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Association Between Anti-Human Trafficking Legislation Adherence and Prosecution Rates among 142 Countries from 2003-2011

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Abstract

Association Between Anti-Human Trafficking Legislation Adherence and Prosecution Rates among 142 Countries from 2003-2011

By Serena Durrani

PURPOSE: The objective of this study is to investigate how anti-human trafficking legislation, among other factors, affects the prosecution of trafficking offenders on a global scale.

METHODS: The Human Trafficking Indicators (HTI) Dataset and World Bank DataBank from the years 2003-2011 were utilized to explore the association between annual country-specific prosecution rates and risk factors such as anti-human trafficking legislation adherence (tier status as defined by the yearly Trafficking in Persons Reports from the United States Department of State) and socioeconomic status. A multivariate linear regression model with random intercepts was used to assess the impact of risk factors.

RESULTS: The overall mean prosecution rate was 50.2 per 10 million people, with a median rate of 17.6 per 10 million people. The odds of having a higher prosecution rate per 10 million people was 1.157 (95% CI 0.816, 1.64) times higher for countries in the Tier 2/Tier 2 Watch List and 0.996 (95% CI 0.552, 1.8) times higher for countries in Tier 3, as compared to countries in Tier 1 as defined by the Trafficking Victims Protection Act. Among middle socioeconomic status (SES) countries, the odds of having a higher prosecution rate per 10 million people was 0.52 (95% CI 0.31, 0.9) higher, and the odds among low SES countries was 0.13 (95% CI 0.06, 0.29) higher, again, as compared to high SES countries.

DISCUSSION: Human trafficking affects millions of lives every year and is a gross violation of human rights. Prosecution rates increased overall with increasing years, but, contrary to expectations, socioeconomic status seemed to have more of an effect on the odds of prosecution rates than did tier level. This was surprising and aligns with what may be a common view of human trafficking, that countries with a higher socioeconomic status would have more resources to enforce legislation, while countries with a low socioeconomic status may have fewer resources for enforcement. Reliable data on human trafficking is rare, and this analysis is the first that we know of explores the evaluation of human trafficking prevention strategies over time on a global scale in a public health framework. The findings in this study are relevant for investigating human trafficking in a public health framework and could potentially be used to further research and action on the proposed priorities for public health research on human trafficking.

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1. Introduction

1.1 Definition and Scope

The United Nations defines human trafficking as "the recruitment, transportation, transfer, harboring or receipt of persons, by means of threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of abuse of power or of position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation shall include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labor or services, slavery or practices similar to slavery, servitude or the removal of organs." (United Nations General Assembly, 2000). This offense is a gross violation of human rights and is referred to as "modern slavery", a term which encompasses various types of human trafficking (United States Department of State, 2016). The two main types of human trafficking are forced sexual exploitation and forced labor. (Frank, 2013)

The International Labor Organization estimates that over the past five years, 89 million people experienced some form of modern slavery, with periods of exploitation ranging from a few days to the whole five years, and that on any given day in 2016, 40 million people were victims of modern slavery (ILO, 2017). There is no definitive determination of the number of people victimized by this global enterprise, and estimations of human trafficking vary by source and tend to underestimate the magnitude of people trafficked (DeCoux, 2017). The true scope of the problem is still unknown due to various factors including the inherent difficulty in studying illegal activity, the global

scale of human trafficking, and the lack of productive research on the issue (Frank, 2013).

Human trafficking is a global issue that touches every country and affects every age and gender (UNODC, 2016). This violation can take place within a country or across borders, even across continents. Technological advances and increased globalization have eased the international enterprise of human trafficking (Human Rights Watch, 2004). In the past decade, the demographics of detected trafficking victims has shifted, with children and men now comprising a larger share of the total number of victims than they did previously (UNODC 2016). This contrasts with previous discussion on human trafficking focusing almost solely on the experience of women and girls (Zimmerman, 2017).

1.2 Human Trafficking as a Public Health Problem

Current perspectives on combatting human trafficking are diverse, and it is often unclear what sector the issue falls under. It often falls under the realm of law enforcement, which does not provide a comprehensive landscape for policymakers to protect victims. Because of the magnitude of human trafficking, it is important that different sectors such as law enforcement officials, politicians, and public health professionals, come together to create appropriate policies and protocol to prevent human trafficking and protect victims.

Framing human trafficking as a public health issue uses this cross-functionality to its advantage, as argued by the United States Office of Trafficking in Persons, to inform who intervenes and engages in the fight against human trafficking, how interventions are being implemented, and what must be at stake to truly change the dynamics that enable human trafficking (The Power of Framing Human Trafficking as a Public Health Issue, 2016).

Human trafficking results in widespread and severe negative health consequences, including infectious and non-communicable diseases, occupational injuries, and psychological morbidity (Zimmerman, 2017). Both physical and mental health are affected; one study reported that virtually every body system was affected including dermatologic, eyes/ears, cardiovascular, respiratory, gastrointestinal, urogenital, neurologic and musculoskeletal systems (Zimmerman et al., 2008; Richards, 2014). Several studies found that people trafficked for sexual exploitation are at higher risk for violence, physical health problems, HIV, and other sexually transmitted infections than non-trafficked sex workers (Ottisova, 2016). In this systematic review of the prevalence and risk of violence and the mental, physical and sexual health problems associated with human trafficking, higher proportions of mental health problems such as post-traumatic stress disorder (PTSD), anxiety and depression were found across trafficked age groups (Ottisova, 2016). The health consequences of human trafficking are so widespread and severe that it should be addressed as a preventable public health problem of global magnitude (Zimmerman, 2017).

Rothman et al. asserts that a public health approach to human trafficking involves estimating the size of the problem; identifying risk and protective factors for victimization, perpetration, survival, and resilience across multiple levels of the social ecology; and developing evidence-based strategies to improve victim health. Within this approach, there are five proposed priorities for public health research: (1) Determine the prevalence and incidence of human trafficking with better precision, (2) estimate the cost burden of human trafficking, (3) identify risk and protective factors for human trafficking victimization, perpetration, survival and resilience, (4) investigate effectiveness of healthcare screening and response protocols, and (5) implement and evaluate human trafficking prevention strategies (Rothman, 2017). This study will focus on the fifth priority, evaluating human trafficking prevention strategies.

1.3 Current Legislation against Human Trafficking

One human trafficking prevention strategy is the Trafficking Victims Protection Act (TVPA) of 2000, which is a Federal anti-trafficking law and described as "the cornerstone of Federal human trafficking legislation and established several methods of prosecuting traffickers, preventing human trafficking, and protecting victims and survivors of trafficking" by the Polaris Project (Polaris, 2016). This Act has been reauthorized in 2003, 2005, 2008, and 2013, and while it is a federal law of the United States, it assesses trafficking on a global scale. It also establishes protections for victims of trafficking in the U.S., including a visa, called the T visa, that enables victims and their families to become temporary, then permanent residents of the United States (Polaris, 2016). In 2010, the United Nations General Assembly adopted the Global Plan of Action to Combat Trafficking in Persons, which aims to stop human trafficking by engaging governments and criminal justice systems among other sectors (United Nations, 2010). It also aims to protect vulnerable demographics, mainly women and children and support their recovery from trafficking.

Survivor advocacy has led to increased knowledge and understanding of human trafficking, which, paired with research and program evaluation, has improved victim protection and law enforcement (United States Department of State, 2016). However, current human trafficking policies are far from perfect and there is little evidence that supports the efficacy of such action. In fact, it has been argued that increased protections and legislation have no effect on the number of people prosecuted, and that prosecution will have no effect on the global scale of trafficking (Feingold, 2005).

1.4 Statement of Purpose

The purpose of this thesis is to investigate how anti-human trafficking legislation, among other factors, affects the prosecution of trafficking offenders on a global scale. In doing so, this research aims to aid in public health research on human trafficking by contributing to Priority 5 as proposed by Rothman et al., specifically in evaluating human trafficking prevention strategies. Data from the Human Trafficking Indicators (HTI) Dataset and the World Bank DataBank is used. The primary variables of interest are number of offenders prosecuted, adherence to Trafficking in Persons standards, efforts to prevent trafficking, socioeconomic status, and population. This evaluation uses legislation and adherence, among other indicators, as an example of human trafficking prevention strategies, and the number of traffickers prosecuted as an indication of the efficacy of these strategies.

2. Methods

2.1 Epidemiological Methods and Data Sources

Data from Human Trafficking Indicators (HTI) Dataset and the World Bank DataBank were used for this analysis. Both data sources are publicly accessible and include data from 179 countries from 2003 to 2011. Variables of interest include country, year, number of people prosecuted for human trafficking offenses, country tier as outlined by TVPA standards, socioeconomic status (income level as defined by the World Bank), and population.

The Office to Monitor and Combat Trafficking in Persons (OMCTP) is a division within the U.S. Department of State that leads the United States' global engagement against human trafficking. The OMCTP produces an annual Trafficking in Persons (TIP) Report, which is a comprehensive resource of governmental anti-trafficking efforts and represents an updated, global look at the nature and scope of trafficking in persons and the government actions to confront and eliminate it (United States Department of State, 2017). Each country is placed into one of four tiers as outlined by the Trafficking Victims Protection Act (TVPA) of 2000, with Tier 1 indicating that a government has acknowledged the existence of human trafficking, has made efforts to address the problem, and meets the TVPA's minimum standards (United States Department of State, 2017). Countries with this ranking also must show that efforts and progress has been made in the past year to combat human trafficking.

Minimum TVPA standards are as follows: (1) The government of the country should prohibit severe forms of trafficking in persons and punish acts of such trafficking, (2) for the knowing commission of any act of sex trafficking involving force, fraud, coercion, or in which the victim of sex trafficking is a child incapable of giving meaningful consent, or of trafficking which includes rape or kidnapping or which causes a death, the government of the country should prescribe punishment commensurate with that for grave crimes, such as forcible sexual assault, (3) for the knowing commission of any act of a severe form of trafficking in persons, the government of the country should prescribe punishment that is sufficiently stringent to deter and that adequately reflects the heinous nature of the offense, and (4) the government of the country should make serious and sustained efforts to eliminate severe forms of trafficking in persons (LII, 2000).

Annual TIP report data were used to create the Human Trafficking Indicators (HTI) Dataset, which codes information about human trafficking flows between 179 countries and within them from 2000 to 2011, as well as various types of human trafficking found within a country and what its government is doing to prosecute traffickers, protect victims, and prevent further trafficking (Frank, 2013). Population and socioeconomic status (SES) data from the World Bank DataBank were combined with the HTI dataset to use SES as a variable of interest, and the population was used to calculate the number of people prosecuted per 10 million people.

2.2 Model Selection and Analyses

A retrospective longitudinal study was conducted to identify potential indicators for the number of people prosecuted for human trafficking among selected country characteristics. The data are obtained from the HTI dataset and the World Bank DataBank; the number of people prosecuted for violations of human trafficking laws was obtained from annual TIP reports, and in the event that prosecutions were not mentioned, the number of convictions was used. Country characteristics were selected based on previous literature and policy goals for human trafficking prevention. Initial variables of interest include country, year, number of people prosecuted for human trafficking offenses, tier, socioeconomic status, and population. Other proposed characteristics include compliance with the minimum standards for the elimination of trafficking, efforts to combat trafficking, domestic law enforcement, victim penalization, and progress in its efforts to reduce both the supply and demand for trafficking.

Two models were used to fit the data: a Poisson mixed effects model with the number of people prosecuted per year as the outcome of interest, and a linear mixed effects model with the number of people prosecuted per ten million people per year (prosecution rate) as the outcome of interest, both with tier and socioeconomic status (SES) as fixed effects and country as a random effect. Poisson models are typically used with count data; however, the linear model was a more appropriate fit, so the linear mixed-effects model was used for interpretation. The final model included the log-transformed prosecution rate due to highly skewed prosecution numbers—most are below 500 prosecutions per year with high frequencies of lower prosecution numbers. After transformation there was no evidence of nonlinearity.

A mixed-effects linear regression model with random intercepts was used with the response variable being the log-transformed number of prosecutions per 10 million people. Predictor variables included tier and socioeconomic status (SES) as fixed effects and country as a random effect. 781 observations from 142 countries were included in the final analysis, and the year 2001 and 2002 were excluded due to missing data, as were negative and zero values for number of people prosecuted. The data were cleaned in R

and analyzed in SAS using PROC GLIMMIX to accommodate the analysis of both the Poisson and linear mixed models.

2.3 Missing Data

Years 2001 and 2002 were excluded from this analysis due to low country response numbers compared to the remaining nine years included in the dataset. Observations with a negative or zero value for number of people prosecuted were also excluded from the analysis—countries with zeros recorded tended to have missing values for other self-reported variables and seem to have been coded as an alternate to missing, while many were missing across the board (including country and year) with a zero value for number prosecuted. For the nine-year window, there were 45 countries with more than 5 years of missing data for the number of people prosecuted for human trafficking offenses, most of which are from the Tier 2/Tier 2 Watch List category and 21 of which are located in Africa. This suggests that missing data could be informative to the research question and is a limitation to this analysis. Future work should explore methods to most appropriately address the missing data issue.

3. Results

There were 781 observations from 142 countries from the years 2003 to 2011 meeting our criteria and included in the analysis. The mean prosecution rate was 50.2 per 10 million people, with a median rate of 17.6 per 10 million people. The average number of prosecutions was 64.6 with a median of 18. Most countries were in the Tier 2/Tier 2 Watch List category (120 countries) and in the middle socioeconomic status category (78 countries). The majority of countries with a high SES tended to be Tier 1, while midand low-SES countries tended to belong in Tier 2/Tier 2 Watch List.

The odds of having a higher prosecution rate per 10 million people was 1.157 (95% CI 0.816, 1.64) times higher for countries in the Tier 2/Tier 2 Watch List, and 0.996 (95% CI 0.552, 1.8) times higher for countries in Tier 3 as compared to countries in Tier 1 as defined by the Trafficking Victims Protection Act.

Among middle socioeconomic status (SES) countries, the odds of having a higher prosecution rate per 10 million people was 0.52 (95% CI 0.31, 0.9) times higher, and the odds among low SES countries was 0.13 (95% CI 0.06, 0.29) times higher as compared to high SES countries.

4. Discussion

Human trafficking affects millions of lives every year and is a gross violation of human rights. The health consequences of human trafficking are so widespread and severe that it should be addressed as a preventable public health problem of global magnitude (Zimmerman, 2017). One priority for public health research on human trafficking is implementing and evaluating human trafficking prevention strategies, which was the goal of this analysis.

This multivariate linear regression analysis used the number of people prosecuted per 10 million people per year as an indicator of the efficacy of human trafficking legislation. Based on previous literature, the expectation was to see an increase in prosecution rate over the years, which was supported by the results, and that the rate would increase with tier and SES level, i.e. lower rates at Tier 3 and low SES, and higher rates at Tier 1 and High SES. Tier was expected to play a greater role than socioeconomic status. There were higher odds for greater prosecution rates with increasing years, but contrary to expectations, socioeconomic status seemed to have more of an effect on the odds of prosecution rates than did tier level. This was surprising and aligns with what may be a common view of human trafficking, that countries with a higher socioeconomic status would have more resources to enforce legislation, while countries with a low socioeconomic status may have less resources for enforcement.

4.1 Limitations

Limitations to this analysis include missing data, not only in the dataset itself, but also at higher levels. This should be improved on the judicial level, to make sure that cases that are human trafficking are tried and reported as such, on the reporting level, so that each country thoroughly reports the number of people prosecuted per year. The data used in this study should be seen as a sample of the number of people prosecuted per year, because there is no guarantee that the number is accurate, we just have to trust the data given in the Human Trafficking Indicators dataset. The World Bank data was combined with the HTI dataset, and there were some irreconcilable differences between datasets; for example, the HTI dataset combined some countries, which were subsequently left out of the analysis, accounting for the drop in country inclusion.

The number of people prosecuted was used as an indication of the efficacy of human trafficking legislation. This is because previous literature and research has indicated the human trafficking occurs in every country, to every gender and age group, across all continents and regions, so we expected to see similar rates of prosecution and increases in prosecution rates over the years with increasing legislation against human trafficking. This was decided based on the available data; however, it would be ideal to conduct further analysis using the number of people actually trafficked, rather than the number of people prosecuted due to human trafficking violations, which may yield different associations than those observed in the analyses above. Other useful indicators may include the levels of tourism in a country, whether the country protects victims, levels of corruption in the justice system, verification of reasons for prosecution, and more. The scope of this study only included the data that were available and some of the additional factors that were believed to have a possible effect were not easily quantifiable. Human trafficking data is difficult to collect and not much reliable data exists, and this analysis is the first that we know of that explores human trafficking prevention strategies over time on a global scale within a public health framework.

4.2 Further Research

This study is an early step in the application of putting human trafficking in a public health framework. It can be carried out by further researchers and used to determine future methods of implementing and evaluating human trafficking prevention strategies. As awareness of this issue grows across functions and specifically in the public health field, researchers will hopefully keep the priorities for public health research on human trafficking in mind and use previous research to adapt new and effective ways to implement and evaluate strategies.

Tier	Definition							
Tier 1	The governments of countries that fully meet the TVPA's minimum standards for the elimination of trafficking.							
Tier 2	The governments of countries that do not fully meet the TVPA's minimum standards but are making significant efforts to bring themselves into compliance with those standards.							
Tier 2 Watch List	 The government of countries that do not fully meet the TVPA's minimum standards, but are making significant efforts to bring themselves into compliance with those standards, and for which: a. The absolute number of victims of severe forms of trafficking is very significant or is significantly increasing; b. There is a failure to provide evidence of increasing efforts to combat severe forms of trafficking in persons from the previous year, including increased investigations, prosecution, and convictions of trafficking crimes, increased assistance to victims, and decreasing evidence of complicity in severe forms of trafficking by government officials; or c. The determination that a country is making significant efforts to bring itself into compliance with minimum standards was based on commitments by the country to take additional steps over the next year. 							
Tier 3	The governments of countries that do not fully meet the TVPA's minimum standards and are not making significant efforts to do so. The TVPA lists additional factors to determine whether a country should be on Tier 2 (or Tier 2 Watch List) versus Tier 3: First, the extent to which the country is a country of origin, transit, or destination for severe forms of trafficking; second, the extent to which the country's government does not meet the TVPA's minimum standards and, in particular, the extent to which officials or government employees have been complicit in severe forms of trafficking; third, reasonable measures that the government would need to undertake to be in compliance with the minimum standards in light of the government's resources and capabilities to address and eliminate severe forms of trafficking in persons.							

Table 1. Tier Definitions: A Guide to TIP Tiers, from the 2017 Trafficking in
Persons Report (United States Department of State, 2017)





Table 2. Percent of countries from each region with any missing data and with more than 5 missing values for number of people prosecuted.

Region	Africa	Central and South Asia	East Asia Pacific	Europe	Near East	Western Hemisphere
Any	46/46	10/12	19/25	30/45	17/17	30/32
missing	(100%)	(83.3%)	(76%)	(66.7%)	(100%)	(93.8%)
More than	21/46	1/12	4/25	4/45	9/17	6/32
5 missing	(45.7%)	(8.3%)	(16%)	(8.9%)	(52.9%)	(18.8%)

Characteristic	Africa	Central and South Asia	East Asia Pacific	Europe	Near East	Western Hemisphere	Overall
Country	34	12	17	45	14	26	148
Tier*							186
Tier 1 Tier 2/Tier 2 Watch List	4 33	1 11	4 13	26 29	1 13	3 21	39 120
Tier 3 Special Case	4 2	2 1	4 1	2 2	5 0	2 2	19 8
SES	32	12	17	44	14	26	145
<i>Low SES Mid SES High SES</i>	19 13 0	2 10 0	0 11 6	0 16 28	0 7 7	0 21 5	21 78 46
Number of people Prosecuted (Mean/Median)	10.91 / 4	201.3 / 33	111.1 / 32.5	58.68 / 27.5	40.95 / 13	26.42 / 10	64.56 / 18
Prosecution Rate (Number of people prosecuted per 10 million people)	13.65 / 2.98	29.68 / 7.92	54.56 / 10.56	81.77 / 41.42	36.36 / 19.09	28.16 / 9.16	50.21 / 17.57

 Table 3. Country characteristics and demographics

*Tier has a total of 186 because country tier is not always consistent for each country.

Tier	Estimate (95% CI)	SES	Estimate (95% CI)
Tier 1*	-	High	-
		Income*	
Tier 2/Tier 2 Watch	1.157 (0.816, 1.64)	Middle	0.52 (0.31, 0.9)
List		Income	
Tier 3	0.996 (0.552, 1.8)	Low Income	0.13 (0.06, 0.29)

Table 4.	Odds Ratio) Estimates	for Tier	and SES
	Ouus mun	L oundeed	101 1101	

*Reference category

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