MEASUREMENT OF UN PEACEKEEPER-PERPETRATED SEXUAL EXPLOITATION/ABUSE AND THE RELATED STIGMATIZATION OF WOMEN AND GIRLS IN THE DEMOCRATIC REPUBLIC OF CONGO

By

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General Abstract

Background: UN peacekeeper-perpetrated sexual exploitation and abuse (SEA) is an international concern with reported allegations across 32 peace support operations. Stigma attributed to broader sexual and gender-based violence is well documented in the literature, however little is known about the relationship between UN-peacekeeper perpetrated SEA and stigma in the Democratic Republic of Congo (DRC). As current binary measures of SEA disregard its complexity in peacekeeping settings, an index is proposed as an alternative measure.

Methods: The objectives of this study were to construct an index to quantify the level of SEA exposure experienced by women/girls in the DRC and to examine how SEA exposure was related to community perceptions of Congolese women/girl's social status and institutional support. Using mixed-methods DRC survey data (n=2867), SEA indicators were identified using a combination of qualitative and quantitative survey variables. Two Poisson regression models with robust variance estimation were constructed to quantify the associations between SEA exposure and stigma by relative risk. Demographic variables were assessed for confounding and narrator's sex was assessed for effect modification.

Results: Eight indicators of SEA exposure were identified: six derived from the thematic analysis and two from the existing survey variables. A positive relationship was demonstrated between the level of exposure and diminished social status with women/girls experiencing moderate levels of SEA having the greatest risk of public stigmatization (RR: 1.94; CI: 1.66 – 2.26). Similarly, a positive relationship between SEA exposure and inadequate institutional support was shown for female narrators wherein women/girls highly exposed to SEA were 6.53 times as

likely to receive inadequate support (RR: 6.53; CI: 3.63, 11.73). This contrasted with male narrators for whom there was no significant association.

Conclusions: With further development, this index may offer a more nuanced perspective of peacekeeper-perpetrated SEA to inform SEA prevention and intervention efforts. The high risk of public and structural stigmatization in women/girls who were highly exposed to SEA indicates the importance of considering exposure levels when conceptualizing SEA consequences in peacekeeping contexts. The frequency of both public and structural stigma, and varying perceptions by sex, demonstrates the need for a multi-faceted approach for stigma reduction.

Co-Authorship

This work was completed under the supervision of Dr. Susan Bartels and Dr. Heather Stuart. As a co-investigator on the DRC Sensemaker project who oversaw data collection with Dr. Bartels, Dr. Sabine Lee contributed feedback to both manuscripts before submission. The project objectives and analysis were brainstormed through multiple discussions with Samantha Gray, Dr. Susan Bartels, and Dr. Heather Stuart. As the primary author, Samantha Gray completed the literature review, thematic coding, statistical analyses, interpretation of results, and writing of the thesis.

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Table of Contents

List of Figures

List of Tables

List of Abbreviations

DRC	Democratic Republic of Congo
MONUC	United Nations Organization Mission in the Democratic Republic of the Congo
MONUSCO	United Nations Organization Stabilization Mission in the Democratic Republic of the Congo
NGO	Non-governmental organization
PSO	Peace support operation
RR	Relative Risk
SEA	Sexual exploitation and abuse
TS	Transactional sex
UN	United Nations

Chapter 1: General Introduction

Rationale and Scope of the Thesis

While the responsibility of the UN Department of Peacekeeping Operations is primarily to protect, prevent conflict, and build law and security institutions in conflict and disasterstricken settings (United Nations Peacekeeping, 2020b), this effort has been undermined by the significant harms stemming from the sexual exploitation and abuse (SEA) of women and girls (Simić, 2014; Tull, 2018; United Nations Secretariat, 2008; Utas, M., & Ruden, 2009). With reported incidences of SEA since the 1990s, and 1,075 formal cases alleged since 2007, it is apparent that SEA is a widespread problem across peacekeeping missions (Simic, 2012; United Nations, 2020a). The United Nations Organization Mission in the Democratic Republic of the

Congo (MONUC) and subsequent United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO) present a particular concern for the perpetration of SEA as allegations in this setting comprise 36.1% of total UN reports, and MONUSCO remains the largest ongoing peace support operation in the world. Affected Congolese women and girls in this environment are also likely to face public and structural stigmatization as a result of peacekeeper-perpetrated SEA. Long-term consequences such as community rejection and poor access to institutional services (Verelst, De Schryver, Broekaert, & Derluyn, 2014) can have devastating effects on their livelihoods, such that the impact of stigma is comparable to the trauma of the SEA itself (Albutt, Kelly, Kabanga, & Vanrooyen,

2017; Rees et al., 2011). While it is imperative that these issues are addressed, knowledge in this field is limited, warranting a need for an improved understanding of the nature and exposure level of SEA and its social and structural consequences.

The descriptive and analytical components of this thesis therefore discuss the conceptualization of SEA in the current literature, its limitations in peacekeeping settings, the resulting public and structural stigmatization of Congolese women and girls in peacekeeping host communities, and the contextual factors that may contribute to stigmatization. As SEA continues to occur in the DRC and complex factors such as poverty and gender inequality remain prevalent in the Congolese context, it is imperative that these nuances are not only recognized, but also actively considered in the development of population-based measures and potential interventions of stigma. This thesis will advance a level of SEA exposure-based conceptualization of SEA that helps to understand how affected women and girls experience resultant stigma.

Objectives

Objective 1

Construct an index to quantify the degree to which local women and girls are exposed to sexual exploitation/abuse perpetrated by UN peacekeepers among MONUSCO hosting communities in the DRC.

Objective 2

Using the newly constructed index, examine how the exposure level of SEA experienced affects a woman's perceived (1) social status, and (2) institutional support in her community.

Structure of Thesis

This thesis is presented in manuscript-style with seven chapters as per the formatting guidelines outlined in the *Department of Public Health Sciences Student Handbook 2019-2020* by Queen's University. The second chapter is comprised of a literature review detailing the attributes of the DRC, the field of UN-peacekeeper perpetrated SEA, and current knowledge of the sexual-violence-derived stigmatization of women and girls in peacekeeping environments. The third chapter outlines the utilized methods for each objective. The fourth and fifth chapters contain the manuscripts for each objective. The first manuscript, in chapter 4, contains the construction of the SEA exposure index outlined in objective 1. The second manuscript, in chapter 5 examines the relationship between the level of exposure of SEA and the woman or girl's experience of public and structural stigmatization as per objective 2. Finally, supplementary results and a general discussion on the thesis results and implications are included in chapters 6 and 7.

References

Albutt, K., Kelly, J., Kabanga, J., & Vanrooyen, M. (2017). Stigmatisation and rejection of survivors of sexual violence in eastern Democratic Republic of the Congo. https://doi.org/10.1111/disa.12202

Rees, S., Silove, D., Chey, T., Ivancic, L., Steel, Z., Creamer, M., … Forbes, D. (2011). Lifetime prevalence of gender-based violence in women and the relationship with mental disorders and psychosocial function. *JAMA - Journal of the American Medical Association*, *306*(5), 513–521. https://doi.org/10.1001/jama.2011.1098

Simic, O. (2012). *Regulation of Sexual Misconduct in UN Peacekeeping Operations*.

Simić, O. (2014). 'Peacekeeper Babies': An Unintended Legacy of'United Nations Peace Support Operations. *International Peacekeeping*, *21*. https://doi.org/10.1080/13533312.2014.938581

Tull, D. M. (2018). The Limits and Unintended Consequences of UN Peace Enforcement: The Force Intervention Brigade in the DR Congo. *International Peacekeeping*, *25*(2), 167–190. https://doi.org/10.1080/13533312.2017.1360139 United

Nations. (2020). Sexual Exploitation and Abuse.

United Nations Peacekeeping. (2020). What We Do. Retrieved from https://peacekeeping.un.org/en/what-we-do

United Nations Secretariat. (2008). Prohibition of discrimination, harassment, including sexual harassment, and abuse of authority. Retrieved from https://undocs.org/ST/SGB/2008/5

Utas, M., & Ruden, F. (2009). *Sexual exploitation and abuse by peacekeeping operations in contemporary Africa*.

Verelst, A., De Schryver, M., Broekaert, E., & Derluyn, I. (2014). *Mental health of victims of sexual violence in eastern Congo: associations with daily stressors, stigma, and labeling*. Retrieved from http://www.biomedcentral.com/1472-6874/14/106

Chapter 2: Background and Literature Review

General Overview

As this study is conducted in the context of peacekeeping host communities in eastern DRC, this section firstly provides a summary on the DRC that includes its history of conflict and sexual violence, its peacekeeping missions, and the current geopolitical climate. It is intended to provide context to the environment in which this project is based. A review of existing literature on the conceptualization of sexual exploitation and abuse, its burden in UN peacekeeping contexts is also given, along with background information on stigma and its specific manifestations for victims of sexual exploitation and abuse.

Overview of the DRC

Derivation of Conflict and the Congolese Wars

The DRC currently remains in a post-conflict recovery state from an extensive history of violence derived from the Rwandan genocide in 1994. The massacre of an estimated 800,000 Tutsis and moderate Hutus by Hutus extremists and the resultant mass flow of refugees marked the beginning of the devastating First and Second Congo Wars (Global Conflict Tracker, 2019; Huening, 2009; Human Rights Watch, 2009). During the post-genocide period, Rwanda established a Tutsi government causing a large flow of Hutu refugees to flee to the eastern DRC and form armed groups (Global Conflict Tracker, 2019). In 1996, the First Congo War, fought between the Hutu armed groups and the combined forces of Rwanda, Uganda and Congolese opposition forces lead by Laurent Kabila began to eliminate the Hutu perpetrators of violence (Global Conflict Tracker, 2019; Human Rights Watch, 2009). Upon success by Kabila's forces,

remaining Hutu forces dispersed westwards whilst Kabila transitioned into a presidential role in the DRC in 1997 (Human Rights Watch, 2009). With fear of conflict over the mineral intensive eastern DRC, Kabila swiftly ordered the partnering Rwandan and Ugandan forces out of the country with support of Angola, Namibia and Zimbabwe. His newly formed government, in tandem, was eradicated of Tutsi influence to seek independence from Rwanda (Human Rights Watch, 2009). A much larger discord ensued as a consequence, involving additional African countries in the period of 1998 to 2003, known as the Second Congo War, during which Laurent Kabila was assassinated and replaced by his son, Joseph Kabila. Despite several failed peace agreements over this period, the Pretoria Accord and Luanda Agreement signed in 2002 provided peace to the DRC and Rwanda, as well as the DRC and Uganda respectively, allowing for a democratic establishment of government culminating in 2006 with Joseph Kabila as president (Global Conflict Tracker, 2019; Human Rights Watch, 2009). The staggering cost of both the First and Second Congo Wars was a loss of 5.4 million lives, the greatest loss of civilian life since World War II (Mulumba, Hardy, & Lewis, 2007).

Current State of the DRC

Human Development

Armed groups remain in the eastern provinces despite progress made in de-escalating violence. Without the opportunity to fully recover, today the DRC retains a low-income status country ($545.2 GDP per capita) (United Nations, 2019b; World Bank, 2020) with high poverty and considerable inequality (United Nations Development Programme, 2018; World Health Organization, 2015). In the population of 81.3 million, 43.9% of individuals reside in urban

areas, and 77.1% of the population lives below the income poverty line at a purchasing power parity (PPP) of $1.90 a day (United Nations Development Programme, 2018). DRC's human development, as quantified by the inequality-adjusted Human Development Index (IHDI), and Gender Development Index value (GDI), is 176th out of the 189 countries ranked in the world, indicating minimal progress in the dimensions of health, and standard of living (United Nations Development Programme, 2018). The country bares an average life expectancy of 59.2 years (United Nations, 2017b), high rates of death attributed to preventable health conditions (Mulumba et al., 2007), as well as an inadequate healthcare system to manage these persistent concerns (Laokri, Soelaeman, & Hotchkiss, 2018).

Sexual Violence as a Weapon of War

A significant component of the First and Second Congo Wars was sexual violence as a weapon of war, an atrocity that continues to be practiced in the DRC by non-peacekeeping groups. In 2019, the UN reported 1409 documented cases of conflict-related sexual violence, a number that remains one of the highest in current conflict-affected countries (United Nations Secretary General, 2020). These cases were instigated primarily by non-state armed groups (955), however 383 were attributed to the Congolese National Police and/or the Armed Forces of the DRC, and 9 to other state actors (United Nations Secretary General, 2020). More often than not, justice for the victim is inadequate due to a lengthy list of obstacles such as the underfunding of legal clinics and lengthy legal procedures, leaving many cases absent of proper legal action (Mansfield, 2009; United Nations Secretary General, 2020). The frequency of violence and its impunity, in turn may contribute to the normalization of sexual violence and a

disregard for its seriousness in Congolese society that serves to hinder progress in justice, gender inequality, and prevention (Freedman, 2011).

Gender Inequality

Traditional gender attitudes are prevalent in the DRC where males are primarily classified as principal earners and females as domestic or agricultural workers (Freedman, 2011). These circumstances are extenuated by the level of poverty in the country where families often place limited monetary and educational resources on male children as a better perceived investment (Freedman, 2011). In turn, 41% of women are illiterate compared to 14.2% of males, creating an disproportionate cycle of diminished access to livelihoods (Freedman, 2011). Women's low participation in the field of politics from lack of acceptance and encouragement additionally creates a situation in which men are designated as principal decision makers not only in households, but also in community and governmental roles, even in areas such as women's health (Freedman, 2011; M. Muanda, Ndongo, Taub, & Bertrand, 2016). With little influential power, woman therefore often do not hold the same social, political, and economic status as men (Freedman, 2011; M. Muanda et al., 2016). This context is important to acknowledge when conceptualizing SEA in this environment.

Summary of Sexual Exploitation and Abuse

Conceptualization of Sexual Exploitation and Abuse in International Literature

Following a literature review on the definition of these terms (see Appendix A), it is evident that there is some consensus on the conceptualization of sexual exploitation and abuse.

In studies of children and adolescents, adults, and individuals in conflict-affected settings, sexual abuse is commonly described as a physical or non-physical sexual activity with an absence of or an inability of participant(s) to consent, and/or unequal or coercive conditions. Table 1 outlines the components of sexual abuse definitions in reviewed academic and grey literature. There remains some inconsistency however, surrounding the age deemed appropriate to consent, ranging from fifteen to eighteen years old (Lalor & McElvaney, 2010). This variability is likely attributed to differences in cultural perceptions and age of consent laws in the study environments. Sexual exploitation is defined in a similar manner, as a physical or non-physical sexual interaction in which a participant's vulnerability is exploited for financial, social, economic, or political benefit or where goods of value are exchanged (see Table 2). In some cases, sexual exploitation is considered to be a form of sexual abuse (Franklin, Brown, & Brady, 2018; Hampton & Shade, 2015; Mitchell et al., 2017; Shields & Letourneau, 2015). While there is variability in the descriptions of SEA used in literature, the UN definitions remain influential in this field, particularly in conflict-affected populations (Csaky, 2008; Spangaro et al., 2013) which may be most comparable to the current study population. Sexual exploitation is defined by the UN as "any actual or attempted abuse of vulnerability, differential power or trust, for sexual purposes, including but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another" (United Nations, 2017, p.6). This conceptualization encompasses prostitution, transactional sex and solicitation of transactional sexual interactions. Sexual abuse, in comparison, is described as "an actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions", with sexual interactions with minors under the age of 18 always being considered

abusive (United Nations, 2017, p.5). As these definitions remain the most contextually relevant to the occurrence of SEA by peacekeepers in the DRC, they are utilized for the purposes of this project. Furthermore, sexual exploitation and abuse will be considered a form of sexual and gender-based violence as supported by similar studies (Spangaro et al., 2013; World Bank, 2017).

History of SEA by UN Peacekeeping Personnel

Allegations of peacekeeper-perpetrated SEA have been reported in almost all peace support operations (PSO) since the 1990s (Higate, 2003; Simic, 2012; Simić, 2014; Utas, M., & Ruden, 2009). In 1992, allegations were first reported about an increased level of prostitution and trafficking in Mozambique (Simic, 2012) that were soon followed by similar reports in Cambodia (Phal, 1995), Somalia (Lupi, 1998), and Bosnia and Herzegovina (Vandenberg, 2002). Allegations specific to SEA continued to rise with PSOs in Cambodia (Olsson, 2009), Somalia (Kent, 2007), Kosovo, Sierra Leone, Sudan, and Haiti (King, Lee, & Bartels, 2020), amongst others (Nordås & Rustad, 2013). Additionally, East Timor served as the PSO to acknowledge peacekeeper-fathered children in 1999 due to a major concern about the absence of ongoing child care support for Timorese mothers who were raising peacekeeper-fathered children (Murdoch, 2006). Reports have since recognized the presence of peacekeeper-fathered children in Liberia (Simić, 2014), and most recently Haiti (Lee & Bartels, 2019; Vahedi, Bartels, & Lee, 2019). With formal reporting mechanisms in place, 1,075 total allegations of SEA have been reported since 2007 across 32 missions (United Nations, 2020a). However, it is likely that the true number of cases is higher as each allegation may represent one or more perpetrators

or victims (United Nations, 2020a), and sexual violence is historically underreported by affected women and girls (Alexandra, 2011).

UN-Peacekeeper Perpetrated SEA in the DRC

The perpetration of SEA by peacekeepers is especially concerning in the DRC. UN peacekeeping started in 1999 in the DRC to coordinate the peaceful transition of government and a removal of armed forces after the Second Congo War. The United Nations Organization Mission in the Democratic Republic of Congo (MONUC) provided a moderate reduction in violence during its term of 1999 to 2009 (Tull, 2018). Following MONUC, the United Nations Organization Stabilization Mission (MONUSCO) was subsequently configured to focus on the stabilization of government and protection of civilians. To date, it remains the largest ongoing PSO (United Nations Peacekeeping, 2020a). Amongst the 32 publicly identified missions with SEA allegations, MONUC and MONUSCO are cited as contributing 36% of the total reports with 388 allegations from 2007 to present, demonstrating a notable breach of the zero-tolerance policy enacted by the UN (see Resulting Policy Measures below).

Contributing Factors to UN-Peacekeeper Perpetrated SEA

Numerous factors are believed to increase the prevalence of UN-perpetrated SEA in particular settings. Firstly, missions with larger numbers of uniformed peacekeepers and missions hosted in poorer countries (as per GDP per capita), have been associated with an increased number of reports of SEA (Nordås & Rustad, 2013). DRC is an excellent example of an environment with both of these attributes, as MONUSCO represents the largest ongoing UN

mission in the world with approximately 18,500 troops, staff, police and volunteers (United Nations Peacekeeping, 2020a). Additionally, the DRC retains a low-income status with high levels of poverty and a GDP per capita of $545.2 (United Nations, 2019b; United Nations Development Programme, 2018; World Bank, 2020). Secondly, the combination of local poverty and the authoritative presence of the comparatively wealthy peacekeeping personnel is known to intensify power differentials between peacekeepers and the local population, resulting in a seemingly increased risk of transactional sex and coercion (Alexandra, 2011). Peacekeepers in this environment make a wage that is 500 to 1000 times greater than the average local, therefore allowing them to impart a significant influence on the activities of the local economy (Alexandra, 2011). Furthermore, inequitable gender norms in the DRC and within peacekeeping personnel present concern. As troops are predominantly male and bring varying cultural backgrounds, training profiles, and experience from their countries, there is often a need for pre-deployment training to address cultural discrepancies and gender attitudes when interacting with locals (Simic, 2012). Additionally, the inequitable gender norms in the DRC and limited opportunities for justice for sexual violence survivors contribute to an environment of impunity (Kelly et al., 2012; United Nations Development Programme, 2018).

Resulting Policy Measures

With recognition of the prevalence of UN peacekeeper-perpetrated sexual exploitation and abuse, a zero-tolerance approach towards SEA was enacted by the UN. This policy was introduced in 2003 through a Secretary-General Bulletin on Special Measures for the Protection from SEA with the intended purpose of preventing further occurrences through punitive action

and addressing known cases (UN Secretariat, 2003). As of March 2017, a four-pronged approach has been conducted to step up efforts around response to and prevention of sexual abuse and exploitation. The components are: prioritizing the rights of victims, improving reporting and investigations, increasing communications among external partners, and implementing communications for transparency and education (United Nations, 2018a). Under this approach, peacekeepers are disciplined based on their personnel status with civilian personnel facing the possibility of dismissal. Despite the UN's strengthened approach, the accountability of the mandate remains questionable as the UN itself has no legal authority to prosecute its personnel, leaving this responsibility to the militaries of troop contributing countries (United Nations, 2018b). Coupled with the weak and inequitable justice system within the DRC, perpetrators rarely stand trial (MONUSCO, 2014), and victims often separately endure harsh social and structural consequences (Kitharidis, 2015).

Overview of Stigma

Definitions of Self, Public, and Structural Stigma

Stigma derives from the devaluation of a specified group as a result of directed negative beliefs and actions, and is contextualized as self-stigma (how people devalue themselves), public stigma (how people devalue others), and structural stigma (how organizations operate to create and sustain social inequities) (Corrigan, Bink, Schmidt, Jones, & Sch, 2016; Corrigan & Watson, 2002; Hatzenbuehler, 2016; Link & Phelan, 2001). Self-stigma is often comprised of self-internalized feelings of low self-esteem and lack of confidence (Corrigan et al., 2016), whereas public stigma is characterized by an avoidance, isolation, and withdrawal of help from

individuals who are stigmatized. Other manifestations include subjecting the stigmatized to unjust treatment, or segregating them from society (Corrigan & Watson, 2002). Restriction of individuals through institutional policies and practices compromises structural stigma (Corrigan & Watson, 2002; Hatzenbuehler, 2016).

Occurrence of Stigma in Women and Girls Affected by Sexual Violence

Manifestations of public stigma are well reported among victims of sexual violence in the DRC where woman and girls affected by sexual violence are often subjected to social isolation or a diminished social status in their communities leading to consequences such as languishing mental health, fear of disclosing the incident, a loss of livelihood, forced relocation, and/or avoidance of medical services (García-Moreno, 2014; Kelly et al., 2012; Kitharidis, 2015; Scott et al., 2015; Wachter et al., 2018). In a recent study, Congolese women and girls who experienced rape were 16.87 times as likely to be rejected or abandoned by their community and 6.92 times as likely to be rejected by their close family when compared to women and girls with no experience of sexual violence (Verelst et al., 2014). Women and girls affected by nonrape, non-consensual sexual experiences also experienced an increased likelihood of these outcomes and were 3.93 and 1.67 times as likely, respectively, to be rejected by their community and close family members (Verelst et al., 2014). While manifestations of structural stigmatization are less frequently reported, some evidence suggests that it occurs in the DRC through inadequate institutional protections, continuous impunity, breached confidentiality, and fear of reprisal from mental health and justice service providers (Aroussi, 2011; GarcíaMoreno, 2014; Kitharidis, 2015). Consequently, women and girls who experienced rape

or other non-consensual sexual experiences are reported to be 2.83 and 1.67 times, respectively, as likely to receive poorer service at stores and other services (Verelst et al., 2014). The stigmatization of women and girls affected by sexual violence in this environment may be derived from societal perceptions and gender norms that hold women and girls responsible for these sexual encounters. This may be explained within the realm of attribution theory (Heider, 1958).

Attribution Theory

The term attribution in psychology literature refers to explanations of why behaviour occurs and secondly to inferences about that behaviour (Malle, 2011). The overlapping theme in these two meanings is the process of assigning; in the first form a behaviour is assigned to its cause, and in the second a quality is assigned to an individual based on their behaviour (Malle, 2011). Attribution theory consequently examines how responsibility is assigned to individuals within a scenario and is used often as a foundation for understanding the perceptions of victims of crime (Grubb & Turner, 2012; Heider, 1958). In the case of sexual violence, individuals often counterintuitively place blame on the victims because they are perceived as having behaved in a manner that contributed to the outcome (Grubb & Harrower, 2008; Grubb & Turner, 2012). This was more recently substantiated in a study comparing individual perceptions to stories of victims of different traumatic events that were perceived as more stigmatizing such as sexual violence or less stigmatizing like experiencing a natural disaster (Delker Id, Salton, Mclean, & Syed, 2020). Compared to victims of other traumatic events such as natural disasters or other interpersonal violence, sexual violence victims in the stories were alleged to be more at fault,

less likeable and less credible when describing the events endured (Delker, Salton, Mclean, & Syed, 2020). These results suggest a need to change the perception of women and girls affected by sexual violence in discriminating environments.

Contribution of Thesis

This project aims to build upon the current conceptualization of SEA in a manner that is relevant to both the complexity of exploitation and abuse as well as the economic environment and cultural nuances of the DRC. SEA is commonly measured in a binary format with individuals receiving a classification that is dependent on whether or not they meet the case criteria (Heise & Hossain, 2017; McAlpine, Hossain, & Zimmerman, 2016). While convenient, this approach has many limitations for expanding current knowledge on the characteristics and subsequent consequences of SEA, particularly in conflict-affected environments where multiple external factors are often at play (ex. poverty, limited infrastructure and access to resources). A dichotomous approach ignores the potential for cases of SEA to vary by the degree of exposure. For example, a violent sexual assault would receive the same weight as a much less invasive negotiated transactional sexual interaction. This classification is contrasted by physical trauma literature that often utilizes an exposure-based measurement approach that considers the type of traumatic event and its frequency to illustrate a more detailed profile (Cortese, Schumann, & Uhde, 2017; Kira et al., 2008). Additionally, this approach diminishes the evolving nature of some sexual interactions where consent, agency, and conditions change depending on the circumstances of the encounter. For example, women who engage in transactional sex (TS) may have initially consented to exchange of money for sexual acts, but later find themselves with

little bargaining power around the frequency or type of sexual act, condom usage, compensation, or ability to end the arrangement entirely (Human Rights Watch, 2001; Luke, Goldberg, Mberu, & Zulu, 2011; Mudgway, 2017; Underwood, Skinner, Osman, & Schwandt, 2011). In some cases, women engaging in TS experience rape and/or forced prostitution, despite having an initial mutual agreement or negotiating power (Human Rights Watch, 2002). Labelling such cases as rape without accounting for the transactional sex would diminish the complexity of the situation and limit opportunities for an improved understanding of the victim's experience and development of interventions. Lastly, the binary approach fails to recognize that the physical, psychological and socioeconomic sequela may differ based on the degree and nature of the SEA. As research on women experiencing sexual violence suggests, long-term health effects are dependent on the severity of violence experienced (Heise L, 2012), and thus a multi-dimensional approach could be especially useful for the development of interventions targeted at known consequences of SEA. Through the construction of a exposure level measure, this thesis contributes to sexual violence literature by moving beyond the traditional binary measure and quantifying the specific manifestations of SEA in this environment. Additionally, the measurement of public and structural stigma as outcomes of SEA addresses the limited evidence available on stigma related to peacekeeper-perpetrated SEA.

References

Alexandra, K. (2011). Peacekeepers' privilege and sexual abuse in post-conflict populations. *Peace Review*, *23*(3), 369–376. https://doi.org/10.1080/10402659.2011.596078

Aroussi, S. (2011, December 1). "Women, peace and security": Addressing accountability for wartime sexual violence. *International Feminist Journal of Politics*. https://doi.org/10.1080/14616742.2011.611663

Corrigan, P. W., Bink, A. B., Schmidt, A., Jones, N., & Sch, N. R. (2016). What is the impact of self-stigma? Loss of self-respect and the "'why try'" effect. *J Ment Health*, 1360–0567. https://doi.org/10.3109/09638237.2015.1021902

Corrigan, P. W., & Watson, A. C. (2002). Understanding the impact of stigma on people with mental illness. *World Psychiatry*, *1*(1), 16.

Cortese, B., Schumann, A., & Uhde, T. (2017). 576. Accelerated Neurodegeneration: Effects of Cumulative Trauma Exposure and Chronic Posttraumatic Stress Disorder (PTSD) in Relatively Young Combat Veterans. *Biological Psychiatry*, *81*(10), S233. https://doi.org/10.1016/j.biopsych.2017.02.446

Csaky, C. (2008). No One to Turn To No One to Turn To. *Save the Children*, 37. Retrieved from http://www.savethechildren.org.uk/resources/online-library/no-one-to-turn-to-theunder-reporting-of-child-sexual-exploitation-and-abuse-by-aid-workers-and-peacekeepers

Delker Id, B. C., Salton, R., Mclean, K. C., & Syed, M. (2020). Who has to tell their trauma story and how hard will it be? Influence of cultural stigma and narrative redemption on the storying of sexual violence. https://doi.org/10.1371/journal.pone.0234201

Franklin, A., Brown, S., & Brady, G. (2018). The Use of Tools and Checklists to Assess the Risk of Child Sexual Exploitation: Lessons from UK Practice. *Journal of Child Sexual Abuse*, *27*(8), 978–997. https://doi.org/10.1080/10538712.2018.1510453

Freedman, J. (2011). Explaining sexual violence and gender inequalities in the DRC. *Peace Review*, *23*(2), 170–175. https://doi.org/10.1080/10402659.2011.571601

García-Moreno, C. (2014). Responding to sexual violence in conflict. *The Lancet*, *383*(9934), 2023–2024. https://doi.org/10.1016/S0140-6736(14)60963-6

Global Conflict Tracker. (2019). Violence in the Democratic Republic of Congo | Global Conflict Tracker. Retrieved May 12, 2019, from https://www.cfr.org/interactive/global-conflicttracker/conflict/violence-democratic-republic-congo

Grubb, A., & Harrower, J. (2008). Attribution of blame in cases of rape: An analysis of participant gender, type of rape and perceived similarity to the victim. *Aggression and Violent Behavior*, *13*(5), 396–405. https://doi.org/10.1016/j.avb.2008.06.006

Grubb, A., & Turner, E. (2012). Attribution of blame in rape cases: A review of the impact of rape myth acceptance, gender role conformity and substance use on victim blaming. *Aggression and Violent Behavior*, *17*(5), 443–452. https://doi.org/10.1016/j.avb.2012.06.002

Hampton, M. D., & Shade, K. (2015). The experience of adolescent victims of commercial sexual exploitation in the United States: a qualitative systematic review protocol. *JBI Database of*

Systematic Reviews and Implementation Reports, *13*(8), 110–119. https://doi.org/10.11124/jbisrir-2015-2023

Hatzenbuehler, M. L. (2016). Structural stigma: Research evidence and implications for psychological science. *American Psychologist*, *71*(8), 742–751. https://doi.org/10.1037/amp0000068

Heider, F. (1958). *The psychology of interpersonal relations*. New York: Wiley.

Heise, L., & Hossain, M. (2017). STRIVE Intimate Partner Violence Measurement Brief, (July), 1–8.

Heise L. (2012). Determinants of partner violence in low and middle-income countries: exploring variation in individual and population-level risk. *The London School of Hygiene and Tropical Medicine*, 311. https://doi.org/10.17037/PUBS.00682451

Higate, P. (2003). Revealing the soldier: Peacekeeping and prostitution. *American Sexuality Magazine*, (5), 1–3.

Huening, L. (2009). Explaining the Congo Wars. *African Historical Review*, *41*(2). https://doi.org/10.1080/17532523.2010.481925

Human Rights Watch. (2001). *Human Rights Watch Goma Telephone Interview October 26*. Goma.

Human Rights Watch. (2002). *THE WAR WITHIN THE WAR Sexual Violence Against Women and Girls in Eastern Congo Human Rights Watch New York • Washington • London • Brussels*. Retrieved from http://www.hrw.org

Human Rights Watch. (2009). DR Congo: Chronology. Retrieved May 12, 2019, from https://www.hrw.org/news/2009/08/21/dr-congo-chronology#_War

Kelly, J., Kabanga, J., Cragin, W., Alcayna-Stevens, L., Haider, S., & Vanrooyen, M. J. (2012). "If your husband doesn't humiliate you, other people won't": Gendered attitudes towards sexual violence in eastern Democratic Republic of Congo. *Global Public Health*, *7*(3), 285–298. https://doi.org/10.1080/17441692.2011.585344

Kent, V. (2007). Protecting Civilians from UN Peacekeepers and Humanitarian Workers: Sexual Exploitation and Abuse. In Unintended Consequences of Peacekeeping Operations. *United Nations University Press*.

King, C., Lee, S., & Bartels, S. A. (2020). ' They Were Going to the Beach , Acting like Tourists , Drinking , Chasing Girls ': A Mixed-Methods Study on Community Perceptions of Sexual Exploitation and Abuse by UN Peacekeepers in Haiti, (Lee 2017).

Kira, I. A., Lewandowski, L., Templin, T., Ramaswamy, V., Ozkan, B., & Mohanesh, J. (2008). Measuring cumulative trauma dose, types, and profiles using a development-based taxonomy of traumas. *Traumatology*, *14*(2), 62–87. https://doi.org/10.1177/1534765608319324

Kitharidis, S. (2015). Rape as a weapon of war: Combating sexual violence and impunity in the Democratic Republic of the Congo, and the way forward. *African Human Rights Law Journal*, *15*(2), 449–472. https://doi.org/10.17159/1996-2096/2015/v15n2a11

Lalor, K., & McElvaney, R. (2010). Child sexual abuse, links to later sexual exploitation/high-risk sexual behavior, and prevention/treatment programs. *Trauma, Violence & Abuse*, *11*(4),

159–177. https://doi.org/10.1177/1524838010378299

Laokri, S., Soelaeman, R., & Hotchkiss, D. R. (2018). Assessing out-of-pocket expenditures for primary health care: How responsive is the Democratic Republic of Congo health system to providing financial risk protection? *BMC Health Services Research*, *18*(1). https://doi.org/10.1186/s12913-018-3211-x

Lee, S., & Bartels, S. (2019). "They Put a Few Coins in Your Hand to Drop a Baby in You": A Study of Peacekeeper-fathered Children in Haiti. https://doi.org/10.1080/13533312.2019.1698297

Link, B. G., & Phelan, J. C. (2001). Conceptualizing stigma Reproduced with permission of the copyright owner . Further reproduction prohibited without permission . *Annual Review of Sociology*, *27*, 363–385.

Luke, N., Goldberg, R. E., Mberu, B. U., & Zulu, E. M. (2011). Social exchange and sexual behavior in young women's premarital relationships in Kenya. *Journal of Marriage and Family*, *73*(5), 1048–1064. https://doi.org/10.1111/j.1741-3737.2011.00863.x

Lupi, N. (1998). Report by the Enquiry Commission on the Behaviour of Italian Peace- keeping troops in Somalia. *Yearbook of International Humanitarian Law*, *1*, 375–379. https://doi.org/10.1017/S138913590000026X

Malle, B. F. (2011). Attribution Theories: How People Make Sense of Behavior. *Theories in Social Psychology 23*, 72–95.

Mansfield, J. (2009). Prosecuting sexual violence in the Eastern Democratic Republic of Congo: Obstacles for survivors on the road to justice. *African Human Rights Law Journal*, *9*(2), 367–408.

McAlpine, A., Hossain, M., & Zimmerman, C. (2016). Sex trafficking and sexual exploitation in settings affected by armed conflicts in Africa, Asia and the Middle East: systematic review. *BMC International Health and Human Rights*, *16*(1), 34. https://doi.org/10.1186/s12914016-0107-x

Mitchell, K., Moynihan, M., Pitcher, C., Francis, A., English, A., & Saewyc, E. (2017). Rethinking research on sexual exploitation of boys: Methodological challenges and recommendations to optimize future knowledge generation. *Child Abuse & Neglect*, *66*, 142–151. https://doi.org/10.1016/j.chiabu.2017.01.019

MONUSCO. (2014). *Progress and Obstacles in the Fight Against Impunity for Sexual Violence in the Democratic Republic of Congo*. Retrieved from https://monusco.unmissions.org/sites/default/files/UNJHRO - Report on Fight against Impunity Sexual Violence - April 2014 - ORIGINAL VERSION.pdf

Muanda, M., Ndongo, P. G., Taub, L. D., & Bertrand, J. T. (2016). Barriers to modern contraceptive use in Kinshasa, DRC. *PLoS ONE*, *11*(12), 1–13. https://doi.org/10.1371/journal.pone.0167560

Mudgway, C. (2017). Sexual exploitation by UN peacekeepers: the "survival sex" gap in international human rights law. *THE INTERNATIONAL JOURNAL OF HUMAN RIGHTS*, *21*(9), 1453–1476. https://doi.org/10.1080/13642987.2017.1348720

Mulumba, F., Hardy, C., & Lewis, J. (2007). *Mortality in the Democratic Republic of Congo: An Ongoing Crisis*. *International Rescue Committee*. Retrieved from http://www.rescue.org/sites/default/files/migrated/resources/2007/20067_congomortalitysurvey.pdf

Murdoch, L. (2006). UN's Legacy of Shame. *The Age*.

Nordås, R., & Rustad, S. C. A. (2013). Sexual Exploitation and Abuse by Peacekeepers: Understanding Variation. *International Interactions*, *39*, 511–534. https://doi.org/10.1080/03050629.2013.805128

Olsson, L. (2009). Gender Equality and United Nations Peace Operations in Timor Leste. *Leiden: Martinus Nijhoff*.

Phal, K. S. (1995). The lessons of the UNTAC experience and the ongoing responsibilities of the international community for peacebuilding and development in Cambodia. *Global Change, Peace & Security*, *7*(2), 129–133.

Scott, J., Rouhani, S., Greiner, A., Albutt, K., Kuwert, P., Hacker, M. R., … Bartels, S. (2015). Respondent-driven sampling to assess mental health outcomes, stigma and acceptance among women raising children born from sexual violence-related pregnancies in eastern Democratic Republic of Congo. *BMJ Open*, *5*(4), 1–12. https://doi.org/10.1136/bmjopen2014-007057

Shields, R. T., & Letourneau, E. J. (2015). Commercial sexual exploitation of children and the emergence of safe harbor legislation: implications for policy and practice. *Current Psychiatry Reports*, *17*(3), 553. https://doi.org/10.1007/s11920-015-0553-5

Simic, O. (2012). *Regulation of Sexual Misconduct in UN Peacekeeping Operations*.

Simić, O. (2014). 'Peacekeeper Babies': An Unintended Legacy of'United Nations Peace Support Operations. *International Peacekeeping*, *21*. https://doi.org/10.1080/13533312.2014.938581

Spangaro, J., Adogu, C., Ranmuthugala, G., Powell Davies, G., Steinacker, L., & Zwi, A. (2013). What evidence exists for initiatives to reduce risk and incidence of sexual violence in armed conflict and other humanitarian crises? A systematic review. *PloS One*, *8*(5), e62600–e62600. https://doi.org/10.1371/journal.pone.0062600

Tull, D. M. (2018). The Limits and Unintended Consequences of UN Peace Enforcement: The Force Intervention Brigade in the DR Congo. *International Peacekeeping*, *25*(2), 167–190. https://doi.org/10.1080/13533312.2017.1360139

UN Secretariat. (2003). Special Measures for Protection from Sexual Exploitation and Sexual Abuse. *United Nations Secretary-General*, (October), 1–3.

Underwood, C., Skinner, J., Osman, N., & Schwandt, H. (2011). Structural determinants of adolescent girls' vulnerability to HIV: Views from community members in Botswana, Malawi, and Mozambique. https://doi.org/10.1016/j.socscimed.2011.05.044

United Nations. (2017a). Glossary on Sexual Exploitation and Abuse. *Glossary on Sexual Exploitation and Abuse*, (July), 1–19. Retrieved from https://hr.un.org/.../SEA Glossary %5BSecond Edition - 2017.

United Nations. (2017b). *World Mortality 2017: Data Booklet*. Retrieved from www.unpopulation.org.
United Nations. (2018a). *Fact sheet on the Secretary-General's initiatives to prevent and respond to sexual exploitation and abuse*. Retrieved from http://dag.un.org/handle/11176/400745
United Nations. (2018b). United Nations News: UN receives 70 new allegations of sexual exploitation and abuse in three months. Retrieved June 3, 2019, from https://news.un.org/en/story/2018/07/1015912 United Nations. (2019). MONUSCO at a Glance.
United Nations. (2020). Sexual Exploitation and Abuse.
United Nations Development Programme. (2018). | Human Development Reports. Retrieved April 29, 2019, from http://hdr.undp.org/en/countries/profiles/COD
United Nations Peacekeeping. (2020). MONUSCO Fact Sheet. Retrieved from https://peacekeeping.un.org/en/mission/monusco
United Nations Secretary General. (2020). Conflict-Related Sexual Violence: Report of the United Nations Secretary-General, (June).
Utas, M., & Ruden, F. (2009). *Sexual exploitation and abuse by peacekeeping operations in contemporary Africa*.
Vahedi, L., Bartels, S. A., & Lee, S. (2019). 'Even peacekeepers expect something in return': A qualitative analysis of sexual interactions between UN peacekeepers and female Haitians. *Global Public Health*, *0*(0), 1–14. https://doi.org/10.1080/17441692.2019.1706758
Vandenberg, M. (2002). Trafficking of women and girls to post-conflict Bosnia and Herzegovina for forced prostitution. *Human Rights Watch*, *14*(9), 1–72.
Verelst, A., De Schryver, M., Broekaert, E., & Derluyn, I. (2014). *Mental health of victims of sexual violence in eastern Congo: associations with daily stressors, stigma, and labeling*. Retrieved from http://www.biomedcentral.com/1472-6874/14/106
Wachter, K., Murray, S. M., Hall, B. J., Annan, J., Bolton, P., & Bass, J. (2018). Stigma modifies the association between social support and mental health among sexual violence survivors in the Democratic Republic of Congo: implications for practice. *Anxiety, Stress and Coping*, *31*(4), 459–474. https://doi.org/10.1080/10615806.2018.1460662
World Bank. (2017). Working Together to Prevent Sexual Exploitation and Abuse. Retrieved from http://documents.worldbank.org/curated/en/482251502095751999/pdf/117972WP-PUBLIC-recommendations.pdf
World Bank. (2020). GDP per capita (current US$) | Data. Retrieved August 18, 2020, from https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?most_recent_value_desc=false
World Health Organization. (2015). *DR Congo Country Cooperation Strategy*. Retrieved from http://apps.who.int/gho/data/node.cco

Chapter 3: Methods

Data Source

Location and Sampling

This project utilized data from a cross-sectional study that examined the nature of interactions between UN peacekeepers and local women and girls in the DRC (n=2867). The original study was conducted over a nine-week period between June and August 2018 in eastern DRC surrounding six MONUSCO bases (Kisangani, Bukavu, Goma, Benia, Bunia, and Kalemie). Using a convenience sample, male and female community members over the age of 13 were recruited in naturalistic settings such as transportation hubs and markets. Snowball sampling was additionally employed to recruit other participants within a 30km radius of each chosen UN base, where participants would self-recruit other interested community members.

Data Collection

Two local research partners were involved in the data collection process: The Multidisciplinary Association for Research and Advocacy in the Kivus by United Junior Academics (MARAKUJA) and Solidarité Féminine pour la Paix et le Développement Intégral (SOFEPADI). Marakuja is a non-profit Congolese research network that was consulted to oversee the logistics of the project. SOFEPADI, on the other hand, a Congolese women's rights and advocacy nongovernmental organization, provided cultural and linguistic expertise to ensure the project was undertaken in a culturally sensitive manner. Locally trained research assistants (eight females, four males) that spoke Swahili and/or Lingala were contracted by Marakuja for data collection. All research assistants participated in a five-day course to coordinate and standardize

the facilitation of both the qualitative and quantitative components of the data collection. The course included training on research ethics, standardized interviewing, data management, handling adverse events, and program referrals. All interviews were conducted in private in the participant's choice of Swahili or Lingala using iPad Mini 4's. Male research assistants primarily interviewed male participants and female research assistants primarily interviewed female participants. Due to SOFEPADI's counselling support system, participants were referred to support services if needed after each interview.

Sensemaker Methodology

SM is a narrative capture tool that helps to explore the dynamics of complex social systems by understanding individual and collective perspectives on a topic of interest (Cognitive Edge, 2020; Van der Merwe et al., 2019; Weick, Sutcliffe, & Obstfeld, 2005). Narratives reflect how individuals understand the world around them, and when collected on a larger scale, may lead to insights on the dynamics behind social phenomenon (Kurtz & Snowden, 2003; Van der Merwe et al., 2019). The self-interpretation of narratives by participants allows for meaning to be assigned independent of the researchers, facilitating a more objective analysis when compared to narrative interpretations conducted solely by researchers (Milne, 2015). As such, Sensemaker is often used in interdisciplinary fields for (a) monitoring impact (b) mapping attitudes and cultures and/or (c) detecting trends (Van der Merwe et al., 2019).

Survey Design

The survey was composed of 33 questions and was developed by English-speaking experts in the fields of children born of war, humanitarian crises, sociology, political science, SenseMaker methodology, and sexual and gender-based violence. From English, the survey was translated to Lingala and Swahili and then back translated to ensure accuracy. Although the principal objective of the study was to understand sexual interactions between UN peacekeepers and local women and girls, the survey asked only for stories about women's/girls' interactions with peacekeepers and there was no mention of sexual interactions. Instead, the broader open-ended questions allowed for stories relating to UN peacekeepers to be relayed more naturally from the lived experiences of community members. This was intentional to avoid introducing reporting bias. After initial development, the survey was pilot tested with 24

participants in the DRC to improve clarity and nuances in the translation.

Participants were asked to audio-record a short story about an interaction between a local women/girl and UN peacekeepers based on their choice of three open-ended narrative prompts (see Appendix B). Subsequently, participants were asked to interpret their narrative by responding to a series of descriptive and personal demographic questions (as opposed to the demographics of the woman/girl in the story). Examples of narratives and self-interpretation questions are shown in Appendix A. In contrast to multiple choice or Likert scale questions,

SenseMaker's interpretation questions presented continuous scales with two (dyad) or three (triad) opposing extremes. Figures 2 and 3 depict dyad and triad representations. To reduce

social desirability bias, the response options within each question were matched in tone (all positive, all negative, or all neutral) such that any one option could not be interpreted as more socially appropriate than others. Each data point on the continuous scales held a percentage value ranging from 0 to 100% for each of the extreme dimensions represented and summed to 100%.

Data Sampling for Secondary Analysis

The data sampling strategy for this analysis is outlined in Figure 4. Of the original 2,867 narratives, 1,045 narratives were excluded due to missing or incomplete stories (n=499), irrelevant or un-codable narratives (n=520) or excluded subjects/narrators (n=26). The large portion of missing or incomplete stories was attributed to budgetary limitations for narrative translation. As a result, stories involving UN peacekeeper wrongdoings were prioritized. Uncodable narratives included stories that did not mention a sexual interaction or described multiple un-related sexual interactions involving more than one female subject. These narratives were excluded because for the purpose of this analysis, it was necessary that the events described in the story be attributable to only one subject. Data collected from participants under the age of 13 (n=8) and sexual interactions involving NGO-workers rather than UN peacekeepers (n=18) were also removed as they were outside of the study's objectives. In turn, 1,822 narratives were utilized for analysis.

Manuscript 1 Study Design

Indicator Development

An index measure is a form of composite measurement composed of casual indicators that combine to measure a larger construct (Babbie, 2012; Steiner, D., Norman, G., & Cairney, 2014). This is in contrast to scale measures that are composed of effect indicators. While casual indicators in an index represent variables that define the construct, scales use effect indicators which instead echo the construct's effect (Bollen, K., & Lennox, 1991; Steiner, D., Norman, G., & Cairney, 2014). Another important distinction between scale and index measures is the assumption of inter-item correlation. Scale measures are expected to have homogeneity among the indicators because they reflect the construct's effect. While some degree of correlation is expected for indices (D. L. Streiner, 2003), homogeneity is not necessary or expected (D. Streiner, Norman, & Cairney, 2015). We conceptualized that different manifestations of peacekeeper-perpetrated SEA would act in roles that define the construct and would not necessarily be inter-related. Therefore, an index was proposed as an optimal measure to more comprehensively understand SEA in a nuanced manner. A two-part approach was utilized to develop indicators for development of an index measuring the exposure level of SEA: (1) an assessment of pre-existing quantitative variables derived from the survey and (2) a thematic analysis of the narrative data.

Survey-Derived Indicators

Nineteen quantitative survey variables that pertained to the sexual interactions were examined against the UN definition of SEA to determine if they adequately contained a component of SEA. Sexual exploitation was defined as "any actual or attempted abuse of vulnerability, differential power or trust, for sexual purposes, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another" (United Nations, 2017, p.6) and included prostitution, transactional sex, and solicitation of transactional sexual interactions. Sexual abuse was defined as "an actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions" (United Nations, 2017, p.5), with all sexual interactions involving minors under the age of 18 being considered abusive. Variables were then categorized to sub-components of SEA such as coercion or abuse of vulnerability as outlined in the definitions above and dichotomized into a binary format (event occurred or did not occur). Due to the absence of a precedent cut-point reference, potential cut-points were assessed by identifying a natural break in the data's frequency distribution as suggested by Carle et al. (2011).

Narrative-Derived Indicators

Secondly, a thematic analysis of the 1,822 narratives was performed to identify more specific manifestations of peacekeeper-perpetrated SEA not covered by the original survey questions. This analysis was performed using NVivo 12 with an evolving hybrid approach comprised of deductive and inducting coding that was derived from Saldaña (2015). Deductive coding was first applied using a provisional coding lens. This provisional method utilized a

preset list of anticipated codes that were formulated from existing literature, including three relevant and measurable demonstrations of SEA: sexual transactions, non-consensual sex, and unsupported pregnancies (Kent, 2007; King et al., 2020; Lee & Bartels, 2019; Lupi, 1998; Nordås & Rustad, 2013; Olsson, 2009; Phal, 1995; Simić, 2014; Utas, M., & Ruden, 2009; Vahedi et al., 2019; Vandenberg, 2002). This list of codes was then expanded in the first cycle through datadriven inductive coding. With little existing literature detailing peacekeeper-perpetrated SEA specific to the DRC, it was important to blend this exploratory approach of code development to capture the nuance of the environment. Codes derived from this data-driven approach included the presence of emotional intimacy, the frequency of engagement, the length of the relationship, and the public visibility of the interaction. The predetermined list was then modified as the analysis progressed and new concepts emerged (Saldaña, 2015). A "level of meaning" approach was used to assign codes with meaningful information regardless of whether it was expressed in a few words, a sentence or a paragraph (DeCuir-Gunby, Marshall, & McCulloch, 2011). Upon finalization of the indicators, the individual frequency of each was reported for the sample. Individual count scores were also reported and were constructed by summing the number of SEA-attributable events pertaining to the female subject in the narrative.

Supplementary Validity Testing

After constructing the index, preliminary validity testing was performed. Validity testing determines the amount of confidence that can be placed on the conclusions drawn from scores in a sample (D. Streiner et al., 2015). A high degree of validity can be confirmed for a measure

when there is consistent evidence across five domains: internal structure, content, response processes, relations to other variables, and test consequences (American Educational Research Organization, American Psychological Association, & National Council on Measurement in Education, 2014). For the purposes of this thesis, only internal structure validity testing was performed (see Supplementary Results). Internal structure examines the inter-relations among items in the measure and whether or not these relationships are consistent with what is expected for that field of study (American Educational Research Organization et al., 2014). Due to limitations in the scope of this project and an absence of current comparable measures, evidence from other sources could not be assessed. However, the assessment of content, response process, and variable relations are discussed in the thesis general discussion chapter.

Manuscript 2 Study Design

Main Measures

Exposure

The exposure level of SEA was measured using the constructed index derived from the first objective. Participants were given a count for each UN-perpetrated sexually exploitative/abusive event in the narrative. Possible scores for this measure ranged from 0 to 8 with a higher count indicating a greater level of exposure of SEA. Scores were additionally classified into broader categories of mild (1 to 2), moderate (3 to 4), and high levels of exposure to SEA (5+) with an outcome of 0 indicating a non-exploitative/abusive sexual interaction.

Outcomes

The two model outcomes were dichotomized according to their respective dyad distributions. Cut-points were placed at natural distributional breaks as indicated by Carle et al. (2011). This distributional approach was identified as the best alternative to identifying cutpoint values due to an absence of relevant literature sources and clinical indicators.

Outcome 1: Diminished Social Status

A dyad measuring the extent to which the woman or girl's social status was improved too much (dimension 1) or diminished too much (dimension 2) as a result of her interaction with the UN peacekeeper was utilized for this measure (Figure 5). Figure 6 outlines the distribution of responses in the dimension of diminished social status with the chosen cut-point of 96, reflecting a natural break in the distribution. Responses at or above the cut-point of 96 were considered to have a diminished social status.

Outcome 2: Inadequate Institutional Support

Inadequate support following the sexual interaction was similarly measured using dyad responses. Participants were asked about the extent to which those in power did absolutely nothing to support the woman/girl (dimension 1) or provided the woman/girl with too much support (dimension 2) (Figure 7). The interpretation of 'support' was left open to participants, and may have been conceptualized as financial, health, job, justice, or housing. Similar to diminished social status, responses at or above the chosen cut-point of 96 were deemed to reflect inadequate support. An outline of the distribution of responses is provided in Figure 8.

Data Management

Confounders and Effect Modifiers

A confounder is a variable that stimulates, hides, or alters the strength of an association between an exposure and outcome. To be considered a confounder, the variable must be independently associated with both the exposure and outcome without falling on the casual pathway. Effect modification, on the other hand, occurs when the magnitude of association between the exposure and outcome changes across levels of a third variable. Similar to confounding variables, effect modifiers are not on the casual pathway, and should be adequately accounted for in an analysis to provide a more accurate understanding of the exposure-outcome relationship. In this analysis, suspected confounders were grouped as characteristics of the narrator or characteristics of the sexual interaction. Narrator confounders included sex, age, socio-economic status, marital status, highest educational level achieved, and geographic location at the time of study participation. Sexual interaction confounders included the peacekeeper's role within the mission, nationality, and whether the story mentioned a peacekeeper fathered child or 'peace-baby'. Narrator sex was additionally assessed for effect modification.

Narrator's Sex

Sex was measured as (a) female, (b) male or (c) prefer not to say.

Narrator's Age

Age was measured as (a) under 13, (b) 13 to 17, (c) 18 to 24, (d) 25 to 34, (e) 35 to 44, (f) 45 to 54, (g) 55 to 64, (h) 65 and older, or (i) prefer not to say. However, these categories were collapsed into (a) 13 to 17, (b) 18 to 24, and (c) 25 and older for the purposes of analysis.

Narrator's Socio-Economic Status

Socio-economic status (SES) was measured as a score from 0 to 5 according to the number of items possessed in the household: a mobile phone, radio, generator inverter or sun panel, a vehicle (i.e. motorbike or car), and a refrigerator or freezer. This was condensed further into low (0-1 items), moderate (2-3 items), and high (4-5 items) socio-economic groups.

Narrator's Marital Status

Marital status at the time of the survey was measured as (a) single never married, (b) married/living with partner, (c) separated/divorced, (d) widowed, or (e) prefer not to say.

Narrator's Highest Education Achieved

The highest level of education achieved by the narrator was measured by an 11-part multiple choice question detailing levels of primary, secondary, technical, and university-level training. However, these categories were modified for analysis as (a) no formal schooling, (b) some or all of primary school, (c) some or all of secondary school, (d) some or all of technical training or university, or (e) other.

Population of Narrator's Urban Setting

The population of the narrator's urban setting was derived from a variable measuring the geographic location of the sample collection by city (Bukavu, Goma, Kalemie, Kisangani, Beni, and Bunia). These cities were dichotomized by population size (a) greater or equal to 500,000 or (b) less than 500,000, for the assessment of confounding to determine if community size was a contributing factor. These categories were created in accordance with the intermediary and small cities classifications by population size utilized by the United Cities and Global Governments (United Cities and Local Governments, 2017).

Peacekeeper's Role

The peacekeeper's role within the PSO was derived from participants' responses when asked that question directly, with possible options including (a) an armed soldier, (b) a UN civilian, (c) an unarmed soldier, (d) UN police, (e) don't know or (f) other. For the purposes of analysis, these categories were collapsed as (a) soldier (armed or unarmed), (b) non-soldier (civilian or police), or (c) unspecified.

Peacekeeper's Nationality

Nationality was identified by asking participants to recall the flag on the peacekeeper's uniform and match it to a labeled flag on the questionnaire. The following were listed as possible responses: (a) Bangladesh, (b) DRC, (c) Egypt, (d) Ghana, (e) India, (f) Morocco, (g) Nepal, (h) Pakistan, (i) South Africa, (j) Senegal, (k) Sierra Leone, (l) Tanzania, (m) Uruguay, (n) don't know or (o) other. For this analysis, countries were grouped more broadly by continent as (a) African, (b) Asian, (c) South American, or (d) unspecified.

Narrative About Peacekeeper-Fathered Child

Research assistants identified narratives as being (a) about a peace-baby, (b) mentioned a peace-baby, or (c) neither. Stories about or mentioning a peace-baby were combined for this measurement.

Data Analysis

Analyses were performed using SAS software version 9.04. Univariate descriptive analyses were performed to provide a demographic profile of the study sample, and characteristics of the narratives. Chi-square tests were utilized for the bivariate analysis of covariates against the SEA index exposure, diminished social status and inadequate support outcomes. Two Poisson regression models with robust variance estimation were constructed using an effect estimation approach and taking into account possible confounding and effect modification. Manual backwards elimination was utilized for variable removal with a liberal pvalue criterion of 0.15. Confounders and effect modifiers were tested a-priori by chi-square analyses to determine if each was associated with the level of exposure of SEA and stigma model outcomes. Identified confounders were first assessed for significance in the model through a change-in-estimate approach. Subsequently, the narrator's sex was tested as an interaction term to determine the occurrence of effect modification.

Supplementary Cut-Point Sensitivity Testing

The effects of an alternative cut-point placement for the two survey-derived indicators (beneficiary and initiator of the interaction) was assessed through sensitivity testing. Changes

in the adjusted relative risk estimates for each model were calculated for median and middle split (50/50) cut-point values to determine if a significant difference in risk was presented (see Supplementary Results). Median cut-points were set as 33.38 and 99.37 for both the beneficiary and initiator indicators respectively. Figures 9 and 10 depict the alternative cut-point placements on each frequency distribution.

Conceptual Models

Figure 11 provides a conceptual representation of the two Poisson regression models. As highlighted, the exposure level of SEA is the primary exposure for both models, and the outcomes are diminished social status and inadequate social support for model 1 and 2 respectively. The pathways of confounding and effect modification are highlighted for each.

Missing Data

Secondary Data Analysis Sampling

As noted in the sampling framework, 1,045 narratives were excluded due to missing or incomplete stories (n=499), irrelevant or un-codable narratives (n=520) or excluded subjects/narrators (n=26).

Manuscript 1

Narrative-derived indicators were not subject to missing data because they were coded by the researcher, and not answered directly by the participants. With regards to the qualitative indicators, if an event was not present in the narrative, the subject received no count for that indicator. When assessing the survey-derived indicators, 162 (8.9%) and 109

(6%) of participants did not indicate a value for the beneficiary or initiator of the interaction respectively.

Manuscript 2

Minimal missing values leading to exclusion were present for the potential confounder and several effect modifiers. In the sample, 3 (0.17%) participants did not provide their sex, 10 (0.55%) their age, 2 (0.11%) their socio-economic status, 14 (0.77%) their education, 6 (0.33%) their marital status, 2 (0.11%) their geographic location, and 3 (0.17%) the peacekeeper's personnel role.

Ethics

The study protocol for the original data collection as well as the secondary analysis was approved by the Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board (protocol #6019042 & 6027552, respectively). Approval was also obtained from the *Congolese National Committee of Health Ethics* (*CNES*). Participants aged 13 to 17 were included in the study because they are known to be affected by SEA in this context. Therefore, it was believed that their exclusion from the study would be unethical. Participants in this age group were considered to be mature minors and parental consent was not pursued as it was believed that involving parents could have introduced bias and a heightened risk of parental conflict and/or abuse (Weir, 2019). As no participant identifiers were collected in the original study, individual confidentiality was maintained.

References

American Educational Research Organization, American Psychological Association, & National Council on Measurement in Education. (2014). *Standards for Educational and Psychological Testing. 2nd ed.* Washington, DC: American Educational Research Association.

Babbie, E. R. (2012). *The Practice of Social Research*. Cengage Learning.

Bollen, K., & Lennox, R. (1991). Conventional wisdom on measurement: A structural equation perspective. *Psychological Bulletin*, *110*(2), 305.

Carle, A. C., Blumberg, S. J., Moore, K. A., Mbwana, K., Carle, A. C., Blumberg, S. J., … Mbwana, : K. (2011). Advanced Psychometric Methods for Developing and Evaluating Cut-Point-Based Indicators, *4*, 101–126. https://doi.org/10.1007/s12187-010-9075-1

Cognitive Edge. (2020). What is Sensemaker®. Retrieved from https://sensemaker.cognitiveedge.com/what-is-sensemaker/

DeCuir-Gunby, J. T., Marshall, P. L., & McCulloch, A. W. (2011). Developing and using a codebook for the analysis of interview data: An example from a professional development research project. *Field Methods*, *23*(2), 136–155. https://doi.org/10.1177/1525822X10388468

Kent, V. (2007). Protecting Civilians from UN Peacekeepers and Humanitarian Workers: Sexual Exploitation and Abuse. In Unintended Consequences of Peacekeeping Operations. *United Nations University Press*.

King, C., Lee, S., & Bartels, S. A. (2020). ' They Were Going to the Beach , Acting like Tourists , Drinking , Chasing Girls ': A Mixed-Methods Study on Community Perceptions of Sexual Exploitation and Abuse by UN Peacekeepers in Haiti, (Lee 2017).

Kurtz, C. F., & Snowden, D. J. (2003). The new dynamics of strategy: Sense-making in a complex and complicated world. *IEEE Engineering Management Review*, *31*(4), 110–130. https://doi.org/10.1109/EMR.2003.24944

Lee, S., & Bartels, S. (2019). "They Put a Few Coins in Your Hand to Drop a Baby in You": A Study of Peacekeeper-fathered Children in Haiti. https://doi.org/10.1080/13533312.2019.1698297

Lupi, N. (1998). Report by the Enquiry Commission on the Behaviour of Italian Peace- keeping troops in Somalia. *Yearbook of International Humanitarian Law*, *1*, 375–379. https://doi.org/10.1017/S138913590000026X

Milne, K. M. G. (2015). Can sense-making tools inform adaptation policy? A practitioner's perspective. *Ecology and Society*, *20*(1). https://doi.org/10.5751/ES-06791-200166 Nordås, R., & Rustad, S. C. A. (2013). Sexual Exploitation and Abuse by Peacekeepers: Understanding Variation. *International Interactions*, *39*, 511–534. https://doi.org/10.1080/03050629.2013.805128

Olsson, L. (2009). Gender Equality and United Nations Peace Operations in Timor Leste. *Leiden: Martinus Nijhoff*.

Phal, K. S. (1995). The lessons of the UNTAC experience and the ongoing responsibilities of the international community for peacebuilding and development in Cambodia. *Global Change, Peace & Security*, *7*(2), 129–133.

Saldaña, J. (2015). *The Coding Manual for Qualitative Researchers*. Sage.

Simić, O. (2014). 'Peacekeeper Babies': An Unintended Legacy of'United Nations Peace Support Operations. *International Peacekeeping*, *21*. https://doi.org/10.1080/13533312.2014.938581

Steiner, D., Norman, G., & Cairney, J. (2014). *Health Measurement Scales: A practical guide to their development and use, Edition 5*. OUP Oxford.

Streiner, D. L. (2003). Being Inconsistent About Consistency: When Coefficient Alpha Does and Doesn't Matter, *80*(3), 217–222. Retrieved from https://www.rotman-baycrest.on.ca/files/publicationmodule/@random45f5724eba2f8/JPersAssess03_80_217_222.pdf

Streiner, D., Norman, G., & Cairney, J. (2015). *Health measurement scales: A practical guide to their development and use. 5th ed.* New York: Oxford University Press.

United Cities and Local Governments. (2017). *GOLD IV 2016 Fourth Global Report on Decentralization and Local Democracy THE AGENDA OF METROPOLISES, CITIES AND TERRITORIES*. Retrieved from www.uclg.org

United Nations. (2017). Glossary on Sexual Exploitation and Abuse. *Glossary on Sexual Exploitation and Abuse*, (July), 1–19. Retrieved from https://hr.un.org/.../SEA Glossary %5BSecond Edition - 2017.

Utas, M., & Ruden, F. (2009). *Sexual exploitation and abuse by peacekeeping operations in contemporary Africa*.

Vahedi, L., Bartels, S. A., & Lee, S. (2019). 'Even peacekeepers expect something in return': A qualitative analysis of sexual interactions between UN peacekeepers and female Haitians. *Global Public Health*, *0*(0), 1–14. https://doi.org/10.1080/17441692.2019.1706758

Van der Merwe, S. E., Biggs, R., Preiser, R., Cunningham, C., Snowden, D. J., O'Brien, K., … Goh, Z. (2019). Making Sense of Complexity: Using SenseMaker as a Research Tool. *Systems*, *7*(2), 25. https://doi.org/10.3390/systems7020025

Vandenberg, M. (2002). Trafficking of women and girls to post-conflict Bosnia and Herzegovina for forced prostitution. *Human Rights Watch*, *14*(9), 1–72.

Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (2005). Organizing and the process of sensemaking. *Organization Science*, *16*(4).

Weir, K. (2019). Studying adolescents without parents' consent: A new APA resolution supports mature minors' participation in research without parental permission. *American Psychological Association*. Retrieved from https://www.apa.org/monitor/2019/02/parents-consent

Chapter 4: Development of an Index to Measure the Exposure Level of UN Peacekeeper Perpetrated Sexual Exploitation/Abuse in Women/Girls in the Democratic Republic of Congo

Journal Submission

This content was submitted to *Violence Against Women* on September 8, 2020. This journal was selected because of its focus on manifestations of gender-based violence. There is a slight variation in the content of this chapter and that of the submitted manuscript due to editing that has been performed since this date.

Potential Citation

Gray, S., Stuart, H., Lee, S., & Bartels, S. (2020). Development of an Index to Measure the Exposure Level of UN-Peacekeeper Perpetrated Sexual Exploitation/Abuse in Women/Girls in the Democratic Republic of Congo. *Submitted for Publication*.

Fit Within the Thesis

This section describes the construction of an index to quantify the exposure level of sexual exploitation/abuse perpetrated by UN peacekeepers against women and girls in the DRC. This analysis meets the goals of Objective 1.

Abstract

Background: Sexual exploitation and abuse (SEA) of women and girls by UN peacekeepers is an international concern. However, the typical binary measurement of SEA (indicating that it occurred, or it did not) disregards varying exposure levels, and the complex circumstances surrounding the interaction. To address this gap, we constructed an index to quantify the degree to which sexual interactions between local women and peacekeepers were exploitative/abusive.

Methods: Using survey data (n=2867) from the Democratic Republic of Congo (DRC), indicators were identified using a combination of qualitative (thematic analysis of narrative data) and quantitative variables.

Results: Eight indicators of exposure to SEA were identified; six from the thematic analysis and two from the existing survey variables.

Conclusions: With further development, this index may offer a more comprehensive and nuanced perspective of peacekeeper-perpetrated SEA that can better inform SEA prevention and intervention efforts.

Introduction

Sexual Exploitation and Abuse by UN Peacekeeping Personnel

The United Nations (UN) defines sexual exploitation as "any actual or attempted abuse of vulnerability, differential power or trust, for sexual purposes, including but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another" (United Nations, 2017, p.6). This encompasses prostitution, transactional sex and solicitation of transactional sexual interactions. Sexual abuse is similarly cited as "an actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions" (United Nations, 2017, p.5). Sexual interactions with minors under the age of 18 are always considered abusive. While these definitions remain influential in how sexual violence is reported (Franchino-Olsen, 2019; World Bank, 2017), the UN's conceptualization of sexual exploitation has been challenged for its blanket victimization of all adult women (Mudgway, 2017; Otto, 2007; Simic, 2012). For the purposes of this work, we combine sexual exploitation

and sexual abuse into an umbrella term of sexual exploitation and abuse (SEA).

Conceptualization of SEA in the peacekeeping context is based on SEA allegations reported across various peace support operations (PSO) over the past 20 years (Higate, 2003; Simic, 2012; Simić, 2014; Utas, M., & Ruden, 2009). While the responsibility of the UN Department of Peacekeeping Operations is principally to protect, prevent conflict, and build law and security institutions in conflict and disaster-stricken settings (United Nations Peacekeeping, 2020b), this effort has been undermined by the significant harms stemming from the exploitation and abuse of local community members by UN peacekeepers (Simić,

2014; Tull, 2018; United Nations Secretariat, 2008; Utas, M., & Ruden, 2009). Perhaps most notably, increased prostitution has been alleged since 1992 at the time of the UN operation in Mozambique (Simic, 2012), as well as during UN missions in Cambodia (Phal, 1995), Somalia (Lupi, 1998), as well as Bosnia and Herzegovina (Vandenberg, 2002). SEA by peacekeeping personnel, on the other hand, has been noted from missions in Cambodia (Olsson, 2009), Somalia (Kent, 2007), Kosovo, Sierra Leone, Sudan, and Haiti (King et al., 2020), amongst others (Nordås & Rustad, 2013). Peacekeeper-fathered children have been acknowledged in the UN operations of East Timor, Liberia (Simić, 2014), and most recently Haiti (Lee & Bartels, 2019; Vahedi et al., 2019).

The United Nations Organization Mission in the Democratic Republic of Congo (MONUC) (with 181 SEA allegations between 2007 to 2010) and the United Nations Organization Stabilization Mission (MONUSCO) (with 207 allegations between 2010 to 2020), are the two peace support operations contributing the highest number of sexual misconduct reports (36.1% of the total 1,075 allegations across all available data). This high number of SEA allegations from the Democratic Republic of Congo (DRC) may relate to the duration and size of its PSO. For example, MONUC, which was positioned to oversee the peaceful departure of armed forces and aid the transition of the government after the Second Congo War, was operational for 10 years (Tull, 2018). After modest implementation success and violence reduction, the PSO was re-configured in 2010 to MONUSCO to support civilian protection and peaceful government stabilization (Tull, 2018). Ongoing 10 years later, MONUSCO currently represents the largest UN PSO in the world with a collective deployment of approximately 18,500 troops, police, staff, and volunteers (United Nations Peacekeeping, 2020a). Although

202 allegations amongst 18, 500 MONUSCO personnel represents a small number, SEA in this context is considered to be greatly underreported (Alexandra, 2011; Human Rights Watch, 2002; United Nations, 2019a). Also, given the zero-tolerance policy for SEA, 202 allegations suggest that there has been considerable breach of UN protocol in the context of these peacekeeping missions.

Transactional Sex

Much of the controversy around the agency versus victimization of women who experience SEA centres on transactional sex (TS). TS is defined as "non-commercial, non-marital sexual relationships motivated by the implicit assumption that sex will be exchanged for material support or other benefits" (Stoebenau, Heise, Wamoyi, & Bobrova, 2016; Strive, n.d.). This is not to be conflated with sex work which involves a direct exchange of sex for money or goods with an identified sex worker and often involves little emotional intimacy (Wamoyi, Ranganathan, Kyegombe, & Stoebenau, 2019). The traditional conceptualization of TS categorized all sexual transactions as inherently exploitative and equivalent to interactions such as forced prostitution, while presenting a passive female role (Simic, 2009). Similarly, the UN's Zero Tolerance Policy assumes that all SEA is exploitative because of the inherent power imbalances between foreign peacekeepers and local women/girls. To this end, the UN's policy has been criticized for failing to recognize that some women who engage sexually with peacekeeping personnel do so with informed agency in spite of the societal and economic disparities they face (Otto, 2007; Simic, 2009). Stoebenau et al. (2016) offer three paradigms to conceptualize TS based on a systematic review of the literature in an African context. Their

work provides some clarification on the debate of agency and the traditionally homogenous representation of TS. Under this framework, types of TS are distinguished by the woman's motivation for participating, and include "sex for basic needs", "sex for improved social status", and "sex and material expressions of love". The "sex for basic needs" paradigm depicts transactional interactions for food, money, or other basic support items whereas the "sex for improved social status" paradigm encompasses interactions involving items of social value such as jewelry. Lastly, the "sex and material expressions of love" paradigm describes transactional relationships that are grounded in an expectation that the man provides material support as a demonstration of intimacy (Stoebenau et al., 2016). From this work, women's agency is seen as a continuum, ranging from "vulnerable victim" to "powerful agent" and is paralleled by the woman's level of deprivation (Stoebenau et al., 2016). Women engaging in "sex for basic needs" are distinctly identified as the most disadvantaged and therefore the most vulnerable. The suggestion that conditions of severe disparity underlying the sexual interaction diminish a woman's agency to engage is reiterated in other studies (Jennings, 2010; Mudgway, 2017).

Measurement of SEA

Both within UN reporting system and more globally external to the UN, SEA is most often dichotomously measured (Heise & Hossain, 2017; McAlpine et al., 2016). Individuals are examined against case criteria as either having experienced SEA or not. Cases are equally weighted regardless of the circumstances of the incident. For example, a violent sexual assault would receive the same weight as a much less invasive negotiated transactional sexual interaction. This classification is in contrast to literature of physical trauma that often utilizes

an exposure-based measurement that considers the type of traumatic event and its frequency to illustrate a more detailed profile (Cortese, Schumann, & Uhde, 2017; Kira et al., 2008). It is also apparent that consent, agency, and the conditions of the sexual interaction can evolve over time as circumstances change. Initially, women who engage in transactional sex may have consented to an ongoing exchange of money for sexual acts, but may later find themselves with little bargaining power around the frequency or type of sexual act, condom usage, compensation, or ability to end the arrangement entirely (Human Rights Watch, 2001; Luke et al., 2011; Mudgway, 2017; Underwood et al., 2011). In some cases, women engaging in TS experience rape and/or forced prostitution, despite having an initial mutual agreement or negotiating power (Human Rights Watch, 2002). Therefore, the consideration of events across the entire interaction span is important to understand the victim's experience and the degree of SEA. Similarly, structural inequalities that impact the interaction should be considered within this realm.

The binary approach to measuring SEA also fails to recognize that the physical, psychological and socioeconomic sequela may be different depending on the degree and nature of the SEA. Research on women experiencing sexual violence suggests that long-term health effects are dependent on the severity of violence experienced (Heise L, 2012). Consequences such as poor accessibility to health services and stigmatization are well-reported in these settings (García-Moreno, 2014; Johnson et al., 2010; Kitharidis, 2015; Mansfield, 2009). A multi-dimensional approach could be especially useful for the development of interventions targeted at known consequences of SEA. However, a multi-dimensional approach

would require a more comprehensive and nuanced understanding of SEA that better encapsulates the dynamic and varied nature of women's agency and victimization.

Index Measures

An index is a composite measurement tool comprised of casual indicators to measure a construct (Babbie, 2012; Steiner, D., Norman, G., & Cairney, 2014). This draws some similarities to scale measurement. While casual indicators in an index represent variables that define the construct, scales use effect indicators which instead echo the construct's effect (Bollen, K., & Lennox, 1991; Steiner, D., Norman, G., & Cairney, 2014). Casual indicators are not expected to be inter-correlated, but are developed with the intention to comprehensively measure the construct (Steiner, D., Norman, G., & Cairney, 2014). Furthermore, casual indicators comprising an index measure would consider events across time regardless of their correlation with each other, and without diminishing preceding events. For example, an interaction that evolved from TS into prostitution could be accounted for as an interaction where both TS and sex work occurred as separate indicators, as opposed to just being considered a case of prostitution. An index measure that can account for this dynamic nature of SEA would not only be more accurate, but it additionally would allow for a more in-depth understanding of the complexities surrounding evolving consent for sex engagement. Since we do not expect SEA causal indicators to be inter-related but seek to more comprehensively understand SEA as a dynamic construct, we believe that an index is the more appropriate measure when aiming to move beyond the current practice of measuring SEA as a binary variable.

In summary, a binary approach to measuring SEA disregards its complexity by ignoring factors such as the exposure level and heterogeneity of the abuse and exploitation amongst those affected, the dynamic nature of the interactions, and the long-term health consequences depending on nature and degree of exposure. Therefore, the objective of this study was to construct an index to quantify the degree to which sexual interactions between local women and peacekeepers were exploitative/abusive using the example of MONUSCO in the DRC. For the purposes of the current work, we focused on basic-needs driven sexual exploitation (for essential goods, services, money, or job opportunities) since more severe disparities are more likely to diminish a woman's agency (Jennings, 2010; Mudgway, 2017) We propose that utilization of an index that measures the type and degree of exposure to SEA, rather than a binary yes/no approach, is critical to understanding how women/girls are affected by SEA, as well as key to being able to better respond to their medical and psychosocial needs.

Methods

Data Collection

To develop indicators for a SEA index, we conducted a secondary analysis of a 2018 cross-sectional, mixed-methods dataset that explored the interactions between UN peacekeepers and women/girls in the DRC (n=2867). Male and female participants over the age of 13 were recruited by a team of local research assistants using convenience sampling around MONUSCO bases in Kisangani, Bukavu, Goma, Benia, Bunia, and Kalemie. Over a nine-week period between June and August 2018, face-to-face interviews were conducted in Swahili or Lingala. Participants were approached in naturalistic settings such as markets, shops, and

transportation depots. Beyond the initial sample, snowball sampling was utilized to recruit within a 30km radius.

SenseMaker Survey

English-speaking experts in the fields of children born of war, humanitarian crises, sociology, political science, SenseMaker methodology, and sexual and gender-based violence developed the survey questions (composed of 33 variables). Data collection was implemented by Marakuja, a Congolese non-profit research network, and Solidarité Féminine Pour la Paix et le Développement Intégral (SOFEPADI), a Congolese non-governmental organization (NGO) focused on women's rights and addressing gender-based violence. The survey was translated from English to Lingala and Swahili, and then independently back-translated to ensure accuracy. The mixed-methods data collection was facilitated by SenseMaker®, a research tool designed to measure complex social patterns through the collection of self-interpreted short stories or micronarratives (Cognitive Edge, 2020). Using SenseMaker, participants were prompted to audio-record a micro-narrative about interactions between local woman/girls and UN peacekeepers. These micronarratives could have been first person accounts about interacting with a peacekeeper, or third person accounts about someone else in the community interacting with a peacekeeper. Participants were then asked to report their own demographic information. Since demographic characteristics were asked only of the narrator, we did not have demographic data about the protagonist in the micronarrative unless it was a first-person account.

Using SenseMaker, participants were also asked to quantify their perceptions about the events in the story by responding to a series of pre-defined questions, which were in the form of continuous visual scale representations between two (dyad) or three (triad) possible options (see Figures 12 and 13). In contrast to traditional Likert-type scale questions, the most extreme possible responses on the dyads and triads were either all positive, all negative, or all neutral in tone, which reduced social desirability bias. When quantified, each data point on a dyad retained a percentage value from 0 to 100% for each dimensional extreme represented. Figure 1, for instance, depicts a dyad that measured the extent to which the UN personnel (dimension 1) or the woman/girl (dimension 2) initiated the interaction described in the micronarrative. A value placed in the centre of the dyad indicated that the interaction was equally initiated by both parties with values of 50% for each. The left most extreme represented a value of 100% for the dimension of the peacekeeping personnel and 0% for the woman/girl. This percentage concept also applied to the triad; however, the data point retained a numeric value on three dimensions that summed to 100%. A point placed in the centre of the triad in Figure 2, for example, numerically indicated an equal 33/33/33% split on the dimensions of the woman/girl benefitting (dimension 1), the UN personnel benefitting (dimension 2), and the family benefitting from the interaction (dimension 3).

Data Sampling for Secondary Analysis

Figure 14 illustrates how the narratives were selected for this analysis. Of the 2,867 micronarratives collected, 499 were excluded due to missing or incomplete stories, 520 were omitted for irrelevancy or un-codability, and 26 were excluded for irrelevant

subjects/narrators. The remaining 1,822 narratives concerning sexual interactions were utilized for indicator development. Un-codable narratives were identified as stories with multiple unrelated sexual interactions involving different protagonists. These were removed as it was important to be able to attribute the sexual interaction to one female subject. Additionally, sexual interactions involving staff of international NGOs rather than UN peacekeeping personnel were excluded, and study participants under the age of 13 were removed as they were outside the study's target population.

Indicator Development

A two-part approach was utilized to develop indicators. Firstly, quantitative survey variables relating to the interaction (19 in total) were examined to determine if they contained components of SEA using the UN definition as the framework.

Secondly, a thematic analysis was performed on the micronarratives (n=1,822) to gain insight on the contextual nature of peacekeeper-perpetrated SEA. This analysis was performed using NVivo 12 with an evolving hybrid coding approach derived from Saldaña (2015). Deductive coding was first applied using a provisional coding lens. This provisional method utilized a pre-set list of anticipated codes that were formulated from existing literature, including three relevant and measurable demonstrations of SEA: sexual transactions, nonconsensual sex, and unsupported pregnancies (Kent, 2007; King et al., 2020; Lee & Bartels, 2019; Lupi, 1998; Nordås & Rustad, 2013; Olsson, 2009; Phal, 1995; Simić, 2014; Utas, M., & Ruden, 2009; Vahedi et al., 2019; Vandenberg, 2002). These codes were combined with other aspects of the sexual interactions that were coded directly from the data including emotional

intimacy, the frequency of engagement, the length of the relationship, and the public visibility of the interaction. The predetermined list was then modified as the analysis progressed and new concepts emerged (Saldaña, 2015). A "level of meaning" approach was used to assign codes with meaningful information regardless of whether expressed in a few words, a sentence or a paragraph (DeCuir-Gunby et al., 2011).

Upon identifying relevant indicators of SEA, individual index scores for each participant were calculated by summing the counts of each. Possible scores were intended to range from 0, (no exposure to SEA) to the summed total of the indicators (high exposure to SEA). This high score was dependent on the number of indicators identified.

Ethics

The study protocol for original data collection and secondary analysis was approved by the Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board (protocol #6019042 & 6027552, respectively). Participants as young as age 13 were included in the study because they were known to be affected by SEA and we believed it would have been unethical to have excluded them. We considered these participants mature minors and since involving parents could have introduced bias and put adolescents at risk of parental conflict and/or abuse (Weir, 2019), parental consent was not sought. As no participant identifiers were collected in the original study, individual confidentiality was maintained.

Findings

Two quantitative variables were identified from the survey questions, and six additional indicators emerged from the thematic analysis. Figure 15 exhibits the casual relationship between all eight indicators and SEA. The selection process for the identified quantitative survey variables is outlined in Table 3.

Survey Derived Indicators

Cut-Point Analysis for Continuous Variables

All indicators derived from the quantitative dyad and triad questions were dichotomized to correspond to a binary format. Potential cut-points were assessed by identifying a natural break in the frequency distribution of the data as suggested by Moore, Lippman, & Brown (2004) as follows:

Beneficiary of the Interaction

The beneficiary of the sexual interaction was a quantitative variable that used a triad to measure the extent to which the woman/girl (dimension 1), UN peacekeeper (dimension 2), or her family (dimension 3) benefitted from the sexual interaction. The term 'benefit' was intentionally left open to interpretation by the participant and could have indicated a financial, social, political or romantic benefit, or any combination thereof. Because the focus of this research was on peacekeeper-perpetrated exploitation, only values that pertained to the peacekeeper dimension were analyzed. More specifically, interactions where the peacekeeper maintained at least 78% of the benefit of the interaction were proposed as a cut-point for the

case definition of exploitation for this indicator according to the natural break in the frequency distribution shown in Figure 16. As per the definition of SEA, this indicator was utilized as a proxy for an actual abuse of differential power for sexual purposes for monetary, social, or political benefit.

Initiator of the Interaction

Using dyad data, the initiator of the sexual interaction was used to measure the extent to which the UN peacekeeper (dimension 1) or woman/girl (dimension 2) initiated the sexual interaction. Interactions where the peacekeeper expressed at least 96% of the initiative to engage in the sexual interaction were used as the cut-point for this indicator according to the natural distributional break shown in Figure 17. It was implied that interactions that were overwhelmingly initiated by the peacekeeper involved an underlying pressure that was exerted on the woman/girl as a result of the peacekeeper's underlying authoritative power. The peacekeeper's role in maintaining safety and distributing resources presents a situation in which host communities are sometimes reliant on the UN personnel for survival. This, in turn, formulates a context in which peacekeepers have considerable coercive power (Alexandra, 2011). As per the definition of SEA, this indicator was utilized as a proxy for coercion within a sexual interaction.

Qualitative Indicators

Table 4 outlines the thematic analysis derived indicators and an example of their corresponding codes. Additionally, the two quantitative indicators are included to demonstrate the code-category-theme approach.

Occurrence of a Sexual Transaction

The occurrence of a sexual transaction was defined as a non-commercial non-marital exchange of any of the following: basic-needs goods, services, money, or opportunities for sex. Transactional sex was considered to have occurred if any of these were present in the micronarrative. The exchange of goods for basic-needs sex directly measures the concept of an abuse of vulnerability by profiting monetarily, socially or politically from engaging in sex with another and falls within the realm of sexual exploitation.

Non-Consensual Sexual Exposure

Non-consensual sexual exposure referred to actual or threatened non-physical sexual encounters that were non-consensual. This comprised cases of exposure to nudity, pornography, and/or exposure to crude sexual language or threats of sexual nature in the micro-narrative. As per the definition of SEA, this indicator (which emerged inductively) was utilized as a proxy for a threatened physical intrusion and subsequent sexual abuse

Sex Worker Status

Sex worker status of a woman or girl was determined through examination of micronarrative terminology. Women or girls who self-identified as prostitutes or a synonymous term such as harlot, and women or girls who were identified as such by a third-person narrator or who were discussed as engaging in acts of sex work were included. Sex work was defined as a direct exchange of sex for money or goods with an identified sex worker that typically involved little emotional intimacy (Wamoyi, Ranganathan, Kyegombe, & Stoebenau, 2019). A positive sex worker status, like the occurrence of basic-needs TS, measured the concept of an abuse of vulnerability by profiting monetarily, socially or politically from engaging in sex with another. However, it depicted a pattern of engagement in which commercial sexual work was relied upon for survival.

Underage Status

In first-person stories, a designation of underage status was made if the girl identified as being under age 18. In community member micro-narratives, age was determined by the first author through examination of micronarratives for an underage descriptor identification of the girl such as: 'underage', 'young girl', or 'age under 18'. As sexual acts with a minor are sexual abuse, this indicator met SEA criteria.

Unsupported Pregnancy

The criteria for an unsupported pregnancy were refined by micro-narrative analysis to constitute an accidental or planned pregnancy where the UN peacekeeper was cited as not

providing consistent and reasonable financial support to the women or girl for the child's welfare. This indicator represented SEA as it is an abuse of vulnerability and power, as the disparity of wages between UN peacekeepers and local women is extreme (Alexandra, 2011).

Table 5 outlines the frequency of each indicator. Of the total sample of 1,822 narratives, 226 were first-person accounts and 1,596 were third-person narratives. The peacekeeper primary initiator variable was the most prevalent of the 8 indicators at 62.6% of the total sample. The least prevalent indicator was an occurrence of a non-consensual sexual exposure at 0.7% of the total sample. Additionally, considerable variation was demonstrated in the frequency of the indicators, with a difference of 61.9% between the most and least prevalent.

The frequency distribution of scores is highlighted in Table 6. Due to identifying eight indicators, possible scores ranged from 0 (representing no exposure to SEA) to 8 (high exposure to SEA). The most frequent score in this sample was a 1, indicating that the woman or girl experienced one sexually exploitative or abusive event. The highest score in the sample was 6 with a prevalence of 0.1%. Approximately 15% of the women in the sample participated in sexual interactions that were not sexually exploitative or abuse.

Discussion

The objective of the study was to construct an index that quantified the exposure level of peacekeeper-perpetrated sexual exploitation/abuse amongst host community women in the

DRC. Measuring the level of exposure to SEA is particularly important for understanding the nuances of the interactions, which in turn will provide more accurate information and allow responders to better meet the needs of affected women/girls. Our goal was to provide a conceptualization of SEA that was sensitive to these components and expressed the heterogeneity of these interactions whilst diverting away from the dichotomous measurement and the assumption that all women/girls who experience SEA are affected in the same way. The variability of the frequency amongst the indicators substantiated the choice of an index, as the infrequency of some indicators weakened the potential correlation between the events. In development of the index, an effort was made to more comprehensively measure the degree to which sexual interactions were exploitative/abusive, with the combination of indicators representing a gradation of exposure. Four key categories were addressed: the abuse of vulnerability and power, conditions of coercion, an inability to consent, and an actual or attempted physical intrusion. An abuse of vulnerability and power was encompassed by four indicators: the beneficiary of the interaction, occurrence of a sexual transaction, a positive sex worker status, and the occurrence of an unsupported pregnancy. As a result of operating under survival-based conditions, women who engaged in basic-needs transactional sex or worked as a sex worker were regarded as more vulnerable. Although it is recognized that there is agency involved in participating in transactional sex, and particularly so when self-identifying as a sex worker or when sex is exchanged for improved social status, it was clear within this sample that agency was constrained because of the survival-based conditions in which many of the women were operating. In the opposite direction, peacekeepers that maintained a vast majority of the benefit from the sexual interaction, regardless of type (monetary, social,

political, sexual, etc.) or avoided paternal responsibility were seen as abusing their power. The category of an actual or attempted physical intrusion was indicated by a non-consensual sexual act or non-consensual sexual exposure. This was further expanded by the addition of a non-consensual sexual exposure to include threatened physical intrusion. Furthermore, a primarily peacekeeper-initiated interaction was classified as coercion as it was implied that consent was either reduced, in the case of unequally initiated interactions, or absent, when women were not involved in the initiation. Sex with underage girls was categorized as an inability to consent since minors under the age of 18 are unable to consent to sexual acts. Each indicator therefore represented an independent aspect of SEA according to the UN definition.

The indicators were also sensitive to both the evolving nature of sexual interactions as well as the post-conflict and economically deprived environment of the DRC. For example, the initiator of the sexual interaction, the occurrence of an unsupported pregnancy, and the beneficiary of the interaction were all sensitive to the dynamic and evolving nature of power differentials between the peacekeeper and the local women/girl across time. This is particularly useful for evaluating sexual interactions that start as mutually consensual but evolve to be exploitative or abusive, and is especially relevant in instances of TS or sex work where bargaining power is often compromised around condom usage and compensation (Human Rights Watch, 2001). In these scenarios, although the woman may have been the initiator, the interaction may still have been exploitative due to withdrawal of consent, a loss of ability to negotiate for herself, or an inability to protect herself. The occurrence of an unsupported pregnancy extended this timeline further by measuring an exploitative outcome that could have occurred well beyond the time period of the sexual interaction.

Using the accounts of SEA in this dataset and the proposed index, approximately 15% of the sexual interactions were not considered exploitative or abusive. Another two-thirds of the sexual encounters were considered mildly exploitative/abusive with a score of 1 or 2 (66.7%) and 17.2% were considered moderately exploitative/abusive with a score of 3 or 4. Only 1.2% of the described sexual interactions had a score of 5 or 6 and were designated as severely exploitative/abusive. It is currently unknown how these scores compare to SEA in other contexts involving other PSO and we note this as an area for future research.

With residual conflict in parts of the DRC and ongoing political instability, 77% of the Congolese population lives under conditions of poverty (United Nations Development Programme, 2018). As such, the economic and societal disparities faced by women in this sample cannot be overlooked when measuring SEA. The apparent power disparity between the peacekeeper and the local population is emphasized by the prevalence of poverty within the local population. As a peacekeeper's salary is 500 to 1,000 times greater than the average local woman or community member's (Alexandra, 2011), sexual interactions between peacekeepers and local women and girls are often characterized by the peacekeeper's ability to provide money or improved economic opportunities for the woman or girl involved (Simić, 2014; Utas, M., & Ruden, 2009). The context was taken into account when developing the indicators. The occurrence of a basic-needs-driven sexual transaction, a positive sex worker status, and an unsupported pregnancy were all indicators that measured how SEA manifested because of economic inequalities.

Finally, it was important that the index branched beyond the binary approach and towards a measurement that meaningfully contributed to the development of prevention and

intervention efforts in this population. The suggested heterogeneity of SEA in communities surrounding MONUSCO bases, both by degree of exposure and occurrence of events, indicates that the needs of the woman and girls affected are diverse, and warrant consideration based on the type of abuse or exploitation experienced and also the degree to which the interaction was exploitative/abusive. Similarly, a one-size-fits all approach to anti-SEA training for deploying peacekeepers is likely not the most effective. By taking the heterogeneity of SEA experiences into account, training curricula may be tailored to address the nature and exposure level of SEA that is perpetrated by particular missions in given locations. An index measure, such as the one developed here, is a first step towards recognizing and appreciating that heterogeneity.

Limitations

This study has some noteworthy limitations. Due to the convenience sampling, the results cannot be considered representative of MONUSCO-affected communities in the DRC. However, the range of events reported by participants is thought to be comprehensive. By asking participants to recount a past event, there may be recall bias, particularly in third-person narratives that share another individual's experience. Those who personally experienced SEA may be more likely to accurately recount their experience of SEA than participants sharing another individual's experience. As a result, misclassification of SEA may be presented disproportionally in third-person narratives. The Sensemaker design has also been criticized for its potential susceptibility to utilizing a 'scientism' approach whereby the quantitative portion of data only weakly measures the social phenomenon of the short-form

narratives (Van der Merwe et al., 2019). The provisional coding method utilized in the thematic analysis has also been cautioned for its ability to encourage researchers to resist diverting from their original hypothesis (Saldaña, 2015). The pre-established list of codes that characterize this approach may promote intolerance to altering codes and examining new ideas (LeCompte & Schensul, 2013). An effort was made to mitigate this concern by regularly consulting the research team throughout indicator identification. Additionally, the absence of formal validation of cut-points and indicator weighting measures presents an area of action for subsequent analyses. Lastly, it is important to acknowledge that this conceptualization of SEA is proposed by a team of non-Congolese academics, and an intrinsic cultural and interpretation bias may be present. To mitigate this, Congolese team members were consulted regarding interpretation of the themes.

Strengths

To our knowledge, this study represents the first attempt to measure the level of exposure to SEA within a UN peacekeeping context. The mixed-methods Sensemaker data coupled with the thematic analysis allowed for the indicators to be informed directly from primary accounts of sexual interactions between local women/girls and UN peacekeeping personnel. An index measure offers a more comprehensive and nuanced understanding of sexual interactions between UN personnel and local women and girls than the traditional dichotomization of SEA as present or absent.

Future Direction

With future development and validation, these indicators will be utilized to compute an aggregate count score in which a higher score will be indicative of a higher degree of exposure to SEA. The measure is intended for use among MONUSCO hosting communities affected by peacekeeper -perpetrated SEA, however it may be relevant for other UN peacekeeping missions. In both practice and research, non-binary measures of SEA may be valuable for improving preventative measures, as well as intervention and support for affected women/girls.

References

Alexandra, K. (2011). Peacekeepers' privilege and sexual abuse in post-conflict populations. *Peace Review*, *23*(3), 369–376. https://doi.org/10.1080/10402659.2011.596078 Babbie, E. R. (2012). *The Practice of Social Research*. Cengage Learning.

Bollen, K., & Lennox, R. (1991). Conventional wisdom on measurement: A structural equation perspective. *Psychological Bulletin*, *110*(2), 305.

Cognitive Edge. (2020). What is Sensemaker®. Retrieved from https://sensemaker.cognitiveedge.com/what-is-sensemaker/

Cortese, B., Schumann, A., & Uhde, T. (2017). 576. Accelerated Neurodegeneration: Effects of Cumulative Trauma Exposure and Chronic Posttraumatic Stress Disorder (PTSD) in Relatively Young Combat Veterans. *Biological Psychiatry*, *81*(10), S233. https://doi.org/10.1016/j.biopsych.2017.02.446

Csaky, C. (2008). No One to Turn To No One to Turn To. *Save the Children*, 37. Retrieved from http://www.savethechildren.org.uk/resources/online-library/no-one-to-turn-to-theunder-reporting-of-child-sexual-exploitation-and-abuse-by-aid-workers-and-peacekeepers

DeCuir-Gunby, J. T., Marshall, P. L., & McCulloch, A. W. (2011). Developing and using a codebook for the analysis of interview data: An example from a professional development research project. *Field Methods*, *23*(2), 136–155. https://doi.org/10.1177/1525822X10388468

Franchino-Olsen, H. (2019). Vulnerabilities Relevant for Commercial Sexual Exploitation of Children/Domestic Minor Sex Trafficking: A Systematic Review of Risk Factors. *Trauma, Violence & Abuse*, 1524838018821956–1524838018821956. https://doi.org/10.1177/1524838018821956

García-Moreno, C. (2014). Responding to sexual violence in conflict. *The Lancet*, *383*(9934), 2023–2024. https://doi.org/10.1016/S0140-6736(14)60963-6

Heise, L., & Hossain, M. (2017). STRIVE Intimate Partner Violence Measurement Brief, (July), 1–8.

Heise L. (2012). Determinants of partner violence in low and middle-income countries: exploring variation in individual and population-level risk. *The London School of Hygiene and Tropical Medicine*, 311. https://doi.org/10.17037/PUBS.00682451

Higate, P. (2003). Revealing the soldier: Peacekeeping and prostitution. *American Sexuality Magazine*, (5), 1–3.

Human Rights Watch. (2001). *Human Rights Watch Goma Telephone Interview October 26*. Goma.

Human Rights Watch. (2002). THE WAR WITHIN THE WAR Sexual Violence Against Women and Girls in Eastern Congo Human Rights Watch New York • Washington • London • Brussels. *Retrieved from http://www.hrw.org*

Jennings, K. M. (2010). Unintended Consequences of Intimacy: Political Economies of Peacekeeping and Sex Tourism. *International Peacekeeping*, *17*(2), 229–243. https://doi.org/10.1080/13533311003625126

Johnson, K., Scott, J., Rughita, B., Kisielewski, M., Asher, J., Ong, R., & Lawry, L. (2010). Association of Sexual Violence and Human Rights Violations With Physical and Mental Health in Territories of the Eastern Democratic Republic of the Congo. *JAMA*, *304*(5), 553. https://doi.org/10.1001/jama.2010.1086

Kent, V. (2007). Protecting Civilians from UN Peacekeepers and Humanitarian Workers: Sexual Exploitation and Abuse. In Unintended Consequences of Peacekeeping Operations. *United Nations University Press*.

King, C., Lee, S., & Bartels, S. A. (2020). ' They Were Going to the Beach , Acting like Tourists , Drinking , Chasing Girls ': A Mixed-Methods Study on Community Perceptions of Sexual Exploitation and Abuse by UN Peacekeepers in Haiti, (Lee 2017).

Kira, I. A., Lewandowski, L., Templin, T., Ramaswamy, V., Ozkan, B., & Mohanesh, J. (2008). Measuring cumulative trauma dose, types, and profiles using a development-based taxonomy of traumas. *Traumatology*, *14*(2), 62–87. https://doi.org/10.1177/1534765608319324

Kitharidis, S. (2015). Rape as a weapon of war: Combating sexual violence and impunity in the Democratic Republic of the Congo, and the way forward. *African Human Rights Law Journal*, *15*(2), 449–472. https://doi.org/10.17159/1996-2096/2015/v15n2a11

LeCompte, M. D., & Schensul, J. J. (2013). *Analyzing and interpreting ethnographic data: A mixed methods approach* (2nd ed.). Lanham, MD, US: AltaMiraPress.

Lee, S., & Bartels, S. (2019). "They Put a Few Coins in Your Hand to Drop a Baby in You": A Study of Peacekeeper-fathered Children in Haiti. https://doi.org/10.1080/13533312.2019.1698297

Luke, N., Goldberg, R. E., Mberu, B. U., & Zulu, E. M. (2011). Social exchange and sexual behavior in young women's premarital relationships in Kenya. *Journal of Marriage and Family*, *73*(5), 1048–1064. https://doi.org/10.1111/j.1741-3737.2011.00863.x

Lupi, N. (1998). Report by the Enquiry Commission on the Behaviour of Italian Peace- keeping troops in Somalia. *Yearbook of International Humanitarian Law*, *1*, 375–379. https://doi.org/10.1017/S138913590000026X

Mansfield, J. (2009). Prosecuting sexual violence in the Eastern Democratic Republic of Congo: Obstacles for survivors on the road to justice. *African Human Rights Law Journal*, *9*(2), 367–408.

McAlpine, A., Hossain, M., & Zimmerman, C. (2016). Sex trafficking and sexual exploitation in settings affected by armed conflicts in Africa, Asia and the Middle East: systematic review. *BMC International Health and Human Rights*, *16*(1), 34. https://doi.org/10.1186/s12914016-0107-x

Moore, K. A., Lippman, L., & Brown, B. (2004). Indicators of Child Well-Being: The Promise for *Positive Youth Development.* Annals of the American Academy of Political and Social *Science*, *591*, 125–145. https://doi.org/10.1177/0002716203260103

Mudgway, C. (2017). Sexual exploitation by UN peacekeepers: the "survival sex" gap in international human rights law. *THE INTERNATIONAL JOURNAL OF HUMAN RIGHTS*, *21*(9), 1453–1476. https://doi.org/10.1080/13642987.2017.1348720

Nordås, R., & Rustad, S. C. A. (2013). Sexual Exploitation and Abuse by Peacekeepers: Understanding Variation. *International Interactions*, *39*, 511–534. https://doi.org/10.1080/03050629.2013.805128

Olsson, L. (2009). Gender Equality and United Nations Peace Operations in Timor Leste. *Leiden: Martinus Nijhoff*.

Otto, D. (2007). *Making sense of zero tolerance policies in peacekeeping sexual economies*. Sexuality and the Law: Feminist Engagements*. https://doi.org/10.4324/9780203945094*

Phal, K. S. (1995). The lessons of the UNTAC experience and the ongoing responsibilities of the international community for peacebuilding and development in Cambodia. *Global Change, Peace & Security*, *7*(2), 129–133.

Saldaña, J. (2015). *The Coding Manual for Qualitative Researchers*. Sage.

Simic, O. (2009). Rethinking "sexual exploitation" in UN peacekeeping operations. *Women's Studies International Forum*, *32*(4), 288–295. https://doi.org/http://dx.doi.org/10.1016/j.wsif.2009.05.007

Simic, O. (2012). *Regulation of Sexual Misconduct in UN Peacekeeping Operations*.

Simić, O. (2014). 'Peacekeeper Babies': An Unintended Legacy of'United Nations Peace Support Operations. *International Peacekeeping*, *21*. https://doi.org/10.1080/13533312.2014.938581

Steiner, D., Norman, G., & Cairney, J. (2014). *Health Measurement Scales: A practical guide to their development and use, Edition 5*. OUP Oxford.

Stoebenau, K., Heise, L., Wamoyi, J., & Bobrova, N. (2016). Revisiting the understanding of "transactional sex" in sub-Saharan Africa: A review and synthesis of the literature. *Social Science and Medicine*, *168*, 186–197. https://doi.org/10.1016/j.socscimed.2016.09.023

Strive. (n.d.). Transactional Sex and HIV. Retrieved from http://strive.lshtm.ac.uk/drivers/transactional-sex-and-hiv

Tull, D. M. (2018). The Limits and Unintended Consequences of UN Peace Enforcement: The Force Intervention Brigade in the DR Congo. *International Peacekeeping*, *25*(2), 167–190. https://doi.org/10.1080/13533312.2017.1360139

Underwood, C., Skinner, J., Osman, N., & Schwandt, H. (2011). Structural determinants of adolescent girls' vulnerability to HIV: Views from community members in Botswana, Malawi, and Mozambique. https://doi.org/10.1016/j.socscimed.2011.05.044

United Nations. (2017). Glossary on Sexual Exploitation and Abuse. *Glossary on Sexual Exploitation and Abuse*, (July), 1–19. Retrieved from https://hr.un.org/.../SEA Glossary %5BSecond Edition - 2017.

United Nations. (2019). *Conflict Related Sexual Violence -Report of the United Nations Gecretary-General*. Retrieved from https://www.un.org/sexualviolenceinconflict/wpcontent/uploads/2019/04/report/s-2019-280/Annual-report-2018.pdf

United Nations Development Programme. (2018). | Human Development Reports. Retrieved April 29, 2019, from http://hdr.undp.org/en/countries/profiles/COD

United Nations Peacekeeping. (2020a). MONUSCO Fact Sheet. Retrieved from https://peacekeeping.un.org/en/mission/monusco

United Nations Peacekeeping. (2020b). What We Do. Retrieved from https://peacekeeping.un.org/en/what-we-do

United Nations Secretariat. (2008). Prohibition of discrimination, harassment, including sexual harassment, and abuse of authority. Retrieved from https://undocs.org/ST/SGB/2008/5

Utas, M., & Ruden, F. (2009). *Sexual exploitation and abuse by peacekeeping operations in contemporary Africa*.

Vahedi, L., Bartels, S. A., & Lee, S. (2019). 'Even peacekeepers expect something in return': A qualitative analysis of sexual interactions between UN peacekeepers and female Haitians. *Global Public Health*, *0*(0), 1–14. https://doi.org/10.1080/17441692.2019.1706758

Van der Merwe, S. E., Biggs, R., Preiser, R., Cunningham, C., Snowden, D. J., O'Brien, K., … Goh, Z. (2019). Making Sense of Complexity: Using SenseMaker as a Research Tool. *Systems*, *7*(2), 25. https://doi.org/10.3390/systems7020025

Vandenberg, M. (2002). Trafficking of women and girls to post-conflict Bosnia and Herzegovina for forced prostitution. *Human Rights Watch*, *14*(9), 1–72.

Wamoyi, J., Ranganathan, M., Kyegombe, N., & Stoebenau, K. (2019). Improving the measurement of transactional sex in sub-saharan Africa: A critical review. *Journal of Acquired Immune Deficiency Syndromes*, *80*(4), 367–374. https://doi.org/10.1097/QAI.0000000000001928

Weir, K. (2019). Studying adolescents without parents' consent: A new APA resolution supports mature minors' participation in research without parental permission. *American Psychological Association*. Retrieved from https://www.apa.org/monitor/2019/02/parents-consent

World Bank. (2017). Working Together to Prevent Sexual Exploitation and Abuse. Retrieved from http://documents.worldbank.org/curated/en/482251502095751999/pdf/117972WP-PUBLIC-recommendations.pdf

Acronyms

DRC	Democratic Republic of Congo
MONUC	United Nations Organization Mission in the Democratic Republic of the Congo
MONUSCO	United Nations Organization Stabilization Mission in the Democratic Republic of the Congo
NGO	Non-governmental organization
PSO	Peace support operation
SEA	Sexual exploitation and abuse
TS	Transactional sex
UN	United Nations

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Chapter 5: Community Perceptions of Stigmatization amongst Woman Affected by UN-Peacekeeper Perpetrated Sexual Exploitation and Abuse: A Regression Analysis

Journal Submission

This content was submitted to *BMC Public Health* on October 7, 2020. This journal was selected because mental health and social determinants of health are key focuses. There is a slight variation in the content of this chapter and that of the submitted manuscript due to editing that has been performed since this date.

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Fit Within the Thesis

This section examines how the exposure level of SEA experienced affects a woman's perceived (1) social status, and (2) institutional support in her community. Social status measures public stigmatization and institutional support measures structural stigmatization. This analysis meets the goals of Objective 2.

Abstract

Background: Sexual exploitation and abuse (SEA) by UN peacekeepers perpetrated against local women and girls is a concern in the Democratic Republic of Congo (DRC). While stigma associated with sexual and gender-based violence is well documented more broadly, little is known about stigma associated with peacekeeper-perpetrated SEA.

Methods: The aim of this study was to examine how the degree of exposure to SEA affects community perceptions of a woman or girl's (1) social status (public stigma) and (2) institutional support in her community (structural stigma). Two Poisson regression models with robust variance estimation were constructed utilizing community survey data of SEA experiences from eastern DRC (n=2867) to quantify these associations. Relevant demographic variables were assessed for confounding and effect modification.

Results: The prevalence of public and structural stigma were 62.9% and 19.3% respectively across the sample. A positive relationship was demonstrated between level of exposure of SEA and diminished social status in which women and girls experiencing moderate levels of SEA were at the greatest risk of public stigmatization after adjusting for confounding (RR: 1.94; CI: 1.66 – 2.26). Similarly, a positive relationship between exposure to SEA and inadequate institutional support was shown for female narrators, wherein women and girls experiencing a high degree of SEA were 6.53 times as likely to receive inadequate support (RR: 6.53; CI: 3.63, 11.73). This contrasted with male narrated stories for whom there was no significant association between the SEA exposure level and institutional support.

Conclusions: Women/girls with high exposure levels to UN peacekeeper-perpetrated SEA are at the highest risk of public and structural stigmatization, which should be more routinely considered when conceptualizing the consequences of SEA in peacekeeping contexts. The frequent occurrence of both public and structural stigma, coupled with the varying perceptions by sex, demonstrates the need for a multi-faceted approach for stigma reduction.

Background

Sexual Exploitation and Abuse by UN Peacekeeping Personnel

Sexual exploitation and abuse (SEA) have been widely reported in peacekeeping operations in Cambodia (Olsson, 2009), Somalia (Kent, 2007), Haiti (King et al., 2020), Liberia, Kosovo, Sierra Leone, and Sudan (Nordås & Rustad, 2013). Defined by the United Nations (UN) as "any actual or attempted abuse of vulnerability, differential power or trust, for sexual purposes, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another" (United Nations, 2017, p.6), sexual exploitation encompasses prostitution, transactional sex, and solicitation of transactional sexual interactions. Sexual abuse is defined as "an actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions" (United Nations, 2017, p.5), with all sexual interactions involving minors under the age of 18 being considered abusive. Both within the UN and more broadly, SEA has been most often dichotomously measured with cases being examined against case criteria, and designated as SEA or not. (Heise & Hossain, 2017; McAlpine et al., 2016). This binary approach to measuring SEA fails to recognize that the physical, psychological and socioeconomic sequela may differ depending on the degree and nature of the event. Recent work has proposed a multi-dimensional measurement approach that would provide a more comprehensive and nuanced understanding of SEA that considers the dynamic and varied nature of women's agency and victimization (Gray, Stuart, Lee, & Bartels, 2020)

Contributing Factors to UN-Perpetrated SEA in the DRC

Tasked with coordinating the peaceful transition of government and removal of armed forces from the Second Congo War, the United Nations Organization Mission in the Democratic Republic of Congo (MONUC) provided a moderate reduction in violence between 1999 to 2009 (Tull, 2018). The mission was transformed into the United Nations Organization Stabilization Mission (MONUSCO) in 2010 to focus on the stabilization of government and protection of civilians, and continues today as the world's largest UN peace support operation (PSO) (United Nations Peacekeeping, 2020a). Amongst the 32 publicly identified missions with SEA allegations, MONUC and MONUSCO are cited as contributing 36.1% of the total reports with 388 allegations (United Nations, 2020a). It is important to note, however, that each allegation represents an uncorroborated report within which one or more perpetrators or victims are specified (United Nations, 2020a). Since allegations may include multiple women, and sexual violence is historically underreported (Alexandra, 2011; United Nations, 2019a), it is also important to note that the true number of host community members affected by peacekeeper-perpetrated SEA is likely higher.

Numerous factors are believed to increase the prevalence of UN-perpetrated SEA in particular settings. For instance, missions with larger numbers of uniformed peacekeepers and missions hosted in poorer countries with a lower GDP per capita, have been particularly associated with a higher frequency of SEA reports (Nordås & Rustad, 2013). DRC is a powerful example of this since MONUSCO represents the largest ongoing mission in the world with approximately 18,500 troops, staff, police and volunteers (United Nations Peacekeeping, 2020a). Additionally, DRC retains a low-income status ($545.2 GDP per capita) (United Nations,

2019b; World Bank, 2020) and 77.1% of the country's 81.3 million residents live below the income poverty line at a purchasing power parity of $1.90 USD a day (United Nations Development Programme, 2018). The combination of local poverty and the authoritative presence of peacekeeping personnel is known to intensify power differentials between peacekeepers and the local population, in turn increasing the risk of coercion and transactional sex (Alexandra, 2011). Furthermore, inequitable gender norms in the DRC and limited opportunities for justice for sexual violence survivors contribute to an environment of impunity (Kelly et al., 2012; United Nations Development Programme, 2018).

Stigmatizing Consequences of SEA

Physical injuries, sexually transmitted infections, unplanned pregnancies and psychological disorders are known consequences of sexual and gender-based violence. Negative social consequences of SEA, including community isolation (García-Moreno, 2014; Johnson et al., 2010; Kitharidis, 2015; Mansfield, 2009), have been increasingly recognized in the literature, with stigma believed to play a key role (Aroussi, 2011; Johnson et al., 2010; Kitharidis, 2015; Mudgway, 2017; Simić, 2014; Stark & Wessells, 2012; Tull, 2018; Utas, M., & Ruden, 2009).

Stigma is the devaluation of a specified group because of directed negative beliefs and actions and can be categorized as self-stigma, public stigma, and structural stigma (Corrigan & Watson, 2002; Hatzenbuehler, 2016; Link & Phelan, 2001). Self-stigma refers to an individual's own devaluation of self and is often characterized by feelings of lack of confidence and low selfesteem (Corrigan et al., 2016). Public stigma, in contrast, involves the devaluation of

individuals by society in which the stigmatized individuals are isolated as 'others' and face unjust treatment or segregation by society (Corrigan & Watson, 2002). Lastly, at a structural level stigma can be conveyed through institutional policies that restrict others by creating and maintaining social inequalities (Corrigan & Watson, 2002; Hatzenbuehler, 2016). Manifestations of public stigmatization are well reported among victims of sexual violence in the DRC (Aroussi, 2011; Bartels et al., 2010; Johnson et al., 2010; Kitharidis, 2015; Mudgway, 2017; Simić, 2014; Stark & Wessells, 2012; Tull, 2018; Utas, M., & Ruden, 2009). Sexual violence survivors are often subjected to a devalued social status and/or are socially isolated from their communities and families leading to languishing mental health, fear of disclosing the incident, a loss of livelihood, forced relocation, and/or avoidance of medical services (García-Moreno, 2014; Kelly et al., 2012; Kitharidis, 2015; Scott et al., 2015; Wachter et al., 2018). These consequences may also extend to interactions of transactional sex or sex work where women are labelled as 'contaminated' due to a fear of acquiring HIV/AIDS or other STIs (Human Rights Watch, 2001; Stoebenau et al., 2016). Additionally, some evidence suggests that structural stigmatization occurs for victims in the form of a lack of institutional protections, continuous impunity, breached confidentiality, and fear of reprisal from mental health and justice services (Aroussi, 2011; García-Moreno, 2014; Kitharidis, 2015).

While victims of sexual violence are recognized as being susceptible to stigmatization, a more nuanced understanding of stigma experiences among women and girls affected by peacekeeper-perpetrated SEA is needed. Furthermore, the association between exposure level to SEA and experience of stigmatization has yet to be explored. It may be, for example, that a higher degree of exposure to sexually exploitative/abusive events with peacekeepers generate

a greater risk for stigmatization. It is important to understand this relationship so that the unintended consequences of PSO are more fully appreciated and interventions to address harmful stigmatizing attitudes and behaviours can be appropriately designed for those who are most vulnerable. Therefore, this study aims to examine how the degree of exposure to peacekeeper-perpetrated SEA affects a woman's perceived (1) social status and (2) institutional support in her community in the DRC.

Methods

Data Source

Data were derived from cross-sectional data collected in a nine-week period between June and August 2018. The original survey examined the nature of interactions between UN peacekeepers and local women and girls in the DRC (n=2867). Using convenience samples, interviews were conducted around six MONUSCO bases in eastern DRC: Kisangani, Bukavu, Goma, Benia, Bunia, and Kalemie. Beyond the initial sample, snowball sampling was utilized to recruit others within a 30km radius of each of the chosen UN bases. Locally trained research assistants approached participants in naturalistic settings such as transportation hubs and markets for survey recruitment. Males and females over the age of 13 were asked to audiorecord a short story about the interactions of local women/girls with UN peacekeepers. Subsequently, participants were asked to interpret their narrative by responding to a series of pre-defined questions in addition to providing their own demographic information (as opposed to the demographics of the woman/girl in the story). Data was collected with Sensemaker®, a mixed-methods narrative capture tool designed to measure complex social patterns (Cognitive

Edge, 2020). One type of Sensemaker interpretation question, *dyads*, asked participants to plot their perspectives about the events in the story on a continuous scale between two extreme options. To reduce social desirability bias, the two options within each question were matched in tone (both positive, both negative, or both neutral).

Data points on the dyad hold a percentage value ranging from 0 to 100% for each of the two dimensions represented, and sum to 100%. Figure 18 demonstrates a dyad measuring the impact of the sexual interaction on the woman or girl's social status. The extremes shown, both negative in tone, are 'social status improved too much' (dimension 1) or 'social status diminished too much' (dimension 2). A response at the leftmost extreme of the scale would express a value of 100% in the dimension of improved social status, and 0% in the dimension of diminished social status. Conversely, a response at the rightmost point of the dyad would indicate the opposite, a 100% value in the dimension of diminished social status, and 0% in the value of improved social status. If placed at the centre of the dyad, a 50% value would be assigned to each dimension, indicating no change in social status.

Data Sampling

The data sampling strategy is outlined in Figure 19. In total, 1,045 narratives were excluded from the original dataset (n=2867) on the basis of missing or incomplete stories (n=499), irrelevant or un-codable narratives (n=520) or excluded subjects/narrators (n=26). Uncodable narratives were stories that described multiple sexual interactions involving several subjects. Such narratives were excluded as it was necessary that outcomes be attributable to only one subject. Data collected from participants under the age of 13 (n=8) and sexual

interactions involving NGO-workers rather than UN peacekeepers (n=18) were removed as they were outside of the study's objectives. In turn, 1,822 narratives were utilized for analysis.

Study Design

Exposure

The level of exposure to SEA was measured using a previously constructed eight-item index derived from the same study sample (Gray et al., 2020). Participants were given a count for each UN-perpetrated sexually exploitative/abusive event in the narrative. Possible scores for this measure ranged from 0 to 8 with a higher count indicating a greater level of exposure to SEA. Scores were additionally classified into broader categories of mild (1 to 2), moderate (3 to 4), and high exposure to SEA (5+) with an outcome of 0 indicating no exposure to SEA or a nonexploitative/abusive sexual interaction. Sexually exploitative/abusive interactions were characterized by: the peacekeeper as the primary beneficiary, the peacekeeper as the primary initiator, transactional sex, a non-consensual sexual act, a non-consensual sexual exposure, the occurrence of sex work, sexual encounters with underage girls, or an unsupported peacekeeper-fathered pregnancy.

Outcome Cut-Point Analysis

The two model outcomes were dichotomized according to their respective dyad distributions. Cut-points were placed at natural distributional breaks as indicated by Moore, Lippman, & Brown (2004).

Outcome 1: Diminished Social Status

A dyad measuring the extent to which the woman or girl's social status was improved too much (dimension 1) or diminished too much (dimension 2) as a result of her interaction with the UN peacekeeper was utilized for this measure. Figure 20 outlines the distribution of responses in the dimension of diminished social status with the chosen cut-point of 96. Responses at or above the cut-point of 96 were considered to have a diminished social status.

Outcome 2: Inadequate Institutional Support

Inadequate support following the sexual interaction was similarly measured using dyad responses. Participants were asked about the extent to which those in power did absolutely nothing to support the woman/girl (dimension 1) or provided the woman/girl with too much support (dimension 2). The interpretation of 'support' was left open to participants, and may have been considered as financial, health, job, justice, or housing based. Similarly, responses at or above the chosen cut-point of 96 were indicated as receiving inadequate support (Figure 21).

Confounders and Effect Modifiers

Suspected confounders were grouped as characteristics of the narrator or characteristics of the sexual interaction. Narrator confounders included sex, age, socioeconomic status, marital status, highest educational level achieved, and geographic location at the time of study participation. Sexual interaction confounders included the

peacekeeper's personnel role, nationality, and whether the story mentioned a peacekeeper fathered child or 'peace-baby'. Sex was additionally assessed for effect modification.

Narrator's Sex

Sex was measured as (a) female, (b) male or (c) prefer not to say.

Narrator's Age

Age was measured as (a) under 13, (b) 13 to 17, (c) 18 to 24, (d) 25 to 34, (e) 35 to 44, (f) 45 to 54, (g) 55 to 64, (h) 65 and older, or (i) prefer not to say. However, these categories were collapsed into (a) 13 to 17, (b) 18 to 24, and (c) 25 and older for the purposes of analysis.

Narrator's Socio-Economic Status

Socio-economic status (SES) was measured as a score from 0 to 5 according to the number of items possessed in the household: a mobile phone, radio, generator inverter or sun panel, a vehicle (i.e. motorbike or car), and a refrigerator or freezer. This was condensed further into low (0-1 items), moderate (2-3 items), and high (4-5 items) socio-economic groups.

Narrator's Marital Status

Marital status at the time of the survey was measured as (a) single never married, (b) married/living with partner, (c) separated/divorced, (d) widowed, or (e) prefer not to say.

Narrator's Highest Education Achieved

The highest level of education achieved by the narrator was measured by an 11-part multiple choice question detailing levels of primary, secondary, technical, and university-level training. However, these categories were modified for analysis as (a) no formal schooling, (b) some or all of primary school, (c) some or all of secondary school, (d) some or all of technical training or university, or (e) other.

Population of Narrator's Urban Setting

The population of narrator's urban setting was derived from a variable measuring the geographic location of the sample collection by city (Bukavu, Goma, Kalemie, Kisangani, Beni, and Bunia). These cities were dichotomized by population size (a) greater or equal to 500,000 or (b) less than 500,000, for the assessment of confounding to determine if community size was a contributing factor. These categories were created in accordance to the intermediary and small cities classifications by population size utilized by the United Cities and Global Governments (United Cities and Local Governments, 2017).

Peacekeeper's Role

The peacekeeper's role within the PSO was derived from participants' responses when asked that question directly with possible options including (a) an armed soldier, (b) a UN civilian, (c) an unarmed soldier, (d) UN police, (e) don't know or (f) other. For the purposes of analysis, these categories were collapsed as (a) soldier (armed or unarmed), (b) non-soldier (civilian or police), or (c) unspecified.

Peacekeeper's Nationality

Nationality was identified by asking participants to recall the flag on the peacekeeper's uniform and match it to a labeled flag on the questionnaire. The following were listed as possible responses: (a) Bangladesh, (b) DRC, (c) Egypt, (d) Ghana, (e) India, (f) Morocco, (g) Nepal, (h) Pakistan, (i) South Africa, (j) Senegal, (k) Sierra Leone, (l) Tanzania, (m) Uruguay, (n) don't know or (o) other. For this analysis, countries were grouped more broadly by continent as (a) African, (b) Asian, (c) South American, or (d) unspecified.

Narrative About Peacekeeper-Fathered Child

Research assistants identified narratives as being (a) about a peacekeeper-fathered child, (b) mentioned a peacekeeper-fathered child, or (c) neither. Stories about or mentioning a peacekeeper-fathered child were combined for this measurement.

Study Analysis

Analyses were performed using SAS software version 9.04. Univariate descriptive analyses were performed to provide a demographic profile of the study sample, and characteristics of the narratives. Chi-square tests were utilized for the bivariate analysis of covariates against the SEA index exposure, diminished social status and inadequate support outcomes. Two Poisson regression with robust variance estimation models were constructed using an effect estimation approach with consideration to possible confounding and effect modification. A robust variance estimation approach was utilized to avoid a large standard error in a Poisson model with a non-rare event. Manual backwards elimination was utilized for

variable removal with a liberal p-value criterion of 0.15. Confounders and effect modifiers were tested a-priori by chi-square analyses to determine if each was associated with the SEA exposure and stigma model outcomes. Identified confounders were first assessed for significance in the model through a change-in-estimate approach. Subsequently, the narrator's sex was tested as an interaction term to determine the occurrence of effect modification.

Findings

The demographic characteristics of the sample are outlined in Table 7. In total, 52.1% of the stories were shared by female narrators, and 44.5% of the sample was under the age of 25. Approximately half of the sample was classified at a moderate socio-economic level (45.2%), 65.7% lived in a city with a population greater than 500,000 and 80.8% reported attaining a secondary or higher education. In terms of marital status, 53.6% of the sample reported being single and never married. Table 8 outlines the characteristics of the micro-narratives. Thirdperson narratives, reflecting community perceptions of stigmatization, composed the vast majority of the sample at 87.6%. Peacekeeper-fathered children were mentioned in 53.24% of stories, and 'other' was the most frequently cited peacekeeper nationality (19.3%).

The mean SEA exposure score was 1.6 ± 1.1 with two participants reporting the highest demonstrated score of 6 (Table 9). Approximately 15% of participants reported no exposure to sexually abusive or exploitative events. A noticeable difference in the prevalence of the stigma outcomes was noted with 62.9% of participants reporting a diminished social status, and 19.3% reporting inadequate institutional support for the woman or girl in the story.

Bivariate analyses between the covariates and the degree of exposure to SEA, as well as between the covariates and the two stigmatization outcomes revealed significant correlations (Table 10). The sex of the narrator, area collected, and peacekeeper's role were identified as potential confounders for both models. The martial status of the narrator was highlighted as a potential confounder for the diminished social status model, while only the socio-economic status and narrator educational attainment were potential confounders for the inadequate support model.

Table 11 outlines the crude and adjusted Poisson regression estimates for model 1 examining change in social status. Both models demonstrated a positive relationship between the SEA exposure level and social status with the likelihood of perceived public stigmatization increasing with higher SEA scores. This risk peaked at a moderate SEA exposure score of 4 with 2.11 times the risk of public stigmatization in the crude model (RR: 2.11; CI: 1.81 – 2.46) and plateaued with SEA scores of 5 or more (RR: 1.99; CI: 1.61 – 2.47). When adjusted for the narrator's marital status, education level, population size, and the UN personnel's role, woman/girls with SEA scores of 4 were 1.94 times as likely to be publicly stigmatized in comparison to non-exploited/abused counterparts (RR: 1.94; CI: 1.66 – 2.26).

Crude and adjusted estimates for model 2, which examined access to support, are highlighted in Table 12. Due to evidence of effect modification, model estimates were stratified by the sex of the narrator. In female-narrated stories, crude and adjusted estimates of mild, moderate, and high exposure scores of SEA indicated an increased perceived risk of inadequate institutional support. This risk was most substantial in women or girls with SEA scores of 5, who

were 6.98 times as likely to receive inadequate support (RR: 6.98; CI: 3.66 – 13.32). After adjusting for demographic factors, scores of 5 or more were associated with a relative risk of 6.53 (CI: 3.63, 11.73).

This pattern was not paralleled in male-narrated stories, as the crude model indicated no significant change in risk of inadequate support amongst all exposure levels. In the adjusted model, a perceived increased risk of structural stigmatization was observed exclusively for women and girls with SEA exposure scores of 2 (RR: 1.83; CI: 1.19 – 2.81) and 4 (RR: 2.09; CI: 1.19 – 3.66). A seemingly protective effect was present with male narrators only for SEA scores of 1 in both the crude and adjusted, and 5 in the crude model, however these estimates were not significant.

Discussion

Model estimates suggest that female victims of peacekeeper-perpetrated SEA in the DRC experience both public and structural stigmatization. With frequencies of 62.9% (public) and 19.3% (structural), stigma was a relatively common outcome in this sample. General community perceptions and female-narrated stories indicated that women and girls who experienced a moderate to high degree of exposure to SEA were at the greatest risk of diminished social status and inadequate institutional support respectively. Relative risk estimates for inadequate support among female participants were of the highest magnitude. However, this was contrasted by male-narrated stories of inadequate support, in which there was no perceived significant risk of stigmatization at any level of SEA exposure. In turn, it is suggested that female narrators held a unique recognition of the structural obstacles faced by

women and girls who experienced SEA. Overall, these findings imply that public and structural stigma are significant consequences with sex being a significant factor in the perception of the latter. Additional research is needed to understand the mechanism behind this sex-based difference in perceptions.

The positive relationship between the level of exposure to SEA and stigmatization may be derived from societal perceptions and gender norms that hold women and girls responsible for these sexual encounters. This ideology is rooted in attribution theory which explains that individuals often counterintuitively assign blame to victims of crime because they are perceived as having behaved in a manner that contributed to the outcome (Grubb & Harrower, 2008; Grubb & Turner, 2012). This is known to occur, for instance, with sexual violence victims who are often shamed for sexual assaults (Grubb & Harrower, 2008) and intimate partner violence (Yamawaki, Ochoa-Shipp, Pulsipher, Harlos, & Swindler, 2012). Compared to victims of other traumatic events such as natural disasters or other interpersonal violence, sexual violence victims are alleged to be more at fault, less likeable and less credible when describing the events endured (Delker, Salton, Mclean, & Syed, 2020). This perpetuation of blame is likely to negatively impact the woman or girl's social status, and/or when she is deemed less credible, to affect her experience in receiving support services.

Additionally, an ingrained gendered component of attribution may explain the large gap in the female and male perceptions of institutional support inadequacy. Previous literature has indicated that perceptions of sexual violence and its effects are often derived from societal values around gender roles and sexuality (Menaker & Franklin, 2015) wherein more traditional gender beliefs are associated with a higher tolerance of perpetration towards women

(Babalola, 2014; Boakye, 2009; Yodanis, 2004). In the DRC, gender attitudes and inequality can be characterized as traditional in nature, where women often do not benefit from the same social, political, and economic status as men (Freedman, 2011; M. Muanda et al., 2016). Men are often designated as community leaders and principal decision makers in their families even with regards to matters related to women's health (M. Muanda et al., 2016). As a result of these norms, men may act as social deterrents to accessing care and support services while underscoring other aspects of structural stigmatization faced by those affected by SEA (M. F. Muanda, Ndongo, Messina, & Bertrand, 2017; M. Muanda et al., 2016). From this perspective, we believe that gender norms need to be considered carefully when conceptualizing peacekeeper-perpetrated SEA and how to address its associated stigma in the DRC. The impact of stigma on a woman or girl's livelihood can be comparable to the trauma of the sexual act(s) itself (Kelly, Albutt, Kabanga, Anderson, & VanRooyen, 2017; Rees et al., 2011). As diminished social status and inadequate access to essential services are recognized as counterproductive for recovery (Johnson et al., 2010), targeted interventions in these areas may improve the wellbeing of affected women and girls. Engagement with community leaders to influence public attitudes towards women's health and access to services has been a successful strategy in African contexts (Aborigo, Reidpath, Oduro, & Allotey, 2018; Msovela & Tengia-Kessy, 2016), and may be paralleled to influence perceptions of those affected by UNperpetrated SEA. The current work highlights a need to engage with influential leaders, who are often male, to encourage male community members to recognize the need for support services to reduce this social constraint on services.

The high rates of public and structural stigmatization revealed in this analysis likely discourage affected women and girls from disclosing their experiences of peacekeeperperpetrated SEA, which may negatively impact formal reporting to the UN. While UN public reporting mechanisms have improved through increased public awareness and geographic access (United Nations, 2020b), it is suspected that many SEA cases are still not captured in official estimates. Women and girls affected by UN-perpetrated SEA may be fearful of being blamed or discredited in their communities, as suggested by the high rates of stigma identified in this study, and that this may prevent them from engaging with the UN's formal complaint system. The extent of inadequate institutional support, particularly with high exposure to SEA, suggest that structural barriers to accessing care and services are substantial and require broad policy-based change. Our research is intended to provide precursory knowledge for a multifaceted approach to tackling stigmatization of women and girls at both the community and institutional level, and we recommend additional research to understand how stigma may contribute to under-reporting of SEA.

Limitations

The study sample cannot be considered representative of MONUSCO-affected communities in the DRC as a result of the convenience sampling. Additionally, the cross-sectional design negates the ability of the study to confirm causality. As participants were asked to recount previous experiences, there is a potential for recall bias. It is suspected that first person accounts could provide a more accurate recollection than narrator's sharing another individual's experience. In turn, recall bias may disproportionally affect third-person

narratives causing a misclassification of SEA. Lastly, this analysis did not consider the impact of potential confounders such as previous exposure to SEA or generalized violence (Johnson et al., 2010), as these factors were not measured in the original data sample.

Strengths

To our knowledge, this study represents the first to examine the association between public and structural stigmatization and the degree of exposure to peacekeeper-perpetrated SEA. The recognition of public and structural stigmatization for women and girls as a consequence of experiencing SEA in this context at varying exposure levels is vital as it suggests the usage of a multi-faceted approach for intervention at both a community and institutional level. Additionally, this study recognizes that sex and associated gender norms may alter the perceptions of those affected peacekeeper-perpetrated SEA, and therefore should be considered in this context.

Conclusion

This study highlights that women and girls who experience UN-peacekeeper perpetrated SEA are susceptible to public and structural stigmatization. In fact, diminished social status and inadequate institutional support are relatively common for affected women and girls in the DRC. In particular, women and girls highly exposed to SEA are at the highest risk of experiencing a diminished social status and/or inadequate institutional support, however a difference in perception of institutional support by sex demonstrates there is a gendered component at least in the DRC context. The occurrence of both public and structural

stigmatization and varying perceptions by sex argues for a multi-leveled approach for stigma reduction.

Declarations

Ethics approval and consent to participate

The study protocol for original data collection and secondary analysis was approved by the Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board (protocol #6019042 & 6027552, respectively)

Consent for publication

Consent for publication was obtained by study participants during data collection.

Availability of data and materials

The dataset analysed during the current study is not publicly available at this time.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

The study was designed by SG, SB, and HS. SG conducted the data analysis and interpretation. The manuscript was drafted for publication by SG, SB, and HS with the assistance of SL. SB and SL oversaw the original data collection in the DRC. All authors read and approved the final manuscript.

References

Aborigo, R. A., Reidpath, D. D., Oduro, A. R., & Allotey, P. (2018). Male involvement in maternal health: Perspectives of opinion leaders. *BMC Pregnancy and Childbirth*, *18*(1). https://doi.org/10.1186/s12884-017-1641-9

Alexandra, K. (2011). Peacekeepers' privilege and sexual abuse in post-conflict populations. *Peace Review*, *23*(3), 369–376. https://doi.org/10.1080/10402659.2011.596078

Aroussi, S. (2011, December 1). "Women, peace and security": Addressing accountability for wartime sexual violence. *International Feminist Journal of Politics*. https://doi.org/10.1080/14616742.2011.611663

Babalola, S. O. (2014). Dimensions and Correlates of Negative Attitudes Toward Female Survivors of Sexual Violence in Eastern DRC. *Journal of Interpersonal Violence*, *29*(9), 1679–
1697. https://doi.org/10.1177/0886260513511531

Bartels, S., Scott, J., Leaning, J., Mukwege, D., Lipton, R., Bartels, S. ;, … Vanrooyen, M. (2010). *Surviving Sexual Violence in Eastern Democratic Republic of Congo*. *Journal of International Women's Studies* (Vol. 11). Retrieved from http://vc.bridgew.edu/jiwshttp://vc.bridgew.edu/jiws/vol11/iss4/3

Boakye, K. E. (2009). Attitudes Toward Rape and Victims of Rape A Test of the Feminist Theory in Ghana. https://doi.org/10.1177/0886260509331493

Cognitive Edge. (2020). What is Sensemaker®. Retrieved from https://sensemaker.cognitiveedge.com/what-is-sensemaker/

Corrigan, P. W., Bink, A. B., Schmidt, A., Jones, N., & Sch, N. R. (2016). What is the impact of self-stigma? Loss of self-respect and the "'why try'" effect. *J Ment Health*, 1360–0567. https://doi.org/10.3109/09638237.2015.1021902

Corrigan, P. W., & Watson, A. C. (2002). Understanding the impact of stigma on people with mental illness. *World Psychiatry*, *1*(1), 16.

Delker Id, B. C., Salton, R., Mclean, K. C., & Syed, M. (2020). Who has to tell their trauma story and how hard will it be? Influence of cultural stigma and narrative redemption on the storying of sexual violence. https://doi.org/10.1371/journal.pone.0234201

Freedman, J. (2011). Explaining sexual violence and gender inequalities in the DRC. *Peace Review*, *23*(2), 170–175. https://doi.org/10.1080/10402659.2011.571601

García-Moreno, C. (2014). Responding to sexual violence in conflict. *The Lancet*, *383*(9934), 2023–2024. https://doi.org/10.1016/S0140-6736(14)60963-6

Gray, S., Stuart, H., Lee, S., & Bartels, S. (2020). Development of an Index to Measure the Exposure Level of UN-Peacekeeper Perpetrated Sexual Exploitation/Abuse in Women/Girls in the Democratic Republic of Congo. *Submitted for Publication*.

Grubb, A., & Harrower, J. (2008). Attribution of blame in cases of rape: An analysis of participant gender, type of rape and perceived similarity to the victim. *Aggression and Violent Behavior*, *13*(5), 396–405. https://doi.org/10.1016/j.avb.2008.06.006

Grubb, A., & Turner, E. (2012). Attribution of blame in rape cases: A review of the impact of rape myth acceptance, gender role conformity and substance use on victim blaming.

Aggression and Violent Behavior, *17*(5), 443–452. https://doi.org/10.1016/j.avb.2012.06.002

Hatzenbuehler, M. L. (2016). Structural stigma: Research evidence and implications for psychological science. *American Psychologist*, *71*(8), 742–751. https://doi.org/10.1037/amp0000068

Heise, L., & Hossain, M. (2017). STRIVE Intimate Partner Violence Measurement Brief, (July), 1–8.

Human Rights Watch. (2001). *Human Rights Watch Goma Telephone Interview October 26*. Goma.

Johnson, K., Scott, J., Rughita, B., Kisielewski, M., Asher, J., Ong, R., & Lawry, L. (2010). Association of Sexual Violence and Human Rights Violations With Physical and Mental Health in Territories of the Eastern Democratic Republic of the Congo. *JAMA*, *304*(5), 553. https://doi.org/10.1001/jama.2010.1086

Kelly, J., Albutt, K., Kabanga, J., Anderson, K., & VanRooyen, M. (2017). Rejection, acceptance and the spectrum between: Understanding male attitudes and experiences towards conflict-related sexual violence in eastern Democratic Republic of Congo. *BMC Women's Health*, *17*(1). https://doi.org/10.1186/s12905-017-0479-7

Kelly, J., Kabanga, J., Cragin, W., Alcayna-Stevens, L., Haider, S., & Vanrooyen, M. J. (2012). "If your husband doesn't humiliate you, other people won't": Gendered attitudes towards sexual violence in eastern Democratic Republic of Congo. *Global Public Health*, *7*(3), 285–298. https://doi.org/10.1080/17441692.2011.585344

Kent, V. (2007). Protecting Civilians from UN Peacekeepers and Humanitarian Workers: Sexual Exploitation and Abuse. In Unintended Consequences of Peacekeeping Operations. *United Nations University Press*.

King, C., Lee, S., & Bartels, S. A. (2020). ' They Were Going to the Beach , Acting like Tourists , Drinking , Chasing Girls ': A Mixed-Methods Study on Community Perceptions of Sexual Exploitation and Abuse by UN Peacekeepers in Haiti, (Lee 2017).

Kitharidis, S. (2015). Rape as a weapon of war: Combating sexual violence and impunity in the Democratic Republic of the Congo, and the way forward. *African Human Rights Law Journal*, *15*(2), 449–472. https://doi.org/10.17159/1996-2096/2015/v15n2a11

Link, B. G., & Phelan, J. C. (2001). Conceptualizing stigma Reproduced with permission of the copyright owner . Further reproduction prohibited without permission . *Annual Review of Sociology*, *27*, 363–385.

Mansfield, J. (2009). Prosecuting sexual violence in the Eastern Democratic Republic of Congo: Obstacles for survivors on the road to justice. *African Human Rights Law Journal*, *9*(2), 367–408.

McAlpine, A., Hossain, M., & Zimmerman, C. (2016). Sex trafficking and sexual exploitation in settings affected by armed conflicts in Africa, Asia and the Middle East: systematic review. *BMC International Health and Human Rights*, *16*(1), 34. https://doi.org/10.1186/s12914016-0107-x

Menaker, T. A., & Franklin, C. A. (2015). Gendered violence and victim blame: subject perceptions of blame and the appropriateness of services for survivors of domestic sex trafficking, sexual assault, and intimate partner violence. *Journal of Crime and Justice*, *38*. https://doi.org/10.1080/0735648X.2014.996321

Moore, K. A., Lippman, L., & Brown, B. (2004). Indicators of Child Well-Being: The Promise for *Positive Youth Development.* Annals of the American Academy of Political and Social *Science*, *591*, 125–145. https://doi.org/10.1177/0002716203260103

Msovela, J., & Tengia-Kessy, A. (2016). Implementation and acceptability of strategies instituted for engaging men in family planning services in Kibaha district, Tanzania. *Reproductive Health*, *13*(1), 1–9. https://doi.org/10.1186/s12978-016-0253-6

Muanda, M. F., Ndongo, G. P., Messina, L. J., & Bertrand, J. T. (2017). Barriers to modern contraceptive use in rural areas in DRC. *Culture, Health and Sexuality*, *19*(9), 1011–1023. https://doi.org/10.1080/13691058.2017.1286690

Muanda, M., Ndongo, P. G., Taub, L. D., & Bertrand, J. T. (2016). Barriers to modern contraceptive use in Kinshasa, DRC. *PLoS ONE*, *11*(12), 1–13. https://doi.org/10.1371/journal.pone.0167560

Mudgway, C. (2017). Sexual exploitation by UN peacekeepers: the "survival sex" gap in international human rights law. *THE INTERNATIONAL JOURNAL OF HUMAN RIGHTS*, *21*(9), 1453–1476. https://doi.org/10.1080/13642987.2017.1348720

Nordås, R., & Rustad, S. C. A. (2013). Sexual Exploitation and Abuse by Peacekeepers: Understanding Variation. *International Interactions*, *39*, 511–534. https://doi.org/10.1080/03050629.2013.805128

Olsson, L. (2009). Gender Equality and United Nations Peace Operations in Timor Leste. *Leiden: Martinus Nijhoff*.

Rees, S., Silove, D., Chey, T., Ivancic, L., Steel, Z., Creamer, M., … Forbes, D. (2011). Lifetime prevalence of gender-based violence in women and the relationship with mental disorders and psychosocial function. *JAMA - Journal of the American Medical Association*, *306*(5), 513–521. https://doi.org/10.1001/jama.2011.1098

Scott, J., Rouhani, S., Greiner, A., Albutt, K., Kuwert, P., Hacker, M. R., … Bartels, S. (2015). Respondent-driven sampling to assess mental health outcomes, stigma and acceptance among women raising children born from sexual violence-related pregnancies in eastern Democratic Republic of Congo. *BMJ Open*, *5*(4), 1–12. https://doi.org/10.1136/bmjopen2014-007057

Simić, O. (2014). 'Peacekeeper Babies': An Unintended Legacy of'United Nations Peace Support Operations. *International Peacekeeping*, *21*. https://doi.org/10.1080/13533312.2014.938581

Stark, L., & Wessells, M. (2012). Sexual Violence as a Weapon of War. *JAMA*, *308*(7), 677. https://doi.org/10.1001/jama.2012.9733

Stoebenau, K., Heise, L., Wamoyi, J., & Bobrova, N. (2016). Revisiting the understanding of "transactional sex" in sub-Saharan Africa: A review and synthesis of the literature. *Social Science and Medicine*, *168*, 186–197. https://doi.org/10.1016/j.socscimed.2016.09.023

Tull, D. M. (2018). The Limits and Unintended Consequences of UN Peace Enforcement: The Force Intervention Brigade in the DR Congo. *International Peacekeeping*, *25*(2), 167–190. https://doi.org/10.1080/13533312.2017.1360139

United Cities and Local Governments. (2017). GOLD IV 2016 Fourth Global Report on Decentralization and Local Democracy THE AGENDA OF METROPOLISES, CITIES AND TERRITORIES*. Retrieved from www.uclg.org*

United Nations. (2017). Glossary on Sexual Exploitation and Abuse. *Glossary on Sexual Exploitation and Abuse*, (July), 1–19. Retrieved from https://hr.un.org/.../SEA Glossary %5BSecond Edition - 2017.

United Nations. (2019a). *Conflict Related Sexual Violence -Report of the United Nations Gecretary-General*. Retrieved from https://www.un.org/sexualviolenceinconflict/wpcontent/uploads/2019/04/report/s-2019-280/Annual-report-2018.pdf United Nations. (2019b). MONUSCO at a Glance.

United Nations. (2020a). Sexual Exploitation and Abuse.

United Nations. (2020b). *Special measures for protection from sexual exploitation and sexual abuse Report of the Secretary-General A /62/890* (Vol. 39999). Retrieved from www.un.org/preventing-sexual-exploitation-and-abuse/content/fact-sheet-secretary-

United Nations Development Programme. (2018). | Human Development Reports. Retrieved April 29, 2019, from http://hdr.undp.org/en/countries/profiles/COD

United Nations Peacekeeping. (2020). MONUSCO Fact Sheet. Retrieved from https://peacekeeping.un.org/en/mission/monusco

Utas, M., & Ruden, F. (2009). *Sexual exploitation and abuse by peacekeeping operations in contemporary Africa*.

Wachter, K., Murray, S. M., Hall, B. J., Annan, J., Bolton, P., & Bass, J. (2018). Stigma modifies the association between social support and mental health among sexual violence survivors in the Democratic Republic of Congo: implications for practice. *Anxiety, Stress and Coping*, *31*(4), 459–474. https://doi.org/10.1080/10615806.2018.1460662

World Bank. (2020). GDP per capita (current US$) | Data. Retrieved August 18, 2020, from https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?most_recent_value_desc=false

Yamawaki, N., Ochoa-Shipp, M., Pulsipher, C., Harlos, A., & Swindler, S. (2012). Perceptions of Domestic Violence: The Effects of Domestic Violence Myths, Victim's Relationship With Her

Abuser, and the Decision to Return to Her Abuser. *Journal of Interpersonal Violence*, *27*(16), 3195–3212. https://doi.org/10.1177/0886260512441253

Yodanis, C. L. (2004). Gender Inequality, Violence Against Women, and Fear A Cross-National Test of the Feminist Theory of Violence Against Women. https://doi.org/10.1177/0886260504263868

Acronyms

DRC	Democratic Republic of Congo
MONUC	United Nations Organization Mission in the Democratic Republic of the Congo
MONUSCO	United Nations Organization Stabilization Mission in the Democratic Republic of the Congo
NGO	Non-governmental organization
PSO	Peace support operation
SEA	Sexual exploitation and abuse
UN	United Nations

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Chapter 6: Supplementary Results

Validity Testing

Internal structure evidence was assessed after identifying eight indicators. As previously stated, internal structure evidence examines the inter-relations among items in the measure and whether or not these relationships are consistent with what is expected for that field of study (American Educational Research Organization et al., 2014). As the included indicators were conceptualized as an index, with causal relationships to the construct of SEA, it was assumed that there would be no substantive correlation across the group. Cronbach's alpha testing, a measure of the mean inter-item correlation, was performed to substantiate this assumption. An alpha range between 0.7 and 0.9 was utilized as the criterion for high correlation and consequently evidence towards a scale-oriented measure (D. Streiner et al., 2015). Values below 0.7 were considered to indicate low to moderate correlation. As hypothesized, a low level of inter-item correlation was found (α=0.21), substantiating the choice of an index measure structure.

Cut-Point Sensitivity Testing

Cut-point values were tested at median values of 33.38 and 99.37 and middle-split of 50/50 for the beneficiary and initiator indicators respectively. Tables 13 and 14 display the resulting relative risk estimates for each. While a change in magnitude of risk for diminished social status was present in moderate to high exposure levels of SEA for female narrators, no significant difference in relative risks was found for either stigma outcome. In turn, no indication was given for a change to the original distribution-based points.

References

American Educational Research Organization, American Psychological Association, & National Council on Measurement in Education. (2014). *Standards for Educational and Psychological Testing. 2nd ed.* Washington, DC: American Educational Research Association.

Streiner, D., Norman, G., & Cairney, J. (2015). *Health measurement scales: A practical guide to their development and use. 5th ed.* New York: Oxford University Press.

Chapter 7: General Discussion

Summary of Findings

This thesis quantified the relationship between UN peacekeeper-perpetrated SEA and two forms of stigma: public stigma and structural stigma. Public stigma refers to the devaluation and/or isolation of individuals by members of society whereas structural stigma is relayed through institutional policies that restrict others by creating and maintaining social inequalities (Corrigan & Watson, 2002; Hatzenbuehler, 2016). We constructed an index to measure the degree of exposure to SEA and subsequently used relative risk estimates to quantify the association between exposure to SEA and public as well as structural stigmatization. Amongst the eight SEA exposure indicators identified through the original survey questions and narrative data, the most common event was a peacekeeper-initiated interaction (62.6% of narratives). The distribution of scores across the sample indicated that the majority of women and girls experienced a low level of exposure to SEA with both a median score and inter-quartile range of 1. High-exposure scores, on the other hand, were represented in 1.2% of the sample, while approximately 15% of women and girls had score of 0, indicating no evidence of SEA.

Poisson regression estimates of public stigma indicated that women and girls who experienced moderate to high levels of SEA were at the greatest risk of diminished social status. This relationship was mirrored for structural stigma by female narrators whereas male narrators indicated no significant change in risk of inadequate institutional support, indicating effect modification by gender. As stated, these findings highlight that women and girls who experienced peacekeeper-perpetrated SEA face public and structural stigmatization. However,

the occurrence of inadequate institutional support may be under recognized by males or overestimated by female community members.

Comparison to Current Literature

Distribution of SEA Exposure

It is difficult to directly compare the degree of exposure to SEA in this data with other estimates of sexual violence in the DRC given that we developed a new measurement approach focusing exclusively on peacekeeper-perpetrated SEA. Although estimates have indicated that 13.5-27.0% of women have experienced some form of non-peacekeeper related sexual violence in their lifetime in the DRC (Johnson et al., 2010; USAID, 2015b; Verelst et al., 2014), these measures are not directly comparable, vary in age range, and do not account for exposure levels. Despite being context specific, it is equally difficult to compare our results to the formal UN allegations for MONUC and MONUSCO since an allegation may represent multiple victims and/or perpetrators (i.e. the 202 formal allegations documented by the UN for the DRC do not coincide with 202 victims). Additionally, since the UN reporting system captures only cases in which formal justice was pursued, and it is likely that these represent more severe cases. The higher number SEA incidents described in our research (n= 1554) supports the claim that peacekeeper-perpetrated SEA has been historically underreported (Alexandra, 2011; United Nations, 2019a). However, it should be noted that there is a possibility that incidents of SEA were counted more than once because both first and third person accounts were collected.

Risk of Stigmatization

The increased risk of public stigmatization with higher SEA exposure scores is comparable to a 2014 study examining the mental health of high school students (n= 1,304) who had experienced non-peacekeeper related sexual violence in the eastern DRC. According to unadjusted estimates by Verelst et al. (2014), females aged 11 to 23 were 16.87 times as likely to experience rejection by their community after experiencing rape and 3.93 times as likely to be rejected after having a non-consensual sexual experience, in comparison to females with no experience of sexual violence. This pattern is similar in direction to the diminished social status model RR range of 1.14-1.88 for women and girls with SEA exposure scores of 1 or greater. Regarding structural stigmatization, the findings of Verelst et al. (2014) also indicated a pattern of increased odds of insufficient medical care and poor service at stores and other services. Females who experienced rape were 4.41 times as likely to receive inadequate medical care and females who had a non-consensual sexual experience were 1.66 times as likely to receive inadequate care when compared to females with no sexual violence experience. This pattern continued for poor service with an OR of 2.83 and 1.67 for females who experienced rape or a non-consensual sexual encounter respectively. These findings are similar to our estimates of inadequate support among female-narrated stories with a RR range of 1.72-6.53. However, to our knowledge, our finding of gendered perceptions for structural stigmatization is unique. This gendered component may have been uncovered due to the large male sample collected in this study (n=872).

Internal Validity

Selection Bias

Selection bias describes a group of biases that alter how representative a sample is compared to the intended population of study (Sedgwick, 2015). When selection bias is present, the association between an exposure and outcome may be different among study participants than in the population of interest. Sampling strategy and study design help to determine to what extent selection bias is present for a given study. In the current research, convenience sampling was used to recruit participants in naturalistic settings such as markets and transportation hubs. Convenience sampling is a type of non-probability sampling in which participants do not have equal chances of being included in the study. It is often used in study environments with recruitment obstacles, limited resources or time (Etikan, 2016), or where sampling frames of all eligible participants could not be developed, as in this study. This is contrasted with probability sampling in which all individuals have an equal chance of being selected for participation through the use of a random selection technique. Due to its nonrandom nature, convenience sampling is vulnerable to misrepresenting the study population because groups of participants may be unintentionally excluded from the study.

In the absence of recent census information for eastern DRC, demographics of study participants were compared to the 2013/2014 DRC Demographic and Health Survey (DHS). The DHS is considered to be a nationally representative survey on topics such as nutrition, mortality, maternal and child health, and sexual activity with 2013/2014 being the most recent DRC cycle available for comparison. It was apparent, when comparing to the DHS survey, that the study sample was disproportionally more educated than the Congolese population with

47% of males and 22% of females achieving some form of higher education compared to the national average of 9% and 4% respectively (USAID, 2015a). While the relationship between the level of exposure to SEA and public and structural stigma in a more educationally representative sample is unknown, it is possible that the relationship would have systematically differed from the results found in this study. Information on gender, age, and socio-economic status (SES) was not available in the DHS, therefore a formal comparison could not be made. However, it is speculated that the sample reflected a higher than average SES because sampling was concentrated in urban market and transit areas with rural settings being largely excluded. A sample that reflected a lower than average SES, however, may have diminished the degree to which structural stigmatization was faced by victims if inadequate institutional support was chronically faced due to their income. Woman and girls who experienced high exposure to SEA may also have been less likely to have participated and shared their traumatic experiences as disclosure in some instances can trigger post-traumatic stress and hinder help seeking efforts (Andresen, Monteith, Kugler, Cruz, & Blais, 2019; Campbell, Dworkin, & Cabral, 2009).

Non-Differential Misclassification of Exposure

Non-differential misclassification refers to misclassification of an exposure that *is not* related to the outcome, and therefore applies equally to all study groups typically resulting in biased estimates. As the SEA exposure indicators were based on a participant's recount of events that occurred in their own or a community member's past, third person stories may have been less likely to accurately capture the events. Therefore, the degree of exposure to

SEA may have been disproportionally misclassified in third-person narratives. It is believed that the SEA exposure level was exaggerated when the narrator relied upon gossip as the principal source of information for the narrative. As the index exposure is categorical, the effect on the relative risk estimates was likely biased to the null.

Differential Misclassification of Exposure

Differential misclassification refers to misclassification of an exposure that *is* related to the outcome. The level of exposure to SEA experienced may have been underestimated in female first-person accounts when related stigma was experienced or anticipated. Participants in these circumstances may have felt uncomfortable disclosing the entire experience, felt the events were taboo to discuss, or may have feared a negative reaction from the research assistant.

Measurement Validity

Internal Structure Validity

As stated, internal structure validity assesses whether the relationships among items in a composite is consistent with what is expected of the construct (American Educational Research Organization et al., 2014). The calculated Cronbach's alpha value of 0.21 validated the conceptualization of the indicators as an index, as it indicated little inter-item correlation amongst the group as was expected. The indication of some correlation among items was in line with the expectation of an index measure (D. L. Streiner, 2003).

Content Validity

Content validity refers to the extent to which the chosen indicators encompass the concept at hand without omitting relevant dimensions (D. L. Streiner, 2003). An effort was made to construct an index that was representative of the different manifestations of SEA in peacekeeping host communities through referencing previous literature of sexual interactions in peacekeeping host communities and directly examining the narratives from the DRC. The use of this primary narrative data strengthened this conceptualization because community members affected by or familiar with experiences of SEA were able to informally act as 'content experts' to inform a comprehensive indicator selection. However, it is difficult to substantiate the assertion of content validity without further expert consultation. This could be accomplished by surveying relevant stakeholder groups, woman and girls affected by SEA, or scholars in the field, or a combination thereof, on the relevance and clarity of each indicator in relation to SEA. This assessment, in turn, remains an area for future research.

Response Process Validity

Response processes evaluate the degree to which participants' responses to the items on the instrument align with the measured construct (American Educational Research Organization et al., 2014). Traditionally this is assessed through understanding how participants interpret individual items on the measure and modifying the question accordingly to fit the intended purpose. The two survey-derived indicators were the only indicators taken directly from participant responses, as the six narrative-derived were constructed from the narrative data, mitigating a need for assessment. While survey pilot testing was initially performed to

improve question clarity and nuances in the translation, a formal assessment of response process validity was not conducted during the secondary analysis. This remains another area for future research.

Relations Validity

Relations validity assesses whether the scores of the measure correlates significantly with other instruments of the same construct (American Educational Research Organization et al., 2014). Due to an absence of precedent measures accounting for the degree of exposure to peacekeeper-perpetrated SEA, this evaluation could not be completed.

Cut-Point Selection

No indication was given from the supplementary cut-point analysis for an adjustment of values to a median or middle-split approach. Therefore, the natural distributional approach suggested by Moore, Lippman, & Brown (2004) was adequate for this measure. While the two methods of median and middle-split selection are popular in broader epidemiological studies (Rucker, McShane, & Preacher, 2015), they present additional challenges in interpretation. In this particular sample, a middle-split approach presented an unreasonable response pattern leading to a possible increase in misclassification. For instance, a cut-off of 50 for the initiator of the interaction would have grouped sexual interactions where the peacekeeper initiated 51% of the interaction with instances where the peacekeeper entirely initiated the interaction (100%). This classification, in turn, seemingly presents an inaccurate depiction of abuse in this context. Additionally, the dichotomization of variables at the median makes comparisons across different samples difficult to perform with varying cut-points (Royston, Altman, &

Sauerbrei, 2006). As this index may be used in other peacekeeping contexts, this method seemed counterintuitive.

Confounding

A number of potential confounders highlighted in the literature were not included in this study such as previous exposure to sexual and non-sexual violence (Johnson et al., 2010; Verelst et al., 2014) because they were not present in the study data. Due to the categorical and dichotomous nature of the confounding variables utilized, it is also possible that residual confounding was present.

Study Power

To our knowledge, the measure of the degree of exposure to UN peacekeeper perpetrated SEA is novel. As such, there is an absence of data about the risk of stigmatization among women and girls with varying experiences of SEA, making an accurate a-priori calculation of minimal detectable risk in this population difficult. Appendix B outlines a previous power calculation conducted at the thesis proposal stage before the project was adjusted to construct an exposure-based measure. Three categories were used to classify sexual interactions: (1) sexual abuse, (2) transactional sex, and (3) consensual sex. While it is apparent that these categories are neither mutually exclusive nor direct equivalents to varying levels of exposure, they represent the most relevant examples in current research. Overall, the lack of null results in the Poisson models suggest that this study was adequately powered.

External Validity

The external validity of these results may be limited due to the convenience sampling (see Selection Bias). In turn, the distribution of SEA exposure scores amongst the DRC sample and the magnitude of relative risk estimates for public and structural stigma cannot be considered representative of the Congolese population. However, the dose-response pattern of increased risk of stigmatization with increased exposure levels to SEA and occurrence of gendered perceptions may hold true in other populations. Additionally, the index measure itself may be transferable to peacekeeping host communities with a similar economic and social environment.

Causality

The ability to affirm causality in cross-sectional study designs is often hindered due to the simultaneous collection of exposure and outcome that does not allow a confirmation of temporality. In turn, it may be unclear whether the exposure caused the outcome or vice versa, the outcome caused the exposure (reverse causality). Despite this vulnerability, the outcomes of diminished social status and inadequate institutional support were measured by their occurrence *as a result of* the women or girl's interaction with the UN peacekeeper, indicating a timeline. Additionally, no known evidence suggests a reverse relationship between public and/or structural stigma and degree of exposure to sexual exploitation and abuse.

Strengths

Despite the potential biases noted above, this thesis addresses a gap in the measurement of exposure to peacekeeper perpetrated SEA and its resulting consequences for affected women and girls in peacekeeping host communities. In the first manuscript, the resulting index of eight indicators offered a more contextually specific and nuanced measure of SEA that accounted for the heterogeneity of sexual interactions in a post-conflict environment. The regression analyses in the second manuscript then added depth to pre-existing knowledge surrounding the stigmatization of women and girls by examining its association with the degree of exposure to SEA and distinguishing the type of stigma experienced. The increased risk of both public and structural stigmatization with higher SEA exposure scores suggested the need for tailored interventions at community and institutional levels. Additionally, the recognition of different perceptions of structural stigmatization between male and female story-tellers provided a foundation for further research in this field.

Limitations

As stated, the study sample cannot be considered representative of MONUSCO-affected communities in the DRC due to the convenience sampling approach. A limited assessment of representativeness confirmed that the sample is significantly more educated than the population average, negating our ability to generalize this study nationwide. Additionally, the collection of third-person narratives likely subjects the sample to non-differential misclassification of exposure that may bias the relative risk estimates to the null.

Lastly, additional validity testing is required to substantiate the usage of this measure in other peacekeeping contexts.

Implications

Our research results suggest that the index provides a valuable new measure of SEA in peacekeeping host communities that both re-conceptualizes SEA in a more nuanced manner compared to the traditional dichotomous measure, but also extends to an improved understanding of the related stigmatization. The diverse distribution of exploitative and abusive events, varying risk for exposure levels, and difference in perceptions of structural stigma between male and female narrators suggests a need for more research on how stigma is experienced which may lead to greater knowledge about how to reduce it. Additionally, we expect that further development and validation of this index will yield a useful measure for SEA in other peacekeeping environments to improve knowledge of its distribution, manifestations, and impact on women and girls in host communities.

References

Alexandra, K. (2011). Peacekeepers' privilege and sexual abuse in post-conflict populations. *Peace Review*, *23*(3), 369–376. https://doi.org/10.1080/10402659.2011.596078

American Educational Research Organization, American Psychological Association, & National Council on Measurement in Education. (2014). *Standards for Educational and Psychological Testing. 2nd ed.* Washington, DC: American Educational Research Association.

Andresen, F. J., Monteith, L. L., Kugler, J., Cruz, R. A., & Blais, R. K. (2019). Institutional betrayal following military sexual trauma is associated with more severe depression and specific posttraumatic stress disorder symptom clusters. *Journal of Clinical Psychology*, *75*(7), 1305–1319. https://doi.org/10.1002/jclp.22773

Campbell, R., Dworkin, E., & Cabral, G. (2009). An ecological model of the impact of sexual assault on women's mental health. *Trauma, Violence, and Abuse*, *10*(3), 225–246. https://doi.org/10.1177/1524838009334456

Corrigan, P. W., & Watson, A. C. (2002). Understanding the impact of stigma on people with mental illness. *World Psychiatry*, *1*(1), 16.

Etikan, I. (2016). Comparison of Convenience Sampling and Purposive Sampling. *American Journal of Theoretical and Applied Statistics*, *5*(1), 1. https://doi.org/10.11648/j.ajtas.20160501.11

Hatzenbuehler, M. L. (2016). Structural stigma: Research evidence and implications for psychological science. *American Psychologist*, *71*(8), 742–751. https://doi.org/10.1037/amp0000068

Johnson, K., Scott, J., Rughita, B., Kisielewski, M., Asher, J., Ong, R., & Lawry, L. (2010). Association of Sexual Violence and Human Rights Violations With Physical and Mental Health in Territories of the Eastern Democratic Republic of the Congo. *JAMA*, *304*(5), 553. https://doi.org/10.1001/jama.2010.1086

Moore, K. A., Lippman, L., & Brown, B. (2004). Indicators of Child Well-Being: The Promise for *Positive Youth Development.* Annals of the American Academy of Political and Social *Science*, *591*, 125–145. https://doi.org/10.1177/0002716203260103

Royston, P., Altman, D. G., & Sauerbrei, W. (2006). Dichotomizing continuous predictors in multiple regression: A bad idea. *Statistics in Medicine*, *25*(1), 127–141. https://doi.org/10.1002/sim.2331

Rucker, D. D., McShane, B. B., & Preacher, K. J. (2015). A researcher's guide to regression, discretization, and median splits of continuous variables. *Journal of Consumer Psychology*, *25*(4), 666–678. https://doi.org/10.1016/j.jcps.2015.04.004

Sedgwick, P. (2015). Bias in observational study designs: Cross sectional studies. *BMJ (Online)*, *350*. https://doi.org/10.1136/bmj.h1286

Streiner, D. L. (2003). Being Inconsistent About Consistency: When Coefficient Alpha Does and Doesn't Matter, *80*(3), 217–222. Retrieved from https://www.rotman-

baycrest.on.ca/files/publicationmodule/@random45f5724eba2f8/JPersAssess03_80_217_ 222.pdf

United Nations. (2019). Conflict Related Sexual Violence -Report of the United Nations *Gecretary-General*. Retrieved from https://www.un.org/sexualviolenceinconflict/wpcontent/uploads/2019/04/report/s-2019-280/Annual-report-2018.pdf

USAID. (2015a). *Democratic Republic of CongoDemographic and Health Survey 2013-14*. Retrieved from http://www.dhsprogram.com.

USAID. (2015b). *Demographic and Health Survey 2013-14 Key Findings Democratic Republic of Congo*. Retrieved from http://www.dhsprogram.com.

Verelst, A., De Schryver, M., Broekaert, E., & Derluyn, I. (2014). *Mental health of victims of sexual violence in eastern Congo: associations with daily stressors, stigma, and labeling*. Retrieved from http://www.biomedcentral.com/1472-6874/14/106

Appendix A: Literature Review

Methodology

The review was undertaken in November 2019 to determine how sexual exploitation and abuse were defined in literature. The search strategy encompassed both grey and academic literature with a published date between 2010 to 2019. Academic sources were collected from a keyword search in PubMed. The grey literature search was initiated through identifying partners and exhibitors of the Sexual Violence Research Initiative. Online platforms and associated publications of these organizations were then similarly examined for keywords as stated above. In total, 140 sources were captured, of which 127 were academic, and 13 were grey literature. Academic sources were further assessed for relevance through abstract review. Sixty-four articles were removed due to topic irrelevance, whilst three were removed as duplicates. As a result, 60 academic sources were further examined. Both academic and grey literature were then examined for the inclusion of definitions of sexual exploitation/abuse (SEA), sexual exploitation, or sexual abuse. In turn, 34 academic and six non-relevant grey literature articles were removed. Therefore, a final total of 33 relevant articles were included in the data synthesis.

Literature Search Terms

Grey Literature Search Terms

1. *"[Organization Name] sexual exploitation abuse"*

Academic Literature Search Terms

1. *"sexual exploitation abuse AND definition"*
2. *"sexual exploitation abuse AND review"*
3. *"sexual exploitation abuse AND measure"*

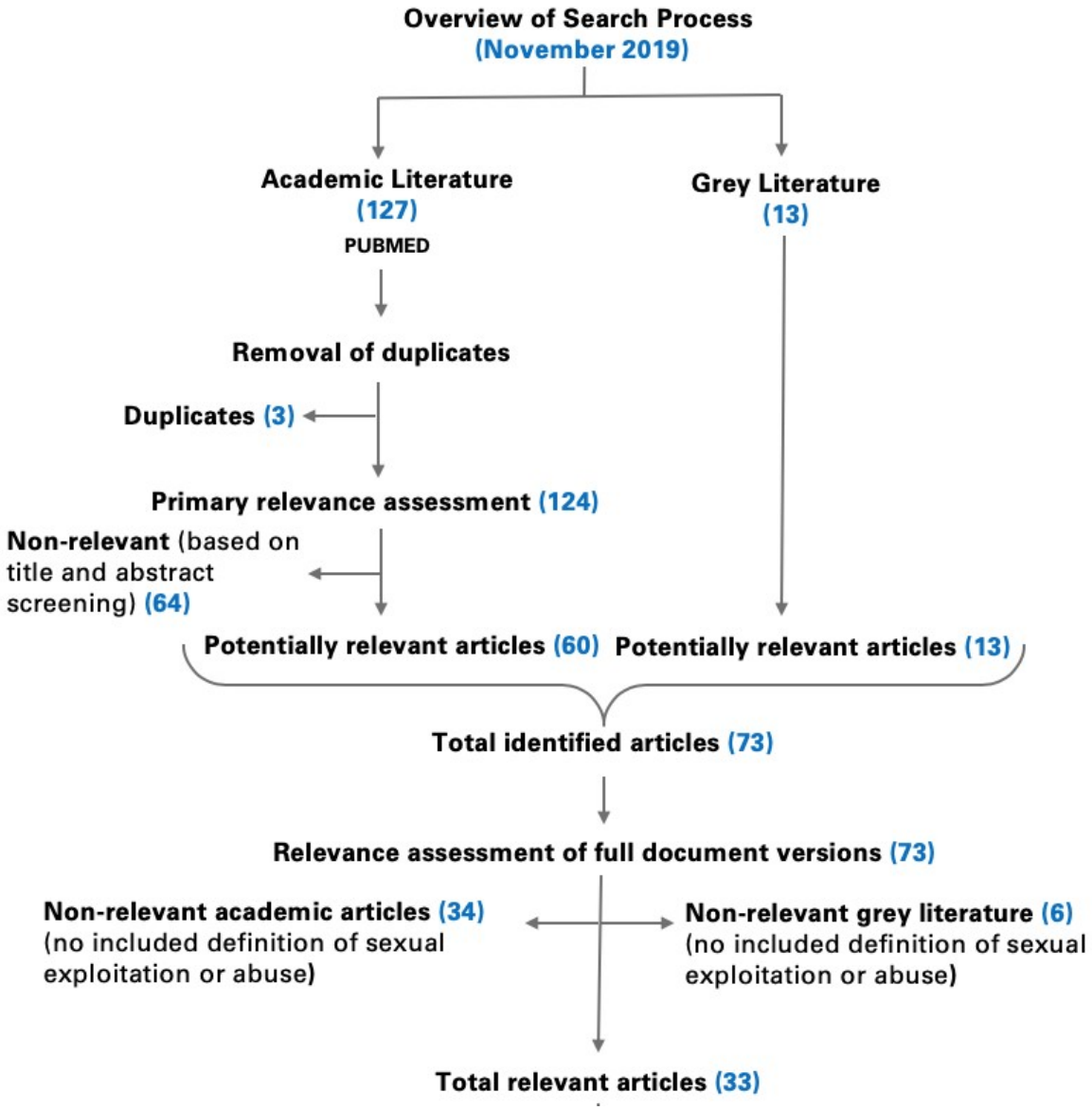


Figure 1: Overview of the Search Process

Table 1: Terms Utilized in Definitions of Sexual Abuse

Project Title	Author	Source Type	Population	Physical Sexual Activity	Non-Physical Activity	No Consent or Inability to Consent	Unequal or Coercive Conditions
Child Sexual Abuse, Links to Later Sexual Exploitation/High-Risk Sexual Behavior, and Prevention/Treatment Programs	Lalor & McElvaney	Academic	Global	X	X	X	
Child sexual abuse in Japan: A systematic review and future directions	Tanaka et al	Academic	Japan	X	X	X	X
Web-Based Health Services in Forensic Psychiatry: A Review of the Use of the Internet in the Treatment of Child Sexual Abusers and Child Sexual Exploitation Material Offenders	Wild et al	Academic	Global	X		X	X
Shining light on the response to child sexual abuse and exploitation	Out of the Shadows Index	Grey	Global	X	X	X	
Rutgers: For sexual and reproductive rights	Rutgers	Grey	Global	X		X	X
No One to Turn To	Save the Children	Grey	Children in Conflict-Affected Areas	X			X
Glossary on Sexual Exploitation and Abuse	United Nations	Grey	Global	X	X	X	X
Working Together to Prevent Sexual Exploitation and Abuse	World Bank	Grey	Global Women and Children	X			X

Sexual Exploitation and Abuse Prevention and Response	WHO	Grey	Global	X			X

Table 2: Terms Utilized in Definitions of Sexual Exploitation

Project Title	Author	Source Type	Population	Physical Sexual Activity	Non-Physical Activity	Abuse of Vulnerability	Financial, Political, or Economic Benefit	Exchange of Goods of Value	Additional Notes
Instruments to Identify Commercially Sexually Exploited Children	Armstrong	Academic	American Children and Adolescents	X		X	X		
Exploring Mental Health and Substance use Treatment Needs of Commercially Sexually Exploited Youth Participating in a Specialty Juvenile Court	Cook et al	Academic	American Children and Adolescents	X	X	X	X		Includes trafficking, and early marriage
Vulnerabilities Relevant for Commercial Sexual Exploitation of Children/Domestic Minor Sex Trafficking: A Systematic Review of Risk Factors	Franchino-Olsen	Academic	Children and Adolescents	X	X	X	X		Includes attempted abuse, trafficking, pornography

The Use of Tools and Checklists to Assess the Risk of Child Sexual Exploitation: Lessons from UK Practice	Franklin et al	Academic	British Child and Adolescents	X	X	X	X	X	Form of sexual abuse, can occur through technology
Commercial Sexual Exploitation and Sex Trafficking of Children in the United States	Greenbaum	Academic	American Children and Adolescents	X	X	X	X	X	Includes trafficking, pornography

Child Sex Trafficking and Commercial Sexual Exploitation	Greenbaum et al	Academic	American Children and Adolescents	X	X	X		X	Includes trafficking, pornography
Child Sex Trafficking and Commercial Sexual Exploitation: Health Care Needs of Victims	Greenbaum et al	Academic	American Children and Adolescents	X	X	X		X	Includes trafficking, pornography
The experience of adolescent victims of commercial sexual exploitation in the United States: a qualitative systematic review protocol	Hampton & Shade	Academic	American Children and Adolescents	X	X	X	X		Def. of commercial exploitation, form of sexual abuse
Understanding and Responding to the Needs of Commercially Sexually Exploited Youth	Ijadi-Maghsoodi et al	Academic	American Children and Adolescents	X			X		Includes prostitution

Health Issues Associated with Commercial Sexual Exploitation and Sex Trafficking of Children in the United States: A Systematic Review	Le et al	Academic	American Children and Adolescents	X	X	X	X	X	Def. of commercial exploitation, includes pornography, recruitment
A California Multidisciplinary Juvenile Court: Serving Sexually Exploited and At-Risk Youth	Liles et al	Academic	American Children and Adolescents	X	X	X	X		Includes trafficking, pornography, prostitution
Sex trafficking and sexual exploitation in settings affected by armed conflicts in Africa, Asia and the Middle East: systematic review	McAlphine et al	Academic	Conflict Affected Populations	X			X		
Rethinking research on sexual exploitation of boys: Methodological challenges and recommendations to optimize future knowledge generation	Mitchell et al	Academic	Children and Adolescents	X	X	X		X	Form of sexual abuse,
Sex Trafficking of Minors	Moore et al	Academic	American Children and Adolescents	X		X		X	Def. of commercial exploitation

A systematic review of the state of the literature on sexually exploited boys internationally	Moynihan et al	Academic	Children and Adolescents	X	X	X		X	
Interventions that Foster Healing Among Sexually Exploited Children and Adolescents: A Systematic Review	Moynihan et al	Academic	Children and Adolescents	X	X	X		X	
Gender-Based Violence Research, Monitoring, and Evaluation with Refugee and ConflictAffected Populations	Murphy et al	Academic	Refugees and Conflict Affected Populations	X			X		
Sex Trafficking A Concept Analysis for Health Care Providers	Reap	Academic	General Adults	X			X		
Adolescent Victims of	Shaw et al	Academic	American	X			X		

Commercial Sexual Exploitation versus Sexually Abused Adolescents			Children and Adolescents						
Commercial Sexual Exploitation of Children and the Emergence of Safe Harbor Legislation: Implications for Policy and Practice	Shields et al	Academic	American Children and Adolescents	X	X	X	X		Def. of commercial exploitation, form of sexual abuse

What Evidence Exists for Initiatives to Reduce Risk and Incidence of Sexual Violence in Armed Conflict and Other Humanitarian Crises? A Systematic Review	Spangaro et al	Academic	Populations in Armed Conflict or Humanitarian Crises	X				X	Sexual exploitation and abuse combined in definition
The Impact of Childhood Abuse on the Commercial Sexual Exploitation of Youth: A Systematic Review and MetaAnalysis	Vries & Goggin	Academic	American Children and Adolescents	X		X	X	X	
Sexual Exploitation and Trafficking of Aboriginal Women and Girls	Native Women's Association of Canada	Grey	Canadian Aboriginal Women and Girls	X	X	X	X	X	Includes prostitution
Shining Light on the Response to Child Sexual Abuse and Exploitation	Out of the Shadows Index	Grey	Children and Adolescents	X	X	X	X		
No One to Turn To	Save the Children	Grey	Children in Conflict-Affected Areas	X			X		Includes attempted abuse, abuse of
									vulnerability
Glossary on Sexual Exploitation and Abuse	United Nations	Grey	Not Specific	X			X	X	

Sexual Exploitation and Abuse Prevention and Response	WHO	Grey	Not Specific	X		X	X		Includes attempted abuse, abuse of vulnerability
Working Together to Prevent Sexual Exploitation and Abuse	World Bank	Grey	Women and Children	X			X		Includes attempted abuse, abuse of vulnerability

Appendix B: Methods

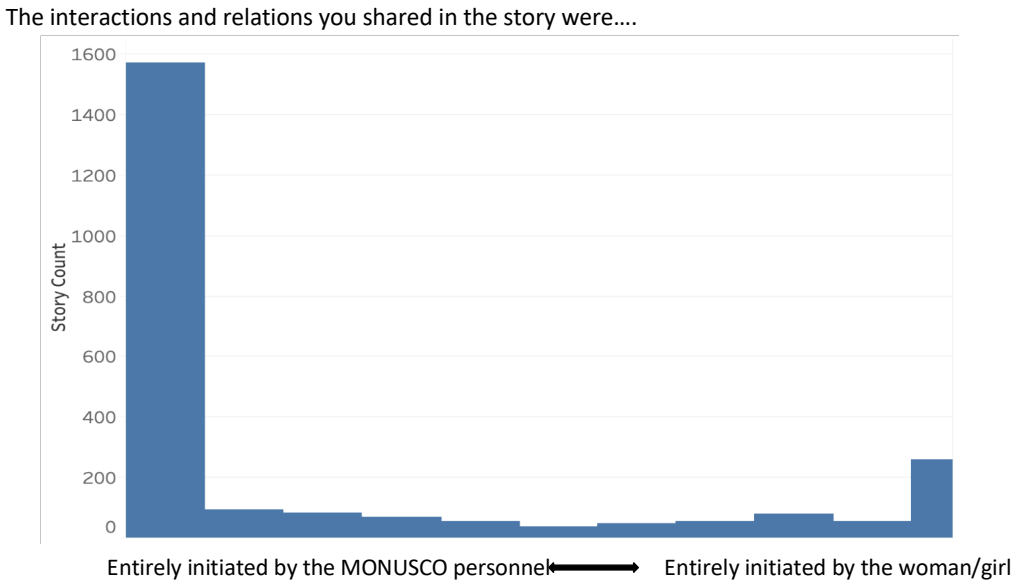


Figure 2: Dyad Representation

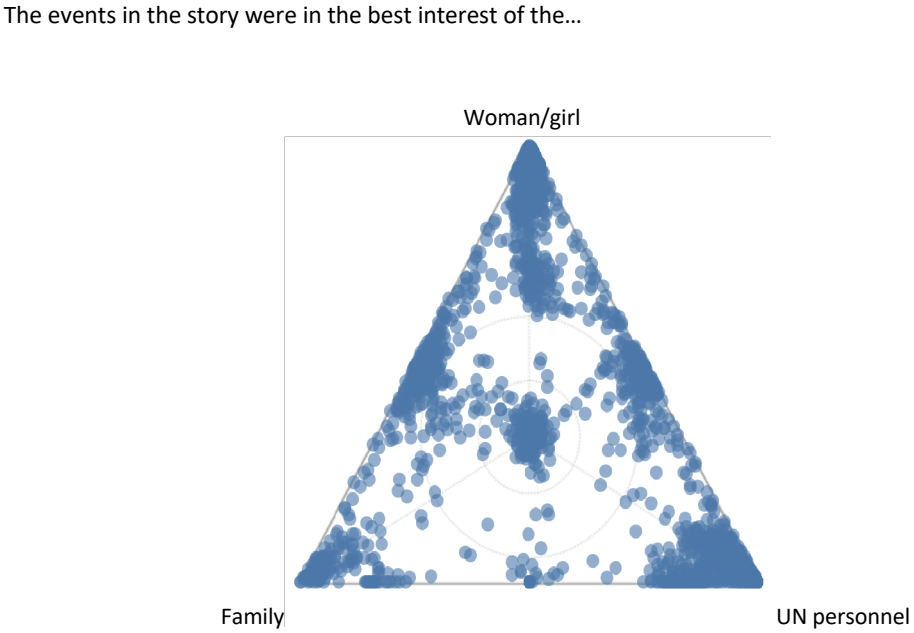


Figure 3: Triad Representation

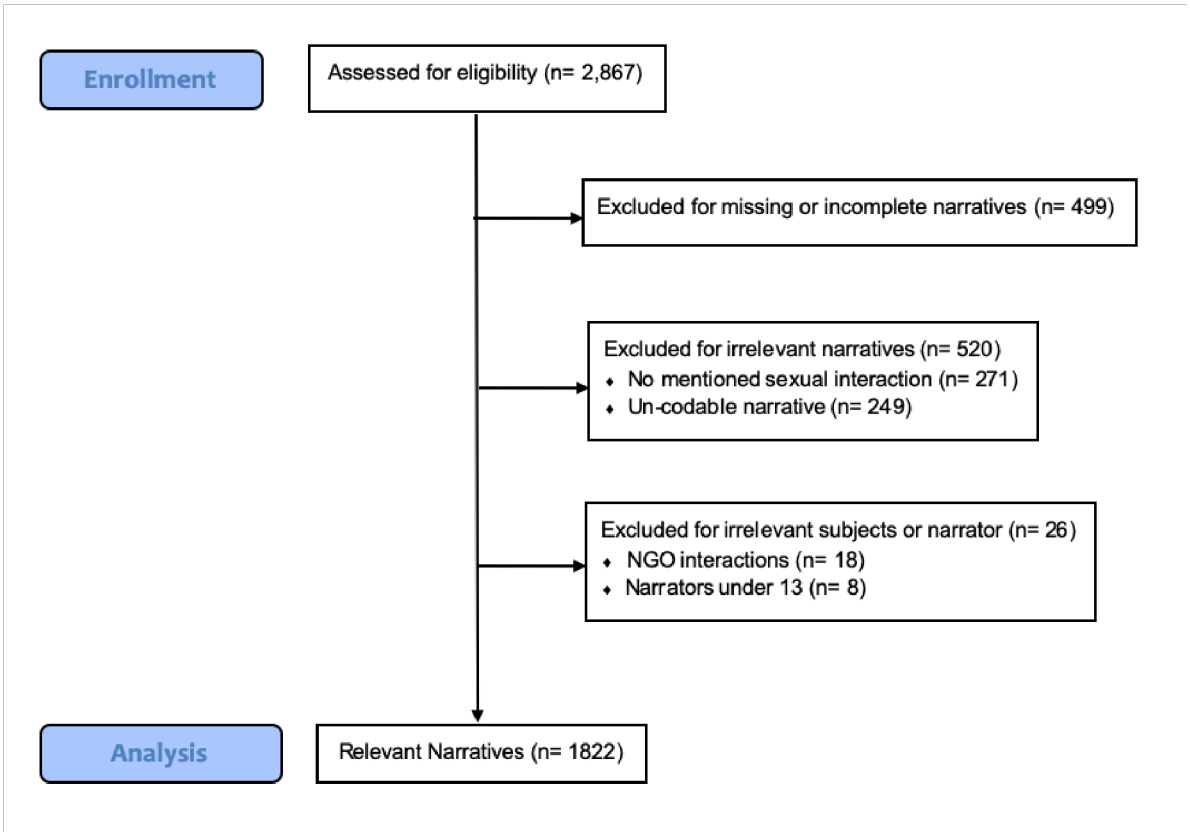


Figure 4: Data Sampling Flow Diagram

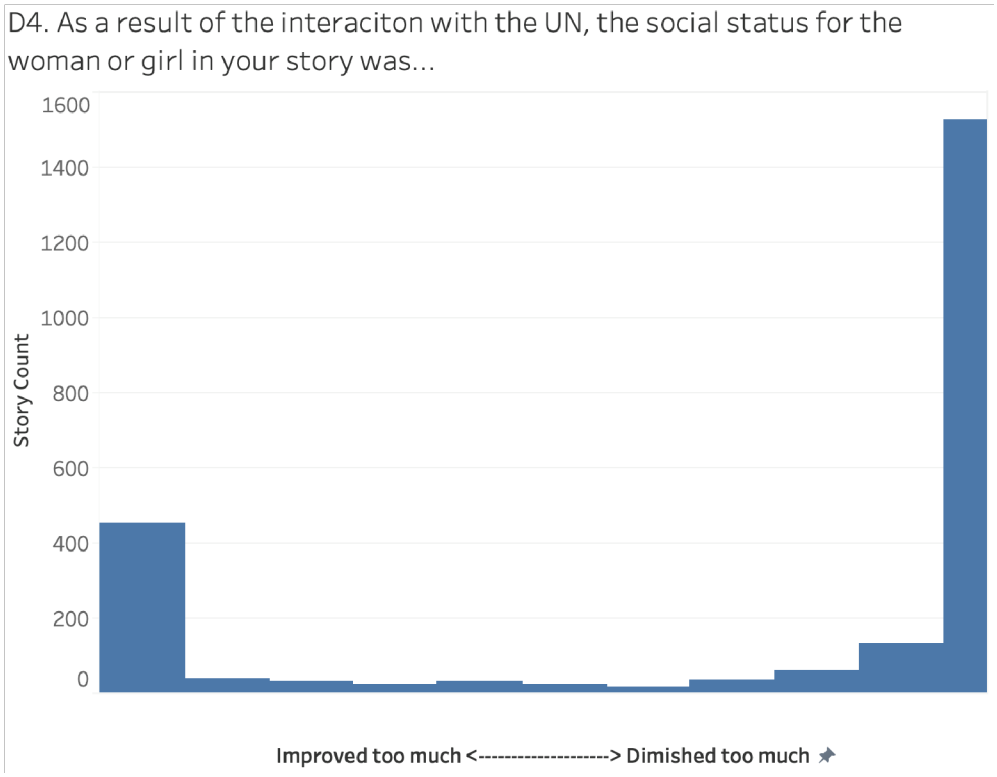


Figure 5: Social Status Dyad Representation

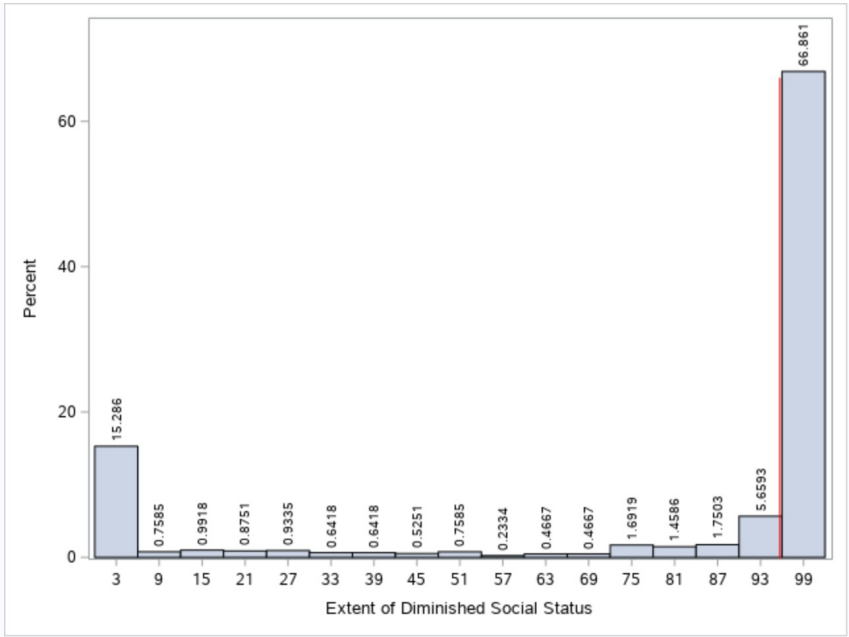


Figure 6: Frequency Distribution and Cut-Point for the Diminished Social Status Outcome

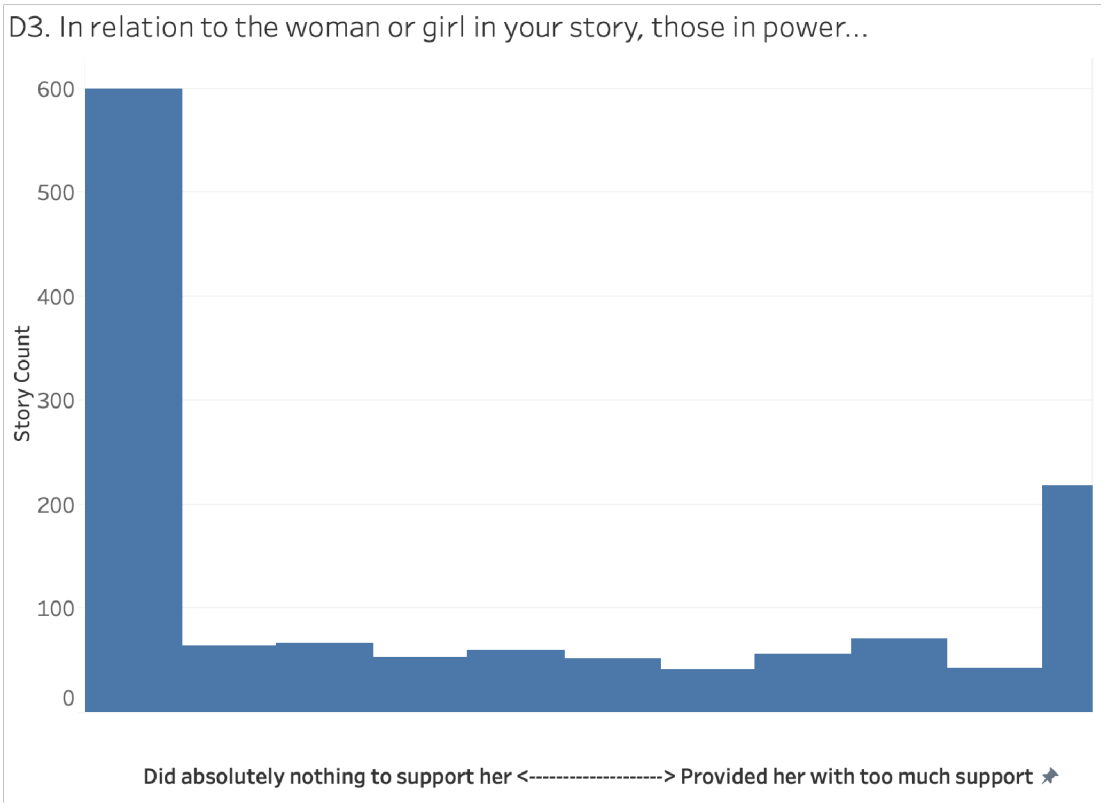


Figure 7: Institutional Support Dyad Representation

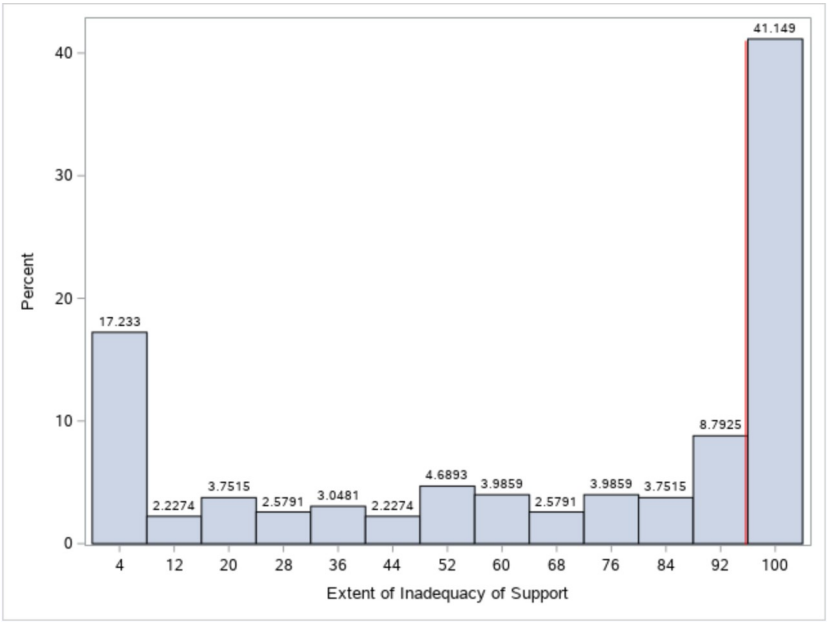


Figure 8: Distribution and Cut-Point for the Inadequate Institutional Support Indicator

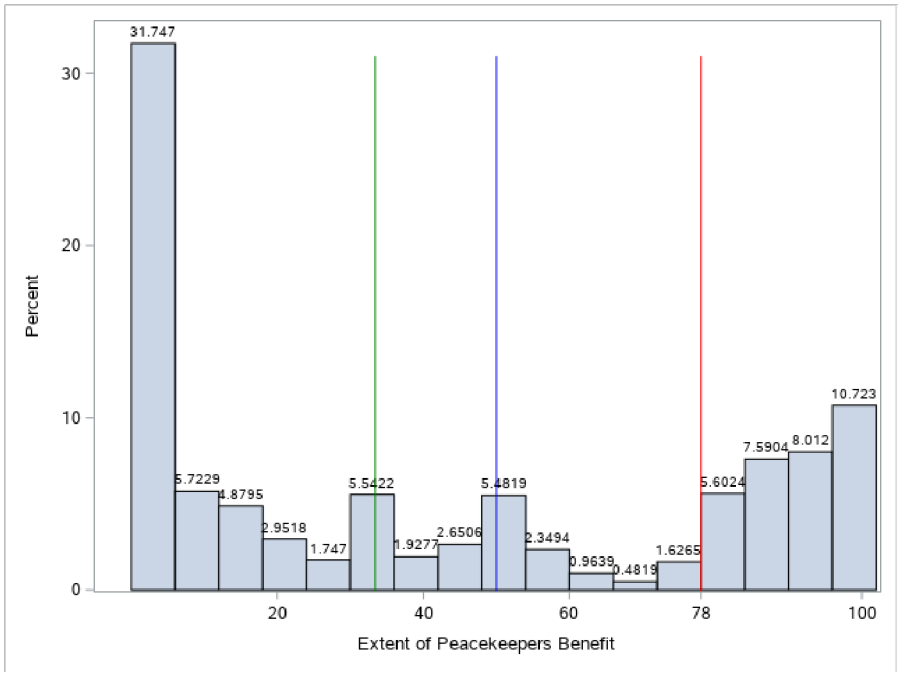


Figure 9: Frequency Distribution and Additional Cut-points for the Beneficiary Indicator

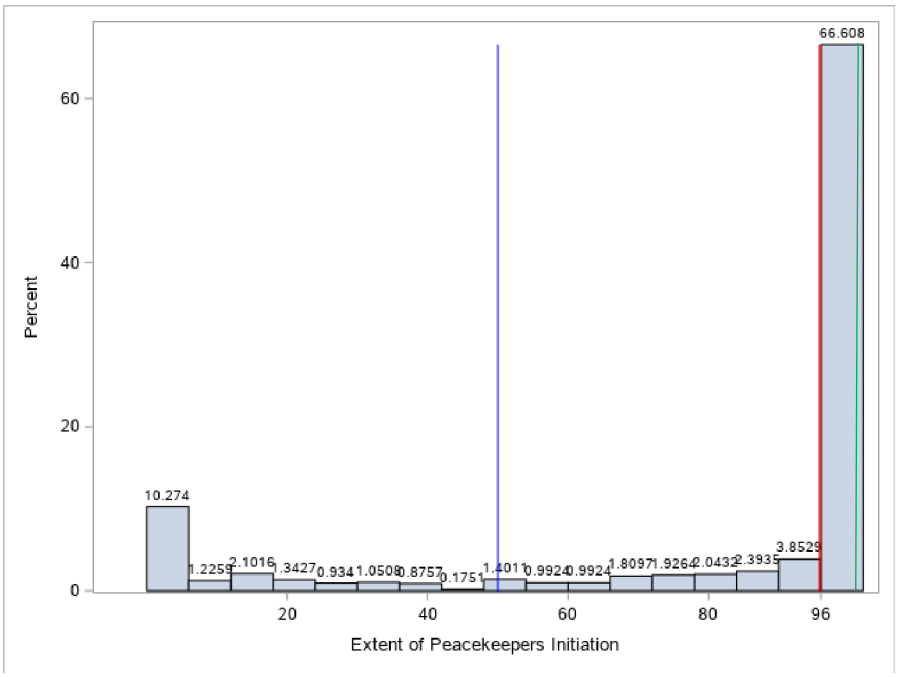


Figure 10: Frequency Distribution and Additional Cut-points for the Initiator Indicator

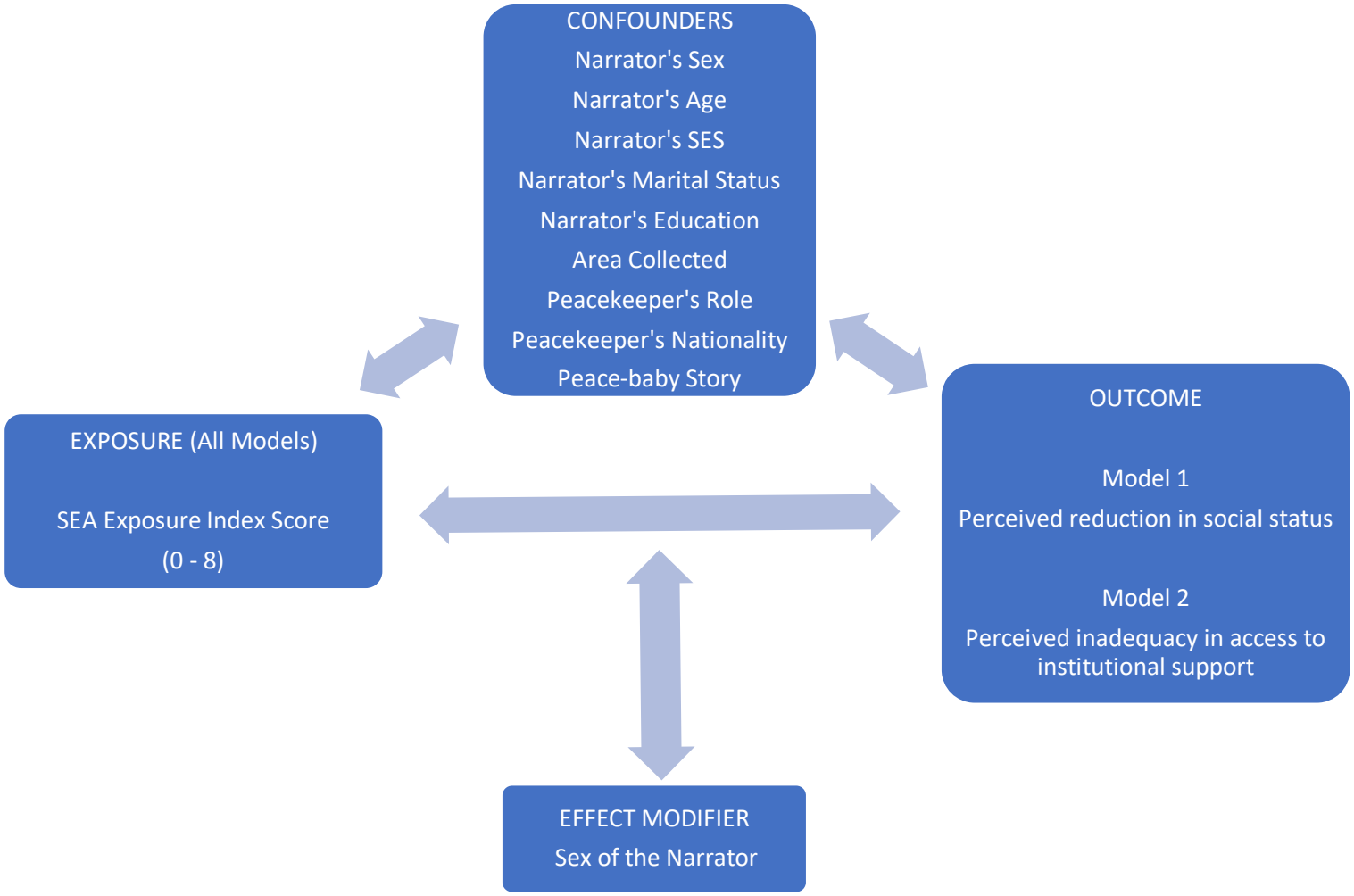


Figure 11: Conceptual Representation of Models 1 and 2

Appendix C: Manuscript 1

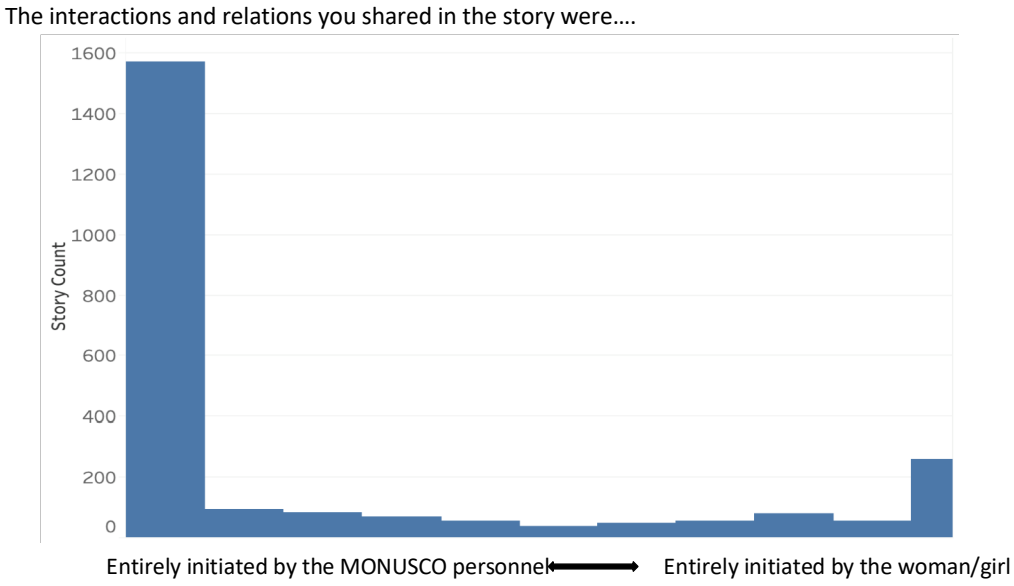


Figure 12: Dyad Representation

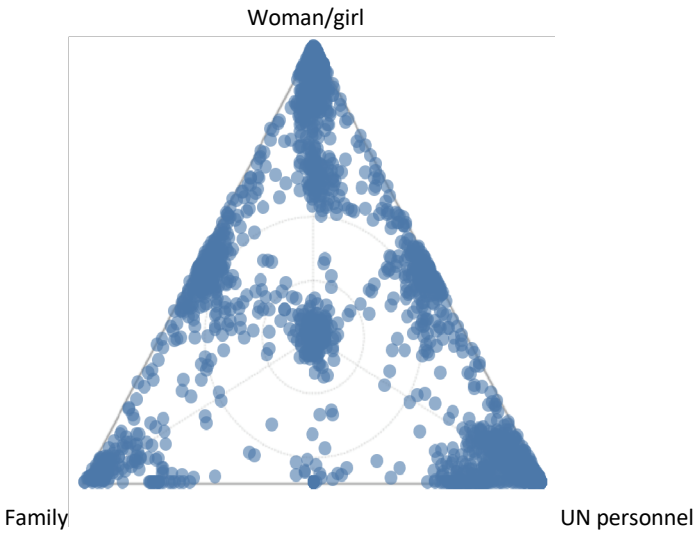


Figure 13: Triad Representation

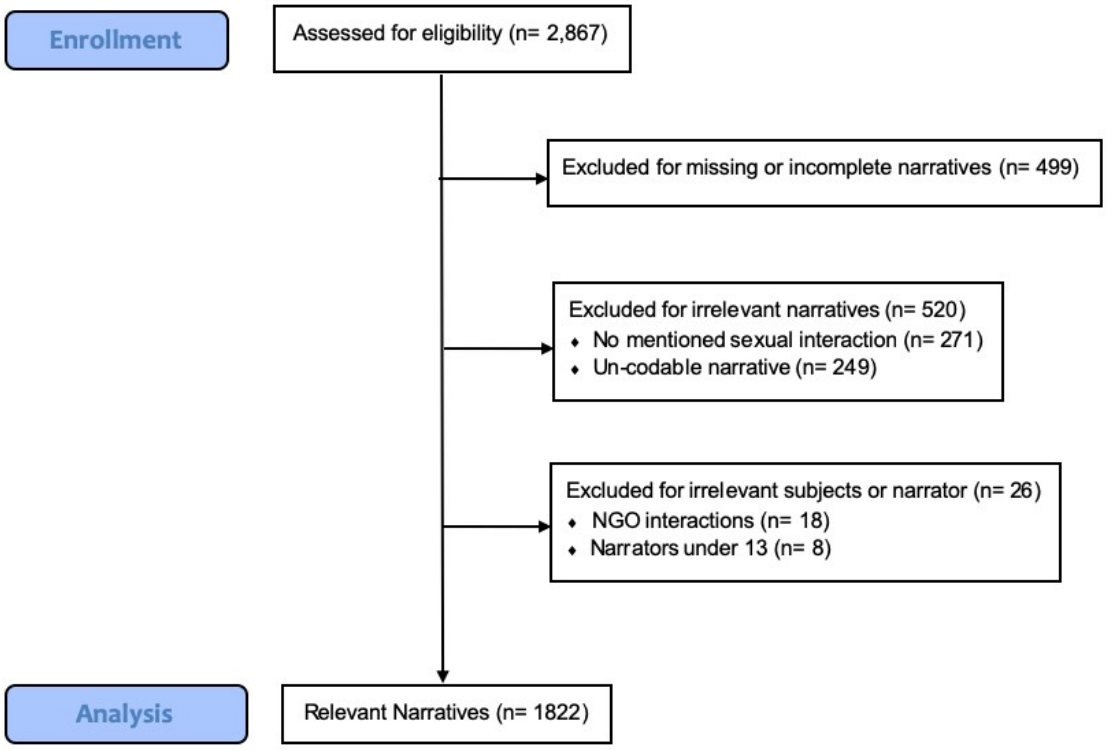
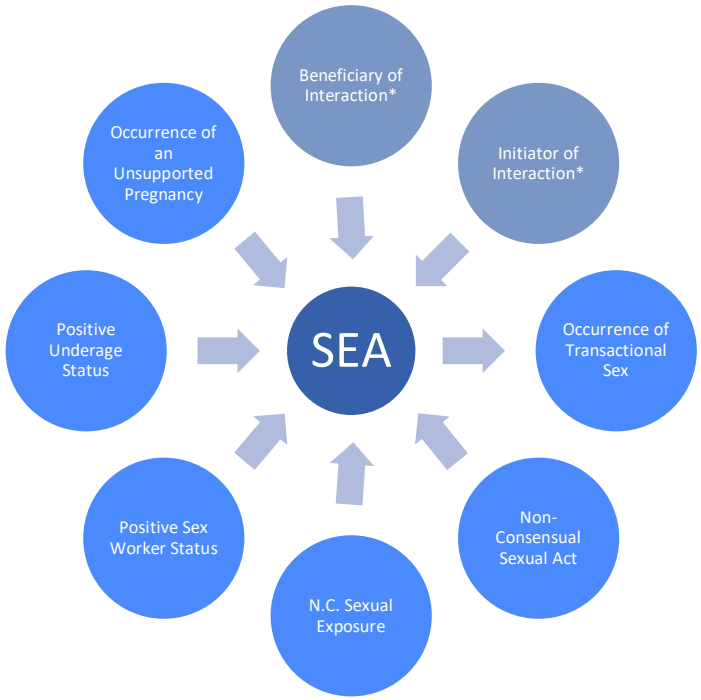


Figure 14: Data Sampling Flow Diagram



*Survey-derived indicators

Figure 15: Visual Representation of Casual Indicators

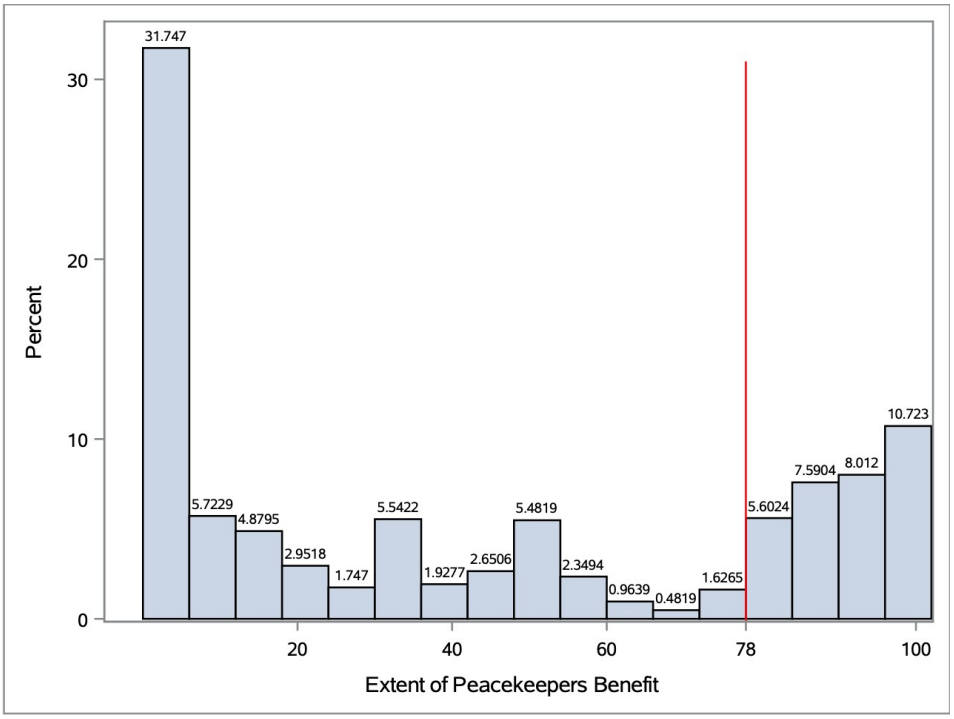


Figure 16: Frequency Distribution and Cut-Point for the Beneficiary Indicator

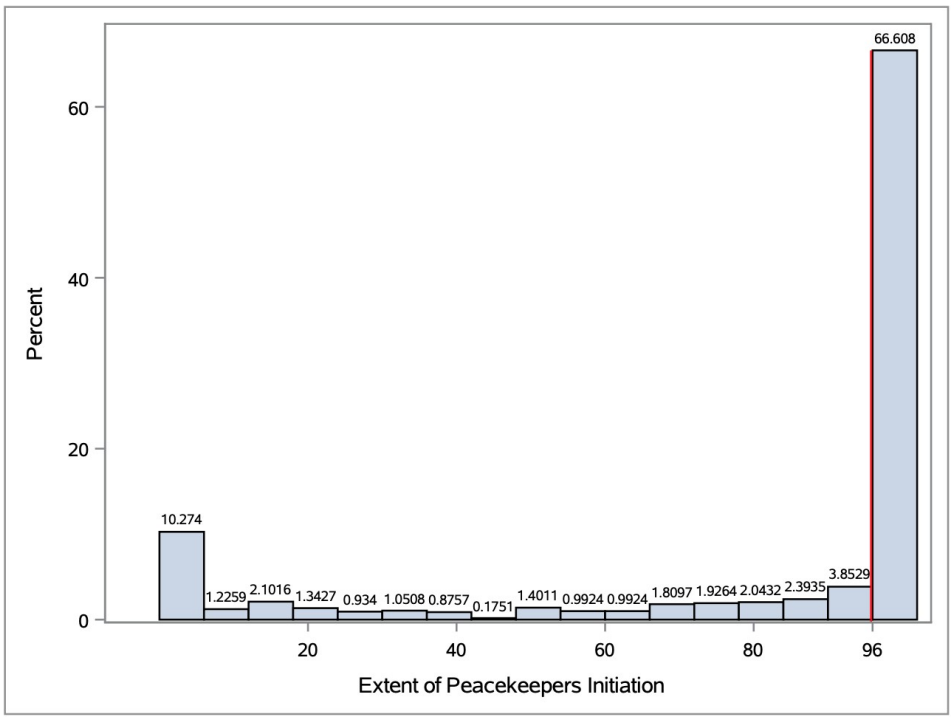


Figure 17: Frequency Distribution and Cut-Point for the Initiator Indicator

Table 3: Identification of Relevant Survey Variables

Survey Question	Type	Options	Relevance as a SEA Indicator
Read the following three story phrases and decide which one interests you most.	Multiple Choice	• Think of a woman or girl who lives near a UN base. Share a specific story that illustrates the best or worst thing for her because of living near the base • Think of a woman or girl who has interacted with UN personnel in the community. Share a specific example of a positive or negative experience that she has had as a result of her interaction with a UN personnel • Think of a woman or girl in a community that hots a peacekeeping mission. Tell a story about how the presence of UN workers has helped or harmed her	Irrelevant as an independent indicator
This story is about…	Triad	• Lack of protection/governance • Poverty • Gender inequality	Irrelevant as an independent indicator
What was the nature of the interaction in the story?		• Business/Transactional • Voluntary • Sexual	Relevant concept, however non-consensual sex, and sexual transactions were coded manually
In the story, it would have helped the woman most to have support from…		• NGO or civil society organizations • UN or MONUSCO • Local chiefs and communities	Irrelevant
In the story, who was responsible for the events?		• Individual Girl or Woman • UN or MONUSCO • Community	Irrelevant as an independent indicator
The events in the story were in the best interest of…		• Girl/Woman • Family • UN Personnel	Relevant as an independent indicator

The interactions and relations you shared in the story were…	Dyad	• Entirely initiated by the foreign UN or MONUSCO personnel • Entirely initiated by the woman/girl	Relevant as an independent indicator
In the story shared, the peacekeeping mission…		• Provided the woman/girl with too much protection and safety • Put the woman/girl at risk or in danger	Irrelevant as an independent indicator
In relation to the woman or girl in your story, those in power…	Dyad	• Did nothing to support the woman/girl • Provided her with too much support	Irrelevant
As a result of the interaction with the UN, the social status of the woman or girl was…		• Improved too much as a result of the interaction • Diminished as a result of the interaction	Irrelevant
Who is the story about?	Multiple Choice	• Someone else • About me • About someone in my family • Something I heard or read about • Prefer not to say	Irrelevant
How often do events in your story occur in the community?		• Rarely • Occasionally • Regularly • All the time • Not Sure	Irrelevant as an independent indicator
What is the emotional tone of this story?		• Strongly negative • Negative • Neutral • Positive • Strongly positive • Prefer not to say	Irrelevant

How does the story make you feel?		• Angry • Sad • Good • Embarrassed • Disappointed • Frustrated • Afraid • Happy • Hopeful • Encouraged • Indifferent • Worried • Relieved • Unsure • Satisfied	Irrelevant
For the woman or girl in the shared story, the outcome was…		• Entirely fair • Somewhat fair • Neutral • Somewhat unfair • Completely unfair • Not sure	Irrelevant
Story was about a peace baby…	Multiple Choice*	• About a peace baby • Mentioned a peace baby • Neither	Irrelevant as an independent indicator
Story was about sexual relations…		• About sexual relations • Mentioned sexual relations • Neither	Irrelevant as an independent indicator
Story was about sexual abuse…		• About sexual abuse and exploitation • Mentioned sexual abuse and exploitation • Neither	Relevant, however insufficient in depth for an indicator
Story was about a wrongdoing...		• About another wrongdoing • Mentioned another wrongdoing • Neither	Irrelevant

*Completed by the research assistant after the survey completion

Table 4: Summary of Thematic Analysis and Categorization of Indicators

Code	Example	Category	Theme
Beneficiary of the Interaction	N/A	Abuse of Vulnerability and Power	SE
Occurrence of a Sexual Transaction	"We are regretting the behavior of our Congolese girls before MONUSCO agents. They are concentrating much of their love on interest in exchange with sexual intercourse. We see girls falling in love with MONUSCO agents for 2 months, whereas true love is not based on that. Girls are giving sex in exchange with little money they give them."		
Sex Worker	"Since they came here, their only main concern is gathering much money and dealing with women and prostitutes sexually. Many of our sisters have become professional prostitutes actually. Harlotry has remained their last resort to live"		
Occurrence of an Unsupported Pregnancy	"There was a woman who was selling things nearby a MONUSCO camp. She got a pregnancy of a MONUSCO agent. That man didn't take responsibility of his wife and child. For the time being, the child is living with his mother."		
Non-Consensual Sexual Act	"That South-African came and grabbed a girl who was a tenant in our compound. He took her to a place we do not know and raped her there."	Actual, Attempted or Threatened Physical Intrusion	SA
Non-Consensual Sexual Exposure	"I am a saleswoman in the market. As I go back every day, I always see MONUSCO agents shaking their penises calling me, mom see here. When I saw that for the first time, I ran away. They always do that; I saw that many times."		
Initiator of the Interaction	N/A	Coercive Conditions	

Underage Girl	"When my daughter was 17 years old, she was deflowered by a Liberian working for MONUSCO."	Inability to Consent	

Table 5: Prevalence of Indicators Among Sample

Category	Indicator	Total Sample
Abuse of Vulnerability and Power	Peacekeeper Primary Beneficiary	530 (29.2%)
	Occurrence of Transactional Sex	249 (13.7%)
	Identified as Sex Worker	145 (8%)
	Unsupported Pregnancy Occurrence	555 (30.5%)
Actual, Attempted or Threatened Physical Intrusion	Non-Consensual Sexual Act	154 (8.5%)
	Non-Consensual Sexual Exposure	13 (0.7%)
Coercive Conditions	Peacekeeper Primary Initiator	1141 (62.6%)
Inability to Consent	Underage Girl	90 (5%)

Table 6: Index Score Frequency Distribution Among Sample

	No SEA	Mild SEA		Moderate SEA		High SEA	
Score	**0**	**1**	**2**	**3**	**4**	**5**	**6**
Frequency	272 (14.9%)	680 (37.3%)	536 (29.4%)	243 (13.3%)	71 (3.9%)	20 (1.1%)	2 (0.1%)

Appendix D: Manuscript 2

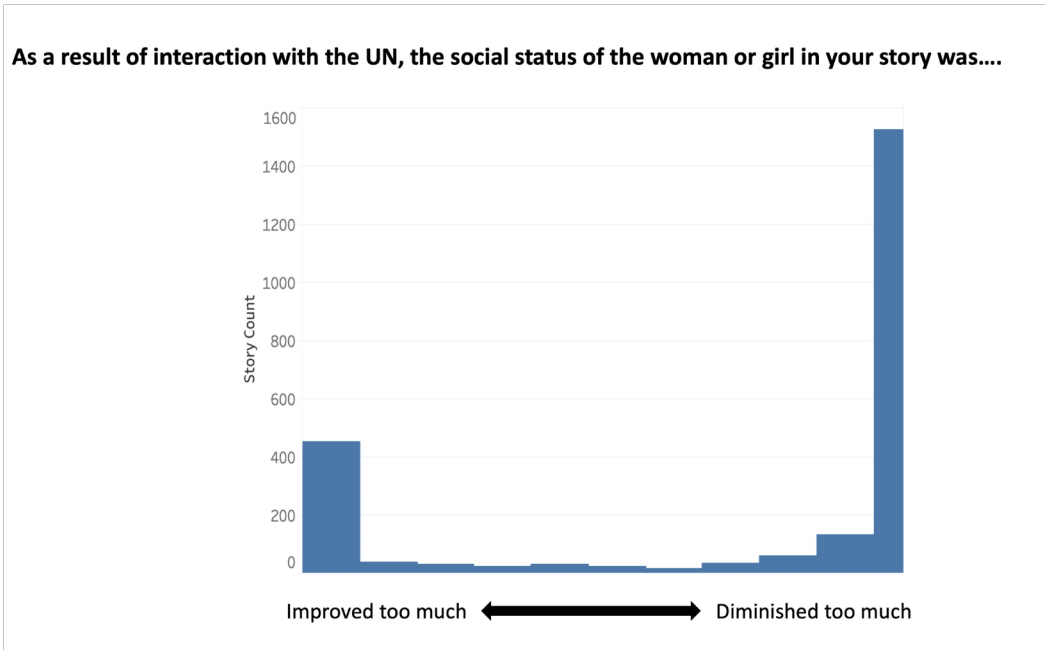


Figure 18: Dyad Representation of Social Status

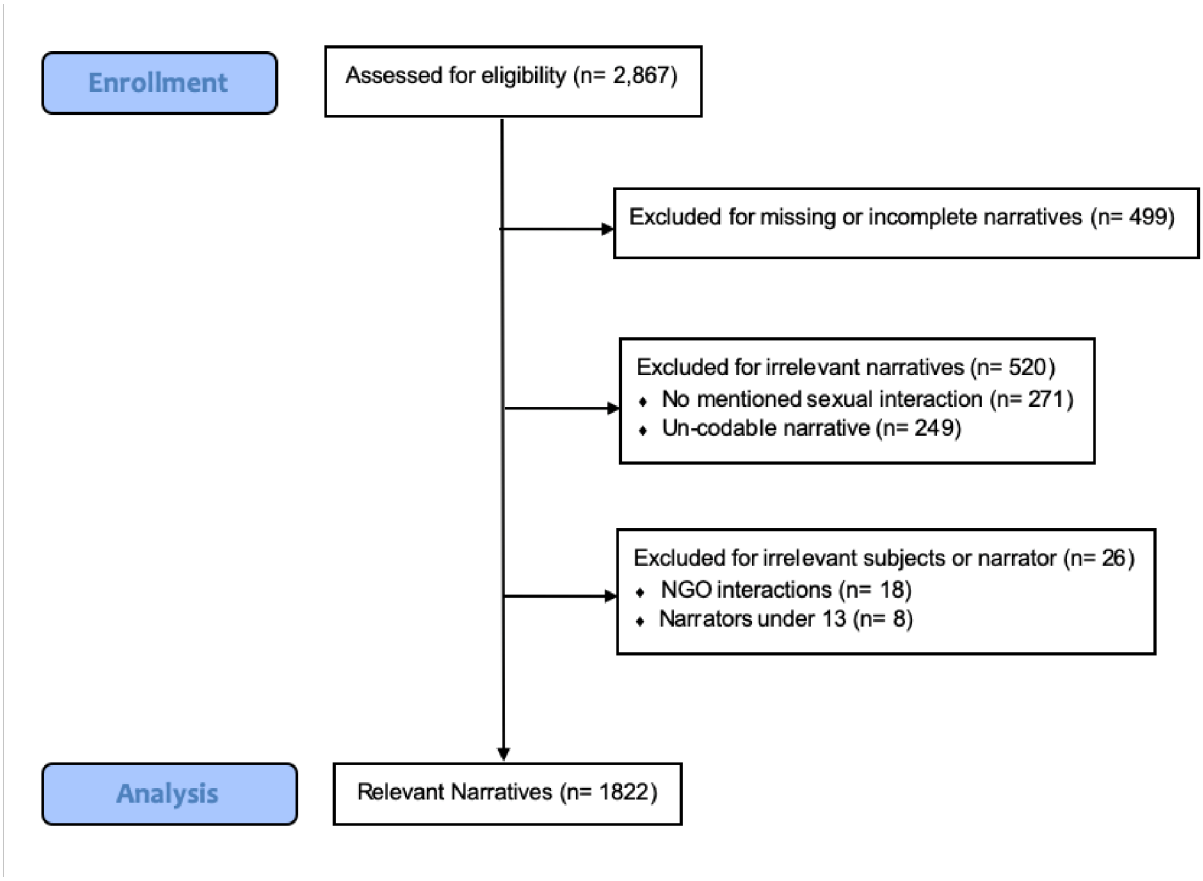


Figure 19: Data Sampling Flow Diagram

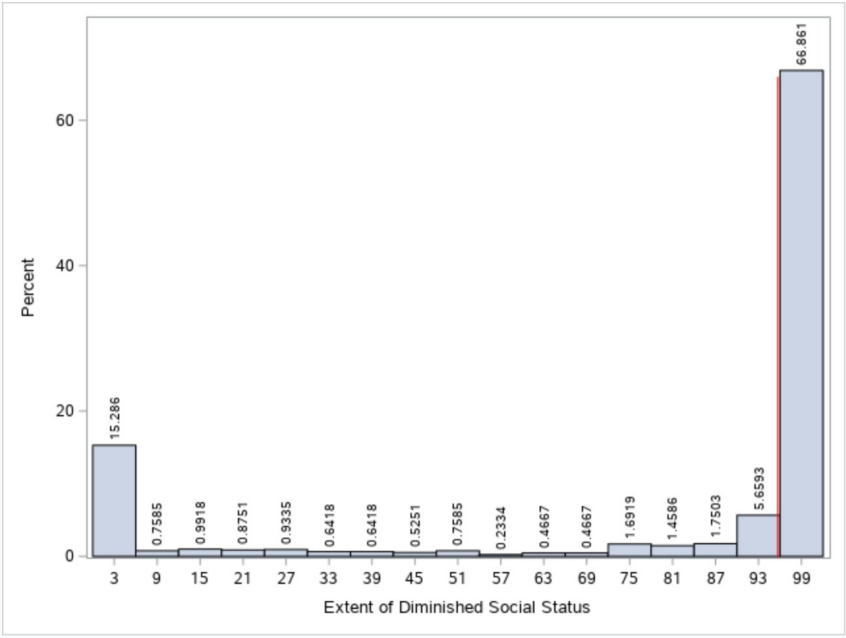


Figure 20: Frequency Distribution and Cut-Point for Diminished Social Status

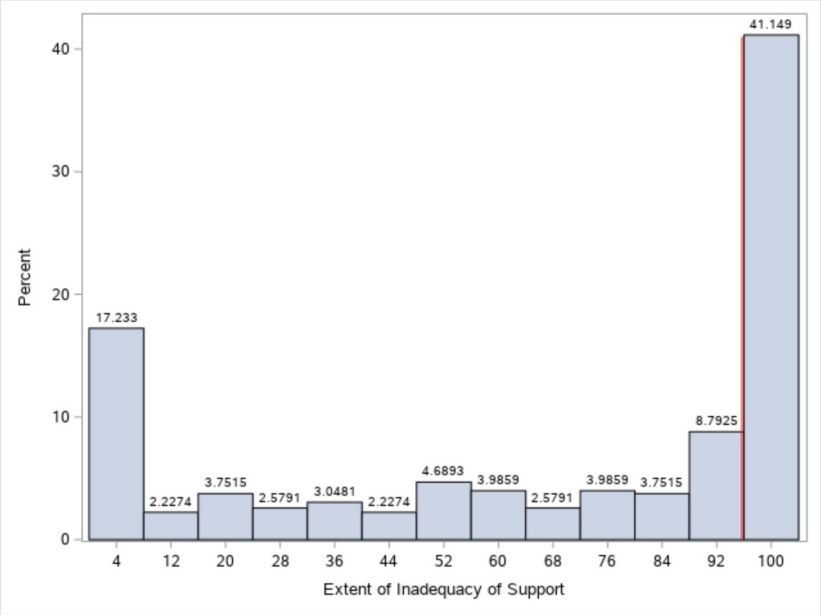


Figure 21: Distribution and Cut-Point for Inadequate Institutional Support

Table 7: Demographic Characteristics of the Sample

Characteristic		**Frequency**
Sex		**N=1819**
Female		947 (52.1%)
Male		872 (47.9%)
Age		**N=1812**
Underage	13-17	139 (7.7%)
Adult	18-24	667 (36.8%)
	25-34	632 (34.84%)
	35-44	237 (13.1%)
	45-54	90 (5%)
	55-64	40 (2.2%)
	65 and Older	9 (0.5%)
Socio-Economic Status		**N=1820**
Low (0-1 items)		506 (27.8%)
Moderate (2-3 items)		822 (45.2%)
High (4-5 items)		492 (27%)
Highest Education Achieved		**N=1814**
No Formal Schooling		112 (6.2%)
Primary School		330 (18.17%)
Secondary School		751 (41.4%)
Technical Training / University		615 (39.4%)
Other		6 (0.3%)
Marital Status		**N=1816**

Single Never Married		976 (53.6%)
Married /Living with Partner		690 (37.9%)
Separated / Divorced		90 (5%)
Widowed		60 (3.3%)
Geographic Location		**N=1820**
Population of 500, 000 or more (65.66%)	Bukavu	248 (13.6%)
	Goma	337 (18.5%)
	Kalemie	163 (8.95%)
	Kisangani	449 (24.6%)
Population under 500, 000 (34.34%)	Beni	208 (11.4%)
	Bunia	417 (22.9%)

Table 8: Characteristics of the Narrative

Story Perspective		**N=1818**
First-Person		226 (12.4%)
Third-Person		1592 (87.6%)
Peacekeeper's Role		**N=1819**
Soldier	Armed	1035 (56.9%)
	Unarmed	266 (14.6%)
Non-Soldier	UN Civilian	288 (15.8%)
	UN Police	38 (2.1%)
Unspecified	Don't Know	142 (7.8%)
	Other	50 (2.8%)
Peacekeeper's Nationality		**N=1822**
African	DRC	103 (5.7%)
	Egypt	69 (3.8%)
	Ghana	30 (1.6%)
	Morocco	187 (10.3%)
	South Africa	343 (18.8%)
	Senegal	138 (7.6%)
	Sierra Leone	10 (0.6%)
	Tanzania	197 (10.8%)
Asian	Bangladesh	101 (5.5%)
	India	125 (6.9%)
	Nepal	71 (3.9%)
	Pakistan	83 (4.6%)
South American	Uruguay	200 (11%)
Unspecified	Other	352 (19.3%)
	Don't Know	236 (12.94%)
Story About a Peacekeeper Fathered Child		
About or Mentioned a Peacebaby		970 (53.24%)
Neither		852 (46.76%)

Table 9: Frequency of Exposure and Outcome Amongst Sample

SEA Exposure Score	**N=1824**
0	270 (14.8%)
1	680 (37.3%)
2	536 (29.4%)
3	243 (13.3%)
4	71 (3.9%)
5	20 (1.1%)
6	2 (0.1%)
Mean	1.6 ± 1.1
Median	1
Interquartile Range	1
Diminished Social Status (Public Stigma)	**N=1824**
Yes	1146 (62.9%)
No	678 (37.1%)
Inadequate Community Support (Structural Stigma)	**N=1824**
Yes	351 (19.3%)
No	1473 (80.7%)

Table 10: Bivariate Relationships of Variables

Variable	**Exposure to SEA (Exposure)**	**Social Status (Outcome)**	**Anticipated Effect for Model 1**	**Community Support (Outcome)**	**Anticipated Effect for Model 2**
Sex	c^2= 42.5713 df=6 p=<0.0001*	c^2= 11.9938, df=1 p=0.0005*	Confounder	c^2=4.9654 df=1 p=0.0259*	Confounder
Age	c^2= 19.2536 df=12 p=0.1826	c^2=1.6275 df=2 p=0.4432	Insignificant effect	c^2=14.8743 df=2 p=0.0006*	Predictor of outcome
SES	c^2= 31.0278 df=12 p=0.002*	c^2=2.1734 df=2 p=0.3373	Predictor of exposure	c^2=42.5850 df=2 p=<0.0001*	Confounder
Education	c^2= 36.4445 df=24 p=0.0497*	c^2=6.9128 df=4 p=0.1406	Predictor of exposure	c^2=61.3297 df=4 p=<0.0001*	Confounder
Marital Status	c^2= 44.2014 df=24 p=<0.0072*	c^2=13.3589 df=4 p=0.0096*	Confounder	c^2=7.0117 df=4 p=0.1353	Predictor of exposure
Area Collected	c^2= 53.40 df=6 p=<0.0001*	c^2=13.8887 df=1 p=0.0002*	Confounder	c^2=106.6403 df=1 p=<0.0001*	Confounder

Peacekeeper's Role	c^2= 57.5814df=24 p=0.0001*	c^2=32.9425 df=4 p=<0.0001*	Confounder	c^2=26.4622 df=4 p=<0.0001*	Confounder
Peacekeeper's Nationality	c^2= 60.5565 df=24 p=0.0001*	c^2=3.3366 df=4 p=<0.5032	Predictor of exposure	c^2=7.5169 df=4 P=0.1110	Predictor of exposure
Story About a Peacekeeper Fathered Child	c^2= 19.43 df=6 p=0.0035*	c^2=4.53 df=1 p=0.0334*	Confounder	c^2=4.16 df=1 P=0.0414*	Confounder

Table 11: Poisson Regression Estimates of Diminished Social Status (Model 1)

SEA Exposure Score	Unadjusted Model* RR (95% CI)	Adjusted Model** RR (95% CI)
0	1.00 (ref)	1.00 (ref)
1	1.18 (1.01, 1.38)	1.14 (0.98, 1.33)
2	1.69 (1.46, 1.96)	1.59 (1.38, 1.84)
3	1.95 (1.68, 2.26)	1.82 (1.57, 2.11)
4	2.11 (1.81, 2.46)	1.94 (1.66, 2.26)
5+	1.99 (1.61, 2.47)	1.88 (1.52, 2.34)

* Quasi-likelihood under Independence Model Criterion (QIC) = 8834.65

**Adjusted for the narrator's marital status and highest level of education achieved, the population size of the area collected, and the UN personnel's role. QIC = 8786.75

Table 12: Poisson Regression Estimates of Inadequate Support (Model 2)

SEA Exposure Score	Unadjusted Model* RR (95% CI)	Adjusted Model** RR (95% CI)
	Females (n=947)	
0	1.00 (ref)	1.00 (ref)
1	1.59 (0.95, 2.65)	1.72 (1.04, 2.86)
2	2.21 (1.33, 3.70)	2.65 (1.60, 4.40
3	1.88 (1.02, 3.45)	2.33 (1.29, 4.22)
4	4.12 (2.22, 7.66)	4.27 (2.21, 8.27)
5+	6.98 (3.66, 13.32)	6.53 (3.63, 11.73)
	Males (n=872)	
0	1.00 (ref)	1.00 (ref)
1	0.70 (0.42, 1.15)	0.91 (0.57, 1.47)
2	1.43 (0.91, 2.25)	1.83 (1.19, 2.81)
3	1.01 (0.60, 1.71)	1.51 (0.92, 2.50)
4	1.56 (0.84, 2.91)	2.09 (1.19, 3.66)
5+	0.76 (0.19, 2.91)	1.13 (0.27, 4.72)

* QIC_{FEMALE} = 1066.29; QIC_{MALE} = 1190.45

**Adjusted for the narrator's socio-economic status, marital status, and highest level of education achieved as well as the population size of the area collected, and the UN personnel's role. QIC_{FEMALE} = 1057.82; QIC_{MALE} = 1078.09

Appendix E: Supplementary Testing

Table 13: Cut-Point Comparison of Adjusted Estimates of Diminished Social Status (Model 1)

Exposure Level	Original Cut-Points*	Median CutPoints**	Middle Split Cut-Points***
0	1.00 (ref)	1.00 (ref)	1.00 (ref)
1	1.14 (0.98, 1.33)	1.07 (0.93, 1.24)	1.02 (0.84, 1.25)
2	1.59 (1.38, 1.84)	1.47 (1.28, 1.68)	1.54 (1.29, 1.85)
3	1.82 (1.57, 2.11)	1.74 (1.52, 2.00)	1.77 (1.47, 2.13)
4	1.94 (1.66, 2.26)	1.78 (1.52, 2.07)	1.93 (1.60, 2.33)
5+	1.88 (1.52, 2.34)	1.76 (1.44, 2.17)	1.86 (1.47, 2.34)

***** Beneficiary cut-point at 78; Initiator cut-point at 96

** Beneficiary cut-point at 33.38; Initiator cut-point at 99.37

*** Both cut-points at 50

Table 14: Cut-Point Comparison of Adjusted Estimates of Inadequate Support (Model 2)

Exposure Level	Original Cut-Points	Median Cut-Points	Middle Split Cut-Points
		Females (n=947)	
0	1.00 (ref)	1.00 (ref)	1.00 (ref)
1	1.72 (1.04, 2.86)	1.55 (0.96, 2.51)	1.54 (0.73, 3.26)
2	2.65 (1.60, 4.40)	2.53 (1.57, 4.10)	2.78 (1.34, 5.79)
3	2.33 (1.29, 4.22)	1.62 (0.87, 3.01)	2.57 (1.18, 5.58)
4	4.27 (2.21, 8.27)	2.70 (1.33, 5.47)	3.88 (1.68, 8.94)
5+	6.53 (3.63, 11.73)	5.91 (3.05, 11.47)	7.21 (3.08, 16.87)
		Males (n=872)	
0	1.00 (ref)	1.00 (ref)	1.00 (ref)
1	0.91 (0.57, 1.47)	1.23 (0.84, 1.81)	1.04 (0.62, 1.73)
2	1.83 (1.19, 2.81)	1.26 (0.86, 1.86)	1.54 (0.97, 2.47)
3	1.51 (0.92, 2.50)	1.63 (1.06, 2.53)	1.56 (0.93, 2.63)
4	2.09 (1.19, 3.66)	1.98 (1.16, 3.40)	1.93 (1.08, 3.45)
5+	1.13 (0.27, 4.72)	0.83 (0.20, 3.40)	0.96 (0.23, 4.06)

Appendix F: Ethics Approval

Queen's University Health Sciences & Affiliated Teaching Hospitals Research Ethics Board (HSREB)

HSREB Initial Ethics Clearance

September 12, 2019

Ms. Samantha Gray
Department of Public Health Sciences
Queen's University

TRAQ #: 6027552
Department Code: EPID-685-19
Study Title: "EPID-685-19 UN peacekeeper relationships and the resulting stigmatization of women in the Democratic Republic of Congo (DRC)"
Supervisors: Dr. Susan Bartels, Dr. Heather Lee Stuart
Review Type: Delegated
Date Ethics Clearance Issued: September 12, 2019
Ethics Clearance Expiry Date: September 12, 2020

Dear Ms. Gray:

The Queen's University Health Sciences & Affiliated Teaching Hospitals Research Ethics Board (HSREB) has reviewed the application and granted ethics clearance for the documents listed below. Ethics clearance is granted until the expiration date noted above.

Documents Acknowledged:

- Ethics training certificates: Grey, Stuart, Bartels

Amendments: No deviation from, or changes to the protocol, informed consent form and conduct of study should be initiated without prior written clearance or an appropriate amendment from the HSREB, except when necessary to eliminate immediate hazard(s) to study participants or when the change(s) involves only administrative or logistical aspects of the study.

Renewals: An annual renewal event form or a study closure event form must be submitted annually as per the TCPS 2 2014 Article 6.14. As a courtesy, the Office of Research Ethics may send reminders 30 days in advance of the ethics clearance expiry date. All lapses in ethics clearance will be documented on the annual renewal clearance letter. Suspension letters may be issued for lapses in ethics clearances one day or greater, with subsequent termination and closure of the ethics file for lapses greater than 10 business days. Terminations should be reported to applicable regulatory authorities (e.g., Health Canada, FDA).

Completion/Termination: The HSREB must be notified of the completion or termination of this study through the submission of a study closure event in TRAQ.

Reporting of Serious Adverse Events: Any unexpected serious adverse events occurring locally must be reported

within 2 working days or earlier if required by the study sponsor. All other serious adverse events must be reported within 15 days after becoming aware of the information.

Reporting of Complaints: Any complaints made by participants or persons acting on behalf of participants must be reported to the Research Ethics Board within 7 days of becoming aware of the complaint.

Note: All documents supplied to participants must have the contact information for the Research Ethics Board.

Investigators please note that if your study is registered by the sponsor, you must take responsibility to ensure that the registration information is accurate and complete.

Regards,

Albert F. Clark, PhD
Chair, Queen's University Health Sciences and Affiliated Teaching Hospitals Ethics Board

The HSREB operates in compliance with, and is constituted in accordance with, the requirements of the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2); the international Conference on Harmonisation Good Clinical Practice Consolidated Guideline (ICH GCP); Part C, Division 5 of the Food and Drug Regulations; Part 4 of the Natural Health Product Regulations; Part 3 of the Medical Devices Regulations, and the provisions of the Ontario Personal Health Information Protection Act (PHIPA 2004) and its applicable regulations. The HSREB is qualified through the CTO REB Qualification Program and is registered with the U.S. Department of Health and Human Services (DHHS) Office for Human Research Protection (OHRP). Federalwide Assurance Number: FWA#: 00004184, IRB#: 00001173. HSREB members involved in the research project do not participate in the review, discussion or decision.

QUEEN'S UNIVERSITY HEALTH SCIENCES & AFFILIATED TEACHING HOSPITALS RESEARCH ETHICS BOARD (HSREB)

HSREB Renewal of Ethics Clearance

August 26, 2020

Ms. Samantha Gray
Department of Public Health Sciences
Queen's University

TRAQ #: 6027552
Department Code: EPID-685-19
Study Title: "EPID-685-19 UN peacekeeper relationships and the resulting stigmatization of women in the Democratic Republic of Congo (DRC)"
Review Type: Delegated
Date Ethics Clearance Effective: August 26, 2020
Ethics Clearance Expiry Date: August 26, 2021

Dear Ms. Gray:

The Queen's University Health Sciences & Affiliated Teaching Hospitals Research Ethics Board (HSREB) has reviewed the application. This study, including all currently approved documentation has been granted ethical clearance until the expiry date noted above.

Prior to the expiration of your ethics clearance, you will be reminded to submit your renewal report through TRAQ. Any lapses in ethical clearance will be documented below.

Lapse in Ethics Clearance: N/A

Regards,

Albert F. Clark

Albert F. Clark, PhD
Chair, Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board

The HSREB operates in compliance with, and is constituted in accordance with, the requirements of the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2); the international Conference on Harmonisation Good Clinical Practice Consolidated Guideline (ICH GCP); Part C, Division 5 of the Food and Drug Regulations; Part 4 of the Natural Health Product Regulations; Part 3 of the Medical Devices Regulations, and the provisions of the Ontario Personal Health Information Protection Act (PHIPA 2004) and its applicable regulations. The HSREB is qualified through the CTO REB Qualification Program and is registered with the U.S. Department of Health and Human Services (DHHS) Office for Human Research Protection (OHRP). Federalwide Assurance Number: FWA#: 00004184, IRB#: 00001173. HSREB members involved in the research project do not participate in the review, discussion or decision.

Appendix G: Calculation of Minimal Detectable Risks

$$\text{RR - 1} = \frac{(Za+Zb) \pm [(Za+Zb)^2 + 8p1(Za+Zb)[n+(Za+Zb)]]^{1/2}}{2p1(n+(Za+Zb))}$$

Parameter Definitions

N: Total sample size

α: Probability of falsely rejecting the null hypothesis (Type I error)

(Z_a = 1.96)

β: Probability of correctly rejecting the null hypothesis that the relative risk is equal to 1

(Z_B = 0.84 for 80% power)

p_0: Probability of the outcome among unexposed participants **p_1**: Probability of the outcome among exposed participants **p**: Weighted average of p_0 and p_1

Formula: _____!""##$!$%

n: Number of participants in the exposed group

m: Ratio of unexposed to exposed participants

RR: Smallest RR, greater than 1, that can be detected with a specified power and fixed sample size (Smallest Detectable Difference)

Model	Exposed	Unexposed	N	α	β	p_0	p_1	p	n	m	RR
1: Social Status	Sexual Abuse	Transactional	2088	0.05	0.80	0.59[a]	0.318[b]	0.454	949	1	1.09
		Consensual					0.58[b]	0.585			1.05
2: Institutional Support	Sexual Abuse	Transactional	2088	0.05	0.80	0.085[a]	.362[b]	0.2235	949	1	1.06
		Consensual									

a. Taken from data given on stigma surrounding social status and health care service support among sex workers with and without HIV in Zimbabwe

Source:

Hargreaves, J. R., Busza, J., Mushati, P., Fearon, E., & Cowan, F. M. (2016). Overlapping HIV and sex-work stigma among female sex workers recruited to 14 respondent-driven sampling surveys across Zimbabwe, 2013. https://doi.org/10.1080/09540121.2016.1268673

b. Range taken from data given on community stigma from sexual violence and sexual violencerelated pregnancies within the DRC.

Sources:

Albutt, K., Kelly, J., Kabanga, J., & Vanrooyen, M. (2017). Stigmatisation and rejection of survivors of sexual violence in eastern Democratic Republic of the Congo. https://doi.org/10.1111/disa.12202

Shada Rouhani, Jennifer Scott, Ashley Greiner, Katherine Albutt, Michele R. Hacker, Philipp Kuwert, Michael VanRooyen, and S. B. (2016). Stigma and Parenting Children Conceived From Sexual Violence. *Pediatrics*, *136*(5). https://doi.org/10.1542/peds.2014-3373