



# Human trafficking and violence: Findings from the largest global dataset of trafficking survivors



Heidi Stöckl<sup>a,\*</sup>, Camilla Fabbri<sup>b</sup>, Harry Cook<sup>c</sup>, Claire Galez-Davis<sup>c</sup>, Naomi Grant<sup>c</sup>, Yuki Lo<sup>d</sup>, Ligia Kiss<sup>e</sup>, Cathy Zimmerman<sup>b</sup>

<sup>a</sup> The Institute for Medical Information Processing, Biometry, and Epidemiology, Medical Faculty, Ludwig-Maximilians-University, Munich, Germany

<sup>b</sup> Gender Violence & Health Centre, Department of Global Health and Development, London School of Hygiene and Tropical Medicine, Northern Ireland, United Kingdom

<sup>c</sup> Migrant Protection and Assistance Division International Organization for Migration, Geneva, Switzerland

<sup>d</sup> The Freedom Fund, Northern Ireland, United Kingdom

<sup>e</sup> Institute for Global Health, University College London, Northern Ireland, United Kingdom

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## ABSTRACT

**Background:** Human trafficking is a recognized human rights violation, and a public health and global development issue. Violence is often a hallmark of human trafficking. This study aims to describe documented cases of violence amongst persons identified as victims of trafficking, examine associated factors throughout the trafficking cycle and explore prevalence of abuse in different labour sectors.

**Methods and findings:** The IOM Victim of Trafficking Database (VoTD) is the largest database on human trafficking worldwide. This database is actively used across all IOM regional and country missions as a standardized anti-trafficking case-management tool. This analysis utilized the cases of 10,369 trafficked victims in the VoTD who had information on violence.

**Results:** The prevalence of reported violence during human trafficking included: 54% physical and/or sexual violence; 50% physical violence; and 15% sexual violence, with 25% of women reporting sexual violence. Experiences of physical and sexual violence amongst trafficked victims were significantly higher amongst women and girls (AOR 2.48 (CI: 2.01,3.06)), individuals in sexual exploitation (AOR 2.08 (CI: 1.22,3.54)) and those experiencing other forms of abuse and deprivation, such as threats (AOR 2.89 (CI: 2.10,3.98)) and forced use of alcohol and drugs (AOR 2.37 (CI: 1.08,5.21)). Abuse was significantly lower amongst individuals trafficked internationally (AOR 0.36 (CI: 0.19,0.68)) and those using forged documents (AOR 0.64 (CI: 0.44,0.93)). Violence was frequently associated with trafficking into manufacturing, agriculture and begging (> 55%).

**Conclusions:** An analysis of the world's largest data set on trafficking victims indicates that violence is indeed prevalent and gendered. While these results show that trafficking-related violence is common, findings suggest there are patterns of violence, which highlights that post-trafficking services must address the specific support needs of different survivors.

## 1. Introduction

Human trafficking is a recognized human rights violation, and a public health and global development issue. Target 8.7 of the 2030 Sustainable Development Goals calls for states to take immediate and effective measures to eradicate trafficking, forced labour and modern slavery (Griggs et al., 2013).

Human trafficking has been defined by the United Nations' Palermo Protocol as a process that involves the recruitment and movement of people-by force, coercion, or deception—for the purpose of exploitation (United Nations Office on Drugs and Crime 2000).

Estimating the scale of human trafficking is difficult, due to the hidden nature of this crime and challenges associated with the definition. As a result, available estimates are contested (Jahic and Finckener, 2005). According to data on identified victims of trafficking from the Counter-Trafficking Data Collaborative (International Organization for Migration 2019), nearly half of the victims report being trafficked for the purpose of sexual exploitation, while 39% report forced labour, and the most common sectors of work included: domestic work (30%), construction (16%), agriculture (10%) and manufacturing (9%). Women and girls account for almost all those trafficked for commercial sexual exploitation, and 71% of those report violence (International Or-

\* Corresponding author.

E-mail address: [Heidi.stoeckl@ibe.med.uni-muenchen.de](mailto:Heidi.stoeckl@ibe.med.uni-muenchen.de) (H. Stöckl).

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ganization for Migration 2019; International Labour Organization 2017; UNODC 2018).

Current data confirm that prevalence of violence is high amongst survivors, although few studies have investigated causal mechanisms related to violence in labour and sexual exploitation (Kiss et al., 2015; Oram et al., 2012; Stöckl et al., 2017; Ottisova et al., 2016). Victims often report experiences of emotional, physical and sexual abuse throughout the various stages of the human trafficking cycle, from recruitment through travel and destination points, to release and reintegration (Ottisova et al., 2016). Currently, evidence is scarce on the patterns of violence across different types of trafficking, despite its importance for more tailored assistance to survivors once they are in a position to receive post-trafficking support.

This study aims to close this evidence gap by describing documented cases of violence amongst trafficking survivors and describe associated factors, drawing on the largest global database to date, the IOM's Victim of Trafficking Database (VoTD).

## 2. Methods

### 2.1. Data source

The IOM VoTD is the largest database on human trafficking worldwide. Actively used across all IOM regional and country missions, VoTD is a standardized anti-trafficking case-management tool that monitors assistance for victims of trafficking. In certain contexts, IOM identifies victims at transit centres or following their escape, while in other settings IOM mainly provides immediate assistance following referral by another organization or long-term reintegration assistance. This routinely collected data includes information on various aspects of victims' experiences, including background characteristics, entry into the trafficking process, movement within and across borders, sectors of exploitation, experiences of abuse, and activities or work at destination.

The primary purpose of IOM's VoTD is to support assistance to trafficked victims, not to collect survey data. It does not represent a standardized survey tool or research programme, and therefore, the quality and completeness of the data vary substantially between registered individuals. IOM case workers often enter data retrospectively and its quality may therefore be affected by large caseloads on staff working with limited resources. In addition, the VoTD sample may be biased by the regional distribution of IOM's missions and by the local focus on certain types of trafficking. For example, in the past, women were a near-exclusive target of IOM's assistance programs due to a focus on sexual exploitation. However, over time, the identification of trafficking victims has increasingly included individuals subjected to forced labour. Nevertheless, in the countries where IOM provides direct assistance to victims of trafficking, VoTD data are broadly representative of the identified victim population in that country and are still the most representative data with the widest global coverage on human trafficking.

Between 2002 and mid-2018, the VoTD registered 49,032 victims of trafficking, with nearly complete records for 26,067 records which provide information on whether individuals reported being exploited, with exploitation other than sexual and labour exploitation, such as organ trafficking or forced marriage accounting for less than five percent of the overall dataset. A bivariate analysis to identify patterns in the distribution of missing data found that missing values spanned across all variables of the data and no specific pattern regarding countries of exploitation or origin emerged that could explain the source of missing data.

### 2.2. Theory

This study relied on an adapted version of the Zimmerman et al. (2011) theoretical framework on human trafficking and health that comprises four basic stages: recruitment; travel and transit; exploitation; and the reintegration or integration stages; with sub-stages for some

trafficked people who become caught up in detention or re-trafficking stages. The modified framework in Fig. 1 displays the three stages of the human trafficking process: recruitment, travel and transit and exploitation and displays the factors associated with experiences of violence during the trafficking process.

### 2.3. Measures

The VoTD dataset includes survivors' responses about whether they experienced physical or sexual violence during any stage of the trafficking process. Information available on trafficked persons' pre-departure characteristics, risk factors at transit and exploitation stage are outlined in Fig. 1 with their respective coding. Reports on exploitation only include the last form of exploitation a victim of trafficking experienced. It is however possible to report more than one type of exploitation for the most recent situation.

The research team made a substantial effort to code and clean the data, working closely with IOM's data management team. IOM's database refers to the VoTD cases as 'victims' as IOM caseworkers follow the Palermo Protocol in their determination and this is the language of the Protocol, recognising the debates around the terminology victims versus survivors (International Organization for Migration 2014). The secondary data analysis of the IOM VoTD data received ethical approval from the London School of Hygiene and Tropical Medicine ethical review board.

### 2.4. Data analysis

To estimate the prevalence of physical or sexual violence or both, as reported by trafficked victims in the VoTD, the analysis was restricted to the 10,369 victims with data available on experiences of physical and/or sexual violence. In total, 94 countries of exploitation were reported, covering the whole globe, including high-, middle- and low-income countries. Descriptive statistics highlight the characteristics of trafficked victims in total and by gender. Associations with physical and/or sexual violence have been calculated using unadjusted odds ratios. Only variables with a significant association with reports of physical and/or sexual violence in the unadjusted odds ratios were included into a staged logistic regression model. The staged logistic regression model aimed to show whether characteristics at pre-departure only or pre-departure and transit remain significantly associated with experiences of physical and/or sexual violence during human trafficking. A separate bivariate analysis was conducted between reported experiences of violence and sectors of exploitation due to the low number of responses for sectors of exploitation. In both the bivariate and multivariate logistic regressions, a p-value below 0.05 is taken to indicate significance.

## 3. Results

Of the 10,369 trafficked victims included in this analysis, 89% were adults, of whom 54% were female. The prevalence of reported violence during human trafficking is high: 54% reported physical and/or sexual violence, 50% reported physical violence, and 15% sexual violence. Table 1 shows that more female victims report physical (54% versus 45%) and sexual (25% versus 2%) violence than men, both overall and amongst minors. amongst minors, 52% of girls reported physical violence and 27% sexual violence, compared to 39% and 8%, respectively amongst boys.

Pre-departure characteristics, displayed in Table 2, show that most trafficked persons were in their twenties and thirties, and 17% were minors. amongst all VoTD cases, 75% self-identified as poor before their trafficking experience and 16% as very poor. Records show that 39% were married before they were trafficked. Of the total sample, 40% had achieved a secondary education. The majority reported that they were recruited into the trafficking process (79%), crossed an international border (92%) and were trafficked with others (75%). Forged documents

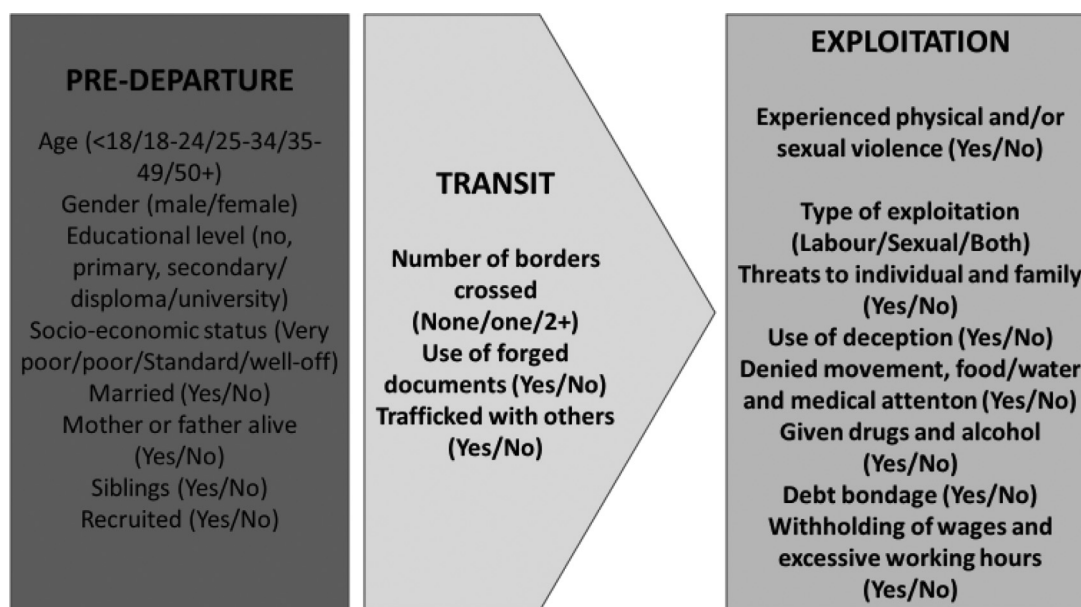


Fig. 1. Stages of human trafficking adapted from Zimmerman et al. (2011), incorporating variable coding.

**Table 1**  
Prevalence of violence amongst victims of exploitation.

Types of violence	Freq (%)									
	Total (10,370)		Female (5618)		Male (4752)		Female below 18 (826)		Male below 18 (556)	
Physical Violence	5147	49.6%	3028	53.9%	2119	44.6%	431	52.2%	215	38.7%
Sexual Violence	1500	14.5%	1407	25.0%	93	2.0%	224	27.1%	43	7.7%
Physical and/or sexual violence	5558	53.6%	3406	60.6%	2152	45.3%	515	62.3%	237	42.6%

were used in the trafficking process by 10% of trafficked persons. Most victims reported forced labour, 56% of whom were male. Of the 33% who were trafficked into sexual exploitation, 98% were female. Six percent reported they were trafficked into both labour and sexual exploitation. Victims reported a variety of abuses while trafficked, with 60% indicating they were subjected to threats against themselves or their family, 79% were deceived, 76% were denied movement, food or medical attention, 4% were given alcohol and/or drugs, 60% had documents confiscated and 35% reported situations of debt bondage.

Physical and/or sexual violence was significantly associated with being female, young age and self-reported high socio-economic status. More specifically, individuals between ages 18 and 24 are significantly more likely to report violence than those aged 25 to 34 and individuals aged 35 to 49 are less likely to report violence than those aged 25 to 34. Victims reporting their socio-economic status as well-off compared to poor before departure, were significantly more likely to report abuse during their trafficking experience. Crossing one border and using forged documents were all significantly associated with fewer reports of violence during the trafficking experience, while being in sexual exploitation and reporting any other forms of control or abuse during the exploitation stage increased the likelihood of violence reports.

Considering all pre-departure characteristics together, controlling for each other, being female and higher socio-economic status remained significantly associated with reports of physical and/or sexual violence (Model 1, Table 3), although only being female remained significant once transit and exploitation factors were taken into account. Controlling for other factors at the transit and exploitation stage, using forged documents remained significantly associated with fewer reports of violence as did most forms of abuses at the exploitation stage such as threats and being forced to take drugs and alcohol. Being in sexual exploitation or both sexual and labour exploitation versus labour alone also remained significant.

Availability of data on sectors of exploitation was limited. The separate analysis on the prevalence of physical and/or sexual violence in Table 4 displays high reports of violence from those trafficked into sexual exploitation, domestic work, manufacturing, agriculture and begging. Sexual violence was most often reported by victims trafficked into domestic work and the hospitality sector.

#### 4. Discussion

Our analysis of the world’s largest trafficking victim data set indicates that physical and sexual violence is indeed prevalent in cases of human trafficking, as 52% of the trafficking cases included reports of physical and/or sexual violence. It is noteworthy that nearly half (48%) of survivors did not report violence, indicating that human trafficking does not necessarily have to involve physical or sexual violence. It is important to recall that 60% of survivors reported being subjected to threats to themselves or their family, a potential explanation for the lack of reports of physical and/or sexual violence. Our analyses also suggest that trafficking-related violence is gendered, as higher levels of abuse were reported by female survivors and in sectors in which women and girls are commonly exploited: sex work and domestic work. It is also noteworthy that sexual violence is an issue amongst trafficked men below the age of 18, indicating the importance of investigating human trafficking by both gender and age and by sector of exploitation.

The prevalence of physical and/or sexual violence found in this study corresponds with the prevalence range reported in a 2016 systematic review, which found rates between 12% to 96% (Oram et al., 2012) and in Kiss et al’s 2014 three-country survey of male, female and child trafficking survivors in post-trafficking services in the Mekong. In Kiss et al., 48% reported physical and/or sexual violence, with women reporting higher rates of sexual violence than men (Kiss et al., 2015).

**Table 2**  
Characteristics of trafficked persons at different stages of the trafficking stages for victims.

Characteristics	Total	Female		Male		Physical and/or sexual violence				
						Freq	%	OR	CI	
<b>PRE-TRAFFICKING</b>										
Being female						3406	61%	1.84***	[1.50,2.27]	
Age (n = 24,286)										
<18	1027*	10.2%	601	11.0%	426	9.3%	565	10.6%	1.00	[0.50,2.00]
18–24	3626	36.0%	1983	36.2%	1643	35.8%	1944	36.3%	1.15	[0.98,1.35]
25–34 (ref)	2,12	21.1%	1,42	25.9%	700	15.3%	1198	22.4%		
35–49	2533	25.2%	1105	20.2%	1428	31.1%	1248	23.3%	0.88**	[0.81,0.97]
50+	760	7.6%	367	6.7%	393	8.6%	398	7.4%	1.02	[0.81,1.28]
Education (n = 14,834)										
No education	248	4.9%	93	3.8%	155	5.9%	109	4.2%		
Primary	810	16.0%	472	19.3%	338	12.9%	436	16.8%	2.01	[0.78,5.15]
Secondary/High School	1806	35.6%	975	39.8%	831	31.6%	933	36.0%	2.00	[0.72,5.58]
Certificate /diploma/	1599	31.5%	593	24.2%	1006	38.3%	798	30.8%	1.92	[0.67,5.55]
University/postgraduate	600	11.8%	307	12.5%	293	11.2%	309	11.9%	2.03	[0.68,6.05]
Married (n = 11,867)	3085	39.7%	1238	31.2%	1847	48.5%	1,59	39.7%	1.02	[0.70,1.48]
Self-assessed SES (n = 21,812)										
Poor	6432	76.5%	3047	71.0%	3385	82.3%	3232	74.9%		
Well-off	27	0.3%	13	0.3%	14	0.3%	19	0.4%	2.37***	[1.44,3.90]
Standard	463	5.5%	274	6.4%	189	4.6%	210	4.9%	0.79	[0.37,1.68]
Very Poor	1484	17.7%	959	22.3%	525	12.8%	855	19.8%	1.29	[0.81,2.05]
Has siblings (n = 12,933)	3519	42.7%	1802	43.8%	1717	41.6%	1884	46.3%	1.33	[0.99,1.79]
Father alive (n = 5238)	3242	70.0%	1547	68.5%	1695	71.3%	1644	69.1%	0.92	[0.75,1.14]
Mother alive (n = 6118)	4548	85.7%	2201	85.0%	2347	86.4%	2293	85.1%	0.92	[0.73,1.15]
<b>ENTRY INTO TRAFFICKING</b>										
Recruited (n = 22,443)	9034	90.1%	4887	89.6%	4147	90.7%	4763	89.2%	0.90	[0.47,1.73]
International border crossed (n = 10,352)	3973	92.3%	4604	89.9%	8577	91.0%	4408	90.2%	0.74	[0.33,1.64]
Use of forged documents (n = 13,096)	602	9.9%	305	10.2%	297	9.6%	174	5.8%	0.39***	[0.26,0.56]
Trafficked with others (n = 15,364)	4452	71.5%	1,91	61.6%	2542	81.3%	2153	71.0%	0.96	[0.62,1.49]
<b>DURING TRAFFICKING (24,370)</b>										
Labour exploitation	7014	69.7%	2,87	52.4%	4144	90.3%	3308	61.8%		
Sexual exploitation	1368	13.6%	1279	23.4%	89	1.9%	887	16.6%	1.88***	[1.32,2.67]
Both	302	3.0%	280	5.1%	22	0.5%	232	4.3%	3.79***	[2.16,6.63]
Other	1382	13.7%	1047	19.1%	335	7.3%	926	17.3%	0.81	[0.51,1.29]
<b>MEANS OF CONTROL</b>										
Threats to individual and family (n = 8472)	6024	61.2%	3231	60.8%	2793	61.8%	3,85	74.6%	3.02***	[2.05,4.46]
Use of deception (n = 8472)	7838	79.7%	4108	77.2%	3,73	82.5%	4212	81.7%	1.20	[0.80,1.79]
Denied movement, food/water and medical attention (n = 8472)	7,5	76.2%	4073	76.6%	3427	75.8%	4345	84.2%	2.38**	[1.38,4.12]
Given drugs and alcohol (n = 8472)	623	6.3%	475	8.9%	148	3.3%	529	10.3%	4.12***	[2.98,5.69]
Withholding of documents(n = 8472)	6005	61.0%	3185	59.9%	2,82	62.4%	3366	65.3%	1.36	[0.92,2.02]
Debt bondage (n = 8472)	3568	36.3%	2096	39.4%	1472	32.6%	1985	38.5%	1.22	[0.90,1.64]
Withholding of wages and excessive working hours (n = 8472)	8,11	82.4%	4123	77.5%	3987	88.2%	4471	86.7%	1.75**	[1.16,2.65]

Exponentiated coefficients; 95% confidence intervals in brackets

- \*  $p < 0.05$
- \*\*  $p < 0.01$ .
- \*\*\*  $p < 0.001$ .

Findings also indicated several contradictions related to common generalisations related to vulnerability to trafficking, which often suggest that the poorest and least educated are at greatest risk of trafficking (Passos et al., 2020). However, our analysis indicated that 40% of those who were trafficked had a secondary education and only 16% self-identified as very poor. Interestingly, when considering who was most at risk of abuse during trafficking, victims who were younger, between ages 18–24, seemed to experience higher levels of violence, perhaps indicating that those who were more mature were more compliant.

Our study also offers new insights about violence that occurs before individuals arrive at the destination of exploitation. Our study highlights that physical or sexual violence is also associated with factors at the recruitment and transit stage of the trafficking process, such as socioeconomic status, crossing international borders and the use of forged documents. The latter contradicts current assumptions that are applied in trafficking awareness and training activities, which warn prospective migrants about international trafficking and against the use of forged

documents (Kiss et al., 2019). There are a number of possible explanations for this finding on forged documents. First, it is possible that having used forged documents gives traffickers the ability to threaten their victims with arrest or imprisonment because of their illegal status versus using physical abuse. The study found that internal trafficking was associated with a higher prevalence of violence. To interpret this, it is necessary to consider the general population or work-related prevalence of violence in countries from where the victims originate. If their countries of origin have higher levels of violence, this may make individuals less likely to report what they might consider to be minor workplace abuses (Paasche et al., 2018). Similarly, violence in sex work and domestic work may have been related to socially normative abuse patterns and general prevalence of violence in these sectors and locations to which individuals were trafficked (Kaur-Gill and Dutta, 2020). For abuse in situations of commercial sexual exploitation, a sector in which violence was reportedly most prevalent (Platt et al., 2018), victims were likely to have been subjected to abuses by traffickers (e.g., pimps, man-

**Table 3**  
Association between trafficking characteristics and physical and/or sexual violence.

	Model 1		Model 2		Model 3	
<b>PRE-DEPARTURE</b>						
Sex (Ref. male)						
Female	2.17***	[1.76,2.68]	2.73***	[2.17,3.43]	2.48***	[2.01,3.06]
Age (Reference Category 25–34)						
<18	1.08	[0.51,2.33]	0.59	[0.25,1.38]	1.28	[0.57,2.90]
18–24	1.21*	[1.03,1.43]	1.09	[0.88,1.33]	1.10	[0.88,1.37]
35–49	0.90*	[0.81,0.99]	0.94	[0.86,1.04]	1.02	[0.93,1.12]
50+	1.06	[0.96,1.18]	1.07	[0.93,1.24]	1.19	[0.95,1.48]
Marital status (Ref. Not married)	1.25	[0.93,1.68]	1.34	[1.00,1.81]	1.24	[0.93,1.64]
Self-reported SES (Ref. poor)						
Well-off	2.05*	[1.09,3.86]	1.03	[0.60,1.77]	1.15	[0.68,1.94]
Standard	0.86	[0.46,1.63]	0.90	[0.41,1.95]	1.07	[0.50,2.28]
Very poor	1.26	[0.87,1.82]	0.92	[0.60,1.40]	1.01	[0.61,1.70]
<b>TRANSIT</b>						
International border crossed (Ref. None)			0.49	[0.24,1.00]	0.36**	[0.19,0.68]
Forged documents used (Ref. No)			0.59***	[0.45,0.77]	0.64*	[0.44,0.93]
<b>EXPLOITATION</b>						
Type of exploitation (Ref. Labour)						
Sexual					2.08**	[1.22,3.54]
Both					2.66*	[1.00,7.03]
Threats to individual and family (Ref. No)					2.89***	[2.10,3.98]
Denied movement, food/water and medical attention (Ref. No)					1.25	[0.95,1.64]
Being forced to take drugs and alcohol (Ref. No)					2.37*	[1.08,5.21]
Withholding of wages and excessive working hours (Ref. No)					1.42	[0.95,2.13]
N	6505		4541		4541	

Exponentiated coefficients; 95% confidence intervals in brackets. \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$ .

**Table 4**  
Prevalence of violence amongst victims of exploitation by activity sector.

Labour exploitation			Physical Violence		Sexual Violence		Physical and/or sexual violence	
Agriculture	1316	7.5%	544/992	55%	35/992	4%	546/992	55%
Aquafarming	312	1.8%	78/278	28%	0/278	0%	78/278	28%
Begging	324	1.9%	102/187	55%	2/185	1%	102/187	55%
Construction	2618	14.7%	992/2055	48%	23/2044	1%	995/2055	48%
Domestic work	1902	10.9%	448/870	51%	111/867	13%	483/870	56%
Hospitality	820	4.5%	61/129	47%	16/128	13%	67/129	52%
Manufacturing	1067	7.2%	568/1025	55%	55/1025	5%	573/1025	56%
Other	661	3.5%	143/386	37%	34/386	9%	150/387	39%
<b>Sexual exploitation</b>								
Prostitution, pornography and other sexual services	9576	38,0%	804/1669	48%	873/1667	52%	1119/1670	67%

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agers, brothel owners) and clients at levels relative to general levels of abuse in that sector in that location. Likewise, women trafficked into domestic work, would have been exposed to violence from members of the household, a behaviour that is rarely condemned or punished in countries where trafficking into domestic work is common.

It is also possible that the levels of violence experienced by trafficked persons are proportional to the degree of control the exploiter feels he needs to exert over the victim. In that sense, trafficking victims who have more resources or capabilities to leave an exploitative situation may be the ones who experience higher levels of violence. For example, people with greater economic resources may have a greater ability to leave and may also have a social network that can support their exit process. Sexual exploitation may take a higher degree of coercion over victims, which would make threats and violence a useful tactic to keep them in the situation.

The VoTD is a unique dataset on human trafficking. However, it is useful to recognise that the VoTD is a case-management database and not systematically collected survey data. Data is limited to single-item assessments rather than validated instruments to capture complex situations and experiences and often entered retrospectively by caseworkers. For example, socio-economic background was self-assessed through four options only and recruitment through a single question. It is for this rea-

sons that we did not include emotional abuse into our measurement of violence – given the lack of internationally agreed definitions of emotional abuse, we could not be certain that case workers recognize and enter all experiences of emotional abuse uniformly across the globe. Furthermore, the VoTD is cross-sectional in nature and does not allow to infer causality with respect to the factors associated with experiences of violence during the trafficking process. The VoTD is not representative of the overall population of trafficking victims, as it only captures individuals who have been identified as trafficked and who were in contact with post-trafficking services.

Despite these limitations, the analysis highlights the importance of large-scale administrative datasets in future international human trafficking research to complement in-depth qualitative studies. Our analysis suggests the urgent need for clearer and more consistent use of definitions, tools, and measures in human trafficking research, particularly related to socio-economic background, what is meant by ‘recruitment’ and ‘emotional abuse’. In particular, there is a need for international standards and guidance for recording and processing administrative data on human trafficking for research purposes. Prospective donors must also recognize that record-keeping is part of care cost, and support it through grant-making. This will allow frontline organizations to invest in information management systems, staff training, and record keeping poli-

cies and protocols. If frontline agencies are to provide data for research purposes, beyond those which are necessary for delivering protection services for victims, additional resources should be considered.

Our study reiterates the importance of psychological outcomes resulting from violence in cases of human trafficking, which has been identified in many other site-specific studies (Ottisova et al., 2016). Yet, despite these common findings, and the world's commitment to eradicate human trafficking in the Sustainable Development Goal 8.7, to date, there has been extremely little evidence to identify what types of post-trafficking support works for whom in which settings. For instance, there have been few robust experimental studies to determine what helps different individuals in different contexts grapple with the psychological aftermath of human trafficking, even amidst growing number of post-trafficking reintegration programs and policies (Okech et al., 2018; Rafferty, 2021). Given the increasing amount of case data from many programs working with survivors, organisations will have to produce more systematically collected case data to ensure findings are relevant and useful for future post-trafficking psychological support for distress and disorders, such as PTSD and depression.

Furthermore, the data indicate that abuses may occur throughout the trafficking cycle, which suggests that victim-sensitive policy responses to human trafficking are required at places of origin, transit and, particularly at destination, when different forms of violence often go undetected. Our findings also underline the need for post-trafficking policies and services that recognise the variation in trafficking experiences, particularly the health implications of abuse for many survivors. Ultimately, because of the global magnitude of human trafficking and the prevalence of abuse in cases of trafficking, human trafficking needs to be treated as a public health concern (Kiss and Zimmerman, 2019). Moreover, because survivors' experiences of violence varied amongst men, women and children and across settings, it will be important to design services that meet individuals' varying needs, designing context specific interventions (Kiss and Zimmerman, 2019; Greenbaum et al., 2017).

## 5. Conclusion

This study offers substantial new insights on the patterns of physical and/or sexual violence amongst trafficking survivors. By highlighting the linkages between violence and associated factors at different stages of the trafficking process, our findings emphasise the importance of understanding the entire human trafficking process so that intervention planning can more accurately assess opportunities to prevent trafficking-related harm, improve assessments of survivor service needs, and increase well-targeted survivor-centred care. Ultimately, while these results suggest patterns can be observed, they also show that trafficking is a wide-ranging and far-reaching crime that requires responses that are well-developed based on individuals' different experiences.

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## Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## References

- Griggs, D., et al., 2013. Policy: sustainable development goals for people and planet. *Nature* 495 (7441), 305.
- UN Nations Office on Drugs and Crime, 2000. United Nations Convention against Transnational Organized Crime and the Protocols Thereto, in <https://www.unodc.org/unodc/en/organized-crime/intro/UNTOC.html>. New York. Accessed 01.04.2019.
- Jahic, G., Finckenauer, J.O., 2005. Representations and misrepresentations of human trafficking. *Trends Organ. Crime* 8 (3), 24–40.
- International Organization for Migration. Counter Trafficking Data Collaborative. 2019, in <https://www.ctdatacollaborative.org/>. Geneva. Accessed 01.10.2019.
- International Labour Office, 2017. Global estimates of modern slavery: Forced labour and forced marriage. ILO, Geneva.
- UNODC, 2018. The Global Report on Trafficking in Persons 2018. UNODC, Vienna.
- Kiss, L., et al., 2015. Health of men, women, and children in post-trafficking services in Cambodia, Thailand, and Vietnam: an observational cross-sectional study. *Lancet Glob. Health* 3 (3), e154–e161.
- Oram, S., et al., 2012. Prevalence and risk of violence and the physical, mental, and sexual health problems associated with human trafficking: systematic review. *PLoS Med.* 9 (5), e1001224.
- Stöckl, H., et al., 2017. Trafficking of Vietnamese women and girls for marriage in China. *Glob. Health Res. Policy* 2 (1), 28.
- Ottisova, L., et al., 2016. Prevalence and risk of violence and the mental, physical and sexual health problems associated with human trafficking: an updated systematic review. *Epidemiol. Psychiatr. Sci.* 25 (4), 317–341.
- Zimmerman, C., Hossain, M., Watts, C., 2011. Human trafficking and health: a conceptual model to inform policy, intervention and research. *Soc. Sci. Med.* 73 (2), 327–335.
- International Organization for Migration, 2014. Accessing IOM Trafficked Migrants Assistance Database (TMAD) Information for Researchers and Practitioners. IOM, Geneva.
- Passos, T.S., et al., 2020. Profile of reported trafficking in persons in Brazil between 2009 and 2017. *J. Interpers. Violence*, 0886260520976219.
- Kiss, L., et al., 2019. South Asia Work in Freedom Three-Country evaluation: A theory-based intervention evaluation to promote safer migration of women and girls in Nepal, India and Bangladesh. SWIFT Research report. London School of Hygiene & Tropical Medicine, London.
- Paasche, E., Skilbrei, M.-L., Plambech, S., 2018. Vulnerable Here or There? Examining the vulnerability of victims of human trafficking before and after return. *Anti Traffick. Rev.* 34–51.
- Kaur-Gill, S., Dutta, M.J., 2020. Negotiating the (im) mobility of domestic work: communicative erasures, disrupted embodiments, and neoliberal Asia. *J. Int. Intercult. Commun.* 13 (2), 130–150.
- Platt, L., et al., 2018. Associations between sex work laws and sex workers' health: a systematic review and meta-analysis of quantitative and qualitative studies. *PLoS Med.* 15 (12), e1002680.
- Okech, D., et al., 2018. Social support, dysfunctional coping, and community reintegration as predictors of PTSD among human trafficking survivors. *Behav. Med.* 44 (3), 209–218.
- Rafferty, Y., 2021. The identification, recovery, and reintegration of victims of child trafficking within ASEAN: an exploratory study of knowledge gaps and emerging challenges. *J. Hum. Traffick.* 7 (2), 145–167.
- Kiss, L., Zimmerman, C., 2019. Human Trafficking and Labor exploitation: Toward identifying, implementing, and Evaluating Effective Responses. Public Library of Science, San Francisco, CA USA.
- Greenbaum, J., et al., 2017. Global human trafficking and child victimization. *Pediatrics* 140 (6).