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A Sharper Lens on Vulnerability

A Statistical Analysis of Migrant Youth Vulnerability in
Sudan and Ethiopia 2022—2023

MMC Research Report, December 2024



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Photo caption:Young Eritreans in the Mebrat Hail suburb of Addis Ababa, Ethiopia, 2019.

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Disclaimer: This study was developed utilizing data collected by the Mixed Migration Centre (MMC). The content of this report is entirely the responsibility of MMC, and the position of MMC does not necessarily reflect the position of the Danish Refugee Council, SCI or SDC.

MMC is part of the Danish Refugee Council (DRC). While its institutional link to DRC ensures MMC's work is grounded in operational reality, it acts as an independent source of data, research, analysis and policy development on mixed migration for policy makers, practitioners, journalists, and the broader humanitarian sector.

For more information visit: www.mixedmigration.org and follow us at: [@Mixed_Migration](https://twitter.com/Mixed_Migration)

About MMC

MMC is a global network engaged in data collection, research, analysis, and policy and programmatic development on mixed migration, with regional hubs in Africa, Asia and the Pacific, Europe and Latin America, and a global team based across Copenhagen, Geneva and Brussels.

MMC is a leading source for independent and high-quality data, research, analysis and expertise. MMC aims to increase understanding of mixed migration, to positively impact global and regional migration policies, to inform evidence-based mixed migration responses for people on the move and to stimulate forward thinking in public and policy debates on mixed migration. MMC's overarching focus is on human rights and protection for all people on the move.



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Acronyms and abbreviations

4Mi	Mixed Migration Centre's data collection system
EAMR	East African Migration Routes project
GMDAC	Global Migration Data Analysis Centre
IOM	International Organization for Migration
MMC	Mixed Migration Centre
RMMS	Regional Mixed Migration Secretariat

Summary

Sudan and Ethiopia are important migration crossroads in East Africa, and routes through this region are characterised by a substantial risk of abuse. The conflict that broke out in Sudan in April 2023 has significantly affected displacement patterns and increased risks for people escaping the war, as evidenced in previous MMC research.

This study aims to advance understanding of the factors that impact the vulnerability of youth on the move and to inform programmatic response in the region. The analysis draws upon 1,588 surveys with migrant youth (aged 18-24) in Sudan and Ethiopia collected from November 2022 to December 2023. Thirteen characteristics (such as gender, nationality, smuggler use, etc.) were analysed as variables that might affect the risk of experiencing a range of abuses, such as robbery, detention, and sexual violence.

Results suggest that at the time of data collection, three factors appeared to be associated with the level of vulnerability experienced by migrant youth in Sudan and Ethiopia: respondents who had to work to make money during their journey, those who used a smuggler, and those who were nationals of certain countries were more likely to experience abuse. Other important determinants were the conflict in Sudan, gender, educational level, whether a respondent started their journey alone or with others, and the duration of their journey. Based on these findings, the report includes recommendations for programmatic response.

1. Introduction

All over the world, migrants encounter a wide range of dangers along their journeys, from discrimination and robbery to kidnapping for ransom, sexual violence and even death. Their vulnerability to these abuses is often shaped by a variety of personal, societal and contextual factors and these risks can be heightened for young people, especially those who move irregularly. According to a detailed overview of youth migration published by the UN Global Migration Group in 2014:

Due to their age and developmental stage, young migrants are more vulnerable to migration experiences that result in isolation, exclusion and insecurity. They may be particularly affected by xenophobia and discrimination and suffer further marginalisation due to lack of fluency in the local language, new and different cultural norms, and insufficient information about laws and regulations in their new country.¹

A Mixed Migration Centre (MMC) study on the determinants of vulnerability to abuses during the migration journey, based on a survey of 5,659 respondents in Libya, also found that younger migrants had an increased likelihood of experiencing abuses² during the journey.³ Migrant youth – defined here as migrants between the ages of 18 and 24⁴ – are recognised as being particularly vulnerable, and there is a clear need for more disaggregated data and research that focuses on this cohort and their experiences.⁵

Through the East African Migration Routes (EAMR) project, supported by the Swiss Agency for Development and Cooperation, MMC, together with EAMR lead organisation Save the Children International, has consistently sought to expand the evidence base on young people on the move. This study builds on existing, descriptive MMC data and research on migrant youth and on several previous MMC studies on the determinants of migrant vulnerability. It focuses on the specific context of migration in and through Sudan and Ethiopia – two countries in which youth migration is substantial, and where all people on the move face a variety of threats and challenges. By using regression analysis, which allows for a deeper and more robust analysis than descriptive statistics alone, this study homes in on the characteristics and circumstances that increase the vulnerability of migrant youth in these countries.

1 Cortina, J. et al (2014) [Migration and Youth: Challenges and Opportunities](#). Global Migration Group.

2 In this briefing paper, MMC uses 'abuse' as a general term to encompass protection incidents reported by migrants during their journey. The data do not allow us to distinguish to what extent the incidents that befall migrants on their journey are 'violations' by officials or 'abuses' by other actors. The use of 'abuse' throughout this paper should therefore not be seen as precluding the likelihood that some reported incidents were perpetrated by state actors, which may be termed 'violations' in other literature.

3 Nissling, S. & Murphy-Teixidor, A-M. (2020) [A Sharper Lens on Vulnerability \(North Africa\) - A statistical analysis of the determinants of vulnerability to protection incidents among refugees and migrants in Libya](#). Mixed Migration Centre (MMC).

4 While recognising that the United Nations consider 'youth' to be any individual aged between 15 and 24, and other organisations have slightly different definitions, this study considers migrant youth as those aged 18 to 24, in line with the dataset being analysed.

5 Cortina, J. et al (2014) [Op. Cit.](#); Belmonte, M. & McMahon, S. (2019) [Searching for clarity: Defining and mapping youth migration](#) IOM Migration Research Series, No. 59; Linekar, J. & Vallentine, J. (2022) [Children and youth in mixed migration: Insights and key messages drawn from a decade of MMC's research and 4Mi data collection](#). Mixed Migration Centre; Cossor, E. (2016) [Young and on the Move Children and youth in mixed migration flows within and from the Horn of Africa](#). Regional Mixed Migration Secretariat.

2. Background

Challenges faced by migrant youth during their migration experience may be compounded by their age and relative lack of experience. However, it is also important to recognise that risks are profoundly influenced by the context in which migration takes place.

Sudan and Ethiopia are important migration crossroads in East Africa, as well as countries with notably young migrant populations.⁶ Key countries of origin, transit, and destination for migrants and displaced people, Ethiopia and Sudan have both been marked by conflict in recent years, with environmental factors such as droughts and floods compounding the challenges and dangers that feed into migration decision-making and journeys.⁷ Routes through this region are characterised by high risks of abuse, including aggravated smuggling⁸ and trafficking in persons.⁹ Young Ethiopians, Eritreans, Somalis and Sudanese have been a particular focus of smugglers, traffickers and criminal networks operating in the region, with Eritreans historically being especially vulnerable to trafficking and kidnapping for ransom.¹⁰

Sudan has long been an important destination country for international migrants, with estimates putting this population as high as 1.4 million in mid-2020. Many of these are migrants without an authorised status who face social exclusion, low wages in the informal economy and precarious living conditions.¹¹ Before the outbreak of war in April 2023, Sudan was also one of the largest hosts of refugees and asylum seekers on the African continent. Some 1.1 million (primarily South Sudanese, followed by Eritreans, Syrians and Ethiopians) resided in the country, of whom around 122,000 were youth.¹²

Initially concentrated primarily in and around Khartoum, the conflict between the Sudanese Armed Forces and the Rapid Support Forces has since spread throughout the country and has had a substantial impact on mobility in the region.¹³ As of mid-August 2024, over 7,987,700 people had been displaced within Sudan since the start of the war, and 2,316,500 people had fled the country. While the majority (an estimated 62%) of those displaced across a border are Sudanese, more than a third (an estimated 38%) are third-country nationals.¹⁴

For those seeking to migrate, the northward journey through Sudan has become longer, taking up to three weeks as compared to two to three days as was the case before the war.¹⁵ Early research on the conflict's impact on mobility suggests that people moving north from Khartoum after hostilities first erupted were doing so in haste, with less preparation, and at greater cost; all factors which can increase vulnerability. At the same time, they are subject to increased risks en route, including of trafficking, injury due to harsh conditions, a lack of access to food and water as well as arrest/detention at the border with Egypt, where the humanitarian situation has been dire.¹⁶

A 4Mi survey of migrants affected by the conflict conducted in the second half of 2023 further illuminates the dangers.¹⁷ The majority of respondents (70%) had experienced abuse and/or injury since the beginning of the conflict, with 80% having been exposed to active fighting, 45% encountering roadblocks/checkpoints and 38% facing challenges

6 Whereas in 2020 the global median migrant age was 39.1, in Ethiopia it was 22.1 and in Sudan 21.7. See UNDESA Population Division's [International Migrant Stock 2020](#)

7 IOM (2023b) [A Region on the Move 2022: East and Horn of Africa](#); Migration Data Portal (2024) [Child and Youth Migrants](#) IOM Global Migration Data Analysis Centre; Horwood, C. & Frouws, B. (Eds.) (2023) [Mixed Migration Review 2023. Highlights. Interviews. Essays](#). Data. MMC

8 According to the United Nations Office on Drugs and Crime (UNODC), aggravated smuggling entails 'circumstances (a) that endanger, or are likely to endanger, the lives or safety of the migrants concerned; or (b) that entail inhuman or degrading treatment, including for exploitation, of such migrants.' See UNODC (2023) [Abused and Neglected – A Gender Perspective on Migrant Smuggling Offences and Response](#) for more detail.

9 Horwood, C. & Forin, R. (2019) [Everyone's prey: Kidnapping and extortionate detention in mixed migration](#). MMC; IOM (2023b) [Op. Cit.](#)

10 Cossor, E. (2016) [Op. Cit.](#); Horwood, C. & Forin, R. (2019) [Op. Cit.](#)

11 Migration Data Portal (2024) [What was the displacement and human mobility situation pre-crisis?](#) IOM Global Migration Data Analysis Centre

12 Bonfiglio, A., Frouws, B. & Forin, R. (2023) [Mixed migration consequences of Sudan's conflict](#). MMC; MMC (2023g) [Refugee and migrant youth in Sudan - Profiles, access to income, protection risks and assistance needs](#)

13 Center for Preventive Action (2024) [Civil War in Sudan](#) Council on Foreign Relations. Global Conflict Tracker; Horwood, C. & Frouws, B. (Eds.) [Op. Cit.](#); Burnett, N., Nistri, N. & Perigaud-Grunfeld, I. (2023) ["My Life, My Plans and My Dreams are Falling Apart": Voices from the Sudan conflict](#). IOM

14 DTM Sudan (2024) [Sudan Mobility Update 6](#). IOM

15 Cavinato, M. (2024) [On This Journey, No One Cares if You Live or Die: Abuse, Protection and Justice along Routes between East and West Africa and Africa's Mediterranean Coast, Volume 2](#). IOM, MMC & UNHCR

16 Burnett, N., Nistri, N. & Perigaud-Grunfeld, I. (2023) [Op. Cit.](#); US State Department (2024) [2024 Trafficking in Persons Report: Sudan](#)

17 688 migrants, all of whom were in Sudan on April 15, 2023, were surveyed between August and December 2023 in Ethiopia, South Sudan and Sudan. For details of 4Mi, see Section 3.

accessing transportation. Respondents who had travelled from Khartoum to Addis Ababa seemed particularly affected by abuses along the route.¹⁸

Overall, young people have been shown to have greater mobility than other age groups.¹⁹ In parts of East Africa, demographics, armed conflict, economic crises and environmental threats combine to suggest that youth migration will continue. Through advanced statistical analysis, this study aims to deepen understanding of the factors that impact the vulnerability of youth on the move in Sudan and Ethiopia, against the backdrop of the war that broke out in Sudan in April 2023.

18 MMC (2024) [Routes, protection incidents and future intentions of people displaced by the Sudan war](#)

19 Belmonte, M. & McMahon, S. (2019) [Op. Cit.](#)

3. Methodology

About 4Mi

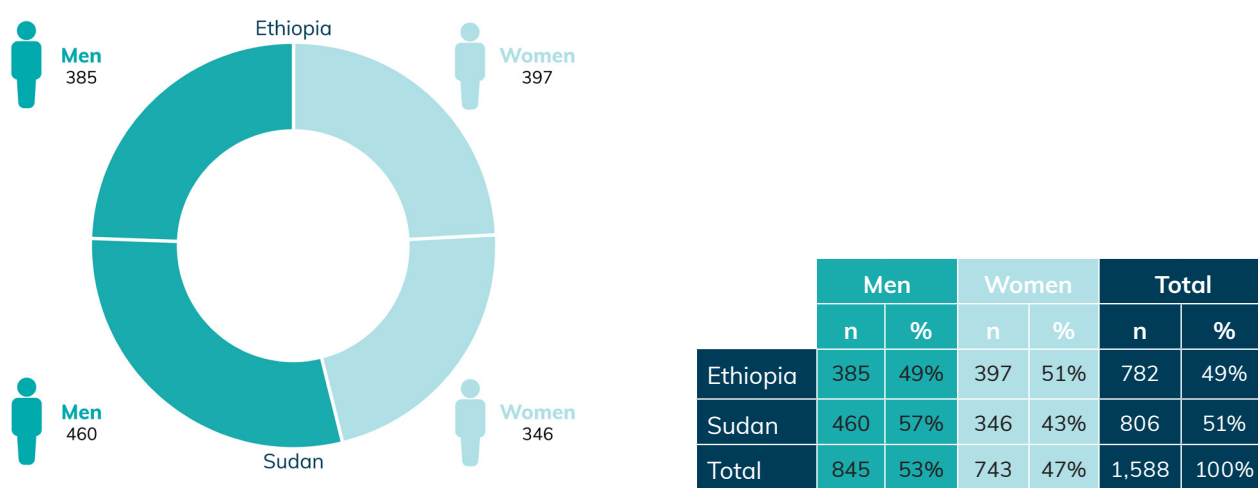
The data for this study were collected via 4Mi, MMC's primary data collection system since 2014. 4Mi uses a quantitative questionnaire that covers a range of aspects of the migration experience, such as the socio-demographic characteristics of the respondents, their journey, their motivations to migrate, their access to assistance and information, their smuggler use, and their future intentions. Of particular relevance to this study, the 4Mi survey also covers the risks and abuses that migrants perceive or experience during their journey. Since April 2023, surveys conducted in East Africa have also included questions on the impacts the war in Sudan has had on risks, abuses and movement decision-making.

4Mi uses purposive sampling and its respondents do not represent the entire population of migrants. The survey is administered face-to-face or by phone by trained local enumerators. Respondents must be at least 18 years old and must not have been interviewed by MMC in the past. To ensure the survey captures people who are still on the move, migrants must have been present in the country of interview for no more than two years and should not be in the process of returning home. 4Mi respondents are not paid for their participation, can decline to answer any question, and can pause or stop the interview at any time if they wish. 4Mi data can be explored interactively online.²⁰

3.1 Profiles of respondents

This study draws upon 1,588 responses to the 4Mi survey provided by youth on the move in Ethiopia and Sudan between November 2022 and December 2023, including migrants moving irregularly (40%), refugees (38%) and asylum seekers (22%).²¹ Respondents selected for this study were aged from 18 to 24, and had a mean age of 22. Just over half were men.

Figure 1. Gender of respondents by survey country



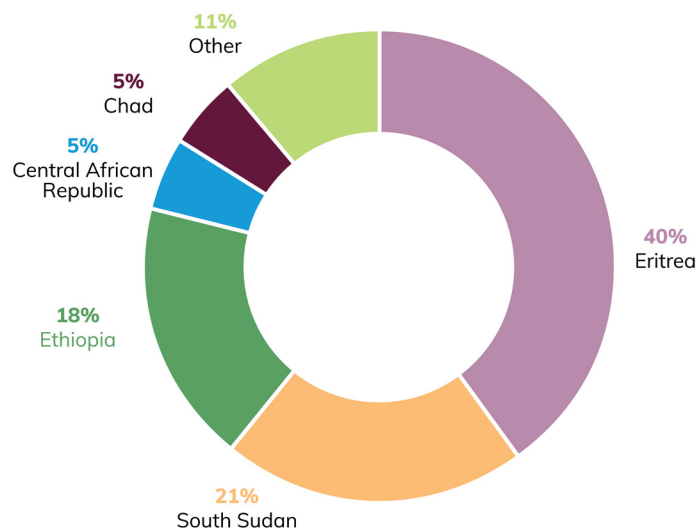
Respondents originated from 15 countries, the most common being Eritrea (40%), South Sudan (21%), Ethiopia (18%), the Central African Republic (5%) and Chad (5%).²² In 94% of cases, respondents' nationality was the same as their departure country. Ethiopians from regions affected by conflict and instability accounted for 12% of the sample.

20 4Mi Interactive: Direct Access to Data from Migrants, available here: <https://mixedmigration.org/4mi/4mi-interactive/>

21 Five respondents who declined to state whether they had experienced an incident of abuse, as well as two respondents who declined to state whether they had used a smuggler, were not included in this study. All percentages reported in this study were rounded to the nearest whole number.

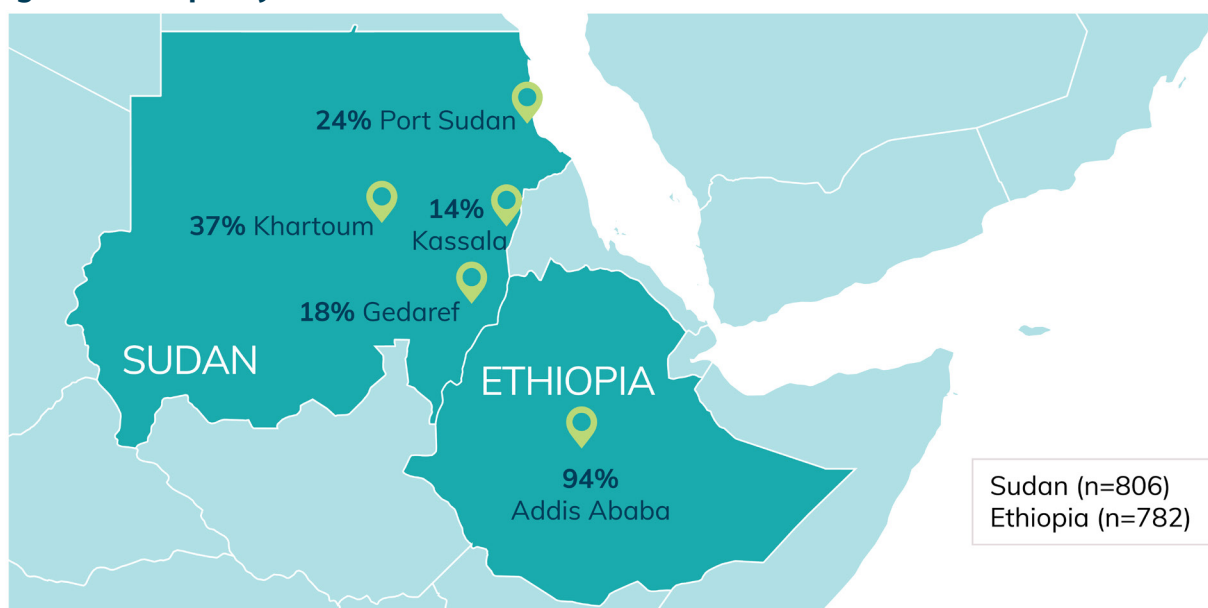
22 The 10 other countries, with fewer than 100 respondents each, were grouped as "Other" for the current analyses.

Figure 2. Nationality of respondents



Forty percent of respondents had been educated up to secondary or high school level. Although most (68%) said they had not had paid employment in the 12 months before they started their migration journey, a slightly larger proportion (75%) reported not having to work en route to fund their journey. A sizeable majority (72%) started their journey with other people, while 65% said they did not use a smuggler. Some 9% were travelling with children in their care.

Figure 3. Sample by interview location



In Ethiopia, respondents were mainly surveyed in Addis Ababa, while in Sudan they were surveyed in Khartoum, Port Sudan, Gedaref and Kassala. The mean duration of journey from point of departure to arrival in the country of survey was approximately five months; the median duration was between one and two months.²³ That said, nearly half (49%) had arrived in the country of survey the same month that they had left their country of departure. Finally, 32% were in Sudan when the conflict there started, of whom 69% were in Khartoum (22% of all respondents).

3.2 Defining abuse and harm

Abuse can be defined as ‘cruel, violent or unfair treatment,’²⁴ whereas harm can refer to injuries experienced from either human perpetrators or exogenous factors such as a harsh environment. The 4Mi questionnaire includes a list of

²³ Two missing values and 18 extreme outliers falling outside of the 0.01 to 0.99 interquartile range were replaced with the median.

²⁴ Cambridge Dictionary (2024) Definition for ‘[abuse](#)’.

10 types of abuse or harm and respondents are asked to identify all of those that they had experienced since starting their migration journey. These 10 types are: bribery or extortion; detention; injury or ill-health from harsh conditions; kidnapping; non-physical violence (e.g., harassment); physical violence; robbery; sexual violence; trafficking or exploitation; and witnessing death. In this study, MMC applies 'abuse' as a general term to encompass protection incidents reported by migrants during their journey.

3.3 Identifying variables that might impact vulnerability

The following variables from the 4Mi survey²⁵ were included in the analysis for their potential link to migrant youth vulnerability. They were chosen based on previous MMC analysis, existing studies on migrant (particularly youth migrant) vulnerability and implications for protection and humanitarian responses.

Table 1. List of variables analysed for their effect on migrant youth vulnerability

Gender	Previous MMC analyses have found that gender can affect the likelihood of experiencing specific types of abuse during the migration experience. For instance, women have been found to be more vulnerable to sexual abuse, and men more likely to experience detention.
Nationality	Specific nationalities may have particular vulnerabilities and/or assets, including those related to language, links to diaspora networks and knowledge of a geographic context. Certain nationalities may also originate from communities experiencing decreased resilience and greater deprivation. Past MMC analysis has shown nationality to be a significant predictor of vulnerability.
Educational level	Educational background could be important for young people who may still be seeking to further their education. The conventional wisdom is that greater education is linked to greater capabilities, thereby reducing youth vulnerability.
Earning money before leaving	This is a proxy for having enough money to fund the journey, as it is assumed that respondents who had a source of income prior to departure subsequently had more funds for the journey. Migrating with adequate money to fund the journey may be a protective measure, for instance allowing a migrant to avoid risky situations related to exploitative labour en route and/or to pay for more reliable facilitation/smuggling for their journey.
Starting the journey alone	Starting a migration journey alone could be a risk factor for experiencing abuse or harm. A migrant travelling alone relies only on their own knowledge and social and financial capital and does not have others with whom to troubleshoot should problems arise during the journey.
Use of smugglers	Previous research has shown that in East Africa and the Horn of Africa, smuggling frequently blurs into aggravated smuggling and/or trafficking in persons, exposing migrants in smugglers' charge to substantial risk.
Work during the journey	Previous MMC analysis of vulnerability conducted with migrants in Libya indicated that the manner in which migrants pay for their journeys could impact their vulnerability to abuse. Migrants who worked along the route were found to be more vulnerable.
First-hand experience of Sudan conflict	Understanding the effect of the Sudan conflict on vulnerability involves the use of two variables: being physically present in Sudan (first variable) and, more specifically, Khartoum (second variable) when the conflict started. Active fighting broke out in April 2023 and is the reference point for this question. At the time of data collection during the initial phases of the conflict, Khartoum was the hardest hit by active fighting. Not only were civilians caught in the crossfire, but some were deliberately harmed, falling victim to death, physical and sexual violence and robbery. ²⁶
Ethiopians from regions affected by conflict	During the data collection period, particular regions of Ethiopia were experiencing conflict, violence and/or instability. People hailing from these regions could be more vulnerable, as their coping mechanisms prior to departure may be more depleted, and they may feel greater desperation to leave, increasing risk-taking.
Serving as caregivers	Having children in one's charge during the migration experience may make migrant youth more risk averse as a strategy to avoid exposing children to danger. However, it is also possible that a youth caregiver takes on more personal risk, for instance by engaging in exploitative labour, as they need to support and protect the children in their care.

3.4 Analysis strategy

Two types of analysis were conducted to explore the determinants of vulnerability amongst migrant youth: descriptive analyses and regression analyses. Regression analyses can sometimes produce different results to descriptive analyses. These differences may sound surprising, but they are simply a consequence of how the modelling works.

25 Appendix 6.1 outlines the survey questions corresponding to these variables.

26 Al Jazeera (2024) '[UN experts call for 'impartial force' to protect civilians in Sudan](#)'

As shown in the table below, regression analysis takes more variables into account, and controls for the effects of each of these variables. This is why their results are considered more reliable than those of descriptive analysis. In each regression model, this study used the same variables as in the descriptive analysis, with the addition of three variables: the age of the respondents, the country of interview, and the journey duration. Although there were no strong hypotheses tied to these, they were added simply to control for their effect in the regression modelling.

Table 2. Two-phase analysis strategy

Descriptive analysis	Regression analysis
<p>What is it? In this type of analysis, the share of respondents who reported witnessing or experiencing abuse is disaggregated by each of the variables outlined in the previous section. This allows us to identify whether youth with certain characteristics report proportionally more abuses than those without such characteristics.</p> <p>Examples</p> <ul style="list-style-type: none"> • The proportion of women who reported incidents of sexual violence was higher than that of men • Eritreans reported proportionally more abuse than Ethiopians <p>Advantages</p> <ul style="list-style-type: none"> • Useful for making quick comparisons between groups of respondents • Easy to interpret and visualise • Can be helpful in formulating initial hypotheses for regression modelling <p>Disadvantage</p> <ul style="list-style-type: none"> • Descriptive analysis cannot account for biases within the sample that skew broad trends within the data²⁷ • Cannot isolate the effects of particular variables • Cannot provide insights into the likelihood of an abuse occurring, based on a migrant's profile 	<p>What is it? Regression analysis models the relationships between variables, allowing researchers to estimate the <i>likelihood</i> that a respondent will experience abuse depending on their characteristics. In a regression model, the effect of each variable is controlled for while estimating the effect of another.</p> <p>Examples</p> <ul style="list-style-type: none"> • Women are more likely to experience sexual violence than men, regardless of their nationality • Migrant youth who began their journey on their own were less likely to experience abuse than those who set off with others <p>Advantages</p> <ul style="list-style-type: none"> • Results are more nuanced and more robust than those of descriptive analysis • The effect of each variable can be isolated • Multiple determinants of experiencing abuse can be identified • The <i>likelihood</i> of abuse occurring along migration routes can be derived from results <p>Disadvantages</p> <ul style="list-style-type: none"> • There is a limit to the number of variables that can be modelled, based on the sample size • Just because a model reveals a relationship between two variables, we cannot say for certain that one causes the other

3.5 Limitations

This study has several limitations. First, as already acknowledged above, 4Mi uses purposive sampling, meaning that the results of the current study cannot be generalised to the entire population of migrant youth. Second, although we included 13 variables in the regression analysis, we cannot exclude the possibility that other variables play a key role in vulnerability. Third, this study reflects some limitations of the 4Mi questionnaire. For example, it is not possible to know how many separate incidents of abuse respondents experienced, only the number of abuse types. Fourth, cultural perceptions of abuse may influence reporting rates, particularly for sensitive issues such as sexual violence. Despite these limitations, the study provides substantial evidence about what makes migrant youth in Sudan and Ethiopia vulnerable to abuse, and these findings can be used to advance a data-driven programmatic response.

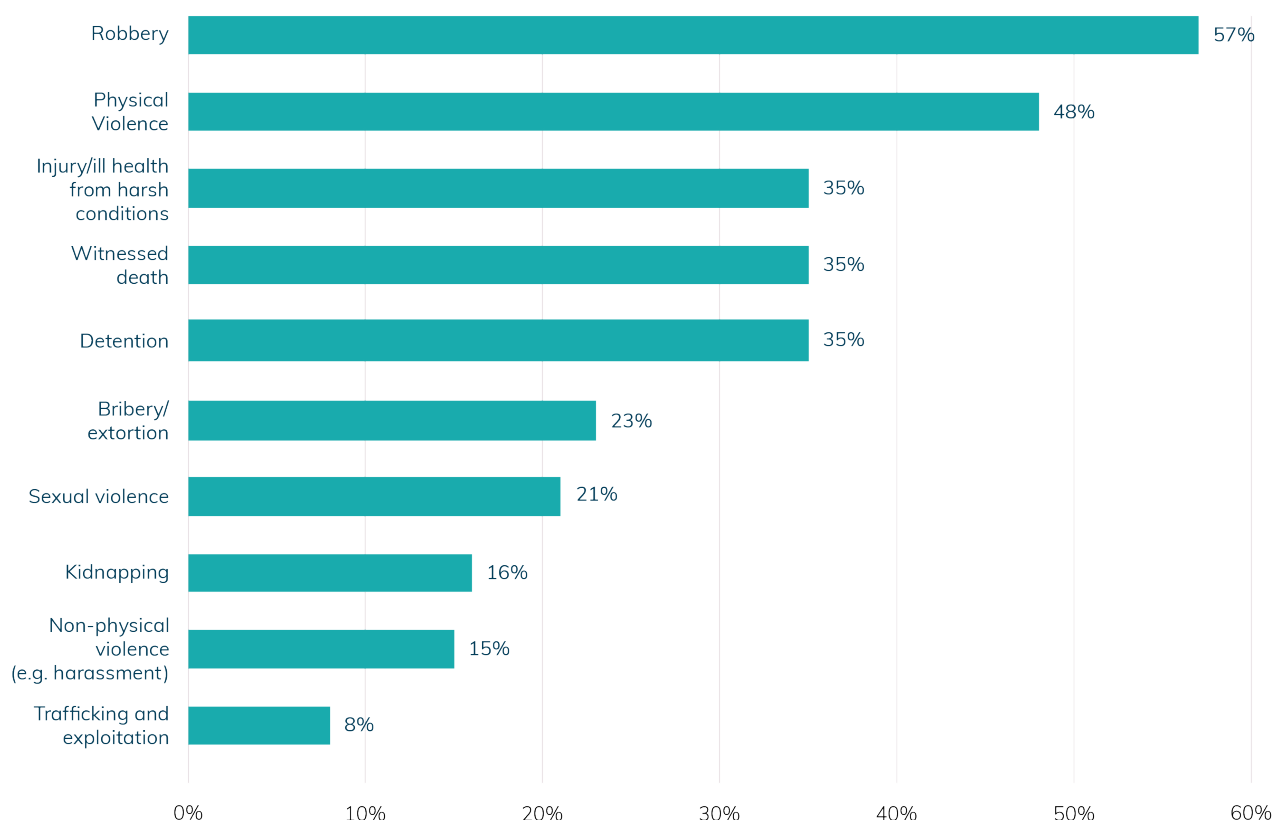
²⁷ For example, suppose respondents in a certain country cite sexual violence more often than respondents in other countries. Would it be correct to conclude that that country is more dangerous? Maybe, but not necessarily. Women might be overrepresented in that country and their gender might be the 'real' driver of vulnerability.

4. Findings

Overall, 75% of the sample's respondents reported that they experienced at least one type of abuse. The most frequently reported abuses or harms were robbery (57% of all respondents), physical violence (48%), injury or ill-health from harsh conditions (35%), and witnessing death (35%) (see Figure 1). Sexual violence was reported by 21% of respondents, and the least frequently reported abuses were non-physical violence (15%) and trafficking or exploitation (8%). These figures thus probably underrepresent the true scale of abuse. On average, respondents reported approximately three types of abuse.²⁸

Figure 4. Overall reported abuse and harm

Multi-select | N = 1,588



Six regression models to examine the likelihood of experiencing abuse or harm were fitted for this study.²⁹ The first model estimated the likelihood of experiencing at least one abuse as opposed to experiencing no abuse. The next models estimated the likelihood of experiencing one of the four most common abuses, namely, robbery, physical violence, injury or ill-health, and witnessing death. The last model estimated the likelihood of experiencing sexual violence. For all models, we report results that are statistically significant (see Table 4 for a summary. The full results and model characteristics are in Appendix 6.2.)

²⁸ The types of abuse should not be confused with the number of incidents of abuse. For example, a respondent can experience more than one incident of any type of abuse.

²⁹ See Section 6.2 for technical details of regression methodology. Briefly, we used binary logistic regression. Across all analyses, no Variance Inflation Factor (VIF) was higher than 2.713, with most figures between 1 and 2, indicating no collinearity issues. The accuracy (cut-off: 0.5) ranged from 0.846 (Model 1) to 0.724 (Model 2), and the pseudo-R² (McFadden) ranged from 0.373 (Model 1) to 0.216 (Model 2).

Table 3. Regression analysis of vulnerability to abuse
Summary of regression analysis results

Variable	Type of reported abuse					
	Robbery	Physical violence	Injury/ill-health	Witnessing death	Sexual violence	All 10 types of abuse under review ³⁰
Survey country	Sudan				Sudan	Sudan
Age						
Gender		Men		Men	Women	Men
Nationality	CAR	CAR	S. Sudan	S. Sudan	CAR	S. Sudan
Educational level ³¹			Other	Secondary	Other	None
Source of income before leaving			No	No		
Started the journey alone	No	No		No		
Used a smuggler	Yes	Yes	Yes	Yes	Yes	Yes
Worked during the journey	Yes	Yes	Yes	Yes	Yes	Yes
Journey duration ³²	Longer	Longer			Longer	Longer
Present in Sudan when war started	No	No		No	No	
Present in Khartoum when war started	Yes	Yes	Yes	Yes	Yes	
Ethiopians from regions affected by conflict		Yes	Yes			
Acted as caregiver during the journey			Yes			

Legend

- Not statistically significant
 - Significant³³ at the $p < 0.05$ level
 - Significant³⁴ at the $p < 0.01$ level
 - Significant³⁵ at the $p < 0.001$ level
- [] Group more or most likely to report this type of abuse

30 Namely: bribery or extortion; detention; injury or ill-health from harsh conditions; kidnapping; non-physical violence (e.g., harassment); physical violence; robbery; sexual violence; trafficking or exploitation; and witnessing death.

31 Respondents with a university degree or who had attended a religious primary school or vocational training were group as 'Other' for analysis, as no such respondents numbered more than 100 (university degree: 81; religious primary school: 78; vocational training: 21). Results should be interpreted with caution due to the small sample size of this "Other" group.

32 Duration data was generated, as an open-ended variable, from survey responses to a 4Mi question about the start date of respondents' migration journey. On average, people with longer journeys were found to be more likely to experience abuse than those with shorter journeys.

33 $p < 0.05$: This indicates the probability that the observed results occurred by chance is less than 5%. Such results are often marked with one asterisk (*)

34 $p < 0.01$: This means the probability is less than 1%, commonly marked with two asterisks (**)

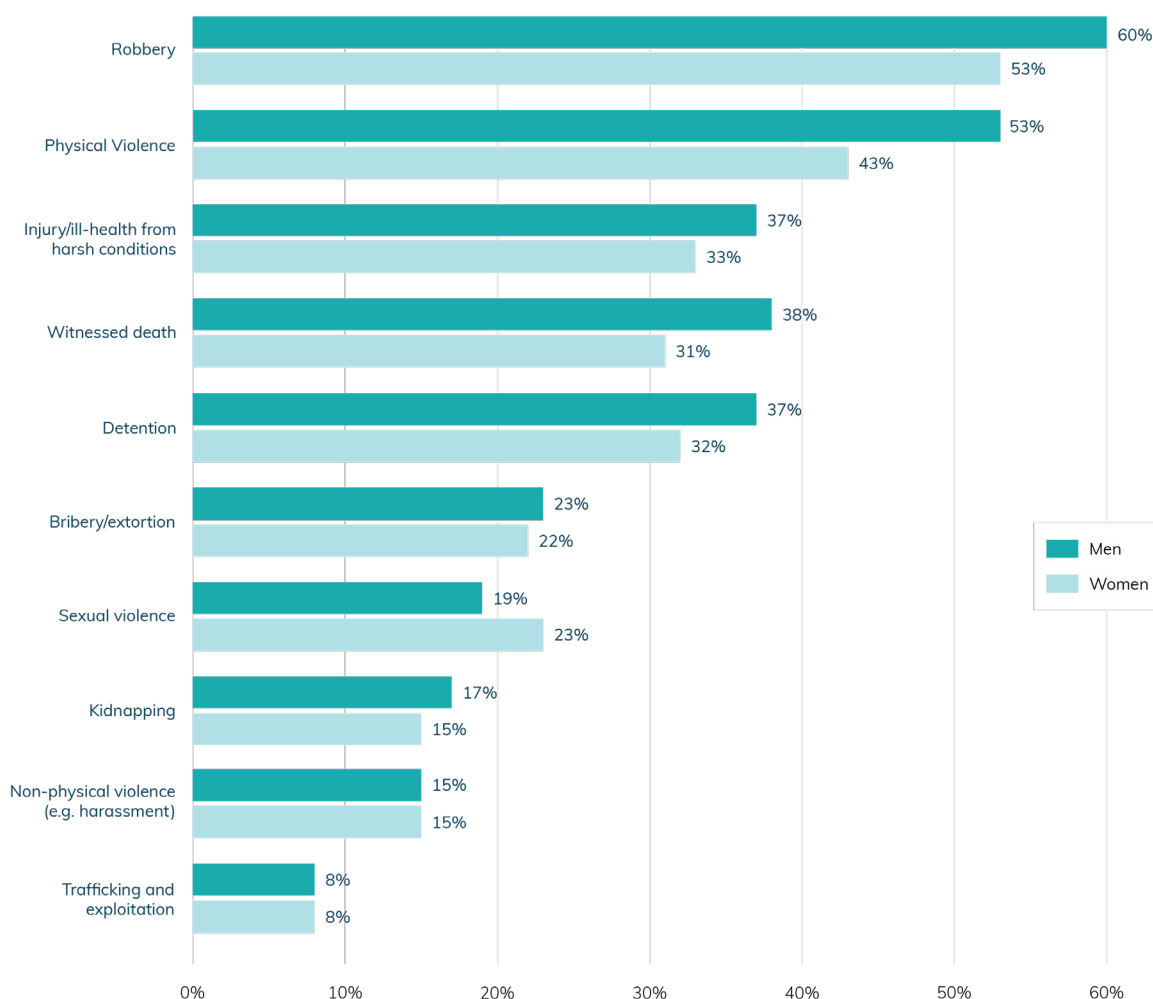
35 $p < 0.001$: This means the probability is less than 0.1%, frequently expressed with three asterisks (***)

The results of the regression analysis revealed that some variables are more powerful than others in predicting whether respondents will experience abuse or harm. The following subsections discuss in more detail the results that are particularly notable for their strength in predicting migrant youth vulnerability, the way the finding interacts with previous research, and/or the questions raised by the finding. Each subsection below begins by presenting the descriptive analysis, followed by the regression analysis and a discussion of the results.³⁶

4.1 Gender

In most cases, the proportion of young migrant men who reported that they experienced abuse was higher than that of young migrant women (see Figure 2). There were three exceptions. Women reported proportionally more cases of sexual violence than men. In addition, the proportion of young men and women who reported abuse did not differ for non-physical violence and trafficking or exploitation.

Figure 5. Reported abuse, by gender
 (% of respondents reporting specific types of abuse)
 Multi-select | N = 1,588 (Men: 845, Women: 743)



The regression analysis largely confirmed the results of the descriptive analysis. While no significant differences between young migrant men and women were observed in terms of experiencing robbery and injury/ill health, **men were 1.6 times more likely to report abuses overall. They were also 1.6 times more likely to report physical violence, and 1.4 times more likely to witness death. However, women were 2.5 times more likely than men to experience sexual violence.**

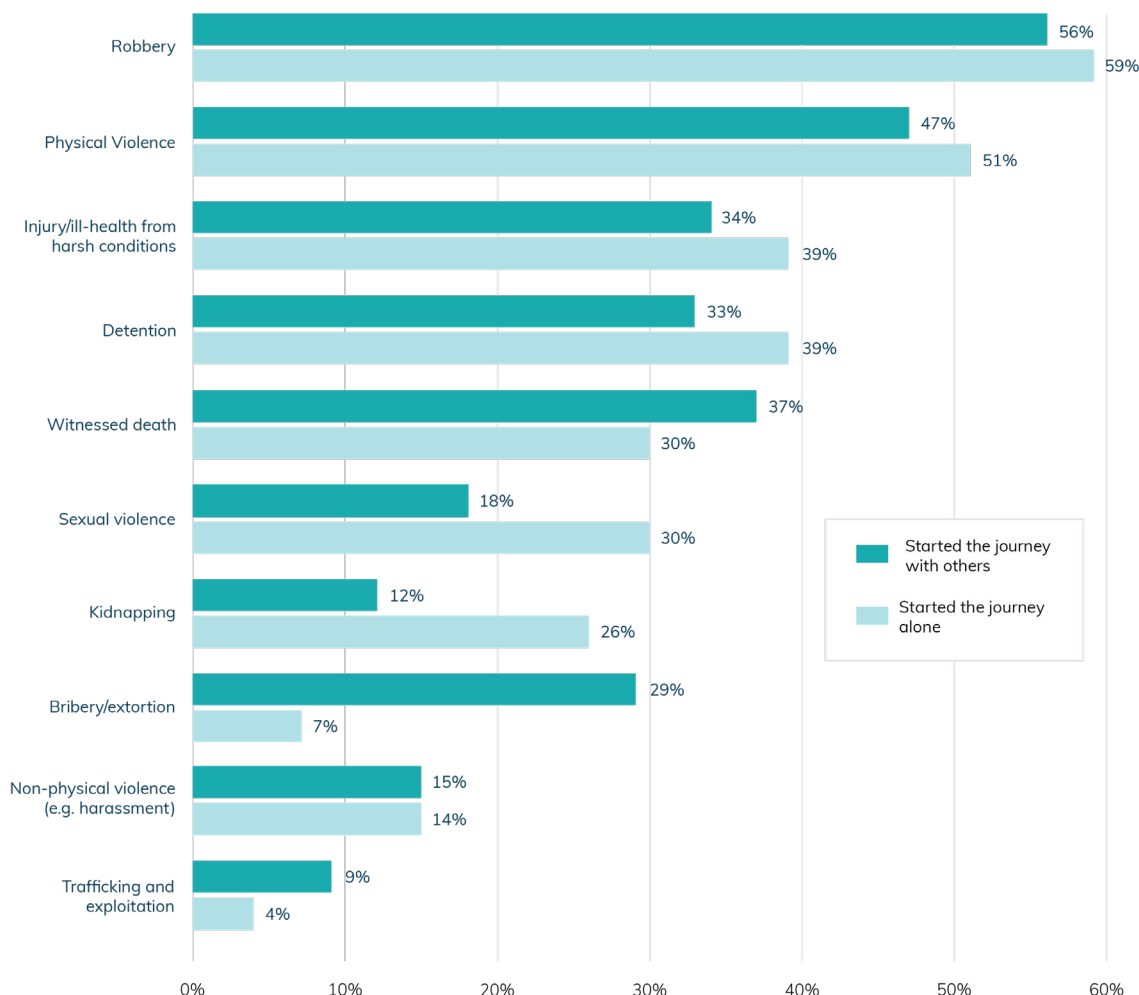
³⁶ Descriptions of the variables that were analysed but not focused on in the results section are found in Appendix 6.2, and detailed descriptions of each regression model and a summary of the regression results are in Appendix 6.3.

These findings align with those of a 2020 MMC study on migrant vulnerability in Libya, with men being more vulnerable to abuses overall, but with women more likely to experience sexual assault/harassment.³⁷ Interestingly, these findings do not map precisely onto those of a parallel study on migrant vulnerability in West Africa. Those results were more mixed, with women showing a greater likelihood of experiencing robbery and physical abuse in addition to sexual assault/harassment.³⁸ This serves as a reminder that gendered vulnerability can vary according to route.

4.2 Starting the journey alone

Respondents who started their migration journey alone reported more incidents of abuse and harm than those who were accompanied (see Figure 3). This was the case for six of the 10 types of abuse considered in this study. The finding echoes existing literature that suggests that travelling alone increases risk.³⁹ Although in most cases the difference between the two groups is not large, there are a few types of abuse that stand out. Migrant youth beginning the journey alone reported bribery and extortion much less often than those travelling with others. At the same time, migrant youth starting the journey alone reported kidnapping and sexual violence much more often than those departing with others.

Figure 6. Reported abuse, by presence/absence of companions
 (% of respondents reporting specific types of abuse, by whether they set off alone)
 Multi-select | N = 1,588 (Alone: 438; With others: 1,150)



37 Nissling, S. & Murphy-Teixidor, A-M. (2020) *Op. Cit.*

38 Jucker, J.-L. & Garver-Affeldt, J. (2020) *A Sharper Lens on Vulnerability (West Africa)- A statistical analysis of the determinants of vulnerability to protection incidents among refugees and migrants in West Africa.* MMC

39 Cossor, E. (2016) *Op. Cit.*

Contrary to the descriptive analysis, however, the regression results show that starting the journey alone is not a predictor of experiencing sexual violence. It finds that **migrant youth who began their journey on their own were less likely to experience abuse in general, as well as the specific abuses of robbery and physical violence**, which also runs counter to the descriptive findings. (A regression finding in line with the descriptive analysis was that **migrant youth who started the journey alone were less likely to witness death**.)

This departure from the literature and divergence from the descriptive statistics is surprising and presents an area for further inquiry. It might be that in some cases, travelling with other migrants attracts unwanted attention and/or makes it harder to go under the radar of potential perpetrators of abuse. Additionally, peer pressure has been identified as a significant influencing factor in the migration of young people from this region, and this might also play into a greater propensity for ill-considered or risk-taking behaviour for those respondents who were travelling with friends.⁴⁰ Alternatively, some migrants may have started their journey alone, but subsequently found travel companions (this is not possible to discern using current 4Mi data).

4.3 Nationality

Substantial differences in reported abuses emerged when results were disaggregated by nationality (see Figure 4). The proportion of respondents who reported robbery ranged from 97% amongst Central Africans to 41% amongst Eritreans. Likewise, the proportion of respondents who cited bribery or extortion ranged from 69% amongst Ethiopians to 6% amongst Chadians. Witnessing death was reported more often by migrant youth from South Sudan (71%, compared to 15%–41% amongst all other nationalities). Regarding sexual violence, the highest proportions reporting such abuse were found amongst migrant youth from the Central African Republic (78%) and Chad (55%).

Figure 7. Reported abuse, by country of nationality
 (% of respondents reporting specific types of abuse, by country of nationality)
 (N=1,588)⁴¹

Robbery	97%	85%	41%	61%	58%	66%
Physical Violence	94%	88%	28%	38%	61%	61%
Injury/ill-health from harsh conditions	76%	65%	19%	19%	53%	36%
Witnessed death	40%	41%	15%	25%	74%	41%
Detention	86%	80%	25%	47%	14%	31%
Bribery/extortion	9%	6%	23%	69%	7%	2%
Sexual violence	78%	55%	12%	14%	10%	30%
Non-physical violence (e.g. harassment)	23%	34%	15%	9%	11%	13%
Kidnapping	56%	45%	11%	5%	5%	30%
Trafficking and exploitation	5%	10%	9%	5%	9%	2%
	CAR	Chad	Eritrea	Ethiopia	South Sudan	Other

40 Cossor, E. (2016) *Op.Cit.*

41 Central African Republic (CAR): 115; Chad: 106; Eritrea: 637; Ethiopia: 249; South Sudan: 349; Other: 132. Nationalities with fewer than 100 respondents were grouped in the "Other" category. Furthermore, results should be interpreted with caution due to a small number of respondents for some nationalities.

Just as the descriptive analysis showed large differences in experiences of abuse by different nationalities, so too the regression analysis confirmed that **nationality is a significant predictor of vulnerability across all 10 types of abuse/harm analysed. In terms of the overall probability of experiencing abuse, Eritreans were the least likely to report abuses, and nationals of South Sudan were the most likely.** There was no difference between nationals of Chad, Central African Republic and Ethiopia.

Looking at incidents of specific abuse or injury, **respondents from South Sudan and the Central African Republic tended to show the greatest vulnerability. They were more likely to report robbery, physical violence and sexual violence compared to other nationalities.**⁴² **People from South Sudan were also most likely to witness death and experience injury/ill health.** In some cases, respondents from Chad also showed greater vulnerability as compared to respondents from Ethiopia and Eritrea.

It is somewhat surprising that the 637 Eritrean respondents tended to report fewer incidents of abuse and harm (descriptive analysis) and also were shown to be less likely to experience abuses overall (regression analysis) than respondents from other countries.⁴³ This flies in the face of much previous research,⁴⁴ including MMC's study on vulnerability in Libya, which found that Eritreans were one of the nationalities that was significantly more vulnerable to abuse in Libya.⁴⁵ This is likely due in part to the location of the current study, carried out before respondents reached Libya, where abuses against migrants in general and Eritreans in particular have been rife.⁴⁶ Yet, current sources specific to Sudan and the Horn of Africa still point to particular risks faced by Eritreans.⁴⁷ It may be that Eritreans who are in the worst situations are simply beyond the reach of this survey due to their circumstances of trafficking and/or exploitation. Recent MMC analysis in the context of the Sudan conflict indicates that Eritreans (and Ethiopians) tend to have greater access to information on safe locations⁴⁸ than other nationalities, perhaps due to their stronger networks of compatriots located in eastern Sudan close to the borders of Eritrea and Ethiopia.⁴⁹ This could serve as a protective factor.

Access to information could also play an important role in the greater vulnerability shown by migrant youth from the Central African Republic and South Sudan. In the abovementioned analysis, only slightly more than a third of respondents (8 of 22) from the Central African Republic had information on safe locations. While the small sample size should be noted, and findings treated cautiously, this contrasts with the 81% of Eritreans and 84% of Ethiopians who reported having this information.⁵⁰ Another recent MMC analysis carried out with people who had fled Sudan for Addis Ababa demonstrated that South Sudanese were also lacking in information on safe locations.⁵¹ Additional factors of vulnerability may exist underlying a person's nationality. For instance, the greater likelihood of South Sudanese to experience injury/ill health may have some basis in the fact that South Sudan is facing extreme food insecurity, which could translate into lower levels of nutrition and resilience against illness.⁵²

4.4 The Sudan conflict

Given the outbreak of war in Sudan during the data collection period, it is particularly important and timely to examine to what extent the conflict might have impacted the vulnerability of migrant youth. The descriptive statistics showed almost across the board that people in Sudan at the start of the conflict cited more incidents of abuse and harm than other respondents. For instance, physical violence was reported by 62% of respondents who were in Sudan when the conflict started, as compared to 42% of all other respondents. There were two exceptions: witnessing death (reported by 35% of both groups) and trafficking and exploitation (reported by 8% of both groups).

42 Respondents from the Central African Republic showed the greatest likelihood of experiencing these three types of abuse.

43 In addition to being the least likely to experience any abuse/harm, Eritreans were also least likely to experience robbery specifically. For some other specific abuses/harms (injury/ill health, physical violence and sexual violence), Ethiopians demonstrated the least vulnerability.

44 See for instance: Smits, K. & Wirtz, M. (2023) [Escaping Eritrea: The Vulnerability of Eritreans to Human Trafficking](#). In: Van Reisen, M., Mawere, M., Smits, K. & Wirtz, M. (eds), *Enslaved. Trapped and Trafficked in Digital Black Holes: Human Trafficking Trajectories to Libya*. Bamenda, Cameroon: Langaa RPCIG, pp. 255-295; MMC (2019) [Op. Cit.](#); Cossor, E. (2016) [Op. Cit.](#)

45 Nissling, S. & Murphy-Teixidor, A-M. (2020) [Op. Cit.](#)

46 Triandafyllidou, A. & Kuschminder, K. (2019) [Eritrean Migrants Face Torture in Libya: What the International Community Can Do](#). United Nations University

47 Burnett, N., Nistri, N. & Perigaud-Grünfeld, I. (2023) [Op. Cit.](#); MMC (2023b) [Op. Cit.](#)

48 44 of the study's 54 Eritrean respondents and 47 of the 56 Ethiopian respondents reported having information on safe locations.

49 MMC (2023f) [Movements, challenges and intentions of refugees and migrants in Eastern Sudan during the conflict in 2023](#)

50 MMC (2023f) [Op. Cit.](#)

51 MMC (2023e) [Experiences of refugees and migrants fleeing Sudan to Addis Ababa as a result of the 2023 conflict](#)

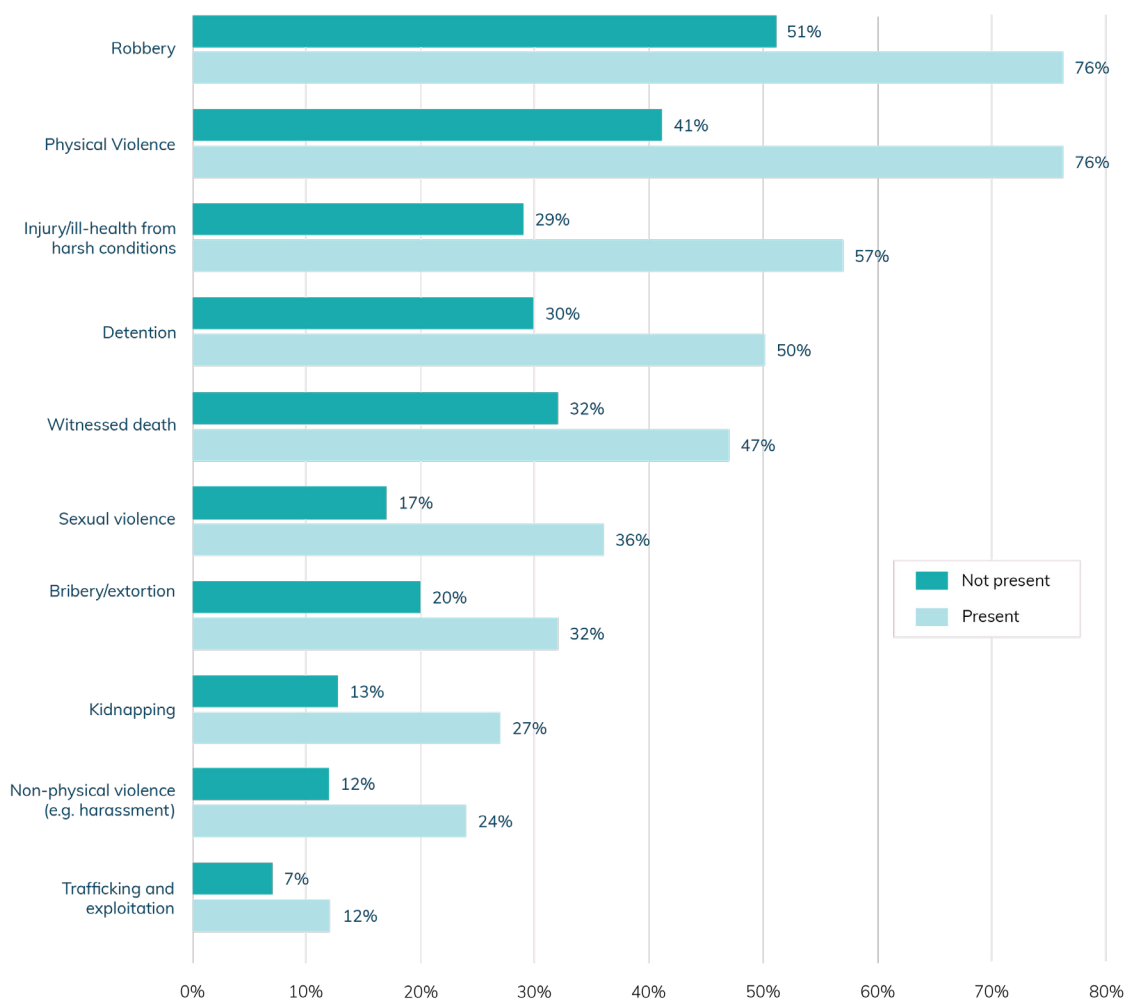
52 MMC (2023c) [Quarterly Mixed Migration Update: Eastern and Southern Africa | Egypt and Yemen, Quarter 3 2023](#)

Similar, but even larger differences were observed for migrant youth who were in Khartoum when the conflict started (see Figure 5). Some 76% of respondents who were in the Sudanese capital at that time experienced physical violence, compared to 41% of all other respondents. They also reported all types of abuse by at least 12 percentage points more than other respondents, except for trafficking and exploitation.

Figure 8. Reported abuse, by presence in Khartoum

% of respondents reporting specific types of abuse, by whether they were in Khartoum at the onset of Sudan conflict

Multi-select | N = 1,588 (Not present 1,243; Present 345)



Echoing the descriptive findings, the regression analysis showed that, **compared to all other respondents, migrant youth who were in Khartoum at the time Sudan’s conflict began were 2.5 times more likely to experience robbery, 2.9 times more likely to get sick or face injury, 3.6 times more likely to fall victim to sexual violence, just over five times more likely to encounter physical violence and 5.6 times more likely to witness death.**⁵³ However, in contrast to the descriptive results, presence in Sudan more generally (which includes respondents in Khartoum) actually corresponded to a lower likelihood of experiencing robbery, physical violence, sexual violence or witnessing death.

These latter regression results are surprising and could benefit from further inquiry. One possible explanation for them is that at the time conflict broke out in Khartoum ‘business as usual’ was temporarily suspended elsewhere in the country as people waited to see what would transpire. Such a dynamic was observed in the case of some smugglers

⁵³ While the regression model did not show people in Khartoum at the start of the conflict to be more likely to have experienced an abuse overall, this may be due to the fact that some of the less frequently reported incidents (i.e. detention, bribery/extortion, kidnapping, non-physical violence, trafficking/exploitation) were not statistically significant for this variable and weakened the overall result.

who paused operations to evaluate the viability of routes in the new context.⁵⁴ While this may have impeded protection for some, particularly those seeking to leave Khartoum, it is possible that some threats normally inherent in the wider Sudan context (e.g., exploitative labour situations, predatory/extortionate practices by officials etc.) diminished in the early days of the conflict.

Another factor that might have influenced this result is that it appears to have been easier for people in Sudanese locations other than Khartoum to move elsewhere or to leave the country after the conflict broke out. When looking at three key challenges faced in leaving their location at the time conflict erupted, we see that migrant youth who were in Khartoum frequently reported encountering active fighting (96%) and checkpoints/roadblocks (72%), as well as having difficulty accessing transportation (61%).⁵⁵ When comparing this to migrant youth who were in Sudan but outside of Khartoum, we see a stark contrast, with only 25% running into active fighting, 35% encountering check-points/roadblocks and 12% having difficulties finding transportation.⁵⁶

A qualitative study conducted by IOM based on interviews with 50 migrants who fled from Khartoum to Egypt after the advent of the conflict provides further insight into challenges and dangers encountered both in Khartoum itself and in seeking to leave that city.⁵⁷ People faced violence, looting and disruption of basic services in Khartoum, which in some cases drove them to leave without having time to prepare for the trip. Reaching bus stations or other points of departure was dangerous, and the supply of vehicles fell well short of demand. Fares skyrocketed, and transporters were prone to accepting payment and then leaving people behind. Additionally, the widespread closure of banks and transfer facilities prevented many of those who had sufficient funds for the trip to access their money.

Whatever the impact of being in Khartoum or in Sudan more broadly when conflict broke out in April 2023, migrant youth respondents surveyed in Sudan at any point were more likely to experience abuse overall (see Table 4). This result appears to be influenced by abuses that were not individually analysed in the regression modelling, such as kidnapping, bribery/extortion, and detention. The descriptive analysis shows that migrant youth surveyed in Sudan reported these abuses at a much higher proportion than migrant youth surveyed in Ethiopia. While being surveyed in Sudan does not necessarily mean the reported abuse happened in Sudan, this does suggest that, conflict aside, Sudan is particularly risky for migrant youth.

4.5 Using a smuggler

The 559 respondents who used a smuggler at some point during their journey re-reported more incidents of abuse and harm than those who did not use a smuggler, without exception.⁵⁸ The observed differences were large (see Figure 6). For example, the proportion of respondents who cited detention was 62% amongst those who used a smuggler, compared to 20% amongst those who did not. The same was true for robbery (75% vs 47%), bribery or extortion (49% vs 8%), and sexual violence (39% vs 11%).

54 Burnett, N., Nistri, N. & Perigaud-Grunfeld, I. (2023) [Op. Cit.](#)

55 n=345.

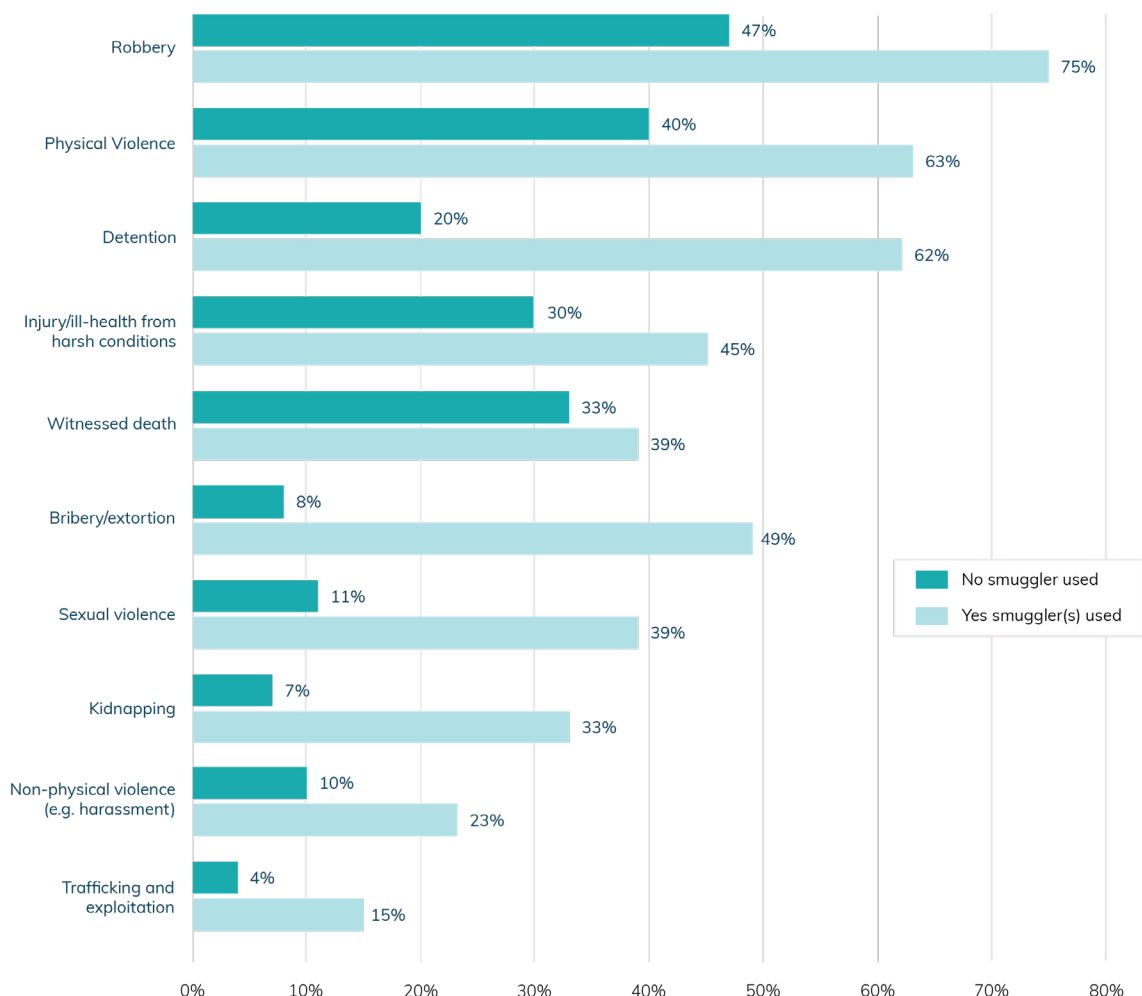
56 n=156.

57 Burnett, N., Nistri, N. & Perigaud-Grunfeld, I. (2023) [Op. Cit.](#)

58 260 respondents used one smuggler for only part of the journey, 160 used one smuggler for the entire journey and 139 used several smugglers for different parts of the journey.

Figure 9. Reported abuse, by use of smugglers

% of respondents reporting specific types of abuse, by whether they used a smuggler
 N=1,588 (No smuggler used: 1,029; Yes smuggler(s) used: 559)



Regression analysis demonstrated that using a smuggler at some point during the journey was one of the strongest predictors for experiencing abuse. Migrant youth who used a smuggler were 1.8 times more likely to experience abuse overall, and they showed greater vulnerability to each of the abuse types. They were 1.8 times more likely to experience robbery, 1.9 times more likely to report injury/ill health, and three times more likely to experience physical violence. Using a smuggler increased the likelihood of experiencing sexual violence and witnessing death by a factor of 3.4 and 3.8, respectively.

This strong association between smuggler use and vulnerability aligns closely with other literature. According to a 2016 RMMS report, “people smugglers are used on all of the routes through and out of the Horn of Africa, and are consistently linked with instances of extreme abuse and maltreatment of migrants, including children and youth.”⁵⁹ A 2019 MMC study found that 81.2% of incidents of kidnapping (n=515) reported by people interviewed on the northern route through East Africa and the Horn of Africa were attributed to smugglers.⁶⁰ Earlier 4Mi analysis pointed to the frequency with which cases of sexual abuse in the region were attributed to smugglers or traffickers.⁶¹

While the regression analysis cannot confirm whether the smugglers themselves were perpetrating the abuse, previous research on this region (see above) documents the often-predatory practices of smugglers. However, in a 4Mi survey of Ethiopians in Sudan, while 33% of respondents felt that they had been intentionally misled by their smuggler, 73%

59 Cossor, E. (2016) [Op. Cit.](#)

60 Horwood, C. & Forin, R. (2019) [Op. Cit.](#)

61 Cossor, E. (2016) [Op. Cit.](#)

felt that smugglers had helped them achieve their goal of migration.⁶² It is important to remember that smuggler use is often the only recourse for travel in difficult and dangerous circumstances, and that relationships with smugglers both as providers of a crucial service in contexts marked by danger and as potential perpetrators can be complex.

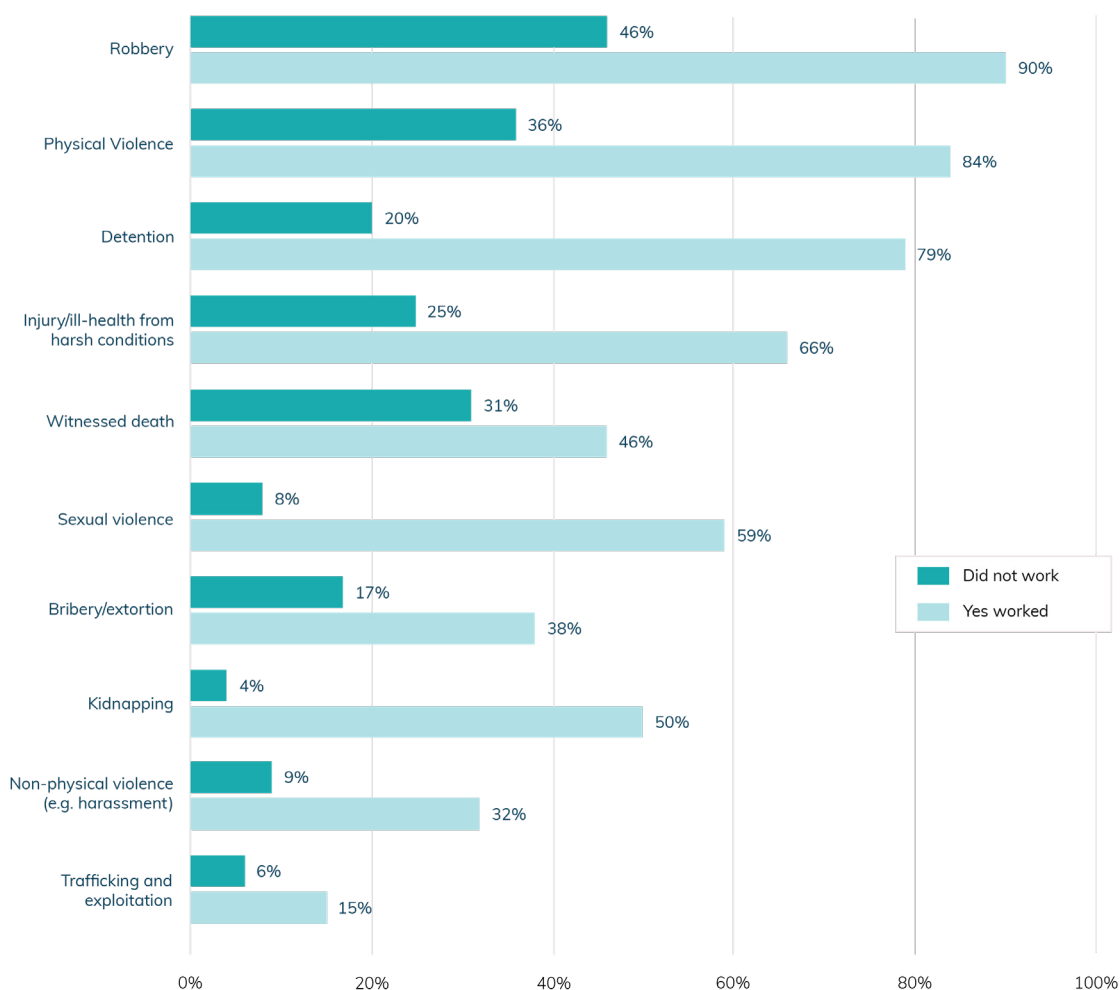
The conflict in Sudan is an example of such a dangerous context, and various sources have predicted and/or observed increasingly risky smuggling dynamics because of the war. Speaking generally, the US State Department’s 2024 Trafficking in Persons report pointed to “exacerbated migrant smuggling and increased vulnerabilities to trafficking” as people seek to leave Sudan due to the conflict.⁶³ More specifically, there have been reports of people dying in the charge of smugglers as they crossed Sudan’s northern border with Egypt, and concerns raised about increased demand for smuggling in eastern Sudan, where large refugee camps have historically been fertile ground for traffickers.⁶⁴

4.6 Working during the journey

Respondents who had to work during their journey to fund their travel reported more incidents of abuse and harm than those who did not work en route. There were no exceptions to this trend, and the differences were large. For example, the proportion of youth who reported robbery was twice as high amongst youth who had to work (90%) than amongst those who did not (46%) (see Figure 7).

Figure 10. Reported abuse by work status

% of respondents reporting specific types of abuse, by whether they worked en route (N=1,588 (Did not work: 1,188; Worked: 400))



62 MMC (2022b) [The use of smugglers among Ethiopian refugees and migrants in Sudan](#). These statistics refer to two separate questions.

63 US State Department [Op. Cit.](#)

64 MMC (2023d) [Quarterly Mixed Migration Update: Eastern and Southern Africa | Egypt and Yemen, Quarter 4 2023](#); Burnett, N., Nistri, N. & Perigaud-Grunfeld, I. (2023) [Op. Cit.](#); Bonfiglio, A., Frouws, B. & Forin, R. (2023) [Op. Cit.](#)

Working during the journey was the strongest predictor overall for the vulnerability of surveyed migrant youth to abuse and harm. According to the results of the regression analysis, **migrant youth who worked during their journey were 2.7 times more likely to report experiencing abuse and/or harm.** Specifically, they were 2.5 times more likely to have been robbed, 2.7 times more likely to have witnessed death, three times more likely to have experienced injury or ill-health, 4.2 times more likely to have suffered from physical violence and 4.7 times more likely to be survivors of sexual violence.

Contextual factors in East Africa, like dangerous labour conditions for young people, can help to explain this result. Sudan is a country in which migrant youth are often subjected to forced labour and paid much less than Sudanese citizens.⁶⁵ Migrant youth surveyed by MMC in Sudan prior to the outbreak of the conflict perceived domestic work to be the riskiest sector for labour exploitation for both young women and men, and mandated safeguards have not been put into practice.⁶⁶ Moreover, child labour, including forced begging, sex work and labour in various hazardous domains (brickmaking, mining, collecting medical waste) remain widespread. Armed groups have also been known to target migrants for forced labour.⁶⁷

These results also resonate with existing studies which suggest that young people are particularly vulnerable to labour exploitation. This may be due to a variety of factors, for instance having fewer financial resources with which to embark on their journey and to pay their smugglers, or lacking important skills (e.g., language) or knowledge (e.g., of relevant laws).⁶⁸ This analysis also reinforces the conclusions of the MMC vulnerability study carried out in West Africa,⁶⁹ which found stopping to work during the journey increased the likelihood of experiencing most types of abuse.⁷⁰ This suggests that working during the migration journey is an important predictor of vulnerability across routes on the continent.

65 Cossor, E. (2016) [Op. Cit.](#)

66 MMC (2023g) [Op. Cit.](#)

67 US State Department [Op. Cit.](#)

68 Global Migration Group [Op. Cit.](#); MMC (2022a) [Op. Cit.](#)

69 Jucker, J.-L. & Garver-Affeldt, J. (2020) [Op. Cit.](#)

70 Those who stopped to work along the way were 2.4 times more likely to report sexual assault, 2.1 times more likely to report robbery, 1.9 times more likely to report witnessing migrant deaths and 1.8 times more likely to report physical abuse than those who did not take jobs en route.

5. Conclusion and recommendations

The migration of youth through East Africa and the Horn Africa is a dangerous endeavour – made even more so by the conflict in Sudan. Indeed, 75% of the migrant youth surveyed in this study reported at least one type of abuse during their migration experience up to the point of being surveyed. Despite the challenging environment, demographic and contextual factors suggest that youth migration in the region will continue apace. It is therefore crucial to understand the factors that impact the vulnerability of young people on the move in this region. While descriptive statistics are valuable in advancing this understanding, this paper has demonstrated that controlling for confounding variables sometimes delivers a different picture, one that allows more nuanced conclusions to be drawn.

As has been highlighted throughout this study, using smugglers and working en route are both factors that increase respondents' likelihood of experiencing abuse along the journey. These findings also align strongly with other literature. While there were some ambiguities related to the conflict in Sudan, it was apparent that migrant youth who were in Khartoum at the time the conflict broke out in April 2023 were more likely to experience abuse than those who were not. Additionally, nationality was a strong predictor of vulnerability, even if at times the results were surprising.

While some of these findings may be specific to the mixed migration routes transecting Sudan and Ethiopia and to the contexts within these countries (particularly in relation to the Sudan conflict), several findings strongly resonate with previous MMC regression analyses on migrant vulnerability in North and West Africa, suggesting that certain key factors of vulnerability (e.g. smuggler use and working en route) transcend age and location.

The findings of this study lead to several key recommendations for key migration stakeholders, such as governments and protection actors, and researchers:

- **Support migrant youth in finding decent work and support livelihoods programming in known transit hubs.** Working en route was the strongest risk factor identified in this study. Additionally, recent MMC analysis of the needs of migrant youth in Sudan found that assistance finding work was the second most cited need, reported by 52% of respondents.⁷¹ While the current environment in Sudan is not conducive to such initiatives, it is nevertheless crucial to seek to improve labour protection frameworks, provide information on avoiding exploitative employers, and develop resources for young people who find themselves in abusive situations. Relatedly, governments and the international actors who support them should ensure that national referral mechanisms for victims of trafficking are inclusive of migrants in both policy and practice.
- **Open more paths for migrant youth to avoid risky overland journeys.** Already in 2013, the United Nations' *Youth and Migration* report made the point that often it can be cheaper to fly than to make long overland journeys.⁷² This analysis underscores that a travel alternative that is cheaper and faster can address two major risk factors: longer journey times and stopping to work en route. Flying likely also reduces the risk of smuggler involvement. However, this is predicated on having proper documentation, which is out of reach for many. Working to liberalise visa access and expand regular pathways for migration would help migrant youth to avoid some of the most significant factors of vulnerability identified in this study, especially for those migrants who pursue continuing education and/or have sufficient funds.
- **Ensure that migrant youth in conflict situations are not overlooked.** While assisting populations in conflict settings – be they locals or migrants – is always a challenge, attention must be paid and provisions made for assisting migrant youth in these contexts. This could include supporting governments to evacuate their nationals, providing targeted information in languages accessible to migrants and providing humanitarian aid without reference to citizenship.
- **Recognise and understand the heightened vulnerability of those fleeing the conflict in Sudan.** Understanding the considerable scale of vulnerability linked to the Sudan war can give protection actors insights into the needs of people arriving in neighbouring countries or seeking refuge in Eastern Sudan. It is clear from this research that migrant youth who were in Khartoum when the conflict broke out were more likely to have suffered a variety of grave abuses and harms, and the physical and emotional impacts of these experiences need to be accounted for in protection and humanitarian responses.

71 MMC (2023g) [Op. Cit.](#)

72 UNDESA (2013) [Youth and Migration](#) UN World Youth Report 2013.

- **Use nationality as an entry point for further research and for programmatic response for migrant youth.** The descriptive analysis shows that 69% of Ethiopian respondents reported having experienced bribery/ extortion, a much higher proportion than any other nationality.⁷³ The regression analysis showed clear vulnerabilities for South Sudanese and people from the Central African Republic. It will therefore be useful to further understand and explain such findings and target humanitarian and protection response accordingly, for example, by directing tailored information campaigns on safe locations towards people from the Central African Republic, Chad and South Sudan.
- **Recognise gender differences in terms of risks.** Men might be more vulnerable overall, especially in terms of physical violence, whereas women are significantly more likely to experience sexual violence, and assistance and support can be targeted accordingly.

⁷³ As compared to 23% of respondents from Eritrea, 9% of respondents from Central African Republic, 7% of respondents from South Sudan, 6% of respondents from Chad and 2% of respondents from other countries.

6. Appendices

6.1 Key to variable names

Survey question	Name in this study
How old are you?	Age
Are you currently travelling with children [under age 18] in your care? Or if you are not travelling, are you currently living with children in your care?	Caregivers
Were you in Sudan when the conflict escalated in April 2023?	Conflict Sudan
In which location were you when conflict in Sudan escalated in April 2023?	Conflict Khartoum
Were you making money in the 12 months before you left your country of departure?	Earning money before leaving
What is the highest level of education you have completed?	Educational level
What region are you from in your country of nationality?	Ethiopians from AOT
[Monitor observation:] What is the sex of the respondent?	Gender
Have you personally experienced any of these types of incidents on your journey? You have the right to refuse to answer this question.	Abuse
[Monitor observation:] What country is the respondent in right now?	Interview country
When did you start your journey from [your departure country]? When did you arrive in [your current location]?	Journey duration
What is your country of nationality?	Nationality
Who did you start your journey with?	Started journey alone
Did you use a smuggler?	Used smuggler
How have you paid for the journey since then?	Worked during journey

6.2 Full modelling results

Six regression models were fitted for this study.⁷⁴ The first model estimated the likelihood of experiencing at least one abuse as opposed to experiencing no abuse (Model 1). The next models estimated the likelihood of experiencing one of the four most common abuses, namely, robbery (Model 2), physical violence (Model 3), injury or ill-health (Model 4) and witnessing death (Model 5). The last model estimated the likelihood of experiencing sexual violence (Model 6). For all models below, only results that are statistically significant are reported.⁷⁵

Model 1: Overall

Migrant youth interviewed in Sudan were 2.4 times more likely to report abuse than those interviewed in Ethiopia. Likewise, men were 1.6 times more likely to report abuse than women. Youth from Eritrea were the least likely to report abuse, whereas nationals from South Sudan were the most likely. Respondents from Chad, the Central African Republic and Ethiopia did not differ from each other.

⁷⁴ We used binary logistic regression. Across all analyses, no Variance Inflation Factor (VIF) was higher than 2.713, with most figures between 1 and 2, indicating no collinearity issues. The accuracy (cut-off: 0.5) ranged from 0.846 (Model 1) to 0.724 (Model 2), and the pseudo-R² (McFadden) ranged from 0.373 (Model 1) to 0.216 (Model 2).

⁷⁵ Table 4 shows the statistical significance level of each finding, at either $p < 0.001$, $p < 0.01$, or $p < 0.05$.

Respondents who had no education were the most likely to report abuse overall. For example, they were 3.1 and 4.6 times more likely to report abuse than respondents who attended primary school and secondary or high school, respectively. Furthermore, respondents who started their journey alone were less likely to report abuse. In contrast, respondents who used a smuggler at some point during their journey or who had worked during their journey were 1.8 and 2.7 times more likely to report abuse. Likewise, respondents who had a longer journey duration were more likely to report abuse.

Summary of Model 1 results: Likelihood of reporting abuse in general

Respondents	Were more likely to report abuse in general compared to	By a factor of
Surveyed in Sudan	Surveyed in Ethiopia	2.4
Men	Women	1.6
From South Sudan	From any other country	—
With no education	With primary school education	3.1
	With secondary/high school education	4.6
Set off with companions	Set off alone	—
Used a smuggler	Did not use a smuggler	1.8
Worked en route	Did not work	2.7
With longer journeys	Shorter journeys	—

Model 2: Robbery

Youth interviewed in Sudan were more likely to report robbery than those interviewed in Ethiopia, by a factor of 1.6. Furthermore, nationals from the Central African Republic and South Sudan were more likely to report robbery than nationals from other countries. In contrast, nationals from Eritrea (followed by Ethiopia) were the least likely to report robbery. For example, nationals from South Sudan were 3.8 times more likely to report robbery than nationals from Eritrea.

Contrary to the descriptive analysis, regression analysis found that youth who started their journey alone were less likely to report robbery. That said, regression analysis confirmed that respondents who used a smuggler and who worked during their journey were more likely to report robbery, by a factor of 1.8 and 2.5, respectively. Journey duration was a significant predictor as well, with respondents who had a longer journey duration more likely to experience robbery. Respondents who were in Sudan when the conflict started, contrary to what was found in descriptive analysis, were less likely to report robbery than other respondents, while respondents located in Khartoum when the conflict started were 2.5 times more likely to report robbery than other respondents.

Summary of Model 2 results: Likelihood of reporting robbery

Respondents	Were more likely to report robbery compared to	By a factor of
Surveyed in Sudan	Surveyed in Ethiopia	1.6
From CAR	From any other country	—
From South Sudan	From Eritrea	3.8
Used a smuggler	Did not use a smuggler	1.8
Worked en route	Did not work	2.5
In Khartoum at conflict start	Not in Khartoum	2.5
With longer journeys	Shorter journeys	—
Surveyed in Sudan	Surveyed in Ethiopia	1.6

Model 3: Physical violence

Men were 1.6 times more likely to report physical violence than women, and nationals from Chad, the Central African Republic and South Sudan were also more likely to report this abuse. Youth from Ethiopia were the least likely to report physical violence, including compared to Eritreans, who were 2.9 times more likely to report this abuse than Ethiopians.

Regression analysis showed that respondents who started their journey alone were less likely to report physical violence, while respondents who used a smuggler or who worked during their journey were more likely to report physical violence, by a factor of 3 and 4.2, respectively. Respondents who had a longer journey duration were also more likely to report physical violence.

Furthermore, respondents who were in Sudan when the conflict there started were less likely to report physical violence, while those who were in Khartoum when the conflict started were 5.1 times more likely to report this abuse. Ethiopians from regions affected by conflict were 3.1 times more likely to report physical violence than other respondents.

Summary of Model 3 results: Likelihood of reporting physical violence

Respondents	Were more likely to report physical violence compared to	By a factor of
Men	Women	1.6
From CAR	From any other country	—
From South Sudan	From Eritrea	2.9
Used a smuggler	Did not use a smuggler	3.0
Worked en route	Did not work	4.2
In Khartoum at conflict start	Not in Khartoum	5.1
With longer journeys	Shorter journeys	—
Men	Women	1.6

Model 4: Injury/ill-health

Youth from South Sudan were more likely to report injury or ill-health than all other respondents. The likelihood of reporting this abuse did not differ between youth from Chad and the Central African Republic, who were both more likely to report injury or ill-health than those from Eritrea and Ethiopia. In turn, Eritreans were 4.2 times more likely to report injury or ill-health than Ethiopians, who were overall the least likely to report this abuse.

Confirming the descriptive results, respondents with a university degree or who had attended religious primary school or vocational training were the most likely to report injury or ill-health. That said, contrary to the descriptive results, respondents who had no education or primary school education did not differ between each other and were both less likely to report injury or ill-health than those who had secondary or high school education. Furthermore, contrary to descriptive analyses, respondents who were not earning money before leaving were 1.6 times more likely to report injury or ill-health than those who were earning.

As in the case of robbery and physical violence, respondents who used a smuggler or who worked during their journey were 1.9 and 3 times more likely to report injury or ill-health than their counterparts, respectively. Likewise, respondents who were in Khartoum when the conflict started were 2.9 times more likely to report injury or ill-health, and as for physical violence, Ethiopians from regions affected by conflict were more likely to report injury or ill-health, by a factor of 2.9 compared to other respondents. Injury or ill-health was the only abuse for which being a caregiver increased risk, by a factor of 1.7 compared to respondents who were not caregivers.

Summary of Model 4 results: Likelihood of reporting injury or ill-health

Respondents	Were more likely to report injury or ill-health compared to	By a factor of
From South Sudan	From any other country	—
From CAR or Chad	From Eritrea or Ethiopia	—
From Eritrea	From Ethiopia	4.2
Used a smuggler	Did not use a smuggler	1.9
Not earning before migrating	Earning before migrating	1.6
Worked en route	Did not work	3.0
In Khartoum at conflict start	Not in Khartoum	2.9
Ethiopians from regions affected by conflict	All other respondents	2.9
Caregivers	Non-caregivers	1.7

Model 5: Witnessing death

Men were 1.4 times more likely than women to report having witnessed death, and youth from South Sudan were more likely to report this abuse than those from any other country. In turn, youth from Chad and Central African Republic were more likely to report witnessing death than those from Eritrea, by a factor of 2.9 and 2.8, respectively, and youth from Ethiopia did not differ from those from Eritrea.

Youth who had no education or primary school education were less likely to report witnessing death than other respondents. For example, respondents with secondary or high school education were 2.4 times more likely to report this abuse than those without education. Furthermore, confirming the descriptive findings, youth who were earning money before leaving or who started their journey alone were less likely to report witnessing death.

As for other abuses, using a smuggler or working during the journey increased the likelihood of witnessing death, by a factor of 3.8 and 2.7, respectively. Likewise, being in Sudan when the conflict started decreased the likelihood of witnessing death, while being specifically in Khartoum increased it by a factor of 5.6.

Summary of Model 5 results: Likelihood of reporting witnessing death

Respondents	Were more likely to report witnessing death compared to	By a factor of
Men	Women	1.4
From South Sudan	From any other country	—
From Chad	From Eritrea	2.9
From CAR		2.8
With secondary/high school education	With no education	2.4
Used a smuggler	Did not use a smuggler	3.8
Worked en route	Did not work	2.7
In Khartoum at conflict start	Not in Khartoum	5.6

Model 6: Sexual violence

Migrant youth interviewed in Sudan were 5.3 times more likely to report sexual violence than those interviewed in Ethiopia. Furthermore, confirming the results of the descriptive analyses, women were 2.5 times more likely than men to report sexual violence. Youth from the Central African Republic and South Sudan, followed by Chad, were more likely to report sexual violence than those from other countries. In turn, respondents from Eritrea were 2.6 times more likely to report this abuse than those from Ethiopia, who were the least likely to report it.

Migrant youth who had a university degree or who had attended religious primary school or vocational training were the most likely to report sexual violence. In turn, respondents with secondary or high school education were 1.7 times more likely to report this abuse than those without education. Furthermore, respondents who had used a smuggler or who had worked during their journey were 3.4 and 4.7 times more likely to report sexual violence, respectively. Moreover, as in the case of robbery and physical violence, youth who had a longer journey duration were more likely to report this abuse. Likewise, migrant youth who were in Sudan when the conflict started were less likely to report sexual violence, while those in Khartoum were 3.6 times more likely to report this abuse.

Summary of Model 6 results: Likelihood of reporting sexual violence

Respondents	Were more likely to report sexual violence compared to	By a factor of
Surveyed in Sudan	Surveyed in Ethiopia	5.3
Women	Men	2.5
From CAR, Chad, S. Sudan	Any other country	—
From Eritrea	From Ethiopia	2.6
Used a smuggler	Did not use a smuggler	3.4
Worked en route	Did not work	4.7
In Khartoum at conflict start	Not in Khartoum	3.6

Summary of regression results

The results of the regression analysis revealed that some variables were more powerful than others in predicting whether respondents will experience abuse or harm. A first group of three variables were statistically significant in all models (and this, at the $p < 0.001$ level). These were: nationality, smuggler use and whether respondents worked during the journey. Youth from South Sudan were more likely to report abuse overall, as well as injury or ill-health and witnessing death. At the same time, youth from the Central African Republic were more likely to report robbery, physical violence and sexual violence. Furthermore, in all models, respondents who used a smuggler or who worked during the journey were more likely to report abuse. Often, the strongest predictor was whether the respondents had worked, despite all models controlling for the effect of journey duration (arguably, respondents who had to work during their journey had a longer journey duration).

A second group of six variables were significant in most, but not all models (and/or not always at the $p < 0.001$ level). Migrant youth who were in Khartoum when the conflict started were more likely to report any of the five abuses considered in this study. That said, they were not more likely to report at least one type of abuse at the overall level. Five other variables were significant in four models: gender, educational level, starting the journey alone, journey length and being in Sudan when the conflict started.

Men were more likely to report abuse and harm overall as well as physical violence and witnessing death, whereas women were more likely to report sexual violence. Youth whose educational level was 'Other'⁷⁶ were more likely to report injury or ill-health, witnessing death and sexual violence, whereas respondents without education were more likely to report abuse overall. Furthermore, youth who started their journey alone were less likely to report abuse overall, as well as robbery, physical violence and witnessing death. A longer journey duration was associated with a higher likelihood to report abuse, excluding for injury or ill-health or witnessing death. Moreover, being in Sudan (as opposed to being in Khartoum specifically) decreased respondents' likelihood of reporting individual abuses, except for injury or ill-health.

A last group of four variables were significant in three or fewer models (and in most cases, not at the $p < 0.001$ level). These were: the country where the survey was conducted; whether a respondent had paid employment before leaving; whether, in the case of Ethiopians, respondents from regions affected by conflict; and whether respondents were travelling with children in their care. Migrant youth interviewed in Sudan were more likely to report abuse overall, as well as robbery and sexual violence. Respondents who were not earning money before departure were more likely to report injury or ill-health or witnessing death, and Ethiopians from regions affected by conflict were more likely to report physical violence and injury or ill-health. Being a caregiver was significant in a single model, with caregivers more likely to report injury or ill-health. Age was not significant in any model. This is likely because the age range was already so narrowly focused on migrant youth.

76 Meaning other than primary, secondary or no education. The 'Other' category includes respondents with a university degree, those who had attended a religious primary school, and those who had received vocation training.



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