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Research article

Post-trafficking stressors: The influence of hopes, fears and expectations on the mental health of young trafficking survivors in the Greater Mekong Sub-region

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ABSTRACT

Background: Human trafficking and labor exploitation are prevalent in Southeast Asia and have substantial health consequences for children and adolescents. Research on pre-departure circumstances and trafficking experiences show that gender plays a key role in shaping the experience of exploited children and adolescents.

Objective: This study estimates how youth's concerns and hopes for the future influence the mental health outcomes of male and female children and adolescents.

Participants and Setting: Data were collected in face-to-face interviews with 517 children and adolescents (10–19 years old) who attended post-trafficking services between year 2010 and year 2013 in Cambodia, Thailand or Vietnam.

Methods: Multivariable logistic regression models were fitted to estimate the association of children and adolescents' post-trafficking concerns and hopes for the future with mental health outcomes, namely symptoms of depression, anxiety and Post Traumatic Stress Disorder (PTSD). The analysis was stratified by sex.

Results: In adjusted analysis, children and adolescents' concerns about social ostracization and maltreatment by others in their community of origin were associated with all three outcomes in males and with depression in females. Being concerned about their own mental health was associated with all outcomes, with a potentially stronger effect observed in males for depression (AOR 9.14, CI:1.21–68.68), anxiety (AOR 13.47, CI:1.70–106.48) and PTSD (AOR 8.36, CI:1.22–56.9) than in females where the odds for depression (AOR 3.24, CI:1.92–5.48), anxiety (AOR 3.05, CI:1.82–5.11) and PTSD (AOR 1.85, CI:1.08–3.14) were much lower.

Conclusions: Young people's post-trafficking care needs and reintegration planning should be designed based on their current mental health, personal security, family and financial resources and age-related capacity.

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1. Background

1.1. Child trafficking in Southeast Asia

The International Labour Organization (ILO) estimates that 40.3 million people were victims of modern slavery in 2016, among whom 24.9 million were in situation of forced labor. Women and girls are disproportionately affected by these abuses, and children represent 25% of victims (around 4.2 million children worldwide). Modern slavery is particularly pervasive in the Asia Pacific region (6.1 per 1000 people) where an estimated 62,077 children (aged 5–17 years old) were estimated to be engaged in child labor and 28,469 in hazardous work in 2016 (ILO, 2017).

Data from the United Nations Office on Drugs and Crime (UNODC) indicates that in the Greater Mekong Sub-region (GMS), irregular migration and trafficking from Cambodia, Lao PDR and Myanmar is intrinsically linked to economic migration and trafficking for forced labour (UNODC, 2017). In Thailand alone, an estimated 11% of the 3.4 million migrants are children, which suggests that a large number of these youth are at risk of trafficking and labour exploitation (Jampaklay, 2011).

The UNODC data also shows that most of the children who are transported or recruited for the purpose of exploitation in Thailand, therefore legally considered victims of trafficking (United Nations General Assembly, 2000), tend to be adolescents aged between 13 and 17 years, with most in the ages of 15 and 16 (UNODC, 2017).

There have been growing dialogues about post-trafficking options for people who are trafficked in Southeast Asia, which primarily favour return and reintegration to individuals' home countries versus integration into host countries (Fonseca, Hardy, & Adam, 2013; Surtees, 2013). Highly politicised debates have emphasised the costs to local and central governments, which has led to expediting family tracing and the return of unaccompanied migrant children to their countries of origin (Fonseca et al., 2013). However, research shows that many unaccompanied migrant children do not want to be returned to their families because of past abuse from family or other hazards in their local community (Fonseca et al., 2013).

1.2. The effect of young people's post-trafficking uncertainty on mental health

Research on forced labor and human trafficking describes the complex trauma experienced by children and the wide-ranging long-term effects of prolonged exposure to violence and abuse, neglect and exploitation (Kiss, Yun, Pocock, & Zimmerman, 2015; Oram, Khondoker, Abas, Broadbent, & Howard, 2015; Rafferty, 2008). These exposures have a lasting effect on children's biological integrity, emotional regulation, behavior, and cognitive functioning (Rafferty, 2008).

Research on the drivers, protective and risk factors for poor mental health outcomes among trafficking survivors have focused on pre-departure circumstances or working and living conditions during trafficking (Hopper & Gonzales, 2018; Hossain, Zimmerman, Abas, Light, & Watts, 2010; Iglesias-Rios, Harlow, Burgard, Kiss, & Zimmerman, 2018; Kiss, Yun et al., 2015; Kiss, Pocock et al., 2015; Ottisova, Hemmings, Howard, Zimmerman, & Oram, 2016; Pocock, Kiss, Oram, & Zimmerman, 2016; Rafferty, 2008). Virtually no studies have considered how survivors' hopes, fears and expectations of their future might influence their mental health. Various models have attempted to explain the interaction between daily stressors, past trauma and mental health, some describing the mediating role of daily stressors in the relationship between traumatic experiences and mental health (Miller & Rasmussen, 2010), other analysis finding no statistically significant association between distress and trauma exposure when accounting for the indirect effect of perceived needs (Jordans, Semrau, Thornicroft, & van Ommeren, 2012) while contradictory models suggest that poor mental health caused by traumatic experiences will change the perception of daily stressors of even generate new ones (Neuner, 2010). Although it is not uncommon to hear mental health professionals working with refugees and asylum seekers frequently discuss their clients' anxiety associated with uncertainties about their future, yet, there has been scant literature on what some have referred to as 'anticipatory stress' (Mansouri & Cauchi, 2007; Steel, 2003). Indeed, research has shown that social stressors, such as legal status, risk of deportation, housing instability and availability of services, are likely to exacerbate distress and perpetuate psychological symptoms (Altun, Abas, Zimmerman, Howard, & Oram, 2017; Domoney, Howard, Abas, Broadbent, & Oram, 2015; Hammen, 2005; Miller & Rasmussen, 2010). Uncertainty around people's future can also halt or reduce effectiveness of therapeutic interventions (Domoney et al., 2015). Additionally, financial obligations, feelings of disappointment or stigma upon return all contribute to poor mental health outcomes and, without adequate intervention, these may lead to future victimization and relapse into the trafficking cycle (Abu-Ali & Al-Bahar, 2011; Zimmerman & Kiss, 2017). The analysis of data from the International Organization for Migration (IOM) indicate that children and young adults are the groups most vulnerable to re-trafficking (Jobe, 2010), especially in circumstances where family support is absent or there are difficulties or abuse at home (Jobe, 2010; Surtees, 2014). Psychological or psychosocial problems resulting from children's trafficking experiences may exacerbate this risk (Jobe, 2010). Indeed, research in behavioural neurosciences has demonstrated how stress can impact decision-making towards disadvantageous short-term solutions (Starcke, Wolf, Markowitsch, & Brand, 2008).

1.3. Gender as a determinant at all stages of the trafficking process: generating gender-specific evidence for effective post-trafficking care delivery

Effective and efficient interventions in resource-constrained contexts would benefit from evidence on the wide variety of trafficking experiences and drivers of poor health outcomes, on who is most affected and in what ways (Zimmerman & Kiss, 2017). Yet, little comparative evidence between different gender groups, ethnicities, nationalities or age groups is available. Research is particularly scarce on trafficking of male children and adolescents and on labor exploitation compared to sexual exploitation (Ottisova

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et al., 2016). This is also reflected in the restricted availability of post-trafficking services for male victims of human trafficking and labor exploitation. In many cases, assistance to men and boys focuses on return and basic needs (such as transportation and brief shelter stays) rather than long term (re)integration (Surtees, 2013). Research on post-trafficking services in Cambodia revealed that not only few trained mental health specialists are available, but there are also limited services for males and for individuals exploited for labor (vs sexual exploitation) (Aberdein & Zimmerman, 2015).

Studies conducted with trafficked men and women suggest that there are gender-related differences in survivors' experiences and health outcomes (Iglesias-Rios et al., 2018). While many children experience violence, the literature suggests that boys experience physical violence more often and in more severe forms than girls, whereas girls are more frequently exposed to sexual exploitation (UNODC, 2017). Most children in forced labour work seven days a week, with boys reportedly working longer hours than girls, often in excess of 10 h a day. Boys tend to sustain injuries more often than girls and seem to experience worse living conditions (Kiss, Yun et al., 2015; Rafferty, 2013; UNODC, 2017). While some studies point to the differences in psychological symptoms of victims of sexual and labor exploitation (Hopper & Gonzales, 2018), there remains limited sex-specific or comparative evidence on the mental health impact of human trafficking for different forms of labor or sexual exploitation or among culturally diverse populations of women and men (Iglesias-Rios et al., 2018; Kiss, Yun et al., 2015).

Trafficking occurs along a continuum and the level of abuse/exploitation as well as the impact differs quite substantially along this continuum. As a result, taking a one-size-fits-all approach to the needs of trafficking survivors will not be in their best interest (Brunovskis & Surtees, 2012).

The risk and typology of modern slavery being strongly influenced by gender (ILO, 2017), there is an urgent need to apply a gender lens to the analysis of data across variables (Mitchell et al., 2017) which would help us generate nuanced evidence supporting the targeted delivery of post-trafficking care, particularly for typically neglected groups such as boy and men victims of trafficking.

1.4. Study on trafficking, exploitation and abuse in the Mekong Sub-region

The present study builds on earlier findings from the Study on Trafficking, Exploitation and Abuse in the Mekong Sub-region (STEAM), the largest multi-site longitudinal survey of trafficking survivors exploited in various labor sectors among a diverse Southeast Asian population of women and men, including children and adolescents using post-trafficking services (Kiss, Pocock et al., 2015).

Previous analyses of the STEAM dataset have examined how exposures to violence, exploitation and abuse affect mental health and suicidal behavior of children (Kiss, Yun et al., 2015) or established gender-specific associations between types of violence or coercion and mental illness in survivors of trafficking (Iglesias-Rios et al., 2018).

Building on these previous findings, this study explores how post-trafficking expectations and anticipatory stress influence mental health outcomes by gender.

Ultimately, the findings of this study aim to inform post-trafficking mental health care and reintegration strategies for child trafficking survivors.

2. Methods

2.1. Procedure

2.1.1. Data source and study design

This study is a cross-sectional secondary analysis using data from face-to-face surveys with 517 children and adolescents (aged 10-19 years old) who participated in the STEAM. Participants were receiving post-trafficking assistance in Cambodia, Thailand or Vietnam. A two-stage sampling strategy was employed, first selecting fifteen post-trafficking service providers in 3 countries based on diversity of clientele (age, sex, sector of exploitation, country of origin), relationship with country teams at the IOM and agreements with government agencies. Second, a consecutive sample of individuals participated in face to face surveys within 0-14 days of entry to the service. Children (under 18) were surveyed in 13 of the 15 selected services who provided care for minors. Participating services offered diverse services to children, including accommodation, medical services, legal assistance, psychosocial rehabilitation, vocational training and pre-return preparation. The availability of such services varied across countries. In Cambodia, no specific mental health services were provided while in Thailand, a number of services provided psychosocial rehabilitation and counselling, and in two organizations a psychologist was operating on-site. Individuals in the sample were identified as trafficked by the local governmental and nongovernmental referral networks and post-trafficking service providers. The sample delimitation was therefore contingent on the definitions used by local government and organizations. The survey questionnaire developed for the study was adapted from a survey instrument used in a prior European study on health and trafficking, and comprised of sections on socioeconomic background, pre-trafficking experiences, living and working conditions during trafficking, violence and coercive factors, mental and physical health outcomes, future plans and concerns (Zimmerman et al., 2006). The instrument was translated into Khmer, Thai, Vietnamese, Burmese and Lao, refined through group discussions with IOM counter-trafficking teams, further revised through pilot-testing, and reviewed after back translation into English. The overall response rate for the baseline survey was over 98%. While a follow up interview was conducted with children remaining in services, high loss to follow up (56%) meant we omitted inclusion of these data in the present analysis. The study methodology has been published elsewhere (Kiss, Pocock et al., 2015).

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2.1.2. Data collection

Surveys were conducted onsite at services by social workers or caseworkers from the organizations providing post-trafficking services, following intensive training by one of the authors (LK) and the IOM partners in each country, interpreters were used when needed. Data collection and double data entry were coordinated by the local IOM offices, with oversight by the London School of Hygiene and Tropical Medicine (LSHTM) between October 2011 and May 2013.

2.1.3. Ethics

A strict ethical and safety protocol, based on the World Health Organization Ethical Recommendations for Interviewing Trafficked Women (Zimmerman & Watts, 2003), was implemented. Guidance included ensuring participation was voluntary and confidential, child-sensitive consent procedures, managing distress and options for supported referral. Survey participants were identified and interviewed by experienced service providers, trained to respond to distress appropriately and to make necessary referrals, after initial consultation with each child's careteam. Written consent was given by name or thumbprint for both adults and children, with additional written consent by legal guardians for children aged under 18. Consent procedures contained relevant information on the study and an option to refuse or interrupt participation without consequences to the services provision. Data were anonymized and questionnaires were stored securely in each country. Ethical approval for the study was granted by the LSHTM and by the National Ethics Committee for Health Research in Cambodia, the Hanoi School of Public Health in Vietnam, and the Ministry of Social Development and Human Security in Thailand.

2.2. Specific measures

2.2.1. Depression, anxiety and post-traumatic stress disorder (PTSD) symptoms

Symptom levels indicative of depression were measured using the Hopkins Symptoms Checklist-25 which consists of 25 items (10 for anxiety symptoms and 15 for depression symptoms). The scale for each item includes 4 categories of response (not at all, a little, quite a bit, extremely rated 1 to 4 respectively). Depression score has been correlated with major depression as defined by the Diagnostic and Statistical Manual of the American Psychiatric Association, 4th edition (DSM-IV) in several populations (American Psychiatric Association, 1994). A cut point of 1.625 instead of the standard 1.75 was applied as item 12 in the questionnaire (i.e. "loss of sexual interest or pleasure") was excluded, because of sensitivity in cases of sexual abuse and because participants were often residing in shelter situations (Kiss, Pocock et al., 2015). Anxiety disorders were assessed using a cut point of 1.75, based on previous research using post-trafficking services and on studies of Cambodian, Laotian, and Vietnamese refugees with whom this instrument has been validated (Mollica, Wyshak, de Marneffe, Khuon, & Lavelle, 1987, 1993; Tsutsumi, Izutsu, Poudyal, Kato, & Marui, 2007; Turner-Moss, Zimmerman, Howard, & Oram, 2014). Symptoms of PTSD in the past week were assessed using the Harvard Trauma Questionnaire (HTQ) part IV, which includes 27 trauma symptoms (Harvard Program in Refugee Trauma). The first 16 items were derived from the DSM-IV criteria for PTSD and assessed the presence of the main PTSD symptom clusters: intrusive experiencing, avoidance behaviors, hypervigilance, and emotional numbing. The remaining items were developed by the Harvard Program in Refugee Trauma. These PTSD symptom items focus on the impact that the traumatic experiences may have had on the subject's perception of his or her daily life. Each question has 4 response categories (not at all, a little, quite a bit, extremely, rated 1-4 respectively). A total score was calculated by averaging the 27 items and a cut point of 2.0 was used to assess symptoms of PTSD, based on previous research on trafficked individuals accessing post-trafficking services (Hossain et al., 2010; Iglesias-Rios et al., 2018; Zimmerman et al., 2006).

2.2.2. Expectations and anticipatory stress

We measured expectations and anticipatory stress using questions on concerns and hopes that children had in relation to their return or re-integration to their community of origin. Worries about the future were assessed with the questions "Do you worry about how people might treat you when you arrive home? (yes or no) and "Do you worry that your employer or someone else from the trafficking situation may try to hurt you or your family?" (yes or no). Post-trafficking concerns were investigated with the question "At this time, what are your most important concerns or what problems come to your mind most often?". Possible answers included "your own physical health"; "your own mental health"; "earning money/having a job/paying a debt"; "having nowhere to stay short-term"; "having nowhere to stay long-term"; "money-related problems in the family"; "health-related problems in the family"; "afraid of trafficker/driver/smuggler/agent"; "guilt or shame"; "documents"; "spiritual/ religious concerns/ghosts" (each answer was coded as a "yes/no" binary variable). Similarly, hopes for the future were estimated with the question "What is your best hope for the future?" and included the following categories: "have money"; "have a family"; "have a job"; "no hopes"; "go home"; "hope to get married" (each answer was coded as a "yes/no" binary variable).

2.2.3. Covariates

We included covariates to examine potential effect modification in the relationship between mental health outcomes and anticipatory stress, associated with the influence of trafficking experiences on mental health outcomes. Covariates in this analysis were theory-driven and included those selected in prior analyses of the STEAM dataset (Iglesias-Rios et al., 2018; Kiss, Yun et al., 2015). Covariates included: a continuous variable for time in trafficking; a binary variable for restricted freedom (coded yes for often and always and no for never, seldom, occasionally), a binary variable for ever having a day off (coded yes for working five or fewer days per week, six days per week and no fixed amount of days and no for working every day, seven days a week). Variables related to violence and coercion, both key features of trafficking, were also included as covariates. Psychological coercion and violence are

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interconnected, acting as sources of traumatic and chronic stress. Coercion during the trafficked period was measured with binary variables for threats to hurt the person and threats to hurt family or a loved one. The physical violence variable was coded positively if a child experienced any of the following: being kicked, dragged, or beaten up; being tied or chained, choked or burned; having a dog released to bite or scratch; being cut with a knife, or being shot at, experiencing punches, slaps and hits. Questions about violence and coercion were adapted from the World Health Organization International Study on Women's Health and Domestic Violence (Garcia-Moreno, Jansen, Ellsberg, Heise, & Watts, 2005).

2.3. Data analysis

We used Chi square tests to describe the distribution of variables by sex (p -values reported). 95% confidence intervals were calculated for the prevalence of the three main outcomes.

Logistic regression models were fitted to estimate the influence of post-trafficking anticipatory stress and expectations on mental health outcomes. Covariates were then introduced in the models to check for effect modification. Multivariable logistic regression models were fitted for depression, anxiety, and posttraumatic stress disorder (PTSD) separately and adjusted for the aforementioned six in-trafficking covariates.

First, multivariable logistic regression models were used to calculate adjusted odds ratios for the children and adolescents' sample as a whole. Second, a stratified multivariable analysis was performed to estimate sex-specific adjusted odds ratios for all exposures under study.

We used Stata (version 15) to perform the statistical analysis.

3. Results

3.1. Sample characteristics for males and females

Table 1 and Appendix A present descriptive characteristics of the study population (N = 517) stratified by gender (410 females and 107 males). The mean age (SD) of the respondents was 16.3 (1.8) years old (mean age for boys was 16.2 years old and 16.4 years old for girls), with 84.74% aged 15 or over. Boys were mainly from Cambodia (39.25%), Vietnam (23.36%) and Myanmar (22.43%), while females were mainly from Thailand (28.82%), Vietnam (28.05%) and Lao Popular Democratic Republic (PDR) (18.18%). Over half of respondents were trafficked to Thailand (57.94% of boys and 64.39% of girls), with China coming as second country of exploitation (22.43% of boys and 21.46% of girls trafficked). 61.71% of girls were trafficked for sex work while boys were mainly trafficked into the fishing sector (27.10%), factory work (20.56%) and begging (19.63%). A large number of cases pertain to youths trafficked internationally, only 2 children identified Cambodia as both country of origin and exploitation and 2 children identified Vietnam as both country of origin and exploitation. Instances of domestic trafficking concerned mainly Thai nationals (n = 149), 137 of whom declared having been exploited in Thailand.

3.1.1. Pre-trafficking circumstances

82.59% of respondents did not receive education beyond secondary school (8th grade). 41.4% of children aged 14–15 years old finished secondary school (6–8 grade), while only 50.6% of children aged 16–17 and 43.8% of adolescents aged 18–19 finished secondary school (6–8 grade). Before entering the trafficking situation, the majority of children and adolescents (60.0% of children aged 10–11; 82.8% of children aged 12–13; 79.3% of children aged 14–15; 81.0% of adolescents aged 16–17; 86.1% of adolescents aged 18–19) were working in their home country (89.72% of boys and 79.76% of girls, p = .017), mainly in agriculture or farming (57.01% of boys and 30.00% of girls working in this sector, p = .000). When asked about the reasons for leaving home, economic concerns (40.04% did not earn enough in their jobs; 31.53% knew of others who left and earned money; 17.79% could not find a job nearby) were most commonly cited by children and adolescents. Over one in five (27.10% of boys and 21.71% of girls) stated that life was boring and they wanted a new adventure (p = .236). Boys were slightly more concerned than girls about violence at home, with 7.48% of boys citing alcoholism of a close family member (2.68% of girls, p = .019) and 4.67% citing experiences of violence at home (3.17% of girls, p = .450) as reasons for leaving. Boys also cited inability of parents to support them (19.63% vs. 6.83% of girls, p = .000) and the need for money because a family member was ill (13.08% vs. 9.27% of girls, p = .243) more frequently than girls

3.1.2. In-trafficking conditions

The mean (SD) duration of the trafficking situation was 5.3 months (160 days, SD 311), ranging from 1 day to approximately 10.8 years. The mean (SD) duration of trafficking was longer for boys (16.7 months (34.5)) than for girls (12.5 months (23.1)). The majority of respondents reported working seven days a week (73.74% of boys and 54.17% of girls). Over half (54.5%) of boys reported never being free to go where they wanted or do what they wanted compared to 38.33% of girls (30.83% of girls also reported always being free to go/do what they wanted). Similarly, just a third (36.51%) of boys reported having time to play or a leisure activity while in the trafficking situation compared to two-thirds among girls (67.97%, p = .000). A slightly higher proportion of boys reported experiencing threats (42.42% of boys and 30.83% of girls, p = .030). Similarly, 41.12% of boys were targets of physical violence (including threats), compared to 25.85% of the girls (p = .007). 29.51% of girls experienced sexual violence during trafficking compared to 0.93% of boys (p = .000). Similar proportions of girls and boys (38.54% and 39.25% respectively, p = .139) reported being the target of physical and/or sexual violence (not including threats), thus suggesting that boys might be exposed to more physical violence and threats while girls tend to be victims of sexual violence. Twice as many boys (32.32%) as girls (17.44%)

Table 1
Sample characteristics by gender (sex).

Characteristic (missing value)	No. (%)			
	Boys	Girls	P-value	Total
No. of participants	107 (20.7)	410 (79.3)		517 (100)
Age (years)			.000	
10-12	12 (11.2)	6 (1.5)		18 (3.5)
13-15	23 (21.5)	109 (26.6)		132 (25.5)
16-17	35 (32.7)	202 (49.2)		237 (46)
18-19	37 (34.6)	93 (22.7)		130 (25)
Days working per week (3)			.000	
< 5	3	59		62
6	8	12		20
7	73	195		268
No fixed amount of days	15	80		95
Don't know/remember	0	11		11
Missing	0	3		3
Freedom to do what wanted/go where wanted (58)			.000	
Never	54 (54.5)	138 (38.3)		192 (41.8)
Seldom	13 (13.1)	12 (3.3)		25 (5.4)
Occasionally	14 (14.1)	51 (14.1)		65 (14.2)
Often	6 (6.1)	48 (13.3)		54 (11.8)
Always	12 (12.1)	111 (30.8)		123 (26.8)
		111 (00.0)		120 (20.0)
Experience of violence/threats while in trafficking situati				4=0 (00 0)
Threats to you	42 (42.4)	111 (30.8)	.030	153 (33.3)
Threats to family/loved one	8 (8.1)	35 (9.7)	.620	43 (9.4)
Physical violence (not including threats)	42 (39.2)	101 (24.6)	.010	143 (27.7)
Physical violence (including threats)	44 (41.1)	106 (25.8)	.007	150 (29.0)
Sexual violence	1 (0.9)	121 (29.5)	.000	122 (23.6)
Sexual and/or physical violence (not including threats)	42 (39.2)	158 (38.5)	.139	200 (38.7)
Any violence experienced	44 (41.1)	162 (39.5)	.762	206 (39.8)
Witnessed beating by boss	32 (32.3)	64 (17.4)	.001	96 (20.6)
Injuries	17 (15.9)	33 (8.0)	.040	50 (9.7)
Post-trafficking concerns/worries/hopes (1)	40 (40 0)	()		()
Worry about treatment by others upon return	43 (40.2)	235 (57.3)	.004	278 (53.8)
Worry about trafficker	32 (29.9)	160 (39.0)	.097	192 (37.1)
Concern-own physical health	21 (19.6)	176 (42.9)	.000	197 (38.1)
Concern-own mental health	9 (7.5)	117 (28.5)	.000	125 (24.2)
Concern-earning money	29 (27.1)	138 (33.7)	.373	167 (32.3)
Concern-short term housing	9 (8.4)	39 (9.5)	.823	469 (90.5)
Concern-long term housing	8 (7.5)	49 (11.9)	.365	459 (88.8)
Concern-money problems in family	46 (43.0)	173 (42.2)	.870	219 (42.4)
Concern-health problems in family	47 (43.9)	237 (57.8)	.030	284 (54.9)
Concern-afraid of trafficker	21 (19.6)	153 (37.3)	.002	174 (33.7)
Concern-guilt or shame	34 (31.8)	235 (57.3)	.000	269 (52.0)
Concern-documents	15 (14.0)	94 (22.9)	.113	109 (21.0)
Concern-religious/spiritual	9 (8.4)	88 (21.5)	.007	97 (18.8)
Hope-have money	60 (56.1)	157 (38.3)	.004	217 (41.8)
Hope-have family	27 (25.2)	118 (28.8)	.666	145 (28.0)
Hope-job	61 (57.0)	244 (59.5)	.776	305 (59.0)
Hope-no hopes	9 (8.4)	13 (3.2)	0.51	22 (4.3)
Hope-go home	44 (41.1)	254 (61.5)	.000	298 (57.6)
Hope-get married	15 (14.0)	62 (15.1)	.840	77 (14.9)
Other	16 (14.9)	92 (22.4)	.204	108 (20.9)

witnessed violence or beatings (p = .001). 15.9% of boys and 8% of girls reported having been injured or victim of an accident at work at least on one occasion during their trafficking experience (p = .04).

3.1.3. Post-trafficking situation

Table 2 reports the prevalence of mental health symptoms for the sample population. Over a third of boys and girls (36.45% and 34.88% respectively) were symptomatic of anxiety (p = .762), 37.38% of boys and 51.46% of girls were symptomatic of depression (p = .022) and 26.17% of boys and 27.07% of girls were symptomatic of PTSD (p = .752). A significant proportion of boys (40.19%) and girls (57.32%) worry about how people might treat them when they return home (p = .004) and fear of traffickers was also prevalent among both groups (29.91% of boys and 39.02% of girls, p = .097). Boys (40.19%) were more likely to disclose their trafficking experience to individuals outside the post-trafficking service, a slightly higher proportion than girls (32.68%, p = .069).

Table 2 Prevalence of mental health outcomes by sex (N = 517).

Sex	Outcomes (n (%))	Outcomes (n (%))			
	Depression ^a	Anxiety	$PTSD^b$		
Boys	40 (37.4)	39 (36.4)	28 (26.2)		
Girls	211 (51.5)	143 (34.9)	111 (27.1)		
Total	251 (48.6)	182 (35.2)	139 (26.9)		
P-value	.009	.762	.830		

^a 1 Girl missing.

The most pressing concerns for boys were related to money-earning abilities (27.10%), money-related problems in the family (42.99%), health-related problems in the family (43.93%) and finally their own physical health (19.63%). Mental health was less of a concern among boys than girls (7.48% and 28.54% respectively, p = .000), who also reported physical health as an important concern (42.93%). Girls were also concerned with money-earning capabilities (33.66%), money-related problems in the family (42.20%) and health-related problems in the family (57.80%). Finally, girls (57.32%) were more frequently concerned about guilt or shame than boys (31.78%, p = .000). Having money and having a job came as most cited hopes for the future for both groups. Most children (57% of boys and 59.51% of girls) hoped to secure a job (p = .776). A higher proportion of girls (61.95%) hoped to go home (41.12% of boys, p = .000). Twice as many boys (8.41%) than girls (3.17%) stated having no hopes for the future (p = .051).

Table 3 Adjusted odds ratios^a for mental health outcomes for children and adolescents (10-19 years old) (N = 517).

	Outcomes (95% CI)			
	Depression AOR (CI)	Anxiety AOR (CI)	PTSD AOR (CI)	
Exposures				
Worry about treatment by others upon return	2.81 (1.86-4.25)	1.71 (1.10-2.65)	1.99 (1.23-3.22)	
Worry about trafficker	1.36 (0.88-2.09)	1.20 (0.76-1.90)	1.11 (0.68-1.82)	
Concern-guilt or shame	2.17 (1.43-3.27)	1.34 (0.88-2.06)	1.31 (0.83-2.08)	
Concern-afraid of trafficker	1.26 (0.82-1.92)	1.41 (0.91-2.19)	1.05 (0.65-1.68)	
Concern-documents	1.21 (0.76-1.94)	1.71 (1.04-2.79)	1.50 (0.89-2.52)	
Concern-earning money	1.22 (0.81-1.85)	1.53 (0.99-2.36)	1.37 (0.91-2.06)	
Concern-health problems in family	1.32 (0.87-2.01)	1.18 (0.76-1.84)	0.73 (0.46-1.17)	
Concern-money problems in family	1.49 (0.99-2.23)	1.77 (1.15-2.72)	1.03 (0.66-1.63)	
Concern-short term housing	2.12 (1.07-4.18)	2.20 (1.13-4.25)	1.91 (0.96-3.80)	
Concern-long term housing	2.05 (1.10-3.80)	2.10 (1.13-3.88)	2.11 (1.11-3.99)	
Concern-religious/spiritual	2.20 (1.33-3.65)	2.61 (1.56-4.36)	1.78 (1.03-3.07)	
Concern-own mental health	3.78 (2.30-6.22)	3.18 (1.97-5.12)	2.11 (1.29-3.46)	
Concern-own physical health	2.51 (1.65-3.82)	2.12 (1.38-3.27)	1.38 (0.87-2.17)	
Hope-have money	1.32 (0.88-1.98)	1.36 (0.89-2.08)	1.03 (0.65-1.62)	
Hope-job	1.09 (0.73-1.64)	1.06 (0.69-1.64)	0.95 (0.60-1.52)	
Hope-go home	1.01 (0.68-1.51)	1.02 (0.66-1.56)	0.95 (0.60-1.49)	
Hope-have family	0.94 (0.61-1.45)	0.96 (0.61-1.52)	1.03 (0.64-1.68)	
Hope-No hopes	0.37 (0.12-1.10)	0.21 (0.04-0.98)	0.44 (0.11-1.61)	
Covariates General				
General Time in trafficking ^b	0.99 (0.99-1.00)	1.00 (0.99-1.00)	1.00 (0.99-1.00)	
Working and living conditions in trafficking situation	0.99 (0.99-1.00)	1.00 (0.99-1.00)	1.00 (0.99-1.00)	
Ever free ^c	1 45 (0.02.2.27)	1.00 (1.10.0.10)	1 77 (1 04 2 00)	
Day off ^d	1.45 (0.93-2.27)	1.92 (1.18-3.13)	1.77 (1.04-3.00)	
,	0.93 (0.62-1.41)	1.28 (0.82-1.99)	1.86 (1.15-3.02)	
Experience of violence in trafficking situation	2.27 (1.52.2.20)	2.10 (1.10.2.72)	2 10 (1 10 4 02)	
Threats to you Threats to family/loved ones	2.27 (1.52-3.38) 2.22 (1.14-4.33)	2.10 (1.18-3.73) 1.42 (0.70-2.91)	2.19 (1.19-4.02) 2.08 (1.00-4.31)	
Physical violence (not including threats)	1.32 (0.90-1.95)	0.65 (0.37-1.16)	0.60 (0.32-1.11)	

^a Multivariable models adjusted for time_traffick, freeyesno, nodayoff, threat_you, threat_care, physvio for all outcomes and exposures.

b 2 Girls missing.

^b Time_traffick fitted as continuous variable in model.

^c Binary variable generated for daysweek (labelled nodayoff).

^d Binary variable generated for free (labelled freeyesno).

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3.2. Estimating the influence of post-trafficking concerns, worries and hopes for the future on mental health symptoms: adjusted odds ratios for children and adolescents

Table 3 presents adjusted odds ratios for the associations between post-trafficking concerns, worries and hopes about the future with mental health symptoms in children and adolescents. After controlling for in-trafficking experiences of abuse, exposures related to post-trafficking concerns, worries and hopes about the future were predominantly associated with symptoms of depression and anxiety, with nine exposures being significantly associated with anxiety, seven with depression, and four with PTSD (Details in Table 3).

Worrying about maltreatment upon return was associated with all three outcomes after adjustment, with children and adolescents stating this worry almost tripling the odds of being symptomatic of depression (AOR 2.81, CI:1.86–4.25). Concerns about mental health, religious or spiritual concerns and concerns about long-term housing were also significantly associated with all three outcomes. Concerns about guilt or shame (AOR 2.17, CI:1.43–3.27), about short-term housing (AOR 2.12; CI:1.07–4.18) and about physical health (AOR 2.51; CI:1.65–3.82) were other predictors of being symptomatic of depression. Being symptomatic of anxiety was strongly associated with concerns about documents (AOR 1.71; CI:1.04–2.79), with money issues in the family (AOR 1.77; CI:1.15–2.72), concerns about short-term housing (AOR 2.20; CI:1.13–4.25) and about physical health (AOR 2.12; CI:1.38–3.27). Having no hopes was negatively associated with symptoms of anxiety (AOR 0.21; 0.04–0.98)

3.3. Estimating the influence of post-trafficking concerns, worries and hopes about the future on mental health symptoms: gender-specific adjusted odds ratios for children and adolescents

Table 4 presents adjusted odds ratios for the effect of post-trafficking worries, concerns and hopes on mental health outcomes for males and females respectively (for details see Appendices B and C). After stratification by gender, worrying about treatment by others upon return remains a strong predictor for all three outcomes in boys and an important predictor for depression in girls. The effect of this exposure on symptoms of depression is stronger for boys (AOR 8.69; CI: 2.78–27.18) than for girls (AOR 2.11; CI: 1.33–3.37). Similarly, while concerns about mental health remain strongly associated with all three outcomes in both boys and girls, a stronger effect was observed in boys (AOR 9.14; CI:(1.21–68.68), AOR 13.47 CI:(1.70–106.48), AOR 8.36; CI:(1.22–56.9) for depression, anxiety and PTSD respectively) than in girls (AOR 3.24; CI:(1.92–5.48), AOR 3.05; CI:(1.82–5.11), AOR 1.85; CI: (1.08–3.14) for depression, anxiety and PTSD respectively).

Concerns about religion (AOR 7.92; CI:(1.16–54.11)) and hoping for money in the future (AOR 3.08; CI:(1.03–9.17)) were both predictors for anxiety among boys. Among girls, concerns about health issues in the family (AOR 1.74; CI:(1.05–2.85)) and money issues in the family (AOR 1.84; CI:(1.15–2.94)) were associated with depression; concerns about/being afraid of the trafficker (AOR 1.79; CI:(1.17–2.73)), money issues in the family (AOR 2.61; CI:(1.55–4.37)) and concerns about earning money (AOR 1.95; CI: (1.19–3.18)) with anxiety. Concerns about both short-term and long-term housing were significantly associated with all three outcomes for girls.

4. Discussion

4.1. Care approaches that account for youth's anticipatory stress and actual risks related to an uncertain future

Substantial research on post-trauma mental health has focused on the links between past abuses and current symptoms. To date, little has been written about the specific concerns and expectations of young trafficking survivors' future physical integrity, financial security, housing and social life, which are likely to have an important effect on their mental health, particularly symptoms of anxiety and depression and few studies have tried to take account of how an abuse survivor's current circumstances and perceptions of these circumstances influence her or his mental health. That is, findings from our study indicate that post-trafficking expectations among young survivors and youth's uncertainties about their future—or their feelings of 'anticipatory stress'—are associated with poor mental health outcomes among young male and female trafficking survivors—independent of the severity of the abuses experienced during trafficking. Post-trafficking feelings of anticipatory stress were more commonly associated with symptoms of depression and anxiety rather than PTSD. As expected, PTSD may be more strongly associated with adverse experiences in trafficking, while anxiety and depression symptoms may be exacerbated by risk factors at all stages of the migration process. These findings have crucial implications for both post-trafficking care and for the future study of the mental health of trauma survivors.

Our results indicate that mental health service responses and re-integration strategies for young trafficking survivors will need to be built from careful assessments of young people's actual circumstances and their perceptions of their future opportunities, constraints and risks. For instance, our analysis pointed to the effects of worrying about, and the actual risks of, maltreatment by others upon return on young people's mental well-being, as well as the impact of guilt or shame. As suggested by broader psychosocial support literature, for some young people, safe reintegration can be promoted by helping youth build trustworthy relationships, including with family where possible (Brunovskis & Surtees, 2012; Chenda, 2006; Jobe, 2010). Our analysis further suggests that concerns related to legal and social instability (such as housing or documents) are associated with anxiety symptoms, which is consistent with the literature. A qualitative study conducted among survivors of trafficking in England reported on the impact of important social stressors including unstable housing, irregular legal status and access to adequate services, on mental health recovery (Domoney et al., 2015). Similarly, our analysis points to the association between concerns about housing and concerns about mental health or well-being (which can be linked to limited access to services) and mental health outcomes in trafficked children and

 Table 4

 Comparative table: gender-specific exposures with significant measure of effect (AOR) on outcomes for boys and girls.

Sex	Outcomes(95% CI)					
	Depression		Anxiety		PTSD	
	M (AOR(CI))	F (AOR(CI))	M (AOR(CI))	F (AOR(CI))	M (AOR(CI))	F (AOR(CI))
Exposures						
Worry about treatment by others upon return ^a Worry about trafficker ^a	8.69 (2.78-27.18)	2.11 (1.33-3.37)	5.69 (1.82-17.7)		3.68 (1.18-11.50)	
Concern-guilt or shame ^a		1.82 (1.14-2.91)				
Concern-afraid of trafficker ^a				1.75 (1.07-2.89)		
Concern-documents				1.86 (1.07-3.25)		
Concern-earning money				1.95 (1.19-3.18)		
Concern-health issues in family ^a		1.74 (1.05-2.85)				
Concern-money issues in family ^a		1.84 (1.15-2.94)		2.61 (1.55-4.37)		
Concern-short term housing ^a		2.94 (1.30-6.62)		2.97 (1.41-6.27)		2.46 (1.15-5.23)
Concern-long term housing ^a		2.15 (1.07-4.33)		2.79 (1.40-5.54)		2.49 (1.24-5.00)
Concern-religious/spiritual ^a		2.38 (1.37-4.12)	7.92 (1.16-54.11)	2.61 (1.49-4.58)		1.78 (0.99-3.19)
Concern-own mental health	9.14 (1.21-68.68)	3.24 (1.92-5.48)	13.47 (1.70-106.48)	3.05 (1.82-5.11)	8.36 (1.22-56.9)	1.85 (1.08-3.14)
Concern-own physical health		2.73 (1.71-4.36)		2.56 (1.56-4.19)		
Hope-have money			3.08 (1.03-9.17)			
Hope-job						
Hope-go home						
Hope-have family ^a						
Hope-none						

^a 1 Missing value.

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adolescents. Recent research on post-trafficking mental health care links psychological and psychosocial difficulties with abilities to reintegrate and risks of re-trafficking (Jobe, 2010). Persistent levels of anticipatory stress can hinder recovery in post-trafficking settings and lead to poor decision-making (Starcke et al., 2008). Hence, mental health responses that are integrated with socioeconomic planning and strategies for return or re-integration are probably more likely to succeed. The ways that children perceive their return circumstances can aggravate mental health symptoms and hinder social and economic inclusion in their origin community, which can perpetuate longer-term negative mental health outcomes. Literature regarding well-being in the field of childhood studies and working children indeed points to survivors' perceptions and perspectives as having the potential to aggravate or mitigate harmful experiences. While certain indicators may point towards specific child experiences as hazardous or beneficial for psychosocial development, children's negative or positive reaction to these risks will depend on a number of personal and situational factors and thus cannot be assumed (Woodhead, 2004). Our findings emphasise the importance of assessing a survivor's return circumstances, taking into account survivors' own perspectives, and treating them as potential risk and/or protective factors for their mental health and suggest reference to literature that highlights detailed risk assessments such as "Best Interests Assessments" as part of reintegration strategies (Surtees, 2014). Young survivors' mental health care needs will differ, with some requiring longer-term care delivery. For those who are returned to their place of origin, reintegration must be considered a challenging phase because young returnees may feel shame, guilt or feel that others see them to have "failed in their migration". These stigmatising feelings can contribute to pre-existing financial, social and other burdens that put children and adolescents at risk of long-term mental health problems, and vulnerable to re-trafficking and exploitation. These results also suggest that addressing mental health concerns of children and adolescents within a wider psychosocial approach to post-trafficking care, and by linking social and cultural factors to well-being, may yield significant results (Aberdein & Zimmerman, 2015; Devine, 2009; Rafferty, 2018).

4.2. Targeted care: delivering gendered services

Our analysis also suggested that the relationship between post-trafficking expectations, anticipatory stress and mental health outcomes vary by gender. For instance, worrying about treatment by others upon return or hoping for money were associated with anxiety for males but not for females. Such differences may arise as a result of rigid gender norms and expectations which differ for males and females in this socio-cultural context. In the Southeast Asian context, independent child migration is connected to a culture of young men "wandering", leaving home in search of wealth, to gain experience and return with a new status and prestige (Anderson, 1972; Beazley, 2015). Another norm which may explain gendered perceptions is the notion of "filial piety", a cornerstone of Asian family life, which creates hierarchically organized social relations of obedience and respect and requires fulfilling a number of obligations according to age and gender (Lewis, 2005). Further qualitative research on the role of gender in trafficking and post-trafficking experiences would enrich our understandings of drivers of poor mental health outcomes in males and females. In discussing "embodiment" as an important analytical in understanding lived experiences, Harcourt (2009) explains how gendered power structures affect lived experience when gender is defined as the "psycho-social, political cultural, scientific and economic reading of sexual difference" which is therefore "lived differently in different places, bodies and locations" (Harcourt, 2009).

Future mental health care and other support services for youth survivors will benefit from data that are sex-disaggregated and gender-sensitive. More research is needed on the situation of trafficked boys in order to understand the particular circumstances and risk factors that impact their physical and mental health outcomes and to conduct much needed comparative research.

4.3. Sensitive care: contextualizing service delivery

This study points to the importance of contextualizing mental health care delivery and calls for further qualitative and quantitative research on understandings of important concepts, including gender norms, mental well-being or childhood in the Southeast Asian context.

Future research should include trafficking survivors' perspectives as part of designing culturally-sensitive packages of healthcare. Our analysis suggests that concerns about their own mental health has an important effect on children and adolescents' mental health outcomes. Understanding what constitutes mental well-being in this context and from children's perpectives should thus be central to service provision. Devine (2009) suggests that "mental well-being and health are socially constructed and socially defined; in other words, different professions, communities, societies and cultures have very different ways of conceptualizing the nature and causes of mental health, determining what is mentally healthy and deciding what interventions are appropriate." In the Greater Mekong Subregion generally, mental health care has been a low priority for which few resources have been allocated. In many Asian cultures, families are considered the prime support network in response to trauma which can be labelled as a "collectivist" approach. This approach can be problematic in trafficking situations where stigma, confidentiality and re-trafficking remain constraints to community-based options (Devine, 2009). Asian cultures further tend not to differentiate psychological, emotional and spiritual reactions from physical ones, limiting the effect of psychological interventions designed in Western settings (Zimmerman & Pocock, 2013). Such interventions also tend to receive little support and adherence in countries where cultural pressures exist to keep mental health problems hidden and where receiving assistance is met with stigma and shame (Rafferty, 2018). In our results for instance, the effect of religious or spiritual concerns on mental health outcomes may be an indication of the role of culture-specific factors in mental well-being and calls for more research on culturally-sensitive mental health care delivery.

Similarly, further qualitative research on the conceptualization of childhood and on children's agency in the Southeast Asian context is needed. Development studies have criticized the construction of childhood within childhood studies, with norms from the Minority World being globalized, imposed through international institutions and law while not reflecting Majority World settings.

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And while empirical research arising from childhood studies often frames children as competent social actors, they fail to question what such agency really means for different groups (Tisdall & Punch, 2012). Perceiving children and young people as individuals, rather than as having responsibilities, living relationally and intergenerationally and in their communities may be unhelpful in the Majority World (Valentin & Meinert, 2009). Concerns about money earning abilities or money issues in the family and their implications for mental health in children and adolescents are evidence of the responsibilities endorsed by children from a young age. Such roles and responsibilities should be central concerns of policy-makers and service-providers working on reintegration of trafficking survivors and prevention of re-trafficking.

Constraints related to gender norms are intrinsically linked to inequalities in levels of agency of children. Lack of land ownership for instance may create income insecurities for women, who may have little choice but to migrate for employment (Akter et al., 2017). Further research should explore the impact of gender expectations, such as the perpetuating role of men as providers for families or attitudes towards virginity and marriage prospects for women who have been sexually exploited, on mental health outcomes of post-trafficking survivors. Using a health equity framework to deliver mental health care in post-trafficking settings would be particularly useful in addressing imbalances between boys and girls in terms of access to resources and benefits, to understand differences in health determinants and health status as well as the factors from economic, social, political and cultural environments which have gender implications for health (Baume, Juarez, & Standing, 2001).

5. Limitations

Our study sample includes only individuals in post-trafficking services and is therefore not representative of the whole population of trafficked children. This population subset may be reflective of sampling bias and may thus skew the study's conclusions. The small sample and variability within the boys' sample, reflected in the presence of wide confidence intervals for a number of variables, affected the precision of estimates. Comparisons by gender should, therefore, be interpreted with caution. The nature of services offered by participating organizations varied, ranging from no mental health service provision in Cambodia to provision of psychosocial rehabilitation and counselling in most Thai organizations, which may have a confounding effect on the results, although this effect might be mitigated by the short period of time spent in services prior to interview (0–14 days). Further limitations related to temporality are the potential impact of extreme stress as a result of recent removal from exploitation at the time of interview as well as the exclusion/omission of longitudinal data to understand how expectations of children and perceptions of the future change over time. Mental health symptoms or conditions prior to departure are also unknown so causality can only be partly established. This analysis uses cross-sectional survey data and is limited to establishing an association between post-trafficking stressors and mental health outcomes. Establishing causality and impact on long-term mental health outcomes would be better addressed through the use of longitudinal data.

While information on whether survivors may have returned home prior to accessing services is not available for the sample under study, the possibility that this could affect youths' perceptions and concerns about their future should be acknowledged. In the case of survivors from Thailand and Vietnam, services were accessed in countries of origin while in the case of survivors from Myanmar and Lao PDR, services were accessed in Thailand. Finally, mental health scales are not diagnostic or validated in the study population but have been used to measure the mental health of Vietnamese refugees, Cambodian civilians in the Mekong region and women attending post-trafficking services in Europe (Mollica, Brooks, Tor, Lopes-Cardozo, & Silove, 2014; Zimmerman et al., 2006).

6. Conclusion

In spite of potential limitations, this study is the largest and first ever study to provide evidence of the effect of post-trafficking expectations and anticipatory stress on mental health outcomes among male and female children and adolescents. Considering the potential for ongoing and long-term harm, post-trafficking assistance should include mental health screening and reintegration risk assessments as critical components of post-trafficking services. Post-trafficking circumstances, which have been under-researched to date, must be accounted for in the design of comprehensive and effective packages of mental health care to young trafficking survivors.

Furthermore, sex, ethnicity, gender and sector specific research with survivors can help service providers to better understand differential needs, in pursuit of more gender-sensitive, age-appropriate and culturally-sensitive healthcare packages for child survivors of trafficking.

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Appendix A. Sample characteristics by gender (sex) (n = 517)

Characteristic (missing value)	No. (%)			
	Boys	Girls	Total	
No. of participants	107 (20.7)	410 (79.3)	517 (100)	
Age (years)				
10-12	12 (11.2)	6 (1.5)	18 (3.5)	
13-15	23 (21.5)	109 (26.6)	132 (25.5	
16-17	35 (32.7)	202 (49.2)	237 (46)	
18-19	37 (34.6)	93 (22.7)	130 (25)	
Education level (grade)				
Primary (1-5)	60 (56.0)	141 (34.4)	201 (39)	
Secondary (6-8)	32 (30)	194 (47)	226 (43.7	
Higher (10-11)	6 (5.6)	32 (7.8)	38 (7.3)	
No formal schooling	9 (8.4)	33 (8.0)	42 (8.1)	
Don't know	0 (0.0)	9 (2.2)	9 (0.2)	
Missing	0 (0.0)	9 (2.2)	9 (0.2)	
	0 (0.0)	5 (2.2)	, (1.7)	
Experience of violence prior trafficking (selected) Any violence	22 (20.6)	86 (21.0)	108 (20.9	
Physical violence	22 (20.6)	69 (16.8)	91 (16.9)	
Physical violence Physical violence (including threats)				
	22 (20.6)	70 (17.1)	92 (17.8)	
Physical or sexual violence	22 (20.6)	85 (20.7)	107 (20.7	
Reasons for leaving home country (selected)				
Wanted an adventure	29 (27.1)	89 (21.7)	118 (22.8	
Knew others who left and earned money	42 (39.2)	121 (29.5)	163 (31.5	
No job nearby	35 (32.7)	57 (14.0)	92 (17.8)	
Didn't earn enough in job	41 (38.3)	166 (40.5)	207 (40.0	
Experience of violence at home	5 (4.7)	13 (3.2)	18 (3.5)	
Parents unable to support	21 (19.6)	28 (6.8)	49 (9.5)	
Lost livelihood	5 (4.7)	11 (2.7)	16 (3.1)	
Person responsible for trafficking situation (selected)				
Parents	9 (8.4)	17 (4.1)	26 (5.0)	
Family	7 (6.5)	21 (5.1)	28 (5.4)	
Broker	48 (44.9)	58 (14.1)	106 (20.5	
Ме	39 (36.4)	202 (49.3)	241 (46.6	
Abducted	2 (1.9)	17 (4.1)	19 (3.7)	
Sector of exploitation				
Sex worker	•••	253 (61.7)	253 (48.9	
Entertainment/Karaoke		27 (6.6)	27 (5.2)	
Animal/Farming		1 (0.2)	4 (0.7)	
	3 (2.8)			
Agriculture	3 (2.8)	4 (1.0)	7 (1.3)	
Begging	21 (19.6)	2 (0.5)	23 (4.4)	
Car care	4 (3.7)		4 (0.8)	
Domestic worker	•••	15 (3.7)	15 (2.9)	
Construction	10 (9.3)		10 (1.9)	
Factory	22 (20.6)	19 (4.6)	41 (7.9)	
Fishing	29 (27.1)		29 (5.6)	
Restaurant/Hospitality		7 (1.7)	7 (1.3)	
Home business	1 (0.9)		1 (0.20)	
Street seller/Shop	5 (4.7)	10 (2.4)	15 (2.9)	
Wife		21 (5.1)	21 (4.1)	
Time working per day (hrs)				
< 8	17 (15.9)	105 (25.6)	122 (23.6	
8-12	33 (30.8)	89 (21.7)	122 (23.6	
> 12	20 (18.7)	25 (6.1)	45 (8.7)	
No fixed time	28 (26.1)	127 (31.0)	155 (30.0	
Don't know	1 (0.9)	11 (2.7)	12 (2.3)	
	, ,	• •		
Days working per week (3) < 5	3	59	62	
6	8	12	20	
7	73	195	268	
/ No fixed amount of days	73 15	80	268 95	
No fixea amount of aays Don't know/remember				
Don't know/remember Missing	0 0	11 3	11 3	
· ·	U	3	3	
Living conditions	00 (00 0	FA (A) F1		
Living and sleeping in overcrowded rooms	38 (38.4)	78 (21.7)	116 (25.3	
Sleeping in dangerous conditions	16 (16.2)	17 (4.7)	33 (7.2)	

Nowhere to sleep/sleep on floor	51 (51.5)	60 (16.7)	111 (24.2)
Locked in a room	11 (11.1)	78 (21.7)	89 (19.4)
Poor basic hygiene	37 (37.4)	32 (8.9)	69 (15.0)
Inadequate water for drinking	24 (24.2)	21 (5.8)	45 (9.8)
Insufficient food	19 (19.1)	44 (12.2)	63 (13.7)
No clean clothing items	31 (31.3)	22 (6.1)	53 (11.5)
No or few rest breaks	58 (58.6)	114 (31.7)	172 (37.5)
Overexposure to sunlight or rain	52 (52.5)	23 (6.4)	75 (16.3)
Freedom to do what wanted/go where wanted (58)			
Never	54 (54.5)	138 (38.3)	192 (41.8)
Seldom	13 (13.1)	12 (3.3)	25 (5.4)
Occasionally	14 (14.1)	51 (14.1)	65 (14.2)
Often	6 (6.1)	48 (13.3)	54 (11.8)
Always	12 (12.1)	111 (30.8)	123 (26.8)
Townships of minimum (the national title in the CC of the state of the Co.)		, ,	, ,
Experience of violence/threats while in trafficking situation (sele		111 (20.0)	150 (00.0)
Threats to you	42 (42.4)	111 (30.8)	153 (33.3)
Threats to family/loved one	8 (8.1)	35 (9.7)	43 (9.4)
Physical violence (not including threats)	42 (39.2)	101 (24.6)	143 (27.7)
Physical violence (including threats) Sexual violence	44 (41.1) 1 (0.9)	106 (25.8)	150 (29.0) 122 (23.6)
		121 (29.5)	, ,
Sexual and/or physical violence (not including threats)	42 (39.2)	158 (38.5)	200 (38.7)
Any violence experienced	44 (41.1)	162 (39.5)	206 (39.8)
Witnessed beating by boss	32 (32.3)	64 (17.4)	96 (20.6)
Injuries	17 (15.9)	33 (8.0)	50 (9.7)
Reasons for not leaving the trafficking situation (selected)			
No money to return-No prospect of livelihood upon return	7 (17.1)	34 (15.1)	41 (15.4)
Fear of stigma upon return	3 (7.3)	18 (8.0)	21 (7.9)
Believed situation would improve	4 (9.8)	9 (4.0)	13 (4.9)
Had no identification documents	9 (21.9)	36 (16.0)	45 (16.9)
Afraid of being killed	5 (12.2)	29 (12.9)	34 (12.8)
Afraid to get lost	19 (46.3)	54 (24.0)	73 (27.4)
Afraid because did not know the language	15 (36.6)	25 (11.1)	40 (15.0)
Ashamed to return with nothing	5 (12.2)	35 (15.6)	40 (15.0)
Feared being arrested	13 (31.7)	52 (23.1)	65 (24.4)
Feared revenge or violence if left	7 (17.1)	41 (18.2)	48 (18.0)
Post-trafficking concerns/worries/hopes (1)			
Worry about treatment by others upon return	43 (40.2)	235 (57.3)	278 (53.8)
Worry about trafficker	32 (29.9)	160 (39.0)	192 (37.1)
Concern-own physical health	21 (19.6)	176 (42.9)	197 (38.1)
Concern-own mental health	9 (7.5)	117 (28.5)	125 (24.2)
Concern-earning money	29 (27.1)	138 (33.7)	167 (32.3)
Concern-short term housing	9 (8.4)	39 (9.5)	469 (90.5)
Concern-long term housing	8 (7.5)	49 (11.9)	459 (88.8)
Concern-money problems in family	46 (43.0)	173 (42.2)	219 (42.4)
Concern-health problems in family	47 (43.9)	237 (57.8)	284 (54.9)
Concern-afraid of trafficker	21 (19.6)	153 (37.3)	174 (33.7)
Concern-guilt or shame	34 (31.8)	235 (57.3)	269 (52.0)
Concern-documents	15 (14.0)	94 (22.9)	109 (21.0)
Concern-religious/spiritual	9 (8.4)	88 (21.5)	97 (18.8)
Hope-have money	60 (56.1)	157 (38.3)	217 (41.8)
Hope-have family	27 (25.2)	118 (28.8)	145 (28.0)
Hope-job	61 (57.0)	244 (59.5)	305 (59.0)
Hope-no hopes	9 (8.4)	13 (3.2)	22 (4.3)
Hope-go home	44 (41.1)	254 (61.5)	298 (57.6)
Hope-get married	15 (14.0)	62 (15.1)	77 (14.9)
Other	16 (14.9)	92 (22.4)	108 (20.9)
	()	(:)	

Appendix B. Adjusted odds ratios^a for mental health outcomes for male children and adolescents (95% CI) (n = 107)

	Outcomes (95%CI)		
	Depression AOR (CI)	Anxiety AOR (CI)	PTSD AOR (CI)
Exposures			
Worry about treatment by others upon return	8.69 (2.78-27.18)	5.69 (1.82-17.7)	3.68 (1.18-11.50)
Worry about trafficker	0.82 (0.28-2.40)	0.87 (0.28-2.69)	1.13 (0.34-3.66)
Concern-guilt or shame	2.52 (0.91-7.01)	2.28 (0.78-6.59)	1.56 (0.51-4.73)
Concern-afraid of trafficker	0.65 (0.17-2.46)	0.52 (0.12-2.28)	0.41 (0.07-2.20)
Concern-documents	0.69 (0.18-2.69)	2.47 (0.64-9.51)	0.77 (0.17-3.50)

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			8 ()
Concern-earning money	0.39 (0.12-1.24)	0.62 (0.20-1.96)	0.82 (0.25-2.72)
Concern-health problems in family	0.45 (0.17-1.19)	0.87 (0.32-2.32)	0.39 (0.13-1.21)
Concern-money problems in family	0.81 (0.31-2.09)	0.73 (0.27-1.95)	0.47 (0.15-1.42)
Concern-short term housing	0.58 (0.09-3.53)	0.66 (0.11-3.89)	0.42 (0.04-4.29)
Concern-long term housing	2.38 (0.42-13.38)	0.61 (0.06-6.01)	0.66 (0.06-6.79)
Concern-religious/spiritual	0.58 (0.09-3.62)	7.92 (1.16-54.11)	1.18 (0.18-7.58)
Concern-own mental health	9.14 (1.21-68.68)	13.47 (1.70-106.48)	8.36 (1.22-56.9)
Concern-own physical health	0.84 (0.26-2.76)	0.77 (0.22-2.64)	0.52 (0.12-2.16)
Hope-have money	1.16 (0.45-3.02)	3.08 (1.03-9.17)	1.23 (0.43-3.52)
Hope-job	1.10 (0.43-2.83)	1.94 (0.70-5.39)	1.66 (0.56-4.86)
Hope-go home	1.57 (0.60-4.12)	1.60 (0.59-4.29)	1.53 (0.52-4.51)
Hope-have family	0.40 (0.12-1.34)	1.19 (0.35-4.07)	0.37 (0.09-1.45)
Hope-No hopes	0.64 (0.10-4.08)	NA	0.38 (0.03-3.98)
Covariates			
General			
Time in trafficking	1.00 (0.99-1.00)	1.00 (0.99-1.00)	1.00 (0.99-1.00)
Working and living conditions in trafficking situation			
Ever free	6.67 (1.21-36.63)	9.28 (1.60-53.66)	6.94 (0.65-73.22)
Day off	0.87 (0.28-2.73)	0.36 (0.11-1.16)	1.11 (0.30-4.05)
Experience of violence in trafficking situation			
Threats to you	2.62 (0.74-9.23)	1.44 (0.41-5.02)	4.12 (1.06-16.02)
Threats to family/loved ones	1.05 (0.18-5.96)	0.72 (0.10-5.09)	1.77 (0.30-10.45)
Physical violence (not including threats)	0.22 (0.06-0.80)	0.24 (0.06-0.83)	0.22 (0.05-0.87)

^aAdjusted for time in trafficking, ever free, day off, threats to you, threats to family/loved ones and physical violence (not including threats) for all outcomes and exposures.

Appendix C. Adjusted odds ratios for mental health outcomes for female children and adolescents (95% CI) (n = 410)

	Outcomes (95%CI)			
	Depression AOR (CI)	Anxiety AOR (CI)	PTSD AOR (CI)	
Exposures				
Worry about treatment by others upon return	2.11 (1.33-3.37)	1.35 (0.81-2.23)	1.61 (0.93-2.78)	
Worry about trafficker	1.39 (0.85-2.27)	1.23 (0.72-2.07)	1.05 (0.60-1.84)	
Concern-guilt or shame	1.82 (1.14-2.91)	1.14 (0.69-1.87)	1.10 (0.65-1.86)	
Concern-afraid of trafficker	1.30 (0.81-2.09)	1.75 (1.07-2.89)	1.13 (0.67-1.92)	
Concern-documents	1.30 (0.77-2.19)	1.86 (1.07-3.25)	1.71 (0.96-3.05)	
Concern-earning money	1.44 (.90-2.31)	1.95 (1.19-3.18)	1.35 (0.81-2.27)	
Concern-health problems in family	1.74 (1.05-2.85)	1.46 (0.86-2.50)	0.81 (0.47-1.39)	
Concern-money problems in family	1.84 (1.15-2.94)	2.61 (1.55-4.37)	1.29 (0.76-2.17)	
Concern-short term housing	2.94 (1.30-6.62)	2.97 (1.41-6.27)	2.46 (1.15-5.23)	
Concern-long term housing	2.15 (1.07-4.33)	2.79 (1.40-5.54)	2.49 (1.24-5.00)	
Concern-religious/spiritual	2.38 (1.37-4.12)	2.61 (1.49-4.58)	1.78 (0.99-3.19)	
Concern-own mental health	3.24 (1.92-5.48)	3.05 (1.82-5.11)	1.85 (1.08-3.14)	
Concern-own physical health	2.73 (1.71-4.36)	2.56 (1.56-4.19)	1.43 (0.86-2.37)	
Hope-have money	1.54 (0.96-2.45)	1.27 (0.78-2.09)	1.12 (0.66-1.88)	
Hope-job	1.01 (0.64-1.61)	0.87 (0.52-1.45)	0.80 (0.47-1.36)	
Hope-go home	0.76 (0.47-1.23)	0.83 (0.50-1.38)	0.72 (0.42-1.23)	
Hope-have family	1.11 (0.68-1.82)	1.08 (0.64-1.83)	1.35 (0.79-2.31)	
Hope-No hopes	0.35 (0.08-1.45)	0.46 (0.09-2.42)	0.51 (0.09-2.77)	
Covariates				
General				
Time in trafficking	0.99 (0.99-1.00)	1.00 (0.99-1.00)	1.00 (0.99-1.00)	
Working and living conditions in trafficking situation			4 40 40 04	
Ever free	1.34 (0.82-2.20)	1.46 (0.85-2.53)	1.63 (0.91-2.90)	
Day off	1.07 (0.68-1.69)	1.73 (1.05-2.85)	2.24 (1.31-3.81)	
Experience of violence in trafficking situation				
Threats to you	2.80 (1.41-5.54)	2.27 (1.16-4.45)	1.74 (0.85-3.54)	
Threats to family/loved ones	1.33 (0.54-3.28)	1.59 (0.69-3.68)	2.23 (0.96-3.54)	
Physical violence (not including threats)	0.70 (0.36-1.38)	1.05 (0.54-2.04)	0.92 (0.45-1.86)	

^aAdjusted for time in trafficking, ever free, day off, threats to you, threats to family/loved ones, physical violence (not including threats) for all outcomes and exposures.

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