detachment from familial and social obligations. Additionally, Lowenthal (1978) argues

that Vodou rituals serve as a means of displaying appropriate interpersonal relationships. Regarding the possibility of sending spiritual harm, Simpson (1945) argues that such notions serve to outline moral injunctions regarding appropriate behavior.

This chapter has been concerned with the particular socio-spiritual relations relevant to this last form of spiritual harm. According to Ashforth's concept of spiritual insecurity (Ashforth 2002; 2011), other humans can be a key component of harm that is enacted via the spirit world. In the particular form of spiritual harm considered in this chapter, it is not supernatural beings themselves that initiate attacks; rather, it must be sent by another person via a *boko*. Sent spirit narratives suggest that such harm is not arbitrary but sent with a particular intent, often jealousy regarding another's good fortune or an attempt to prevent one from advancing too much in society relative to others. Drawing on these common characteristics of sent spirit phenomena, I argue that narratives told in the spirit world can be thought of as a reflection of one's social and material existence.

Marie's story provides a clear example of the parallel between material and spiritual realities. As indicated above, Marie's telling of the story of her daughter's death can be seen as one of two parallel narratives. Whether one makes sense of the death as due to malicious, intentional harm sent via spirits, these are both ultimately stories of vulnerability as a result of socio-economic inequality. Other sent spirit narratives, too, marked social positions and possibilities, including socioeconomic status and restrictions on social mobility. When participants described the reasoning behind motivations of jealousy, their explanations always derived from material and social realities. These often centered on economic differentiation based on a promotion or successful business, which led some individuals to "advance too much" relative to other community members. The malicious harm described by sent spirit narratives was often an active attempt to prevent such upward mobility. In this way, sent spirits are seen not only to reflect but

actively shape one's socio-economic reality. Because of this close intertwining of the social and spirit worlds, I argue that they should be conceptualized as a singular "socio-spiritual world."

What does it accomplish to conceptualize these interlocking domains in such a way? As I explored the different explanations and interpretations seen in Marie and Michelle's framing of their stories above, I considered their narratives as different ways to understand and respond to trauma: one a story of spiritual harm, the other a description grounded in material reality. Reflecting on these stories can help reveal why it matters – what is accomplished – by considering sent spirit narratives as a reflection of socio-spiritual worlds. Attributing misfortune to spirits not only displaces blame from those individuals telling the stories but also from those systems and individuals in power who are producing and perpetuating structural violence. Framing stories in a way that foregrounds the relationship of the spirit world to the social and material worlds enables us, too, to foreground the ultimate drivers of vulnerability to trauma.

In this way, sent spirit narratives provide an ideal object of study with which to consider the interplay of meaning and structural violence. Paul Farmer's critique of tendencies within development and academia to explain away structural violence as cultural difference and his entreaty not to conflate poverty and culture is, at its core, an argument regarding blame (Farmer 1997; 2001; 2003): rather than accepting inequality as an inevitable reality or a manifestation of cultural difference, he calls for greater attention to not only the proximal but also ultimate causes of differential morbidity and mortality outcomes. Only by highlighting those forms of structural violence that are ultimately to blame can these differential outcomes be effectively addressed.

In many ways, sent spirit narratives seem to be another example in support of Farmer's argument. We could view these stories as a way that cultural and explanatory systems are simply a distraction from the structural violence that is ultimately to blame

for the various forms of misfortune experienced. When I once explained the concept of sent spirits to an American friend, he asked, “Why not just get rid of all the *hougan*-s? Wouldn’t that fix everything?” These types of reactions – which are not uncommon among foreigners considering Haiti – seems only to lend credence to the notion that it can perhaps be harmful to consider cultural systems as “to blame” and ignore underlying mechanisms. Ultimately, these explanatory systems might even be seen as a form of blame displacement, not only for those telling the stories, but for those who have the power to either disrupt or perpetuate social inequalities (Farmer 2004).

But is there a sense in which particular ways of making sense of misfortune can also be considered as producing some outcome, as potentially being blameworthy? The stories of misfortune and death as told by Marie and Michelle provide two examples of different ways of framing misfortune, examples that I argue can both be thought of as ultimately narratives of social inequality and economic vulnerability. Even if sent spirit narratives only reflect structural violence, they are in fact *doing* something. And if what they are doing is masking structural violence, does this make them unproblematic? What they are producing does not appear to be anxiety, as initially hypothesized. At the same time, these cultural forms of meaning-making shift blame away from broader systems of inequality and directly onto other people. Here is where the potential harms of such systems of meaning-making can be considered most clearly. Might these forms of attributing blame be thought to undermine solidarity?

Conclusion: Reconciling *tèt ansanm* and *avanse twòp*

Earlier I raised the question of how we can make sense of the apparent contradictions of solidarity, encapsulated in the concept of *tèt ansanm*, alongside attempts to keep people from advancing too much. To answer this question, we must consider the particularities of both *tèt ansanm* and *avanse*. In addition to referencing

solidarity as a general concept, *tèt ansanm* also refers to a form of collective social action, one of perhaps the only means of accomplishing large tasks that is available to those who cannot afford to hire laborers. As such, it is a system based on reciprocity: when one volunteers time, s/he expects others to do the same. At the same time, it is a system that assumes a sufficient number of people in need of such a reciprocal system. One could imagine that if all the neighbors became able to afford paid labor, they would no longer feel the need to participate in *tèt ansanm* with others in the community.

At the same time, some participants clarified that *avanse* is considered particularly harmful if when it is accomplished on the backs of others, for example, when someone receives money from the community to run a school and him/herself becomes rich. Sending spirits to prevent *avanse* might thus be seen as a way of ensuring that people do not advance too much *for themselves,* without bringing others along with them. In this way, preventing others from "advancing too much" can be seen as a form of social control, one that ultimately protects rather than undermines solidarity. The uncertain yet very real threat contained in the concept of sent spirits is a part of this system of social control, a phenomenon that is deeply rooted. Writing of the seventeenth and eighteenth centuries, Barthélémy (1990) describes how *mawon*-s, having escaped from slavery, established settlements in the mountains and relied on magic as a means of social control. In considering *tèt ansanm* and *avanse* together, I propose that these phenomena should be thought of as two sides of the same coin. Indeed, preventing others from "advancing too much" can itself be thought of as a form of solidarity. In this way, we can make sense of how Vodou notions of sent spirits function within a social system and in the context of structural violence, encouraging attention to community norms and needs in the face of endemic poverty.

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Conclusion

In this dissertation, I have examined experiences, interpretations, and vulnerability to mental distress in Haiti, adopting a lens that attends to both micro-scale systems of meaning-making and macro-scale issues of structural violence. My research has been informed by questions like: How can we best measure and communicate mental distress cross-culturally? What shapes vulnerability and resilience to mental distress? How can we privilege local ways of making sense of mental distress, while not overlooking structural constraints? In this closing chapter, I reflect on the main "lessons learned" from my research in Haiti over the past 5 years, outline central questions for future theory development, and consider how these findings can be applied to inform mental healthcare interventions.

After summarizing my central findings, I structure my reflections and recommendations around the three main themes that have been central to this dissertation. First, I examine what is gained by maintaining a dual focus on systems of meaning-making and structural violence, attending to the way that broader forces play out in local worlds. Second, I critique the one-size-fits-all approach to measurement and communication in public health, which privileges goals of cross-cultural comparison and assumes universality of experiences. I provide examples of the ways that my research approach – which combines anthropological and epidemiological epistemologies and methods – addresses such shortcomings, by valuing ethnographic validity equally with cross-cultural comparison. Third, I consider questions of vulnerability and resilience in the context of mental distress and discuss how my findings are applicable both in Haiti and beyond. Finally, I outline the implications of this anthropological investigation for mental healthcare interventions.

Summary of findings

In the first half of my dissertation, I explored issues of language and measurement, asking how best to assess and communicate about mental distress in the context of rural Haiti. In adopting a hybrid approach to measurement – which draws on rigorous cultural adaptation of depression and anxiety screening tools, alongside local development of scales based on idioms of distress and functional impairment – I have shown that it is possible to assess mental distress in ways that are sensitive to local systems of meaning-making, while also facilitating cross-cultural communication for research and interventions. I then examined the idiom of distress *reflechi twòp* ("thinking too much"), which describes experiences of intense rumination, often described as "sitting and thinking," paired with social isolation and disengagement. "Thinking too much" is often described as linked to sadness, perceived personal failure, and lack of agency, often due to economic conditions. I argue that this idiom of distress serves as an indirect critique of the structural violence at its root. Together, the chapters on measurement and communication demonstrate the strengths of mixed-methods studies. For example, drawing on screening tools for quantitative analysis indicates what forms of distress are most common and what factors they are associated with. At the same time, exploring "thinking too much" qualitatively yields insights into what forms of distress are considering most troubling and salient, information that cannot be gained from a screening tool.

Drawing on these findings regarding measurement and communication, I then explored predictors of mental distress. I found that female sex and increased age were associated with increased mental distress as measured using depressive and anxiety symptom inventories and a locally developed idioms of distress screening tool. Traumatic events, earthquake-related trauma, and daily stressors were independently associated with increased burden of mental distress, while socioeconomic status and

social support were independently associated with less mental distress. I found that systems of meaning-making, like locus of control, were not significantly associated with mental distress in final regression models.

At the same time, my ethnographic data and some quantitative data suggest that one form of meaning-making, spiritual insecurity, might in fact be associated with mental distress and demands further analysis. Spiritual insecurity, which indexes perceived personal vulnerability to supernatural harm, is associated with better mental health outcomes except among those experiencing the highest levels of daily material stressors. In analyzing narratives regarding "sent spirits," I found that such stories are fundamentally social narratives, reflecting links among structural forces, socioeconomic status, and restricted social mobility. Sent spirits were described as driven by jealousy and in efforts to prevent individuals from advancing too much in society. I consider how these narratives potentially function to displace blame from impoverished, disempowered individuals, yet at the same time draw attention away from the social inequalities and forms of structural violence that are the root causes.

Systems of meaning-making and structural violence

This dissertation has benefited from a dialogue between an interpretive, meaning-centered approach and a political economy perspective that attends to structural violence. Alternating between these levels of analysis enables a more holistic understanding of experiences, interpretations, and vulnerability to mental distress. For example, in chapter 2, I explored the idiom of distress *reflechi twòp* (thinking too much), which articulates an experience of unrelenting focus on a particular problem, not in the manner of seeking a solution but in terms of a troubling, persistent reflection, combined with social isolation and demotivation. In addition to communicating personal distress, the idiom of distress "thinking too much" also serves as a social commentary on the

socio-economic conditions that leave individuals without possibilities or hope, left with nothing to fill their time except by sitting and thinking about their problems.

Structural violence plays a fundamental role in shaping vulnerability to and experiences of mental distress like “thinking too much.” High levels of unemployment, with limited possibilities for alternate income-generating activities, leave people with limited hope or chances of advancement. The nation’s history of slavery and resistance; continued foreign economic intervention and exploitation; and extensive control by NGOs of donor funding, service provision, and decision-making produce an environment of limited agency on the part of both the Haitian government and its citizenry. It is no surprise that such conditions produce the potential for hopelessness and demoralization. Resulting mental distress is exacerbated by limited possibilities for accessing formal mental healthcare.

The experience of “thinking too much” thus reflects a very particular way that structural violence – in particular limited economic possibilities and very real lack of agency – play out in people’s lives. In this context, recognizing that “thinking too much” represents a locally salient means of experiencing, interpreting, and expressing distress is important for knowing how best to frame mental health communication and measurement. Furthermore, understanding nuances of how the idiom of distress is used can facilitate recognition of those in need of intervention. At the same time, failing to recognize the broader context from which these forms of meaning-making arise would miss a large part of what “thinking too much” communicates, in this case the critique of political, economic, and social conditions that structure vulnerability to distress.

Additionally, in chapter 5, I explored how within such conditions, misfortune is sometimes interpreted as harm intentionally sent by others and within the context of a zero-sum conception of reality. Narratives that draw on sent spirit explanations are a means of making sense of misfortune that could – when viewed through another lens –

be interpreted as largely attributable to the vulnerability wrought by structural violence. Importantly, these systems of meaning-making displace blame from the individuals telling their story, which might be protective for mental health. Concepts of supernatural harm also exert a form of social control, discouraging "advancing too much" in wealth in the face of widely shared impoverishment. I interpret the combination of sent spirit explanations within the context of a limited good conception of reality to be a functional system, ensuring the continuation of acts of solidarity like *tèt ansanm*.

Both of these systems of meaning-making – "thinking too much" and sent spirit narratives – achieve some purpose. Expressing distress via the idiom of distress "thinking too much" might enable and legitimize help-seeking behavior, as well as offering a reprieve from expected roles. Similarly, sent spirit narratives provide both a way to explain misfortune and some means to address it, as this explanatory system is linked to healing rituals and means of avenging harm. Sent spirit narratives also serve a function of social control and solidarity.

At the same time, "thinking too much" and sent spirit narratives offer no direct challenge to the cultural system upon which social relations and gender and family roles are based. Some authors argue that such boundaries, whereby one might challenge their personal role without challenging the cultural hierarchy that defines it, are an important element of what makes illness narratives and idioms of distress functional (De Jong and Reis 2010; Hunt 2000). Significantly, these systems of meaning-making also provide no real challenge to the forms of structural violence that are at their root. "Thinking too much" and sent spirit narratives might indirectly implicate structural violence but ultimately do little to actively resist it: "In the process of restructuring their disrupted identities [through illness narratives, individuals] manage to resolve long-standing social conflicts, without needing to take the more radical epistemological step of defining the existing structure as oppressive, and resisting it" (Hunt 2000:100-101).

Ultimately, these forms of meaning-making represent a small-scale form of resistance without providing direct resistance to underlying cultural and social structures, nor the structural violence that is ultimately to blame.

In my introduction, I asked how systems of meaning-making and structural violence differentially contribute to explanations of and experiences of mental distress. In chapter 5, I explored one way how, except among those individuals experiencing the greatest material stress, systems of meaning-making seem to matter for mental health. In particular, means of explaining misfortune that rely on sent spirits might be protective for mental health via a mechanism of blame displacement. On the other hand, these effects seemed less clear when I assessed the quantitative relationship between systems of meaning-making and mental health outcomes, in the presence of other potential explanatory factors. In chapter 4, I showed that locus of control – including spirit-related locus of control or spiritual insecurity – seems to have limited explanatory power regarding mental health outcomes, when considered in combination with measures of traumatic and daily stressors and social and economic conditions. This might be because systems of meaning-making are linked in a patterned way to lived conditions, such that it is not possible to distinguish quantitatively any differential effects on mental health that derive from meaning-making versus material conditions. However, these findings could also be interpreted to mean that, in Haiti, systems of meaning-making are simply less “powerful” in terms of shaping experiences of mental health than are material realities. In this way, I show that meaning *matters*, but an examination of systems of meaning-making must be situated in the context of broader forces of structural violence that shape vulnerability to the forms of distress that are being made sense of.

Global mental health in local worlds: Constructs, measures, and communication

Throughout my dissertation, I have also emphasized the problems raised by a one-size-fits-all approach to understanding and measuring constructs of interest to global health. On the one hand, this shortcoming can be seen in tendencies to simply translate mental health measurement tools for use in new settings, without questioning assumptions of universality of mental illness categories or attending to local meanings and experiences (Weaver and Kaiser 2014). Similarly, an oversimplified approach to understanding constructs of interest can be seen in assumptions that a cultural phenomenon will manifest in the same way and have the same physical and mental health effects across settings. My dissertation has shown how close attention to local moral worlds, experiences, and systems of meaning-making can challenge these assumptions in global health. I have also demonstrated how the combination of an anthropological lens with epidemiologic methods can provide a more nuanced and ethnographically valid approach to conceptualizing, measuring, and communicating about constructs of interest.

In chapter 1, I reviewed the multiple and sometimes competing aims that are at stake when considering issues of measurement in global mental health. Ultimately, researchers and public health practitioners need to be able to make arguments – to donors, scholars, governments, and other agencies – that draw upon measures of disease burden and can highlight priority areas. Such data are often fundamental in order for public health organizations to operate. Additionally, scholars argue that it is a moral imperative to draw upon the psychiatric evidence base developed in Western settings to inform mental health interventions in low- and middle-income countries (e.g. Patel, et al. 2006): not to do so represents a “failure of humanity” (Kleinman 2009:603). Translating such interventions cross-culturally requires navigating psychiatric nosologic and diagnostic systems and relies on strong measurement tools for targeting,

assessment and, evaluation. Because such research, evaluation, and reporting are typically happening internationally, cross-cultural comparison and communication are necessary to consider. In the case of global mental health, this includes questions regarding universality of mental illness categories; what diagnostic system to use; how to translate, adapt, or develop culturally appropriate measurement tools; and whether to draw on local categories like idioms of distress.

At the same time, recognizing that the reality of contexts like Haiti is very different from the settings in which biomedical psychiatric categories were developed, we must also privilege ethnographic validity, or ensuring that we are focusing on phenomena that make sense and are relevant locally. The ultimate question of validity is whether we are measuring what we think we are measuring; if the answer is no, the data generated to inform reports and interventions are misleading. In this way, ethnographic validity is key. The challenge thus becomes how to identify and communicate about mental distress in a way that promotes ethnographic validity yet enables us to draw benefit from the psychiatric evidence base developed in other cultural settings and to communicate cross-culturally.

These can seem like competing goals, but as I showed in this dissertation, it is possible to reconcile them by adopting multiple approaches to mental health measurement and communication. On the one hand, through a rigorous process of culturally adapting measurement tools for the common mental disorders depression and anxiety, my research team was able to develop tools that facilitate cross-cultural communication, while ensuring that the concepts made sense to measure in rural Haiti and were conceptually equivalent to the original screening tools. However, we recognized that this approach took as its starting point psychiatric categories, thus likely missing salient forms of distress. As a result, we also developed a screening tool that explicitly elicits experience of mental distress by drawing on multiple idioms of distress,

using an ethnographic approach that I likewise utilized to develop measures of other constructs like socioeconomic status and spiritual insecurity.

When Zanmi Lasante/Partners in Health wanted to develop and validate a depression screener to facilitate assessment and evaluation in their care provision, they drew on a combination of items adapted from various standard depression screeners, along with several Haitian idioms of distress. The final set of items went through a clinical validation process and is now being used in their work in hospitals and communities. I consider this process of developing the Zanmi Lasante Depression Symptom Inventory (Rasmussen, et al. 2015) to be an example of how to successfully resolve the seemingly competing aims of cross-cultural comparison and ethnographic validity in global mental health measurement.

The question of how measurement and communication can best be achieved cross-culturally is ultimately an issue of global (often presumed universal) constructs encountering local worlds. In my dissertation, I have explored other global-local encounters and have shown examples where cultural phenomena do not “behave” the same way in Haiti as they do in other settings. For example, extensive literature has shown that religious beliefs and religious engagement can have profound effects on both physical and mental health (cf. Idler 2014; Moreira-Almeida, et al. 2006). However, these effects are not consistent across settings or even within settings. Indeed, in chapter 5, I showed how spiritual insecurity – which is not so much a reflection of religious belief but of perceived personal vulnerability to supernatural harm – is differentially associated with mental health outcomes. Whether or not there exists a relationship between spiritual insecurity and depression depends on the direness of one’s material reality: In conditions of extreme material stress, depressive symptom burden tends to be high regardless of spiritual insecurity. For those in less extreme conditions, spiritual insecurity appears to be associated with lower depressive symptom burden. This pattern of

findings suggests that different landscapes of material stress – which can perhaps be thought of as the different ways that structural violence is acutely manifest in individual lives – can produce different dynamics among phenomena like meaning-making and mental health. An anthropological lens, which examines constructs of interest with attention to nuance, context, and local forms of meaning-making, can improve global mental health efforts at measurement and communication.

Vulnerability and resilience

A final primary question that I have addressed in this dissertation is what shapes vulnerability and resilience to mental distress in Haiti. In particular, I ask how anthropological theory can, in dialogue with other disciplines, contribute to a more nuanced, holistic approach to uncovering what shapes the experience of mental distress. An important insight from anthropology is that the way we frame such questions matters. For example, there has been a recent call for greater attention to resilience rather than vulnerability, focusing on those elements of socio-ecology that are associated with better mental health outcomes (cf. Panter-Brick 2014). Below, I outline what a resilience perspective can contribute to future research and theory development in the context of mental health in Haiti.

Another example demonstrating that the way we ask questions matters comes from epidemiology. Based as it is on largely survey methodology, epidemiology is limited in analytic scope to the variables chosen and questions asked to measure or approximate those variables. This can result in oversimplified approaches to measuring important social constructs. For example, many anthropologists have criticized the widespread inclusion of “race” as a measure in much epidemiologic work, which often lacks any theorization of the construct or any effort to measure its effects in a nuanced way (Dressler, et al. 2005; Gravlee 2009; Gravlee and Sweet 2008). In the realm of

mental health, anthropologists have critiqued epidemiology's focus on traumatic events as the presumed primary driver of mental distress. In contrast, anthropologists and other social scientists have conducted epidemiologic studies that consider the role of daily stressors, often demonstrating an equal or stronger effect on mental health outcomes than traumatic events (Miller and Rasmussen 2010; Panter-Brick, et al. 2008; Patil and Hadley 2008; Weaver and Hadley 2009; Weaver and Hadley 2011; Weaver, et al. 2014; Wutich and Ragsdale 2008). Additionally, anthropologists have drawn much attention to the non-material world as a potential driver of mental distress, including social stressors within their analytic framework (Brooks 2014; Kaiser, et al. in press; Keys, et al. 2014; Massé 2007; Panter-Brick, et al. 2008; Sakti 2013).

The epidemiologic portion of my dissertation adopts this critical approach, attending to systems of meaning-making and non-material stressors in my analytic framework, in addition to traumatic and daily stressors. In chapter 4, I found that systems of meaning-making – in particular locus of control – are less central in terms of explanatory power regarding mental health outcomes, compared to traumatic events and daily stressors. One important future direction would be to unpack what this finding means: are ways of making sense of the world simply less influential in terms of shaping the experience of mental distress? Is it that we need to broaden our perspective to consider a wider range of systems of meaning-making in our analyses? Do we need a more nuanced way of measuring the constructs of interest? Below, I describe future directions in theory development, which include developing more nuanced measures of the constructs of interest, expanding the analytic framework to assess more varied systems of meaning-making, and ultimately testing whether it might be that systems of meaning-making are simply less influential in shaping mental distress than material reality.

Throughout this dissertation, I have shown that in-depth ethnographic work can facilitate operationalization of constructs such as mental distress so that they can be measured in a locally salient manner and can ultimately yield insight into experiences of mental distress. At the same time, I also found that efforts to adapt measures sometimes yield insufficient measures. For example, my food insecurity measure, Perez-Escamilla et al.'s (2009) Kreyòl translation of the Latin American and Caribbean Household Food Security Scale, did not detect enough heterogeneity of experience to be useful in epidemiologic analyses: almost all participants scored between 14 and 16 points on a 16-point scale. In contrast, in chapter 3, I demonstrated how constructs like socioeconomic status, which are conceptually roughly equivalent across settings, can be successfully measured in ways that are sensitive to local worlds, both in terms of material realities and local perceptions of social differentiation. Such efforts are certainly more time-consuming than simple translation. The socioeconomic status scale took multiple rounds of ethnographic data collection, structured elicitation techniques, piloting, and refinement via principal components analysis before it was analytically useful. However, what is gained in terms of ethnographic validity and quantitative utility certainly justifies the additional effort at measure development in such cases.

Compared to constructs like mental distress, socioeconomic status, and food insecurity, systems of meaning-making are extremely complex and likely require even more nuanced ethnographic work and iterative measure development, as well as more time to devote to all steps of the process. Below, I explore future directions for addressing the shortcomings and questions outlined above. In particular, I consider how data collected during my third round of data collection, which involved approximately six months of interviews and participant observation, provides an opportunity for iterative modification of existing measures, as well as for the development of measures focused on other systems of meaning-making.

Future directions in theory development

Here I outline a research agenda to advance theory development regarding mental health in Haiti, particularly addressing the remaining questions outlined above. I propose a research agenda focused on resilience that draws on in-depth ethnographic data, iterative measurement development, and hypothesis testing through a longitudinal epidemiologic study design. As described in chapter 5, during my third round of data collection, I used a research design that enabled me to identify "resilient" and "distressed" individuals with whom to conduct interviews (N=30) and participant observation (N=8). Through this data collection, I investigated elements of individuals' daily lives that might explain differences in their mental health outcomes. In particular, I identified support systems and networks; roles, activities, and predictability of schedules; and material conditions. Additionally, I explored systems of meaning-making, including how they make sense of and resolve problems; perceptions and experiences in relation to the spirit world and to God; and thoughts and plans regarding the future.

These data could enable me to identify systematic differences in experiences, perceptions, and social milieu that might explain differential mental health outcomes. For example, as described in chapter 4, I found that "resilient" participants had more consistent, predictable social interactions than "distressed" individuals and that their interactions were more often focused on provision of support. In future quantitative data collection, I could test the hypotheses that consistent social interactions and provision of social support to others are associated with better mental health outcomes. This research agenda would thus draw on hypotheses that arise out of local worlds, rather than testing patterns found in other settings. It might be the case that systems of meaning-making that are associated with mental health in other settings, such as locus of control or religiosity, are less salient than such factors that are identified through in-depth ethnographic work. The approach outlined here enables me to identify those

systems of meaning-making that are most relevant locally and have not yet been measured.

Several elements of the burgeoning literature on resilience are particularly analytically useful here (Bonanno 2012; Davydov, et al. 2010; Fabinyi, et al. 2014; Luthar and Brown 2007; Panter-Brick 2014). First, examining these ethnographic data through a resilience lens would allow me to identify those perceptions, experiences, and socio-ecological factors that might have a positive effect on mental health, rather than focusing on deficits, as is the case for the vast majority of mental health research. Additionally, research on resilience conceptualizes the construct as processual, rather than consisting of static variables or being shaped by one-time events. For example, by visiting participants multiple times, I was able to see the ways that their interpretations of and approaches to misfortune changed over time, often impacting their affective response to it. In future quantitative work, I would explore not only experiences of traumatic events and daily stressors but also the ways that people make sense of them, in order to assess how these are related to mental health outcomes. In order to best capture resilience as a process, this research would use a longitudinal design that combines epidemiologic and ethnographic data collection. Such a mixed-methods approach would facilitate quantitative hypothesis-testing regarding processes that develop over time, combined with qualitative work that explores the dynamics of these processes in greater depth.

Finally, a resilience lens foregrounds socio-ecology, eschewing a focus on individual traits and examining the effects of the environment broadly construed to include social relationships, material conditions, and broader political and historical forces. My ethnographic findings suggest that such an approach would indeed be vital in order to fully capture the range of factors that shape experiences of mental distress. For example, based on my ethnographic work, I propose that several elements of

individuals' social world would be associated with mental health outcomes. Specifically, I hypothesize that better mental health outcomes would be associated with engaging in consistent, predictable social interactions; providing – rather than receiving – social support; and being more integrated into social networks. This research agenda would thus provide a means of rigorously testing hypotheses generated in the local context and would further the goal of combining analysis of meaning-making and structural violence as played out in local worlds.

Spiritual insecurity likewise provides a particularly compelling area of research for pushing forward questions regarding the interplay of systems of meaning-making, structural violence, and mental health. As I outlined in chapter 5, it appears that spiritual insecurity might be protective in terms of mental health but only in particular contexts of material stress. Sent spirit narratives also themselves closely implicate structural violence and could be interpreted as a means of making sense of the everyday effects of structural violence in people's lived experience. An important future area of research and theory development would be to explore this interlinked system in greater depth, in particular the way spiritual insecurity and sent spirit narratives relate to structural violence and mental health. In particular, I could test whether those who are most affected by structural violence through unemployment, poverty, and perceived lack of agency would be more or less likely to draw upon explanatory systems in line with spiritual insecurity, and in turn, how this impacts their mental health.

Collecting and analyzing more sent spirit narratives would also facilitate understanding of mechanisms whereby such explanatory systems are most powerful: for example, are certain types of misfortune more likely to be attributed to spirits? Are certain social relationships more likely to produce sent spirit attributions? For example, drawing on anthropological literature and my experience, I propose that close social relationships and those already marked by tension – such as disagreements over land

ownership – would be more likely to yield accusations of sent spirits. In this way, sent spirits as a functional system can be investigated in greater depth. Additionally, efforts should be made to uncover the mechanisms that produce variability in terms of spiritual insecurity. Is it that particular perceptions and experiences shaped by structural violence are more closely associated with spiritual insecurity, so that in this case both mental health and explanatory systems are produced by structural violence? To answer this question, future research should include approaches that enable testing the differential effects of spiritual insecurity and structural violence on mental health outcomes.

Informing interventions

Throughout my dissertation, I have stressed the value-added of an anthropological approach for global mental health interventions. In particular, anthropology can contribute to measure development, which can improve efforts at identifying those in need of intervention, assessing improvement, and evaluating interventions. Anthropology can also contribute to clinical communication, particularly through work that highlights idioms of distress and emphasizes that their complexity should be recognized and maintained in communication, rather than reducing them to psychiatric categories. Additionally, idioms of distress can facilitate communication and evaluation in treatment interventions, as idioms of distress often denote those forms of distress that are most significant to address according to individuals undergoing therapy. In this way, directly assessing decreases in mental distress via idioms of distress and not only psychiatric categories can make interventions more tuned to local needs and might ultimately improve effectiveness (Kohrt, et al. 2014).

This dissertation has also outlined the ways that structural violence contributes to shaping mental health outcomes, in particular the uncertainty and lack of agency wrought by poverty. In this sense, it might seem that efforts to reduce poverty would

have strong effects on improving mental health. However, recent systematic reviews questions whether such approaches actually have the desired effects on either mental or physical health (Lund, et al. 2010; Lund 2012). Instead, it seems that mental health interventions might produce both improvements in mental health outcomes and poverty alleviation. Recognizing this to be the case, efforts could be focused on identifying those more proximate factors that shape mental health outcomes and developing preventive interventions, in tandem with interventions aimed at mental health treatment. Such efforts could benefit from a combined focus on structural violence and the goal of poverty alleviation, along with attention to systems of meaning-making. Understanding phenomena like “thinking too much” and spiritual insecurity can make interventions more sensitive, appropriately targeted, and potentially more successful.

In considering how best to intervene to resolve the problems of high disease burden and social ills identified within a political economic analysis, Singer (1998) argues that structural transformations would likely be ultimately needed. However, such solutions are not only complex and dramatic but also fall outside the realm of what anthropology can realistically pursue. In contrast, he argues that mid-level responses are more plausible, an approach that he terms “system-challenging praxis.” Such an approach recognizes social inequalities and begins to challenge them in small ways – such as improving access to HIV treatment for those in poverty – while leaving largely unchanged the root causes of inequity (Singer 1998). Identifying system-challenging praxis might represent a promising avenue for translation of anthropological research into pragmatic relevance, particularly in the field of global health. In Haiti, such an approach could include interventions aimed at prevention and treatment of mental distress that draw on anthropological insights regarding communication, measurement, and meaning-making. At the same time, recognizing that improvements in mental health can ultimately bring about change in economic conditions, it might be the case that this

form of system-challenging praxis in fact begins to change the structural violence that is at root.

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