Research Article

Mental Health Among Asian and Latina Survivors of International Criminal Sex Trafficking in New York City

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Abstract

Asian and Latina survivors of international criminal sex trafficking often face profound mental health challenges, yet research on this group remains limited. This study examines mental health outcomes and correlates among 94 survivors in New York City using a Community-Based Participatory Research approach. Multivariable logistic regression identified factors associated with depression, posttraumatic stress disorder (PTSD), and comorbid symptoms. Survivors reported high rates of depression (41.9%), PTSD (41.3%), and co-occurring symptoms (26.6%). Pain and forced abortion were significantly associated with PTSD and comorbidity. Findings highlight the need for trauma-informed, culturally appropriate mental health interventions addressing pain and reproductive coercion to support survivor recovery.

Keywords

mental health, human trafficking, Asian, Hispanic, gender equity

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Introduction

In 2000, the U.S. Department of Justice enacted the Trafficking Victims Protection Act, explicitly defining criminal sex trafficking as

> the recruitment, harboring, transportation, provision, obtaining, patronizing, or soliciting of a person for the purpose of a commercial sex act in which a commercial sex act is induced by force, fraud, or coercion, or in which the person induced to perform such act has not attained 18 years of age. (Victims of Trafficking and Violence Protection Act, 2000)

As a prominent form of gender-based violence, an estimated 4.8 million individuals were sex trafficked in 2016 globally, of which 3.8 million were adults, 1 million were children, and 99% were women or girls (Ecker, 2022). Despite its magnitude, sex trafficking is a poorly understood issue with outdated estimates regarding its true incidence, owing partially to the clandestine nature of the crime (International Organization for Migration, 2005).

A lack of centralized data collection on the number of individuals trafficked in the United States contributes to inaccuracy in recognizing the scope of sex trafficking. The Combat Human Trafficking Act of 2015 (CHTA) requires the Department of Justice to annually measure and analyze the nationwide incidence of human trafficking, describe characteristics of human trafficking victims and offenders, and clearly outline the criminal justice system response to these offenses. Yet, the CHTA mostly refers to cases officially referred to U.S. attorneys for human trafficking offenses and is likely a gross underestimate of actual incidents of human trafficking. Despite these limitations, the data trends underscore steady increases in the number of human trafficking offenses reported to the Department of Justice—in the 2020 fiscal year, 2,198 individuals were referred to U.S. attorneys, accounting for a 62% increase from 2011 (Lauger et al., 2022). Polaris, which operates the U.S. National Human Trafficking Hotline, received 10,359 reports on situations of human trafficking involving 16,554 individuals in 2021 alone, where about 68% of those individuals were trafficked for sex (Polaris, 2021). The most reported types of trafficking involved escort services, pornography, and illicit massage, health, and beauty services.

Survivors of sex trafficking experience physical, sexual, financial, and psychological violence, leading to profound impacts on their health and well-being. Further, many trafficked individuals often experience prolonged violence and trauma throughout their entire trafficking journey. This begins with pre-trafficking trauma of childhood sexual abuse and intimate partner violence (Chen et al., 2023; Hopper & Gonzalez, 2018) and continues with victimization during trafficking by traffickers, sex buyers, and law enforcement officers (Footer et al., 2019; Reid, 2016). Even after exiting their trafficking victimization, survivors may still experience intimate partner violence, remain at risk for re-trafficking, and may engage in commercial sex (Chen et al., 2023; Haney et al., 2020; Jiwatram-Negrón & El-Bassel, 2019), where they are further exposed to violence from sex buyers and law enforcement.

This poly-victimization shapes mental health issues among survivors, including depression, anxiety, posttraumatic stress disorder (PTSD), and suicide attempts (Chen et al., 2023; Hossain et al., 2010; Levine, 2017; Macias-Konstantopoulos, 2016; Muftić & Finn, 2013; Mumey et al., 2020; Rimal & Papadopoulos, 2016). Although survivors of sex-trafficking and labor-trafficking experience comparable rates of depression and PTSD, one comparison study found that sex-trafficking survivors had more severe PTSD and complex PTSD than labor-trafficking survivors and were more likely to report comorbid PTSD and depression (Hopper & Gonzalez, 2018). Survivors who spend more time in trafficking situations also report higher rates of depression and anxiety symptoms (Hossain et al., 2010).

Two consequences of trafficking that have not gained much attention in scholarly literature are pain and forced abortion. Chronic pain has been found among survivors of other gender-based violence, such as intimate partner violence (Wuest et al., 2010) and child abuse (Kendall-Tackett et al., 2003). A systematic review found that trafficked individuals report increased rates of physical pain, such as stomach pain, back pain, and headaches (Ottisova et al., 2016). However, the relationship between mental health issues and pain among survivors of sex trafficking is not well understood.

Moreover, forced or coerced abortion is a form of gender-based violence used by sex traffickers and government policy (Coyle et al., 2015). This form of violence is used by traffickers to control, coerce, and entrap survivors of sex trafficking through forcing women to have multiple abortions, often late into pregnancy, forcing them to continue sex work shortly after abortions, and requiring survivors to pay the abortion costs (Acharya, 2014; Coyle et al., 2015; Reid, 2016). Women from China may have been subjected to forced abortions through the one-child family policy (1979–2015), a government program implemented to restrict families to one child to prevent rapid population growth (Kane & Choi, 1999), which was replaced by a two-child policy effective in 2016, with penalties for a third child lifted in 2021 (Mullen, 2021). The one-child policy resulted in the use of violent strategies to ensure adherence to the policy, including forced abortion and sterilization (Coyle et al., 2015; Kane & Choi, 1999; Li, 2012). Thus, certain populations of trafficking survivors, such as migrant women from China, may be particularly at risk for experiencing multiple forced abortions. Similarly, high forced abortion rates have been reported among Latina survivors of sex trafficking residing in Mexico, usually following unwanted pregnancies (Acharya, 2010), with misoprostol widely used for abortion among Latin American women over the past three decades (Zamberlin et al., 2012). Little is known in the literature about the forced abortions among Latina women survivors of trafficking in the United States, including the specific methods traffickers use to induce abortions. However, the forced use of misoprostol by traffickers has been documented in federal case law (Flores-Mendez v. United States of America, 2018). The psychological and physical trauma experienced by survivors of forced abortion are likely to contribute to health complications (Macias-Konstantopoulos, 2016) and severe psychological distress, such as depression and PTSD or both (Alexander et al., 2021; Daugirdaitė et al.,

2015; Muñoz et al., 2023). Yet, the relationship between mental health and forced abortion has not been examined among survivors of sex trafficking.

Survivors of sex trafficking encounter a myriad of oppressive systems that place them at risk for being trafficked or re-trafficked, inhibit them from escaping trafficking, and prevent them from getting treatment and support for the trauma and associated mental, physical, and reproductive health concerns they experience. The intersectionality framework calls for an explicit interrogation of the various systems of privilege and oppression that are reinforced by one another and perpetuate further inequities among vulnerable populations (Bowleg, 2012; Crenshaw, 1989). Survivors of sex trafficking are more likely to have lower education levels, a lower socioeconomic status, involvement in the foster care or child welfare system, experiences with homelessness, and have survived other forms of physical and sexual abuse and violence (Chen et al., 2023; Gerassi & Skinkis, 2020; Hopper & Gonzalez, 2018). These co-occurring, interlocking vulnerabilities not only place them at higher risk for sex trafficking but also for being re-trafficked. Similarly, rather than receiving treatment and support around reintegration into society, survivors of trafficking are often targeted by the criminal legal system: in a community study analyzing criminal justice involvement of survivors of human trafficking, 91% of respondents reported having a criminal record due to being trafficked (Marsh et al., 2019). In addition to repeated threats by traffickers, a criminal record and financial dependency on trafficked commercial sexual activity limit individuals' ability to escape and further contribute to prolonged psychological distress and mental health challenges.

Furthermore, Polaris found that, of those with a known risk factor or vulnerability, more than half (54%) reported experiencing recent migration and/or relocation. This underscores both the geographically fluid nature of trafficking and the vulnerability of migrants to sex trafficking. Although the race or ethnicity of trafficked individuals is usually unknown due to the lack of reliable data on this population, Asian and Latina women comprised 10% of the 20% survivors with a known race or ethnicity in the 2021 Polaris Report. A large proportion of Asian and Latina survivors of international sex trafficking in New York City (Polaris, 2018) migrated from countries with economic turmoil and political violence, exposure to which is related to PTSD (Gaviria & Rondon, 2010). The typology of trafficking differs significantly between Latina and Asian survivors in New York City: Latina trafficked individuals are commonly trafficked through residential brothels, cantinas, and escort services, whereas Asian individuals, largely Chinese and Korean, are trafficked through illicit massage, health, and beauty services (Polaris, 2017, 2018). Despite these differences, both Latina and Asian survivors of sex trafficking experience similar intersecting systemic barriers, such as extreme financial hardship from supporting family members in their home countries and paying off debt to immigration smugglers, which can range from $40,000 to $60,000 (Chin & Finckenauer, 2012; Goldenberg et al., 2017; Nemoto et al., 2004). Migrant Asian and Latina women may also be confined and limited by their documentation status, English language proficiency, limited economic opportunities, and systemic racism and xenophobia, placing them at risk for first-time trafficking

and revictimization of sex trafficking (Chen et al., 2023; Gerassi & Skinkis, 2020; Polaris, 2017). These intersecting barriers and forms of violence further prevent Asian and Latinx survivors from gaining access to care and treatment for their mental, physical, and reproductive health.

While a growing body of public health research recognizes the importance of examining the deleterious impacts of sex trafficking, there exists virtually no peer-reviewed literature on the mental health consequences of international criminal sex trafficking and their correlates among individuals residing in urban hotspots in the United States. Thus, this study aims to understand mental health status and its correlates among Asian and Latina women survivors of international criminal sex trafficking in New York City.

Methods

Study Design and Guiding Principles

This cross-sectional study was guided by community-based participatory research (CBPR) and trauma-informed research principles, as detailed elsewhere (Lim et al., 2023). CBPR emphasizes the equitable sharing of power among participants, community partners, and researchers (Collins et al., 2018; Kwon et al., 2018). We partnered with Sanctuary for Families (Sanctuary), one of the largest U.S. service providers for survivors of gender-based violence, and engaged them throughout the research process, including the development of research questions and surveys, participant recruitment, data collection, and the interpretation and dissemination of findings. Sanctuary has a dedicated anti-trafficking program that served nearly 175 international sex trafficking survivors from East Asia and 180 of Latina origin during the 2019–2020 fiscal year (Sanctuary for Families, 2023).

In line with these trauma-informed approaches to prevent re-traumatizing participants (Elliott et al., 2005; Huang et al., 2014), several protective measures were implemented during the study. Sanctuary staff, rather than the research team, initiated the first contact with survivors and assessed their emotional readiness for participation. The survey avoided directly addressing the topic of sex trafficking and was reviewed by mental health counselors for appropriateness. In addition, a counselor was available during and after survey completion for participants who required support.

Participants and Procedures

To be eligible for the study, participants had to meet the following criteria: (a) self-identify as an Asian or Latina adult woman (aged 18 or older); (b) born outside the United States; (c) be a survivor of international criminal sex trafficking, as defined by the Victims of Trafficking and Violence Protection Act of 2000; (d) be a client of Sanctuary; and (e) be assessed by Sanctuary staff as emotionally suited for study participation.

Surveys were made available in English, Simplified Chinese, Korean, and Spanish. To ensure linguistic accuracy, cultural relevance, and the use of trauma-informed

language, both the original English version and its translations were reviewed and approved by Sanctuary staff. Participants completed the survey independently using pencil and paper, and research team members later entered the responses into the REDCap database. Completion of the survey took approximately 20 min, and participants received a $60 gift card as compensation. The study was approved by the Institutional Review Board of New York University Langone Health.

Measures

The survey included measures on mental health status, violence victimization, other health measures, and sociodemographic characteristics.

Mental health status included: (a) Depressive symptoms, measured by the Patient Health Questionnaire-9 (PHQ9) (Kroenke et al., 2001). The PHQ-9 measures the frequency of depressive symptoms over the past 2 weeks, including loss of interest, depressed mood, fatigue, and changes in appetite. A cutoff score of $\geq$10 was used to indicate moderate to severe depressive symptoms, optimizing the measure's sensitivity and specificity for detecting major depression (Levis et al., 2019); (b) PTSD, measured by the 5-item Primary Care PTSD Screen for DSM-5 (PC-PTSD-5; Prins et al., 2016). This measure assesses trauma-related symptoms experienced in the past month, such as emotional numbness, avoidance, and heightened alertness. A total score of 3 or higher indicates the presence of PTSD in women (Prins et al., 2016); and (c) comorbid symptoms of depression and PTSD, defined as meeting the criteria for both moderate to severe depressive symptoms and PTSD.

Violence exposures included the following: (a) Child physical or sexual abuse assessed physical harm by a household adult (e.g., being hit, beaten, or kicked) or forced unwanted sexual contact; it was measured by items adapted from the Adverse Childhood Experiences (ACE) module used in the Behavioral Risk Factor Surveillance System (BRFSS; Centers for Disease Control and Prevention, 2019) and the ACE International Questionnaire (World Health Organization, 2018); (b) Intimate partner violence included any past-year experiences of physical, emotional, or sexual violence, or coercion into commercial sex for money by a current or recent partner, measured using four items adapted from the Revised Conflict Tactics Scale (CTS-2) (Straus et al., 1996); individuals without intimate partners were classified as having no exposure to partner violence; (c) Client violence perpetrated by sex buyers was measured by assessing lifetime experiences of physical assault, forced sexual acts, threats involving law enforcement or immigration, theft, and condom refusal against participant's objections, using five items adapted from the CTS-2 (Straus et al., 1996) and the Sanctuary intake form; and (d) Police violence evaluated lifetime experiences of physical violence, coerced sexual acts, threats of law enforcement or immigration involvement, and theft by police officers, assessed using four items adapted from the CTS-2 (Straus et al., 1996) and the Sanctuary intake form. All violence variables were recorded as binary outcomes (Yes/No) to indicate the presence of each type of violence.

Other health measures included: (a) Self-rated health, assessed by a single-item measure of perceived general health. Participants were asked to rate their overall health on a five-point scale from "excellent" to "poor," as employed in the BRFSS (Centers for Disease Control and Prevention, 2019). Responses were dichotomized into "Poor/Fair" versus "Excellent/Very Good/Good"; (b) Pain, measured using a single-item question developed in collaboration with our community partner Sanctuary, as women frequently reported bodily pain to Sanctuary staff. Participants were asked to rate the frequency of sharp or ongoing pain in any part of their body over the past 2 weeks. Responses were dichotomized as "Yes" or "No"; (c) Forced abortion, evaluated among participants who had ever undergone abortions. Women were asked whether they had ever been coerced into having an abortion by someone, with response options of "Yes" or "No"; (d) Smoking history, assessed using a BRFSS-derived single-item measure that asked whether participants had smoked at least 100 cigarettes in their lifetime (Centers for Disease Control and Prevention, 2019), with response options of "Yes" or "No;" (e) Binge drinking, assessed among participants who had consumed alcohol in the past 30 days. Those who reported consuming four or more drinks in a single sitting were categorized as engaging in binge drinking, following BRFSS guidelines for women (Centers for Disease Control and Prevention, 2019).

Sociodemographic characteristics were selected based on existing evidence on factors associated with mental health among marginalized women, including survivors of sex trafficking (Kalinowski et al., 2025; Ottisova et al., 2016). These variables included age, race/ethnicity, marital status, motherhood status (i.e., whether participants had children), limited English proficiency, educational attainment, employment status, health insurance, housing status, and current debt.

Analysis

Chi-square tests and *t*-tests were conducted to examine the bivariate associations between each mental health outcome (i.e., depression, PTSD, and comorbid symptoms) and key variables of interest, including violence victimization, other health measures (i.e., self-rated health, pain, forced abortion, smoking, and binge drinking), and sociodemographic characteristics. Variables that were significant at $p < .05$ in bivariate analyses and had a cell size greater than five were included in the respective multivariable logistic regression models for depression, PTSD, and comorbid symptoms. All analyses were performed using SAS 9.4 (Cary, NC).

Results

Sample Characteristics

Detailed sample characteristics are reported elsewhere (Cao et al., 2026) and summarized in Table 1. The study included 95 women with a mean age of 41.3 years ($SD = 9.7$). The majority self-identified as Asian (71.3%), had children (79.8%), and

reported limited English proficiency (94.6%). More than half of them were born in China (56.4%), followed by Mexico (16.0%) and Korea (9.6%). Participants faced significant socioeconomic challenges: 66.0% had less than a high school education, 34.0% were unemployed, 52.7% were in debt, and 75.3% had a history of arrest in the United States. Additionally, nearly one-fifth (19.0%) lacked stable housing.

Regarding violence exposure, 71.3% reported experiencing lifetime client violence, 62.4% reported child physical or sexual abuse, 17.0% reported lifetime police violence, and 10.6% experienced intimate partner violence in the past year.

Health challenges were common: 48.4% rated their health as poor to fair, 54.8% reported pain, and 41.5% reported a history of forced abortion. In addition, 26.3% had smoked more than 100 cigarettes in their lifetime, and 19.0% reported binge drinking.

Depression and PTSD Symptoms

Mental health concerns were prevalent, with 41.9% experiencing moderate to severe depression, 41.3% reporting PTSD symptoms, and 26.6% experiencing both depression and PTSD. No significant group differences in depression, PTSD, or comorbid symptoms were observed between Asian and Latina women ($p > .10$).

Although client violence, poor self-rated health, pain, and forced abortion were associated with moderate to severe depression in bivariate analyses ($p < .05$), none remained statistically significant in the adjusted multivariable logistic regression model for depression (Table 1). In the adjusted multivariable logistic regression model for PTSD, women who reported pain had three times higher odds of experiencing PTSD symptoms (adjusted odds ratio [aOR] = 3.00, 95% confidence interval [CI]: 1.07–8.38), as did those with a history of forced abortion (aOR = 2.96, 95% CI: 1.14–7.70). Similarly, women reporting pain had over six times higher odds of experiencing comorbid symptoms of depression and PTSD (aOR = 6.45, 95% CI: 1.62–25.76), while those with a history of forced abortion had nearly four times higher odds (aOR = 3.73, 95% CI: 1.19–11.66).

Discussion

The current study significantly contributes to the scarce body of research on the mental health status and its correlates among Asian and Latina survivors of international criminal sex trafficking in New York City, a highly marginalized group facing multiple forms of oppression and socioeconomic disadvantages. Survivors in our study experienced a high burden of violence: lifetime client violence (71.3%), child physical or sexual abuse (62.4%), lifetime police violence (17.0%), and past-year intimate partner violence (10.6%). They also faced significant mental health challenges: moderate to severe depression (41.9%), PTSD symptoms (41.3%), and co-occurring depression and PTSD (26.6%). Surprisingly, our findings did not identify any significant correlates of depression alone. However, forced abortion and pain emerged as significant

Table 1. Sociodemographic Characteristics, Violence Victimization, and Health Indicators Among Survivors of Sex Trafficking ($N = 95$).

	Total ($N = 95$)	Depression		p	AOR (95% CI)	PTSD		p	AOR (95% CI)	Comorbid Symptoms of Depression and PTSD		p	AOR (95% CI)
		None to Mild ($n = 55$, 57.9%)	Moderate to Severe ($n = 40$, 42.1%)			No ($n = 56$, 59.6%)	Yes ($n = 38$, 40.4%)			No ($n = 69$, 73.4%)	Yes ($n = 25$, 26.6%)		
Sociodemographic Characteristics													
Age, mean (*SD*)	41.5 (9.8)	40.3 (8.9)	43.1 (10.9)	.17	–	41.7 (8.7)	41.1 (11.4)	.77	–	40.9 (9.0)	42.8 (12.0)	.40	–
Marital status													
Not partnered[a]	69 (76.7)	38 (74.5)	31 (79.5)	.58	–	39 (75.0)	29 (78.4)	.71	–	49 (75.4)	19 (79.2)	.71	–
Partnered	21 (23.3)	13 (25.5)	8 (20.5)			13 (25.0)	8 (21.6)			16 (24.6)	5 (20.8)		
Have child (ren)	76 (79.8)	42 (76.4)	34 (85.0)	.30	–	47 (83.9)	28 (73.7)	.22	–	53 (76.8)	22 (88.0)	.23	–
Race/Ethnicity													
Asian	67 (70.5)	40 (72.7)	27 (67.5)	.58	–	38 (67.9)	29 (76.3)	.37	–	49 (71.0)	18 (72.0)	.93	–
Latina	28 (29.5)	15 (27.3)	13 (32.5)			18 (32.1)	9 (23.7)			20 (29.0)	7 (28.0)		
Limited English proficiency	89 (93.7)	50 (90.9)	39 (97.5)	.16	–	52 (92.9)	36 (94.7)	.32	–	64 (92.8)	24 (96.0)	.35	–
Education (some high school or less)	63 (66.3)	36 (65.5)	27 (67.5)	.84	–	40 (71.4)	22 (57.9)	.17	–	46 (66.7)	16 (64.0)	.81	–
Employed	62 (65.3)	37 (67.3)	25 (62.5)	.63	–	38 (67.9)	24 (63.2)	.64	–	48 (69.6)	14 (56.0)	.22	–
Had health insurance	72 (82.8)	42 (85.7)	30 (79.0)	.41	–	44 (86.3)	28 (77.8)	.30	–	53 (84.1)	19 (79.2)	.21	–
Housing													
Stable	77 (81.0)	46 (83.6)	31 (77.5)	.45	–	48 (85.7)	28 (73.7)	.15	–	59 (85.5)	17 (68.0)	.04	3.13 (0.82, 11.95)
Temporary place/ shelter	18 (19.0)	9 (16.4)	9 (22.5)			8 (14.3)	10 (26.3)			10 (14.5)	8 (32.0)		
Current debt	49 (52.1)	25 (46.3)	24 (60.0)	.19	–	27 (48.2)	22 (57.9)	.36	–	34 (49.3)	15 (60.0)	.36	–
Violence	59 (62.8)	32 (58.2)	27 (69.2)	.27	–	28 (50.9)	30 (79.0)	.01	1.85	38 (55.9)	20 (80.0)	.03	1.03

(continued)

Table 1. Continued.

	Total ($N = 95$)	Depression		p	AOR (95% CI)	PTSD		p	AOR (95% CI)	Comorbid Symptoms of Depression and PTSD		p	AOR (95% CI)
		None to Mild ($n = 55$, 57.9%)	Moderate to Severe ($n = 40$, 42.1%)			No ($n = 56$, 59.6%)	Yes ($n = 38$, 40.4%)			No ($n = 69$, 73.4%)	Yes ($n = 25$, 26.6%)		
Childhood sexual or physical									(0.64, 5.34)				(0.27, 3.93)
Intimate partner	10 (10.5)	2 (3.6)	8 (20.0)	.02		2 (3.6)	8 (21.1)	0.01	3.10 (0.55, 17.36)	3 (4.4)	7 (28.0)	<.01	4.47 (0.86, 23.26)
Client	67 (71.3)	33 (61.1)	34 (85.0)	.01	3.13 (0.98, 10.00)	36 (65.5)	30 (79.0)	.16	–	45 (66.2)	21 (84.0)	.09	–
Police	16 (16.8)	9 (16.4)	7 (17.5)	.88	–	11 (19.6)	5 (13.2)	.41	–	14 (20.3)	2 (8.0)	.10	–
Health Indicators													
Self-rated health													
Very good	49 (51.6)	35 (63.6)	14 (35.0)	.01	0.40 (0.15, 1.05)	32 (57.1)	17 (44.7)	.24	–	40 (58.0)	9 (36.0)	.06	–
Poor/Fair	46 (48.4)	20 (36.4)	26 (65.0)			24 (42.9)	21 (55.3)			29 (42.0)	16 (64.0)		
Pain	51 (54.8)	22 (41.5)	29 (72.5)	<.01	2.28 (0.83, 6.22)	23 (41.8)	28 (73.7)	<.01	3.00* (1.07, 8.38)	30 (44.1)	21 (84.0)	<.01	6.45* (1.62, 25.76)
Forced abortion	39 (41.5)	17 (30.9)	22 (56.4)	.01	2.39 (0.90, 6.34)	17 (30.4)	22 (59.5)	.01	2.96* (1.14, 7.70)	23 (33.3)	16 (66.7)	<.01	3.73* (1.19, 11.66)
Smoke (>100 cigarettes lifetime)	25 (26.3)	16 (29.1)	9 (22.5)	.47	–	15 (26.8)	10 (26.3)	.96	–	20 (29.0)	5 (20.0)	.38	–
Binge drinking	18 (19.0)	11 (20.0)	7 (17.5)	.76	–	9 (16.1)	9 (23.7)	.36	–	12 (17.4)	6 (24.0)	.17	–

[a]Not partnered = divorced/widowed/separated/single; SD = standard deviation; PTSD = posttraumatic stress disorder;
An asterisk (*) indicates statistical significance.

factors associated with PTSD and comorbid symptoms of depression and PTSD. Our findings underscore the profound impact of physical pain and reproductive coercion on the mental health of sex trafficking survivors. This study has important implications for future research and services, emphasizing the need for trauma-informed, culturally appropriate, and holistic interventions to effectively address the complex mental health needs of this population.

Prior literature has consistently documented the strong linkages between various forms of violence, trauma, and depression in both the general population of women (Dillon et al., 2013; Dworkin, 2020; White & Satyen, 2015) and sex trafficking survivors (Oram et al., 2012; Ottisova et al., 2016). However, our findings unexpectedly did not identify any specific types of violence or traumatic events as significant correlates of depression alone. This may suggest a distinct pattern among international sex trafficking survivors, highlighting the profound psychological burden of trauma in this group. In particular, chronic psychological distress from trauma appears more likely to manifest as PTSD or co-occurring depression and PTSD, rather than depression in isolation. This interpretation is supported by existing research, which indicates that trauma-exposed populations often develop PTSD as their primary psychological response to severe stressors, with depression emerging as a secondary outcome when PTSD symptoms persist or intensify (Pierce et al., 2023; Stander et al., 2014). Indeed, international sex trafficking survivors often endure some of the most extreme forms and severity of violence and trauma, leading to prolonged psychological distress throughout the trafficking process. For instance, approximately half of Latina survivors were minors when initially sex trafficked (Polaris, 2018), and their traffickers, often their family members or intimate partners, commonly used physical and sexual abuse to prevent them from escaping (Reed et al., 2019; Reid, 2016). In our sample, an alarming prevalence of early and ongoing trauma exposure was observed: over 60% of women experienced childhood physical or sexual abuse and client violence from sex buyers. Moreover, the majority of sex trafficking survivors are often exposed to multiple forms of violence rather than a single type (Cao et al., 2026), reinforcing the cumulative and severe nature of trauma exposure among this group.

Forced abortion emerged as a key factor significantly contributing to higher odds of PTSD, both independently and in comorbidity with depression. This finding aligns with well-established literature indicating that women who have experienced reproductive coercion or loss, including forced abortion, are at significantly higher risk of developing PTSD (Alexander et al., 2021; Daugirdaitė et al., 2015; Muñoz et al., 2023). To be able to interpret these findings, it is essential to consider the unique experiences of Asian and Latina survivors of international sex trafficking. Survivors in this study may have experienced forced abortions under vastly varying contexts within and beyond sex trafficking. Within sex trafficking, pregnancy may disrupt a survivor's ability to engage in commercial sex and generate profits, heightening their risk of coercion into abortion by traffickers. Notably, threatening to terminate a woman's pregnancy has been documented as a common tactic used to enforce compliance and prevent escape from sex trafficking (Reid, 2016; Veldhuizen-Ochodničanová et al., 2020).

This echoes the lived experiences of many Latina survivors in our study, who verbally disclosed to anti-trafficking lawyers and staff members (author LC) that they were coerced, and at times, violently forced into abortion using misoprostol during the trafficking process. Although religious beliefs were not assessed in this study, they may provide important context for understanding how forced abortion contributes to poorer mental health among some Latina survivors. Prior research suggests that Evangelical or conservative Protestant affiliation is generally associated with stronger anti-abortion attitudes (Bartkowski et al., 2012; Holman et al., 2020). For some Latina survivors, particularly those whose religious beliefs regard abortion as morally unacceptable, being coerced into abortion may intensify guilt, abortion stigma, or spiritual distress (Frohwirth et al., 2018), thereby compounding psychological trauma and further exacerbating mental health symptoms.

While forced abortion within sex trafficking could be driven by traffickers seeking to maintain control and maximize profits, broader relational and sociopolitical factors, such as intimate partner violence and restrictive reproductive policies, may also contribute to its high prevalence among survivors. For instance, forced abortion can occur within intimate relationships as a form of intimate partner violence, reflecting the limited reproductive autonomy and power of survivors, which constrains their ability to make independent reproductive decisions (Grace & Anderson, 2018; Grace & Fleming, 2016; Moulton et al., 2021). Additionally, national and state-level reproductive policies, such as China's One-Child Policy (1979–2015), may have played a crucial role in shaping experiences of reproductive coercion from a life-course perspective. Given that all Chinese women in our study were in their reproductive years during the enforcement of this policy, it is plausible that it contributed to their experiences of forced abortion and the overall high prevalence observed among survivors. Similar policies enforcing reproductive coercion, such as the forced sterilization policy in the United States. that disproportionately targeted minoritized women, particularly Black women, have been documented as a severe type of psychological trauma (Freedman, 2023; Lawrence, 2014). Survivors of these policies often experienced a loss of identity as women, a sense of dehumanization, and prolonged psychological distress (Freedman, 2023; Lawrence, 2014; Nie, 2014), all of which could have detrimental effects on their mental health.

However, additional analysis (not displayed in results) revealed no significant differences in forced abortion rates among Chinese, Korean, and Latina survivors in this study, suggesting that factors beyond national policies may be at play. Therefore, attributing the high prevalence of forced abortion in the sample solely to the One-Child Policy would be premature. Regardless of the context, abortion itself could be a traumatic event with profound mental health consequences (Bellieni & Buonocore, 2013; Coleman, 2011). When abortion is forced, it may further intensify PTSD and depression symptoms among survivors, amplifying the psychological impact of trauma. Future research should examine the timing, circumstances, and causes of forced abortion in relation to sex trafficking experiences to develop a more nuanced understanding of its role as a psychological stressor, which will allow

researchers and service providers to identify optimal strategies for supporting survivors' reproductive autonomy while mitigating adverse mental health consequences. Although evidence-based strategies to address reproductive health among similarly marginalized and seldom heard groups, such as women engaged in commercial sex, remain in their early stages (Johnson et al., 2023), they may offer valuable insights into how to best support the reproductive health needs of sex trafficking survivors. For example, the Mobile Access Project, a nightly peer-based outreach service, provides street-based women engaged in commercial sex with a safe space to rest, eat, access harm reduction supplies, report client violence, and receive referrals to health and social services (Deering et al., 2011). Integrating reproductive health resources into such outreach programs could be a promising first step in efforts to address the unique needs of sex trafficking survivors.

Pain was identified as another significant factor associated with PTSD and co-occurring symptoms of depression and PTSD in our study, contributing to the limited body of literature on the relationship between pain and mental health among international sex trafficking survivors. The bidirectional relationship between pain and mental health, shaped by complex biological, psychological, and social mechanisms, is well-documented in the general population (Gasperi et al., 2021; Gatchel, 2004; Hooten, 2016; Siqveland et al., 2017). A meta-analysis indicates that the prevalence of PTSD symptoms can be as high as 20.4% among individuals with chronic pain (Siqveland et al., 2017). However, how these relationships manifest among international sex trafficking survivors remains underexplored and must be understood within the broader context of their prolonged exposure to trauma and violence.

Survivors of international sex trafficking frequently encounter violence from multiple perpetrators, including sex buyers, law enforcement officers, and intimate partners (Cao et al., 2026), all of which may contribute to chronic pain. This pain often persists long after trafficking ends, reinforcing its intricate connection with mental health outcomes. Pain could be understood as a direct consequence of cumulative trauma and violence exposure, a pattern observed in other trauma-exposed groups. Research on child abuse and intimate partner violence survivors has demonstrated similar complex interactions between violence, chronic pain, and mental health (Ford-Gilboe et al., 2023; Humphreys et al., 2010; Nordin & Perrin, 2019; Wuest et al., 2010). Our findings also align with these patterns. While certain forms of violence, such as child abuse and intimate partner violence, were significantly associated with PTSD and comorbid depression and PTSD in bivariate analyses, these associations were no longer significant in the adjusted multivariable logistic model, where pain remained a significant factor. This might suggest that pain functions as a key mechanism through which trauma continues to impact mental health outcomes among survivors. Future research should further explore this hypothesis using study designs, such as longitudinal designs, that allow for valuable insights into causality and temporality in these relationships.

Another plausible explanation for these associations is that pain, a common somatic symptom, may serve as a manifestation of mental health symptoms throughout the trafficking process. Pain is not always purely biophysiological, which may be particularly

relevant for Asian and Latina sex trafficking survivors. Indeed, research consistently suggests that individuals of Asian origin tend to somatize mental health symptoms, expressing them as physical complaints rather than identifying them as psychological distress (Kramer et al., 2002; Park & Bernstein, 2008; Sanchez & Gaw, 2007; Sue et al., 2012). In many Asian cultures, individuals with mental health symptoms, especially women, often report pain in specific body areas (e.g., head, chest, lower back) as a response to psychological distress (Oon-Arom et al., 2020). Similarly, Latina women are more likely than White women to report somatic symptoms when experiencing depressive symptoms (Lara-Cinisomo et al., 2020). Cultural norms in these communities often discourage the disclosure of mental health symptoms, as such expressions may be perceived as shameful or as adding burden on one's family or community (Caplan, 2019; Kim & Lee, 2022; Kwok, 2013; Lee et al., 2008; Mallonee et al., 2023; Park & Bernstein, 2008). By contrast, physical symptoms tend to carry less stigma than mental health symptoms, making somatization a more socially acceptable means of expressing psychological suffering (Bagayogo et al., 2013; Choi et al., 2016; Zhou et al., 2016).

Future research should explore the cultural and trauma-related factors that shape how survivors from different cultural and ethnic backgrounds experience and report mental health symptoms. Supporting the mind-body connection, a review found that standard PTSD treatments are effective in reducing chronic pain (Gupta, 2013). Given the complex interplay between mental and physical health, interventions should adopt a holistic approach to addressing survivors' health needs by helping them understand, connect, and manage both mental and physical symptoms more effectively. Culturally appropriate mind-body interventions, such as *Tai Chi*, meditation-based therapies, and other mindfulness programs, are evidence-based approaches (Burnett-Zeigler et al., 2016; Castellanos et al., 2019; Vasudev et al., 2019) that may be particularly beneficial for this group. These interventions could help survivors recognize the connection between psychological distress and physical symptoms, such as pain, thereby promoting their overall recovery from sex trafficking.

This study has several limitations. First, the relatively small sample size restricted our ability to conduct subgroup analyses to examine the unique correlates and mental health outcomes between Asian and Latina survivors, even though no significant differences in PTSD and depression were observed. Second, the single-item binary measure used in this study did not capture the trafficking and sociopolitical contexts in which forced abortion occurred, limiting our ability to understand the experiences of reproductive coercion from a life-course perspective. Third, pain was assessed using a single-item, binary-response measure with a 2-week timeframe, co-developed with our community partner. While this measure provides an initial assessment of pain in this seldom heard population, it does not capture its multidimensional nature, including location, intensity, perceived etiology, and functional impact. Future research should incorporate standardized, multidimensional pain assessments, such as the Brief Pain Inventory (Cleeland & Ryan, 1991, 1994), to facilitate comparisons with other trauma-exposed populations and enhance understanding of the relationship between

pain, trafficking experiences, and mental health outcomes. Additionally, the cross-sectional design of this study prevents us from establishing temporality and disentangling the directionality of the relationship between pain and mental health symptoms. Lastly, because all participants were referred to Sanctuary through court orders, they had access to some support services. Survivors not engaged in support services may present with different mental health profiles, potentially limiting the generalizability of our findings. Future research should aim to engage survivors outside of service networks to capture a more diverse and representative sample.

Conclusion

This study highlights the complex mental health challenges faced by Asian and Latina survivors of international sex trafficking, particularly the significant impact of pain and reproductive coercionon PTSD and comorbid depression symptoms. The associations between pain, forced abortion, and mental health symptoms underscore the critical need for trauma-informed, culturally appropriate interventions that address both physical and psychological health, taking a holistic approach to support the overall well-being and recovery of this highly marginalized and seldom heard group.

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Author Contributions

JC was responsible for the study's conceptualization, data analysis, and drafting the initial manuscript. NF wrote the first draft of the introduction. LC and JJC contributed to the manuscript's conceptualization. NF, LC, and JJC provided critical feedback and contributed to the review and editing of the final manuscript. SL oversaw the study's conceptualization, methodological design, and project administration, and reviewed the manuscript, providing additional feedback.

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The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

References

Acharya, A. K. (2010). Feminization of migration and trafficking of women in Mexico. *Revista de Cercetare și Intervenție Socială*, *30*, 19–38.

Acharya, A. K. (2014). Sexual exploitation and trafficking of women and girls in Mexico: An analysis on impact of violence on health Status. *Journal of Intercultural Studies*, *35*(2), 182–195. https://doi.org/10.1080/07256868.2014.885414

Alexander, K. A., Willie, T. C., McDonald-Mosley, R., Campbell, J. C., Miller, E., & Decker, M. R. (2021). Associations between reproductive coercion, partner violence, and mental health symptoms among young black women in Baltimore, Maryland. *Journal of Interpersonal Violence*, *36*(17-18), NP9839–NP9863. https://doi.org/10.1177/0886260519860900

Bagayogo, I. P., Interian, A., & Escobar, J. I. (2013). Transcultural aspects of somatic symptoms in the context of depressive disorders. In D. Bhugra & K. Bhui (Eds.), *Cultural psychiatry* (Vol. 33, pp. 64–74). Advances in Psychosomatic Medicine. Karger. https://doi.org/10.1159/000350057

Bartkowski, J. P., Ramos-Wada, A. I., Ellison, C. G., & Acevedo, G. A. (2012). Faith, race-ethnicity, and public policy preferences: Religious schemas and abortion attitudes among U.S. Latinos. *Journal for the Scientific Study of Religion*, *51*(2), 343–358. https://doi.org/10.1111/j.1468-5906.2012.01645.x

Bellieni, C. V., & Buonocore, G. (2013). Abortion and subsequent mental health: Review of the literature. *Psychiatry and Clinical Neurosciences*, *67*(5), 301–310. https://doi.org/10.1111/pcn.12067

Bowleg, L. (2012). The problem with the phrase women and minorities: Intersectionality—An important theoretical framework for public health. *American Journal of Public Health*, *102*(7), 1267–1273. https://doi.org/10.2105/AJPH.2012.300750

Burnett-Zeigler, I., Schuette, S., Victorson, D., & Wisner, K. L. (2016). Mind–body approaches to treating mental health symptoms among disadvantaged populations: A comprehensive review. *The Journal of Alternative and Complementary Medicine*, *22*(2), 115–124. https://doi.org/10.1089/acm.2015.0038

Cao, J., Chin, J. J., Cohen, L., & Lim, S. (2026). Poly-victimization patterns and their correlates among international Asian and Latina sex trafficking survivors in New York City. *Journal of Interpersonal Violence*, *41*(9–10), 1713–1735. https://doi.org/10.1177/08862605251321004

Caplan, S. (2019). Intersection of cultural and religious beliefs about mental health: Latinos in the faith-based setting. *Hispanic Health Care International*, *17*(1), 4–10. https://doi.org/10.1177/1540415319828265

Castellanos, R., Yildiz Spinel, M., Phan, V., Orengo-Aguayo, R., Humphreys, K. L., & Flory, K. (2019). A systematic review and meta-analysis of cultural adaptations of mindfulness-based interventions for Hispanic populations. *Mindfulness*, *11*(2), Article 2. https://doi.org/10.1007/s12671-019-01210-x

Centers for Disease Control and Prevention. (2019). *Behavioral Risk Factor Surveillance System Survey Questionnaire*. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

Chen, V. H., Beauchemin, E. L., Cuan, I. T., Sadana, A., Olulola-Charles, L., Leschi, J. E., & Ades, V. (2023). Sex trafficking in New York City and vulnerabilities to re-trafficking. *Journal of Interpersonal Violence*, *38*(21-22), 11501–11519. https://doi.org/10.1177/08862605231183452

Chin, K.-l., & Finckenauer, J. O. (2012). *Selling sex overseas: Chinese women and the realities of prostitution and global sex trafficking*. NYU Press.

Choi, E., Chentsova-Dutton, Y., & Parrott, W. G. (2016). The effectiveness of somatization in communicating distress in Korean and American cultural contexts. *Frontiers in Psychology*, *7*, Article 383. https://doi.org/10.3389/fpsyg.2016.00383

Cleeland, C. S., & Ryan, K. M. (1991). *The brief pain inventory*. Pain Research Group. 143–147.

Cleeland, C. S., & Ryan, K. M. (1994). Pain assessment: Global use of the brief pain inventory. *Annals of the Academy of Medicine, Singapore*, *23*(2), 129–138.

Coleman, P. K. (2011). Abortion and mental health: Quantitative synthesis and analysis of research published 1995–2009. *British Journal of Psychiatry*, *199*(3), 180–186. https://doi.org/10.1192/bjp.bp.110.077230

Collins, S. E., Clifasefi, S. L., Stanton, J, Straits, K. J. E., Gil-Kashiwabara, E., Rodriguez Espinosa, P., Nicasio, A. V., Andrasik, M. P., Hawes, S. M., Miller, K. A., Nelson, L. A., Orfaly, V. E., Duran, B. M., & Wallerstein, N. (2018). Community-based participatory research (CBPR): Towards equitable involvement of community in psychology research. *American Psychologist*, *73*(7), 884–898. https://doi.org/10.1037/amp0000167

Coyle, C. T., Shuping, M. W., Speckhard, A., & Brightup, J. E. (2015). The relationship of abortion and violence against women: Violence prevention strategies and research needs. *Issues in Law & Medicine*, *30*(2), 111–127.

Crenshaw, K. (1989). Demarginalizing the intersection of race and sex: A Black feminist critique of antidiscrimination doctrine, feminist theory and antiracist politics. *University of Chicago Legal Forum, 1989*(1), Article 8, 139–167.

Daugirdaitė, V., van den Akker, O., & Purewal, S. (2015). Posttraumatic stress and posttraumatic stress disorder after termination of pregnancy and reproductive loss: A systematic review. *Journal of Pregnancy*, *2015*(1), 646345. https://doi.org/10.1155/2015/646345

Deering, K. N., Kerr, T., Tyndall, M. W., Montaner, J. S. G., Gibson, K., Irons, L., & Shannon, K. (2011). A peer-led mobile outreach program and increased utilization of detoxification and residential drug treatment among female sex workers who use drugs in a Canadian setting. *Drug and Alcohol Dependence*, *113*(1), 46–54. https://doi.org/10.1016/j.drugalcdep.2010.07.007

Dillon, G., Hussain, R., Loxton, D., & Rahman, S. (2013). Mental and physical health and intimate partner violence against women: A review of the literature. *International Journal of Family Medicine*, *2013*, Article 313909. https://doi.org/10.1155/2013/313909

Dworkin, E. R. (2020). Risk for mental disorders associated with sexual assault: A meta-analysis. *Trauma, Violence, & Abuse*, *21*(5), 1011–1028. https://doi.org/10.1177/1524838018813198

Elliott, D. E., Bjelajac, P., Fallot, R. D., Markoff, L. S., & Reed, B. G. (2005). Trauma-informed or trauma-denied: Principles and implementation of trauma-informed services for women. *Journal of Community Psychology*, *33*(4), 461–477. https://doi.org/10.1002/jcop.20063

Ecker, E. (2022). *Breaking down global estimates of human trafficking: Human Trafficking Awareness Month 2022*. Human Trafficking Institute. https://traffickinginstitute.org/breaking-down-global-estimates-of-human-trafficking-human-trafficking-awareness-month-2022/

Flores-Mendez v. United States of America, No. 1:17-cv-02767. (S.D.N.Y. 2018). https://law.justia.com/cases/federal/district-courts/new-york/nysdce/1:2017cv02767/472536/3/

Ford-Gilboe, M., Varcoe, C., Wuest, J., Campbell, J., Pajot, M., Heslop, L., & Perrin, N. (2023). Trajectories of depression, post-traumatic stress, and chronic pain among women who have separated from an abusive partner: A longitudinal analysis. *Journal of Interpersonal Violence*, *38*(1–2), 1540–1568. https://doi.org/10.1177/08862605221090595

Freedman, A. (2023). Unfit for Motherhood: The Involuntary Sterilization and Systemic Reproductive Coercion of Black Women in the United States from 1920 to 1980. Honors Theses. https://scarab.bates.edu/honorstheses/435

Frohwirth, L., Coleman, M., & Moore, A. M. (2018). Managing religion and morality within the abortion experience: Qualitative interviews with women obtaining abortions in the U.S. *World Medical & Health Policy*, *10*(4), 381–400. https://doi.org/10.1002/wmh3.289

Footer, K. H. A., Park, J. N., Allen, S. T., Decker, M. R., Silberzahn, B. E., Huettner, S., Galai, N., & Sherman, S. G. (2019). Police-related correlates of client-perpetrated violence among female sex workers in Baltimore City, Maryland. *American Journal of Public Health*, *109*(2), 289–295. https://doi.org/10.2105/AJPH.2018.304809

Gasperi, M., Afari, N., Goldberg, J., Suri, P., & Panizzon, M. S. (2021). Pain and trauma: The role of criterion A trauma and stressful life events in the pain and PTSD relationship. *The Journal of Pain*, *22*(11), 1506–1517. https://doi.org/10.1016/j.jpain.2021.04.015

Gatchel, R. J. (2004). Comorbidity of chronic pain and mental health disorders: The biopsychosocial perspective. *American Psychologist*, *59*(8), 795–805. https://doi.org/10.1037/0003-066X.59.8.795

Gaviria, S. L., & Rondon, M. B. (2010). Some considerations on women's mental health in Latin America and the Caribbean. *International Review of Psychiatry*, *22*(4), 363–369. https://doi.org/10.3109/09540261.2010.500868

Gerassi, L. B., & Skinkis, S. (2020). An intersectional content analysis of inclusive language and imagery among sex trafficking-related services. *Violence and Victims*, *35*(3), 400–417. https://doi.org/10.1891/VV-D-18-00204

Goldenberg, S. M., Krüsi, A., Zhang, E., Chettiar, J., & Shannon, K. (2017). Structural determinants of health among im/migrants in the indoor sex industry: Experiences of workers and managers/owners in metropolitan Vancouver. *PLOS ONE*, *12*(1), e0170642. https://doi.org/10.1371/journal.pone.0170642

Grace, K. T., & Anderson, J. C. (2018). Reproductive coercion: A systematic review. *Trauma, Violence, & Abuse*, *19*(4), 371–390. https://doi.org/10.1177/1524838016663935

Grace, K. T., & Fleming, C. (2016). A systematic review of reproductive coercion in international settings. *World Medical & Health Policy*, *8*(4), 382–408. https://doi.org/10.1002/wmh3.209

Gupta, M. A. (2013). Review of somatic symptoms in post-traumatic stress disorder. *International Review of Psychiatry*, *25*(1), 86–99. https://doi.org/10.3109/09540261.2012.736367

Haney, K., LeBeau, K., Bodner, S., Czizik, A., Young, M. E., & Hart, M. (2020). Sex trafficking in the United States: A scoping review. *Journal of Evidence-Based Social Work*, *17*(6), 714–748. https://doi.org/10.1080/26408066.2020.1765934

Holman, M., Podrazik, E., & Mohamed, H. S. (2020). Choosing choice: How gender and religiosity shape abortion attitudes among Latinos. *Journal of Race, Ethnicity, and Politics*, *5*(2), 384–411. https://doi.org/10.1017/rep.2019.51

Hooten, W. M. (2016). Chronic pain and mental health disorders: Shared neural mechanisms, epidemiology, and treatment. *Mayo Clinic Proceedings*, *91*(7), 955–970. https://doi.org/10.1016/j.mayocp.2016.04.029

Hossain, M., Zimmerman, C., Abas, M., Light, M., & Watts, C. (2010). The relationship of trauma to mental disorders among trafficked and sexually exploited girls and women. *American Journal of Public Health*, *100*(12), 2442–2449. https://doi.org/10.2105/AJPH.2009.173229

Huang, L. N., Flatow, R., Biggs, T., Afayee, S., Smith, K., Clark, T., & Blake, M. (2014). SAMHSA's concept of trauma and guidance for a trauma-informed approach.

Humphreys, J., Cooper, B. A., & Miaskowski, C. (2010). Differences in depression, posttraumatic stress disorder, and lifetime trauma exposure in formerly abused women with mild versus moderate to severe chronic pain. *Journal of Interpersonal Violence*, *25*(12), 2316–2338. https://doi.org/10.1177/0886260509354882

Hopper, E. K., & Gonzalez, L. D. (2018). A comparison of psychological symptoms in survivors of sex and labor trafficking. *Behavioral Medicine*, *44*(3), 177–188. https://doi.org/10.1080/08964289.2018.1432551

Haney, K., LeBeau, K., Bodner, S., Czizik, A., Young, M. E., & Hart, M. (2020). Sex trafficking in the United States: A scoping review. Journal of Evidence–Based Social Work, 17(6), 714–748. https://doi.org/10.1080/26408066.2020.1765934

International Organization for Migration. (2005). Data and research on human trafficking: A global survey. International Organization for Migration. https://publications.iom.int/books/data-and-research-human-trafficking-global-survey

Jiwatram-Negrón, T., & El-Bassel, N. (2019). Overlapping intimate partner violence and sex trading among high-risk women: Implications for practice. *Women & Health*, *59*(6), 672–686. https://doi.org/10.1080/03630242.2018.1544967

Johnson, L., Potter, L. C., Beeching, H., Bradbury, M., Matos, B., Sumner, G., Wills, L., Worthing, K., Aldridge, R. W., & Feder, G. (2023). Interventions to improve health and the determinants of health among sex workers in high-income countries: A systematic review. *The Lancet Public Health*, *8*(2), e141–e154. https://doi.org/10.1016/S2468-2667(22)00252-3

Kalinowski, O., Lotysh, A., Kaya, G., Kroehn-Liedtke, F., Zerbe, L. K., Mihaylova, H., Sipos, K., Rössler, W., & Schouler-Ocak, M. (2025). Prevalence, risk and resilience factors of mental health conditions among female sex workers: A systematic review and meta-analysis. *Frontiers in Public Health*, *12*, 1455999. https://doi.org/10.3389/fpubh.2024.1455999

Kane, P., & Choi, C. Y. (1999). China's one child family policy. *BMJ*, *319*(7215), 992–994. https://doi.org/10.1136/bmj.319.7215.992

Kendall-Tackett, K., Marshall, R., & Ness, K. (2003). Chronic pain syndromes and violence against women. *Women & Therapy*, *26*(1–2), 45–56. https://doi.org/10.1300/J015v26n01_03

Kim, S. B., & Lee, Y. J. (2022). Factors associated with mental health help-seeking among Asian Americans: A systematic review. *Journal of Racial and Ethnic Health Disparities*, *9*(4), 1276–1297. https://doi.org/10.1007/s40615-021-01068-7

Kramer, E. J., Kwong, K., Lee, E., & Chung, H. (2002). Cultural factors influencing the mental health of Asian Americans. *The Western Journal of Medicine*, *176*(4), 227–231.

Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2001). The PHQ-9. *Journal of General Internal Medicine*, *16*(9), 606–613. https://doi.org/10.1046/j.1525-1497.2001.016009606.x

Kwok, J. (2013). Factors that influence the diagnoses of Asian Americans in mental health: An exploration. *Perspectives in Psychiatric Care*, *49*(4), 288–292. https://doi.org/10.1111/ppc.12017

Kwon, S. C., Tandon, S. D., Islam, N., Riley, L., & Trinh-Shevrin, C. (2018). Applying a community-based participatory research framework to patient and family engagement in the development of patient-centered outcomes research and practice. *Translational Behavioral Medicine*, *8*(5), Article 5. https://doi.org/10.1093/tbm/ibx026

Lara-Cinisomo, S., Akinbode, T. D., & Wood, J. (2020). A systematic review of somatic symptoms in women with depression or depressive symptoms: Do race or ethnicity matter? *Journal of Women's Health*, *29*(10), 1273–1282. https://doi.org/10.1089/jwh.2019.7975

Lauger, A. D., Kaeble, D., & Motivans, M. (2022). Human Trafficking Data Collection Activities, 2022. U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics. https://bjs.ojp.gov/library/publications/human-trafficking-data-collection-activities-2022

Lawrence, M. (2014). Reproductive rights and state institutions: The forced sterilization of minority women in the United States [Senior thesis, Trinity College]. Trinity College Digital Repository.

Lee, H. B., Hanner, J. A., Cho, S.-J., Han, H.-R., & Kim, M. T. (2008). Improving access to mental health services for Korean American immigrants: Moving toward a community partnership between religious and mental health services. *Psychiatry Investigation*, *5*(1), 14–20. https://doi.org/10.4306/pi.2008.5.1.14

Levine, J. A. (2017). Mental health issues in survivors of sex trafficking. *Cogent Medicine*, *4*(1), 1278841. https://doi.org/10.1080/2331205X.2017.1278841

Levis, B., Benedetti, A., & Thombs, B. D. (2019). Accuracy of patient health questionnaire-9 (PHQ-9) for screening to detect major depression: Individual participant data meta-analysis. *BMJ*, *365*, l1476. https://doi.org/10.1136/bmj.l1476

Li, Y. (2012). Reflections on the causes of forced abortion in China. *The Lancet*, *380*(9844), 804. https://doi.org/10.1016/S0140-6736(12)61447-0

Lim, S., Lee, S., Cohen, L., Chin, J. J., Trinh-Shevrin, C., & Islam, N. S. (2023). Factors influencing recovery and well-being among Asian survivors of international criminal sex trafficking in an urban US city. *Journal of Interpersonal Violence*, *38*(3-4), 2360–2386. https://doi.org/10.1177/08862605221101187

Macias-Konstantopoulos, W. (2016). Human trafficking: The role of medicine in interrupting the cycle of abuse and violence. *Annals of Internal Medicine*, *165*(8), 582. https://doi.org/10.7326/M16-0094

Mallonee, J., Escalante, R., Robles, E. H., & Tucker, C. (2023). "Something very taboo": A qualitative exploration of beliefs, barriers, and recommendations for improving mental health care and access for Hispanic adults in the Paso del Norte US-Mexico border region. *Frontiers in Public Health*, *11*, 1134076. https://doi.org/10.3389/fpubh.2023.1134076

Marsh, E., Anthony, B., Emerson, J., & Mogulescu, K. (2019). *State report cards: Grading criminal record relief laws for survivors of human trafficking*. Polaris. https://

polarisproject.org/resources/state-report-cards-grading-criminal-record-relief-laws-for-survivors-of-human-trafficking/

Moulton, J. E., Corona, M. I. V., Vaughan, C., & Bohren, M. A. (2021). Women's perceptions and experiences of reproductive coercion and abuse: A qualitative evidence synthesis. *PLoS One*, *16*(12), e0261551. https://doi.org/10.1371/journal.pone.0261551

Muftić, L. R., & Finn, M. A. (2013). Health outcomes among women trafficked for sex in the United States: A closer Look. *Journal of Interpersonal Violence*, *28*(9), 1859–1885. https://doi.org/10.1177/0886260512469102

Mullen, A. (2021, June 5). China's three-child policy: Why was it introduced and what does it mean? South China Morning Post. https://www.scmp.com/economy/china-economy/article/3136092/chinas-three-child-policy-why-was-it-introduced-and-what-does

Mumey, A., Sardana, S., Richardson-Vejlgaard, R., & Akinsulure-Smith, A. M. (2020). Mental health needs of sex trafficking survivors in New York City: Reflections on exploitation, coping, and recovery. *Psychological Trauma: Theory, Research, Practice, and Policy*, *13*(2), 185. https://doi.org/10.1037/tra0000603

Muñoz, E. A., Shorey, R. C., & Temple, J. R. (2023). Reproductive coercion victimization and associated mental health outcomes among female-identifying young adults. *Journal of Trauma & Dissociation*, *24*(4), 538–554. https://doi.org/10.1080/15299732.2023.2212407

Nemoto, T., Iwamoto, M., Wong, S., Le, M. N., & Operario, D. (2004). Social factors related to risk for violence and sexually transmitted infections/HIV among Asian massage parlor workers in San Francisco. *AIDS and Behavior*, *8*(4), 475–483. https://doi.org/10.1007/s10461-004-7331-4

Nie, J.-B. (2014). China's one-child policy, a policy without a future: Pitfalls of the "common good" argument and the authoritarian model. *Cambridge Quarterly of Healthcare Ethics*, *23*(3), 272–287. https://doi.org/10.1017/S0963180113000881

Nordin, L., & Perrin, S. (2019). Pain and posttraumatic stress disorder in refugees who survived torture: The role of pain catastrophizing and trauma-related beliefs. *European Journal of Pain*, *23*(8), 1497–1506. https://doi.org/10.1002/ejp.1415

Oon-Arom, A., Likhitsathian, S., Maneeton, B., Sulaiman, A. H., Shih-Yen, E. C., Udomratn, P., Chen, C.-H., & Srisurapanont, M. (2020). Subjective depressive symptoms associated with pain in patients with major depressive disorder: Findings from the study on the aspect of Asian depression. *Perspectives in Psychiatric Care*, *56*(1), 188–193. https://doi.org/10.1111/ppc.12403

Oram, S., Stöckl, H., Busza, J., Howard, L. M., & Zimmerman, C. (2012). Prevalence and risk of violence and the physical, mental, and sexual health problems associated with human trafficking: Systematic review. *PLOS Medicine*, *9*(5), e1001224. https://doi.org/10.1371/journal.pmed.1001224

Ottisova, L., Hemmings, S., Howard, L. M., Zimmerman, C., & Oram, S. (2016). Prevalence and risk of violence and the mental, physical and sexual health problems associated with human trafficking: An updated systematic review. *Epidemiology and Psychiatric Sciences*, *25*(4), 317–341. https://doi.org/10.1017/S2045796016000135

Park, S.-Y., & Bernstein, K. S. (2008). Depression and Korean American immigrants. *Archives of Psychiatric Nursing*, *22*(1), 12–19. https://doi.org/10.1016/j.apnu.2007.06.011

Pierce, B., Kirsh, T., Ferguson, A. R., Neylan, T. C., Ma, S., Kummerfeld, E., Cohen, B. E., & Nielson, J. L. (2023). Causal discovery replicates symptomatic and functional interrelations

of posttraumatic stress across five patient populations. *Frontiers in Psychiatry*, *13*, 1018111. https://doi.org/10.3389/fpsyt.2023.1018111

Polaris. (2017). The typology of modern slavery: Defining sex and labor trafficking in the United States. https://polarisproject.org/resources/the-typology-of-modern-slavery-defining-sex-and-labor-trafficking-in-the-united-states/

Polaris. (2018). Sex Trafficking in or from Latin America. https://polarisproject.org/resources/sex-trafficking-in-or-from-latin-america-research-overview-presentation/

Polaris Analysis of 2021 Data from the National Human Trafficking Hotline. (2021). Polaris. https://polarisproject.org/resources/us-national-human-trafficking-hotline-statistics/

Prins, A., Bovin, M. J., Smolenski, D. J., Marx, B. P., Kimerling, R., Jenkins-Guarnieri, M. A., Kaloupek, D. G., Schnurr, P. P., Kaiser, A. P., Leyva, Y. E., & Tiet, Q. Q. (2016). The primary care PTSD screen for DSM-5 (PC-PTSD-5): Development and evaluation within a veteran primary care sample. *Journal of General Internal Medicine*, *31*(10), 1206–1211. https://doi.org/10.1007/s11606-016-3703-5

Reed, S. M., Kennedy, M. A., Decker, M. R., & Cimino, A. N. (2019). Friends, family, and boyfriends: An analysis of relationship pathways into commercial sexual exploitation. *Child Abuse & Neglect*, *90*, 1–12. https://doi.org/10.1016/j.chiabu.2019.01.016

Reid, J. A. (2016). Entrapment and enmeshment schemes used by sex traffickers. *Sexual Abuse*, *28*(6), 491–511. https://doi.org/10.1177/1079063214544334

Rimal, R., & Papadopoulos, C. (2016). The mental health of sexually trafficked female survivors in Nepal. *International Journal of Social Psychiatry*, *62*(5), 487–495. https://doi.org/10.1177/0020764016651457

Sanchez, F., & Gaw, A. (2007). Mental health care of filipino americans. *Psychiatric Services*, *58*(6), 810–815. https://doi.org/10.1176/ps.2007.58.6.810

Sanctuary for Families. (2023). Sanctuary for Families Annual Report 2022–2023. Sanctuary for Families. https://sanctuaryforfamilies.org/wp-content/uploads/2024/03/Sanctuary-for-Families-Annual-Report-FY22-23.pdf

Siqveland, J., Hussain, A., Lindstrøm, J. C., Ruud, T., & Hauff, E. (2017). Prevalence of posttraumatic stress disorder in persons with chronic pain: A meta-analysis. *Frontiers in Psychiatry*, *8*, 164. https://doi.org/10.3389/fpsyt.2017.00164

Stander, V. A., Thomsen, C. J., & Highfill-McRoy, R. M. (2014). Etiology of depression comorbidity in combat-related PTSD: A review of the literature. *Clinical Psychology Review*, *34*(2), 87–98. https://doi.org/10.1016/j.cpr.2013.12.002

Straus, M. A., Hamby, S. L., Boney-McCoy, S., & Sugarman, D. B. (1996). The revised conflict tactics scales (CTS2): Development and preliminary psychometric data. *Journal of Family Issues*, *17*(3), 283–316. https://doi.org/10.1177/019251396017003001

Sue, S., Cheng, J. K. Y., Saad, C. S., & Chu, J. P. (2012). Asian American mental health: A call to action. *American Psychologist*, *67*(7), 532–544. https://doi.org/10.1037/a0028900

Vasudev, A., Torres-Platas, S. G., Kerfoot, K., Potes, A., Therriault, J., Gifuni, A., Segal, M., Looper, K. J., Nair, V., Lavretsky, H., & Rej, S. (2019). Mind-Body interventions in late-life mental illnesses and cognitive disorders: A narrative review. *The American Journal of Geriatric Psychiatry*, *27*(5), 536–547. https://doi.org/10.1016/j.jagp.2018.10.020

Veldhuizen-Ochodničanová, E., Jeglic, E. L., & Boskovic, I. (2020). Separate routes, similar crimes? Conceptualising differences between domestic and international sex traffickers in the United States. *International Journal of Law, Crime and Justice*, *62*, 100395. https://doi.org/10.1016/j.ijlcj.2020.100395

Victims of Trafficking and Violence Protection Act of 2000. (n.d.). Retrieved August 8, 2023, from https://nche.ed.gov/legislation/trafficking-violence-protection/

White, M. E., & Satyen, L. (2015). Cross-cultural differences in intimate partner violence and depression: A systematic review. *Aggression and Violent Behavior*, *24*, 120–130. https://doi.org/10.1016/j.avb.2015.05.005

World Health Organization. (2018). Adverse Childhood Experiences International Questionnaire. In Adverse Childhood Experiences International Questionnaire (ACE-IQ). [Website] Geneva: WHO. https://www.who.int/publications/m/item/adverse-childhood-experiences-international-questionnaire-(ace-iq)

Wuest, J., Ford-Gilboe, M., Merritt-Gray, M., Wilk, P., Campbell, J. C., Lent, B., Varcoe, C., & Smye, V. (2010). Pathways of chronic pain in survivors of intimate partner violence. *Journal of Women's Health*, *19*(9), 1665–1674. https://doi.org/10.1089/jwh.2009.1856

Zamberlin, N., Romero, M., & Ramos, S. (2012). Latin American women's experiences with medical abortion in settings where abortion is legally restricted. *Reproductive Health*, *9*(1), 34. https://doi.org/10.1186/1742-4755-9-34

Zhou, X., Peng, Y., Zhu, X., Yao, S., Dere, J., Chentsova-Dutton, Y. E., & Ryder, A. G. (2016). From culture to symptom: Testing a structural model of "Chinese somatization. *Transcultural Psychiatry*, *53*(1), 3–23. https://doi.org/10.1177/1363461515589708

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Sahnah Lim, PhD, MPH, is an associate professor at the NYU Grossman School of Medicine. As a health equity researcher, Dr Lim conducts community-engaged studies that seek to address gender-related health issues among hard-to-reach populations such as women in the sex industry and immigrant survivors of gender-based violence.