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# GFEMS KENYA RESEARCH PROGRAM

## COMMERCIAL SEXUAL EXPLOITATION OF CHILDREN (CSEC) – PREVALENCE ESTIMATION REPORT

**October 2022**

This publication was produced with funding from the Global Fund to End Modern Slavery (GFEMS) via a grant from the U.S. Department of State. It was prepared independently by NORC at the University of Chicago through Xiran Liu, Erika Keaveney, Kyle Vincent, and Kareem Kysia with support from Charles Munene and Karem Snyder.



**This research study was commissioned by the Global Fund to End Modern Slavery, in partnership with NORC at the University of Chicago. A gift of the United States Government.**

***This research was funded by a grant from the United States Department of State. The opinions, findings, and conclusions stated herein are those of the authors and do not necessarily reflect those of the United States Department of State or GFEMS.***

Revised December 16, 2022

Prepared under Contract No.: 8744.02.01

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## ACRONYMS

ANPPCAN	African Network for the Prevention and Protection against Child Abuse and Neglect
CBO	Community-Based Organization
COSWA	Coast Commercial Sex Workers Association
COVID	Coronavirus Disease
CITI	Collaborative Institutional Training Initiative
CSEC	Commercial Sexual Exploitation of Children
CI	Confidence Interval
DQA	Data Quality Assurance
DQR	Data Quality Review
FBO	Faith-Based Organization
FGD	Focus Group Discussions
GFEMS	Global Fund to End Modern Slavery
IJM	International Justice Mission
ILO	International Labour Organization
IRB	Institutional Review Board
KAP	Knowledge, Attitudes, and Practices
KII	Key informant interviews
KSH	Kenyan Shillings
NACOSTI	National Commission for Science, Technology and Innovation
NGO	Non-Governmental Organization
NIH	National Institutes of Health
NSUM	Network Scale-Up Method
ODK	Open Data Kit
OSEC	Online Sexual Exploitation of Children
PTSD	Post-Traumatic Stress Disorder
RDS	Respondent Driven Sampling
TdH	Terre des Hommes



TIP            Trafficking in Persons  
UNICEF       United Nations Children’s Fund  
USD            United States Dollars

## EXECUTIVE SUMMARY

### RESEARCH BACKGROUND AND METHODOLOGY

As a part of its partnership with the U.S. Department of State's Office to Monitor and Combat Trafficking in Persons (TIP Office), the Global Fund to End Modern Slavery (GFEMS) launched a series of projects to combat commercial sexual exploitation of children (CSEC) in coastal Kenya. NORC at the University of Chicago was contracted by GFEMS to lead an independent research study to obtain pre- and post-intervention point estimates of the count of CSEC victims/survivors in Mombasa, Kilifi, and Kwale counties of Kenya.

Our primary methodological approach for obtaining CSEC point estimates is link-tracing, a variation of two common approaches used to measure hidden and hard-to-reach populations, including respondent driven sampling (RDS) and mark-recapture (or "capture-recapture"). RDS provides a way for researchers to quickly recruit members of a hidden population even when there is no readily available sampling frame, however it is designed to estimate the average value of traits or outcomes in the population rather than provide point estimates. RDS-based inference also typically relies on unverifiable assumptions that imposes heterophily constraints on the network structure, as well as the fact that the population is well-networked enough to obtain a census with enough sample waves. Mark-recapture is designed to provide point estimates, however it typically relies on self-selection of individuals and assumes that a mathematical model can be fitted to the pattern of captures to extrapolate an estimate of the population size.

Link-tracing combines the strengths of RDS and mark-recapture to provide an efficient way to estimate the size and characteristics of a hidden population of interest. In summary, (1) link-tracing occurs in the same fashion as RDS but does not place any sampling constraints on the individuals and therefore the network sample is not restricted to forming a tree-like structure; (2) the designs allow for "overlaps" between networks to be observed, through multiple observations (i.e., redemption of more than one referral coupon by the same individual) of individuals, giving rise to a more comprehensive and accurate representation of the population network; and (3) overlaps in networks can be exploited in a mark-recapture fashion for population size estimation. As such, link-tracing can produce hidden population counts cost-effectively and on a relatively broad scale.

### SAMPLING AND MEASUREMENT APPROACH

This report summarizes research findings and prevalence estimates for the second round (endline) of the CSEC prevalence study. In this round, the data collection was carried out in Kilifi and Kwale (Mombasa was excluded from the endline study regions because it is outside GFEMS's program implementation areas).

Data collection activities included a phone screener to determine potential respondents' eligibility to participate in the study, and a face-to-face CSEC victim/survivor survey. Since this was the second study round, amendments to the data collection instruments were kept at a minimum; however, some questions, response options, and phrasings were adjusted or added based on findings from the first round, as well as feedback from the training and pilot exercises.

The target sample was 1,000 children (500 per county) who self-reported having exchanged sex for money or things worth money (like a place to stay, food, or gifts) in the past 12 months. Consistent with the baseline approach, all study participants were provided with a referral coupon they received from either a partner NGO (the "seeds") or another study participant (the "waves"). Respondents received 1,200 KSH (approximately 11 USD) for completing the survey, as well as an additional 500 KSH (approximate 4.5 USD) for each eligible person they recruited who completed

the survey. This referral coupon contained a unique identification number that allowed tracking network relations between study participants. All respondents (both seeds and waves) were required to have met the following eligibility criteria to participate: (1) be 13-17 years of age<sup>1</sup> at the time of scheduling the interview, (2) lived and/or worked in the target county in the past 12 months, (3) engaged in sexual activities in return for money or things worth money like a place to stay, food, or gifts at least once in the past 12 months, and (4) in possession of a valid referral coupon. At the end of the interview, referral procedures and eligibility criteria were explained to the respondent, and s/he was asked to refer up to three other children who met the eligibility criteria (1) – (3). Sample recruitment continued for as many waves as was required to reach the desired sample size. Respondents were also asked to nominate up to five individuals in their personal network who intersected with the study population and corresponding region. Their nominees' covariate/demographic information was recorded to facilitate post data collection sample linking.

A primary limitation to network-based sampling method is that it largely depends on a moderately sized and representative initial sample, which can be challenging for especially rare or elusive populations, such as the CSEC victims in our study. To mitigate this concern, the study exploited the nomination and identifying information within the initial sample and across to the first wave to obtain a population size estimate and corresponding confidence interval. Further, the full sample link structure was completely observed to most efficiently apply the innovative network analysis procedure.

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<sup>1</sup> Survey respondents were included if they had already reached their 13<sup>th</sup> birthday, but not yet reached their 18<sup>th</sup> birthday for an effective age range of five years.

## KEY FINDINGS

- **An estimated 2,426 children in Kilifi and Kwale are currently engaged in CSEC**, accounting for nearly 1 percent of the total population of 13- to 17-year-olds in the two counties (we estimate the 95 percent confidence interval (CI) to be 1,683 and 3,169). However, this may be underestimated relative to pre-pandemic times, as respondents reported a drop in demand for CSEC since 2020.<sup>2</sup>

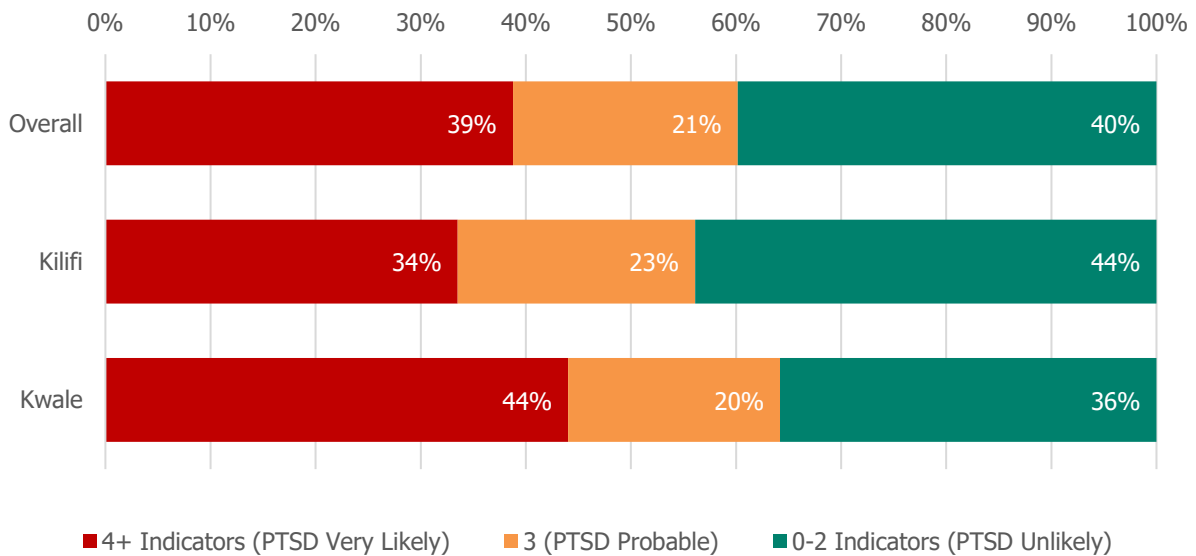
*Table 1: CSEC Prevalence Estimation, by Study Region and Year*

Study Region	Total Population Size	2021		2022		Difference
		Point Estimate	Prevalence Rate	Point Estimate	Prevalence Rate	
Kilifi						
Total	189,359	3,328	1.76%	1,149	0.61%	-2179*
Female	94,129	2,614	2.78%	726	0.77%	
Male	95,230	714	0.75%	423	0.44%	
Kwale						
Total	110,367	1,808	1.64%	1,277	1.16%	-531
Female	54,127	1,389	2.57%	988	1.83%	
Male	56,240	417	0.74%	289	0.51%	
<b>Overall (Including Kilifi and Kwale)</b>						
<b>Total</b>	<b>299,726</b>	<b>5,136</b>	<b>1.71%</b>	<b>2,426</b>	<b>0.81%</b>	<b>-2710**</b>
<b>Female</b>	<b>148,256</b>	<b>4,003</b>	<b>2.70%</b>	<b>1,714</b>	<b>1.16%</b>	
<b>Male</b>	<b>151,470</b>	<b>1,131</b>	<b>0.75%</b>	<b>712</b>	<b>0.47%</b>	

- **The overall CSEC prevalence rate dropped from 1.7 percent in 2021 to 0.8 percent in 2022.** In 2021, an estimated 5,136 children in Kilifi and Kwale were actively involved in sex trade, which is 2,710 greater than the current estimates. Between the two time points, two-sample statistical tests show that changes in population size and by gender are statistically significant at the  $p < 0.05$  level.
- **Over 60 percent of CSEC victims are likely suffering from Post-Traumatic Stress Disorder (PTSD).** This proportion decreased by a statistically significant 12 percentage points compared with the 2021 study. The highest share was in Kwale, where two-thirds of respondents reported at least three (of five) PTSD indicators, while the rate was 57 percent in Kilifi. Additionally, nearly 40 percent of respondents overall reported at least four indicators of PTSD and are thus “very likely” to have PTSD. Despite this, only 13 percent of CSEC victims have ever received any form of psychosocial support or counseling.

<sup>2</sup> Keaveney, E., Vincent, K., Lord, S., Kysia, K. (2021). GFEMS Kenya Research Program: CSEC Prevalence Estimation Report. Retrieved from <https://www.gfems.org/wp-content/uploads/2021/12/GFEMS-CSEC-Prevalence-Report.pdf>.

<sup>3</sup> Total estimated population of 13-17 year olds in the county, per the 2019 census.

*Figure 1: Number of PTSD Indicators per Respondent*

- Children continue to play an important role in perpetuating the cycle of child sex trafficking.** While the majority of children are first introduced to the sex trade by an adult, 37 percent were first introduced by another minor and 77 percent were introduced by persons they consider their friends and peers. In addition, one in five respondents said they personally financially benefit from arranging transactions/clients for other children in the sex trade.
- Around 30 percent of CSEC victims report engaging in commercial sex acts with police officers, government officials, and/or local authorities.** In addition, local Kenyans and Kenyan tourists are the primary perpetrators of CSEC, with only 17 percent of respondents reporting ever engaging in commercial sex acts with foreign tourists.
- Nine percent of CSEC victims in Kilifi and Kwale report being subject to online sexual exploitation,** including via sexually explicit live streams, videos, or photos over the internet or through social media platforms. This varies across counties, with 14 percent in Kilifi and four percent in Kwale. The reach of this child sexual abuse material extends beyond the national border, with 74 percent of OSEC victims reporting their buyers are from abroad.
- Opportunities for alternative livelihoods outside of the sex trade are limited.** While many CSEC victims receive food aid and health education, few reported receiving support that could enable them to pursue alternative livelihoods such as educational scholarships (only 12 percent), vocational or skills training (4 percent), business support (3 percent), and job placement assistance (2 percent).

## RECOMMENDATIONS

- **Enhance the provision of trauma-informed mental health services to CSEC victims/survivors.** The high rates of probable PTSD among respondents suggest a strong need for high-quality mental health services to supplement other basic services for survivors. Service providers also should educate caregivers of reintegrated survivors on recognizing and coping with the aftereffects of trauma. In addition, projects targeting current victims (e.g., reproductive and sexual health outreach activities) should explore ways to integrate basic mental health services into their programming. While there are governmental and non-governmental organizations offering psychosocial support services locally, only 13 percent of CSEC victims have ever benefited from such services, suggesting low awareness and/or supply.
- **Help community members see CSEC victims/survivors as children needing care and protection rather than criminals.** Data from this study on PTSD rates among victims/survivors and the age of entry into the sex trade (14 for the average respondent in the study) could be disseminated to the public alongside information on the negative psychosocial effects CSEC. Furthermore, educating the public on PTSD may help community members and policymakers become more sensitized towards victims, and therefore more proactive agents of change.
- **Enhance peer-to-peer education for CSEC victims and other at-risk children.** Implement community- and school-based prevention programming with current CSEC victims/survivors to help them understand the harmful effects of CSEC to enable them to protect themselves and others. Helping children understand the harmful effects of CSEC may also discourage them from recruiting, and financially benefiting from, other child victims.
- **Educate community members on CSEC reporting channels in addition to police and local authorities.** According to a 2021 report, only three percent of adults in the study area know of Childline Kenya (116).<sup>4</sup> Childline offers an anonymous reporting pathway which may make community members less fearful of retaliation from complicit authorities. Given the growth of online sexual exploitation of children (OSEC), web and social media users should also have clear and anonymous platforms for reporting suspected OSEC cases online.
- **Provide alternative livelihoods for CSEC victims/survivors, particularly those who are unable to return to formal schooling.** Sixty-three percent of respondents said they continue to engage in commercial sex acts because they have no other way to earn a living. Providing high-quality, demand-based education, training, and job placement support could help these children find alternative ways to earn money so they can leave the sex trade for good.

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<sup>4</sup> NORC at the University of Chicago (2021). GFEMS Kenya CSEC KAP Survey. Available at <https://www.gfems.org/wp-content/uploads/2021/12/GFEMS-CSEC-KAP-Baseline-Report.pdf>

# 1. INTRODUCTION

## BACKGROUND AND CONTEXT

Kenya is a source, transit, and destination country for the commercial sexual exploitation of children (CSEC). Despite continued efforts on the part of the Kenyan government to eliminate CSEC and other forms of trafficking in persons, the country remains on the U.S. Department of State's Tier 2 list due to uneven prosecution of perpetrators and inadequate social protections for survivors.<sup>5</sup> Kenya criminalizes CSEC through the Counter Trafficking in Persons Act (2012) and the Sexual Offenses Act (2005), and the government adopted the National Plan of Action Against Sexual Exploitation of Children in 2013. However, identification and prosecution of offenders remains challenging due to under-resourced and/or complicit law enforcement.

A review of existing literature highlights some factors that cause children to be more vulnerable to CSEC, including the cyclical forces of demand and supply from various geographic hotspots. The supply chain of sex trafficking in Kenya is interlinked, with inland trafficking responding to high demands created by the child sex tourism industry on the coast.<sup>6</sup> Additionally, recent studies find that while CSEC remains pervasive, it has been gradually shifting from more traditional venues such as brothels and bars to private establishments and online. Child sex tourism is widespread along the Kenyan coastline in areas such as Mombasa, Malindi, and Kilifi. Victims are trafficked by intermediaries such as recruitment agents and taxi drivers, or by people known to them including their own families.<sup>7</sup>

## STUDY PURPOSE AND OBJECTIVES

The Global Fund to End Modern Slavery (GFEMS) aims to end modern slavery by making it economically unprofitable. GFEMS identifies, invests in, and collaborates with on-the-ground partners who implement interventions, experimental innovations, or a combination of both, to combat modern slavery. Given their strong commitment to evidence-informed practice, GFEMS aims to understand the scope of modern slavery in specific geographical locations where they work. Such prevalence estimates can help stakeholders establish benchmarks, allocate resources, and measure the effectiveness of public policies and anti-slavery programs by providing estimates of the extent of victimization, identifying hotspots, and following trends over time.

As a part of its partnership with the U.S. Department of State's Office to Monitor and Combat Trafficking in Persons (TIP Office), GFEMS launched a series of projects to combat CSEC in coastal Kenya. NORC at the University of Chicago was contracted by GFEMS to lead an independent research study to obtain pre- and post-intervention point estimates of the count of CSEC victims/survivors in Kilifi and Kwale counties of Kenya.

## RESEARCH QUESTIONS

This 2022 study is a follow-up to the first CSEC link-tracing prevalence study conducted in 2021. The primary research questions for the study are as follows:

- What is the current count of CSEC victims/survivors in Kilifi and Kwale counties of Kenya?
- How have CSEC prevalence rates changed over time in Kilifi and Kwale?

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<sup>5</sup> 2022 Trafficking in Persons Report: Kenya. (2022). USDOS. Online.

<sup>6</sup> Hope, Kempe. (2013). Sex Tourism in Kenya: An Analytical Review. *Tourism Analysis*. 18. 533-542; Kibicho, W. (2016). *Sex tourism in Africa: Kenya's booming industry*. Routledge.

<sup>7</sup> US Department of State (2012). CTIP report: June 2012. Washington, DC.

Secondary research questions—developed based on consultations with GFEMS and its subrecipients—include:

- What are the demographic characteristics of current CSEC victims/survivors in coastal Kenya?
- To what extent do formal definitions of CSEC correlate with respondents' own self-identification as a victim/survivor?
- What were the conditions and circumstances driving victims/survivors to engage in CSEC for the first time?
- To what extent are third parties financially benefiting from CSEC?
- What is the rate of likely PTSD among current CSEC victims/survivors?



## 2. RESEARCH METHODS

The procedure and methods we follow this round are consistent with the first round of the study to ensure that the estimates are comparable across two time points. We exclude Mombasa from the endline study, however, because it is outside GFEMS's program implementation areas.

### PREVALENCE ESTIMATION METHODOLOGY

Our primary methodological approach for obtaining CSEC point estimates is based on a link-tracing sampling design and inference procedures developed for such designs. The rationale for applying this method is that CSEC victims are often hidden in pockets of society thus making probability-based sampling strategies ineffective or difficult to implement. In other words, CSEC victims may be concentrated in certain geographic locations or venue types which may not be visible to the research team *ex ante* and/or would be costly to map on a sufficient scale. As such, few sampling frames are adequate for conventional probability-based sampling, even if one intends to sample from a population that encompasses the hidden population being measured. Since studies employing probability-based sampling will likely miss hidden individuals in the population, such methods risk producing estimates of trafficking that are far below what would be expected with network-based sampling strategies including those based on link-tracing, respondent driven sampling (RDS), the network scale-up method (NSUM), or non-network-based strategies such as mark-recapture.

When recruiting subjects that are hidden or irregularly distributed, two sampling strategies are frequently used to produce prevalence estimates—RDS and mark-recapture (also known as capture-recapture). Both strategies have been widely used in diverse contexts, yet both have inherent problems when applied to hidden populations. For example, RDS-based inference typically relies on unverifiable assumptions that impose heterophily constraints<sup>8</sup> on the network structure, as well as the assumption that the population is well-networked enough to obtain a census with enough sample waves. Mark-recapture methods typically rely on self-selection of individuals and assumes that a mathematical model can be fitted to the pattern across lists/samples of captured individuals to safely extrapolate and arrive at an estimate of the population size. The assumptions of the mathematical model may well not be even approximately satisfied in practice.<sup>9</sup>

Link-tracing combines the strengths of RDS and mark-recapture methods to provide an efficient way to estimate the size of the hidden population. In summary: 1) link-tracing occurs in the same fashion as RDS but does not place any sampling constraints on the individuals and therefore the network sample is not restricted to forming a tree-like structure; 2) the designs allow for "overlaps" between networks to be observed, through multiple observations (i.e. redemption of more than one referral coupon) of individuals, giving rise to a more comprehensive and accurate representation of the population network; and 3) overlaps in networks can be exploited in a mark-recapture fashion for population size estimation. As such, link-tracing can produce estimates of high-risk populations both cost-effectively and on a broad scale.

Link-tracing first entails selecting a moderately sized initial sample, also known as the seeds of the sample, whose composition is well-dispersed among the population in terms of key demographics

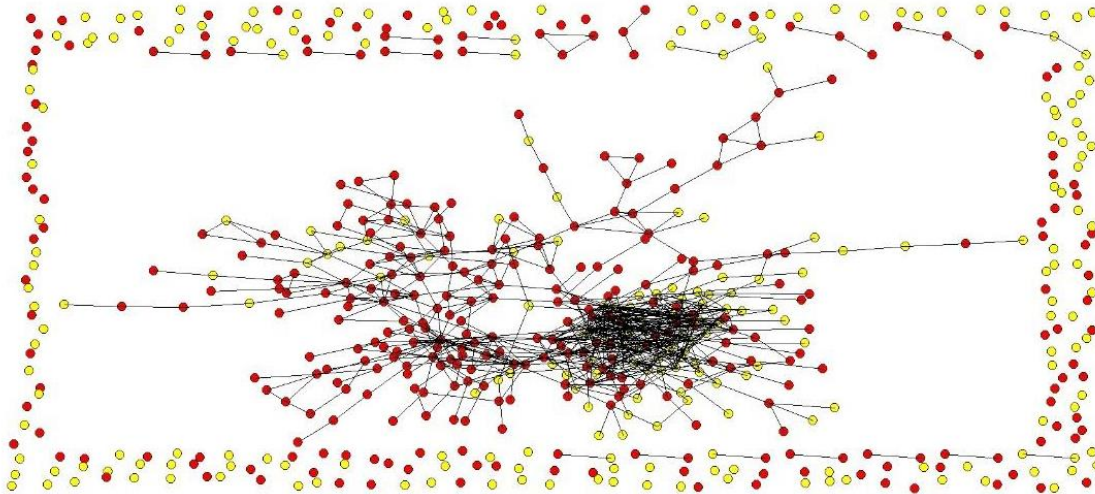
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<sup>8</sup> Heterophily constraints refer to the ability to limit the tendency of respondents to recruit people who belong to the same group instead of outside the group. Otherwise, groups with strong bonding ties are likely to be overrepresented in the obtained sample.

<sup>9</sup> Assumptions include (i) the population being measured is a closed population; (ii) each respondent has an equal probability of being captured; (iii) captured respondents must not become easier or more difficult to capture a second time; and (iv) enough time has lapsed between captures to allow the population to disperse to ensure the two samples are independent.

and geographic location. Observations corresponding to the initial sample requires a comprehensive set of information pertaining to the selected individuals' personal network; typically, the size of each selected individual's personal network and identifying covariate information to those who they are most strongly linked are required in order to map nominations/referrals within the initial sample, along with the number of links which stretch out of the initial sample. The figures below exemplify such data requirements. The illustration in Figure 1 is based on a longitudinal study of an HIV/AIDS at-risk drug-using population situated in the Colorado Springs area (Klovdahl et al. 1994). The size of the population is 595. The nodes represent the individuals in the population and links between pairs of nodes indicate the existence of a predefined social relationship.

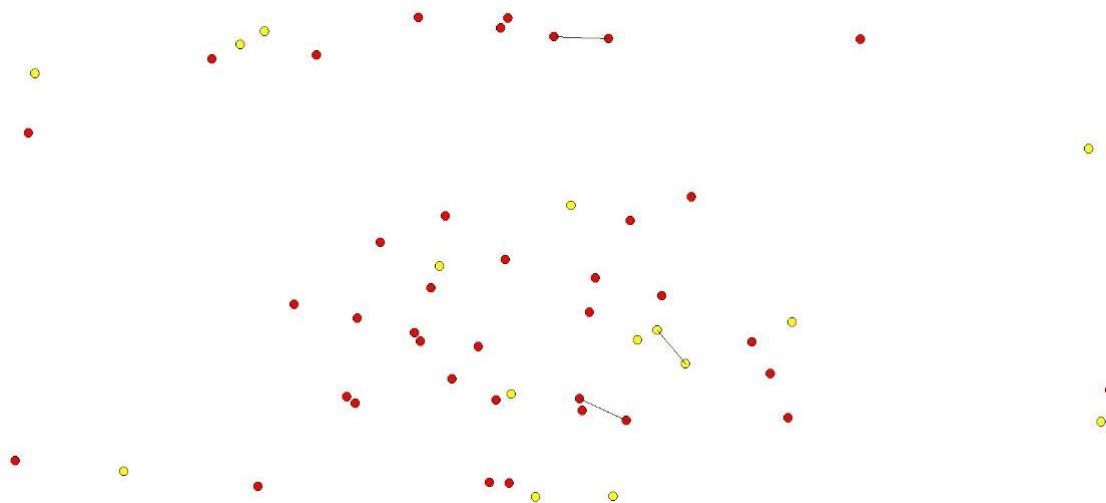
*Figure 22: Population Graph Example*



*Full population network graph of a drug-using population of size 595 in the Colorado Springs area (Klovdahl et al., 1994).*

The illustration in Figure 3 depicts 53 individuals selected completely at random for the initial sample of the drug-using population. Several links within the initial sample are observed based on the referral information.

*Figure 33: Initial Sample Example*



*A hypothetical initial sample of size 53 from of the drug-using population. The figure shows that several links are observed between individuals selected for the initial sample which illustrates the data observation requirements for a link-tracing design.*

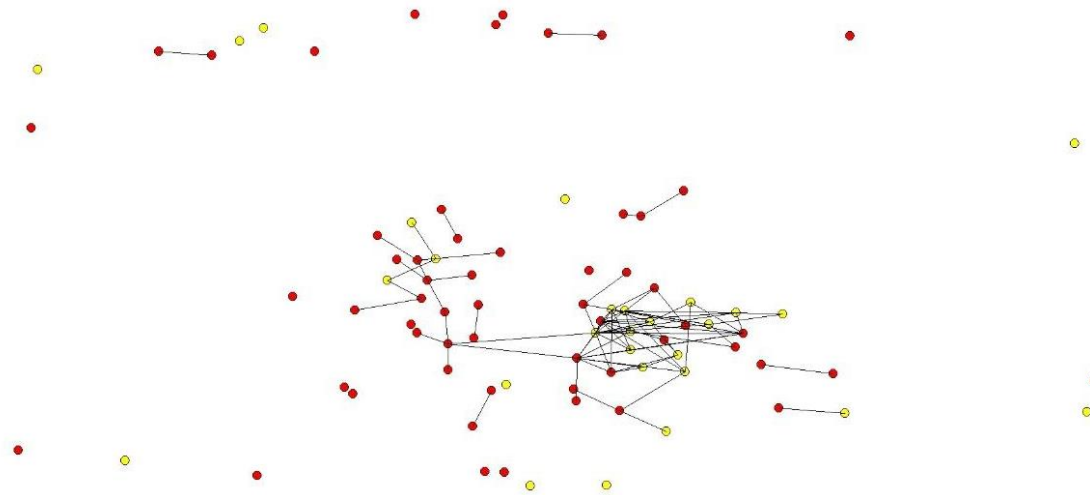
The data collection procedure discussed thus far permits for preliminary estimation of the population size and characteristics based on simple, yet statistically efficient, mark-recapture types of design-based estimators derived by Frank and Snijders (1994); a design-based approach is preferred for populations that are suspected to have high levels of clustering since elaborate network models do not have to be posited and tested for fit to the sample data. Define the size of the initial sample to be  $n_0$ , number of links within the initial sample to be  $r$ , and number of links stretching out of the initial sample to be  $l$ . An estimate for the population size is  $\hat{N} = n_0 \times \frac{(l+r)}{r}$ . This estimator depends on the network/link information emanating from the initial sample and is asymptotically consistent estimator for the population size  $N$  (see Frank and Snijders, 1994). This estimator is akin to the two-sample mark-recapture estimator (Chapman, 1951) where  $n_0$  is the size of the first sample,  $l + r$  is the size of the second sample, and  $r$  is the number of recaptures in the second sample. Notice that the smaller the number of links within the initial sample (recaptures), the larger the estimate for the size of the population.

Based on the theoretical results presented in Vincent and Thompson (2017), Vincent (2019), and Thompson (2020), recently introduced inference procedures can allow for the addition of individuals to the sample through link-tracing to be permitted to proceed in any pattern. For example, the versatility of this approach can allow for individuals to be added either via 1) tracing a random number of links from any set of previously selected individuals, 2) tracing a predetermined number of links only from individuals of high-interest (such as those at higher risk for trafficking), or 3) tracing a subset of links from the more well-connected individuals. Similar to the data collection requirements corresponding to the initial sample, observation for the final sample typically requires the size and identifying covariate information of those in each selected individual's personal network in order to map nominations/referrals within the final sample.

To exemplify such data requirements, Figure 4 depicts the final sample from the drug-using population selected via tracing a randomly selected set of links from the initial sample. The final sample size is 85. Notice that all links within the final sample are mapped, primarily for inferential purposes.

Point and variance estimation of population quantities rely on sampling weights generated by an innovative and newly developed procedure introduced by Thompson (2020). The procedure is design-based and therefore does not rely on a network model for inference or classic RDS assumptions and corresponding diagnostic checks. The procedure entails selecting subsamples of the observed network sample based on a relatively small amount of reseeding and tracing links/branches to reach a predetermined subsample size of observed individuals. A sampled individual's sampling weight is inversely proportional to the number of times they are resampled through the algorithm. This resampling procedure has been shown to address and mitigate the bias in point estimators commonly encountered with RDS and other network sampling designs.

Population size estimation was conducted using the R programming language (R Core Team, 2016). This includes sample size calculations and calculations of sample weights. All summary statistical tables were created in STATA using the R-generated sample weights.

*Figure 44: Final Sample Example*

*Final sample of size 85 selected from the drug-using population. All links within the final sample, along with each sampled individual's network size, are observed to allow for recently developed inference procedures to be applied to the sample data set.*

## **SAMPLING**

### **SAMPLE SIZE CALCULATIONS**

The inference procedure described in Vincent and Thompson (2017) ensures an increase in precision with the Rao-Blackwellized estimators relative to their preliminary counterparts; a simulation study of a hard-to-reach Colorado Springs-based drug-using population has demonstrated that immense gains in precision may be expected even with a relatively small amount of adaptive link-tracing sampling. The preliminary version of these estimators bears a strong resemblance to the Lincoln-Petersen estimator (Chapman, 1951), and the two estimators are similar in terms of statistical properties and asymptotic characteristics. We evaluate the sample size required to reach a desired level of precision for this study based on the Lincoln-Petersen estimator (Chapman, 1951). In particular, we make use of the expressions and calculations outlined in Robson and Regier (1964). In order to derive the necessary sample size, we require 1) a value of  $\alpha$  that reflects the precision of the estimator,<sup>10</sup> 2) a value of  $\rho$  to denote the level of accuracy, and 3) an initial, crude guess/estimate for the population size  $N$ .

Calculations are based on the two-sample mark-recapture estimator published results presented in Robson and Regier (1964) and are used to inform a suitable sample size. For these calculations, we set the precision and accuracy parameters to conservative values since the aforementioned Rao-Blackwell inference procedure will result in estimators whose accuracy will exceed thresholds based on conventionally accepted values for the parameters. We note here that sample size calculations based on the improved/Rao-Blackwellized versions are difficult to evaluate for a study such as ours since the resulting improved estimators strongly depend on the target population's network topology (that is, the behavior/pattern of referrals from individuals) as well as how sampling effort may be steered at each wave of recruitment. However, for projections on the expected increase in precision, see Vincent and Thompson (2017) and Vincent (2019).

We will set a precision of  $\alpha = 0.10$  and an accuracy level of  $\rho = 0.4$ . We assume the total population size of the at-risk CSEC population in the study region of Kenya to be not more than 30,000 as this is taken to be a conservative upper bound on the population size based on the formative assessment. Our inference procedure requires a subset of referrals within the sample to

<sup>10</sup>  $(1 - \alpha)$  is the probability that the population estimate will be within 100p percent of the true population size.

be recruited and hence we will base numbers for recruitments on stringent criteria. Therefore, we will make the assumption that the average number of traceable nominations per individual is at a low value of two<sup>11</sup>. Following the setup outlined in Robson and Regier (1964), let  $M$  be the size of the initial sample (which is analogous to first sample captures). The sampling strategy will give rise to an expected number of  $C = (2 \times M) + 2 \times (2 \times M)$  traced referrals (which is analogous to second sample captures); the bulk of data collection will be carried out over two waves. Based on these sampling parameters the Lincoln-Petersen-type estimator for the population size is defined to be  $\hat{N} = \frac{MC}{R} = \frac{3M^2}{R}$  where  $R$  is the number of referrals located in the initial sample (recaptures). We seek an initial sample size that satisfies:

$$1 - \alpha \leq P\left(-p < \frac{\hat{N}-N}{N} < p\right). \quad (1)$$

Or, after rearranging:

$$1 - \alpha \leq P\left(\frac{3M^2}{(1+p)N} < R < \frac{3M^2}{(1-p)N}\right). \quad (2)$$

The random variable  $R$  follows a hyper-geometric distribution, and hence one can rely on the normal approximation to the hyper-geometric distribution through setting  $\mu = \frac{MC}{N} = \frac{3M^2}{N}$  and  $\sigma^2 = \frac{M(N-M)C(N-C)}{N^2(N-1)} = \frac{3M^2(N-M)(N-4M)}{N^2(N-1)}$  (see Seber, 1970 for details regarding the moments of the distribution of the Lincoln-Petersen estimator). With an initial sample size of  $M = 150$  (and with an expected number of second sample captures in the form of interviewed referrals, and referrals of referrals to allow two additional waves of data collection,  $C = 150 \times 2 + 300 \times 2 = 900$ ), allocated through strategically assigning approximately 75 seeds to each of the two counties<sup>12</sup> based on the anticipated demographic distribution of the study population, the calculations show that the preliminary estimator based on this final sample size is close to meeting the above threshold. Hence, an appropriate final sample size is  $M + C = 1,050$ .

As the population size estimator may result in conservative estimates with small sample sizes, a simulation-based approach is used to reinforce the claim of precision on the sample size calculations. Recall that we are considering two identified counties with a high concentration of CSEC victims, and estimators based on a stratified setup, where strata are based on county and other combinations of factors of importance (such as gender and age), will be used. The proposed network sampling-based estimator bears a strong resemblance to the two-sample, bias adjusted mark-recapture Lincoln-Petersen estimator (Chapman, 1951). Hence, this estimator is used to give crude approximations to the performance of the preliminary versions of these estimators since their sampling distribution is likely to be a function of the actual network structure. The corresponding variance estimator is that presented in Seber (1970), on which the margin-of-error is directly based. It is noted here with importance that, as shown in Vincent (2019) and Vincent and Thompson (2017): 1) with the stratified setup one can expect efficiency gains of at least 25 percent over the margin-of-error based on these crude approximations, and 2) the Rao-Blackwellized versions of these estimators are likely to give rise to substantial gains in improvement in terms of the margin-of-error, and the magnitude of improvement is likely to be in the vicinity of one-half.

Table 2 presents disaggregated performance scores that can be expected for each of the counties to be studied. The corresponding initial sample size is 75 and final sample size is 500. The table

<sup>11</sup> Calculations are based on pretest observations that indicate approximately two referrals can successfully be made from each respondent.

<sup>12</sup> Mombasa was excluded from the endline study regions because it is outside GFEMS's program implementation areas.

presents the corresponding approximated mean of the estimate of the population size, standard deviation, and margin-of-error of the estimators when our proposed network sampling strategy is applied to areas of interest for varying population sizes. The quantity of interest (values in the right-most column) gives a conservative estimate of the margin-of-error for the network sampling strategy. The margin-of-error is approximately twice the standard deviation, to correspond with the expected half-length of the confidence interval based on 95 percent nominal levels and the central limit theorem.

*Table 22: Estimated Performance of the Network Sampling Strategy, Disaggregated Results*

Population Size	Mean	Standard Deviation	Margin-of-Error	Anticipated Upper Bound Margin-of-Error of Network Sampling Estimator
2,500	2,498	615	1,204	452
5,000	5,026	1,835	3,596	1,349
10,000	9,692	4,807	9,422	3,533

*Simulation results for determining an appropriate sample size for the study. An array of simulation parameters is considered in order to assess a suitable sample size.*

Table 2 presents aggregated performance scores that can be expected for the full study region based on all three counties. The corresponding sample sizes are summed over both counties to give an initial sample size of 150 and final sample size is 1000.

*Table 33: Estimated Performance of the Network Sampling Strategy, Aggregated Results*

Population Size	Mean	Standard Deviation	Margin-of-Error	Anticipated Upper Bound Margin-of-Error of Network Sampling Estimator
5,000	5,008	555	1,088	408
15,000	15,048	3,241	6,351	2,382
30,000	30,030	9,315	18,257	6,846

*Aggregated results based on simulation study to determine a suitable sample size for the study. Results are intended to be applied to the full study region.*

## SAMPLING DESIGN

As per the sample size calculations, the targeted initial sample size was 75 and final sample size was 500 for each of the two study regions of Kilifi and Kwale in the endline.<sup>13</sup> Two local NGOs in coastal Kenya—Trace Kenya and Okoa Sasa—recruited seed respondents from their database of victims/survivors with whom they have previously worked. They recruited 75 respondents in each county as described in Table 3 below. At the end of the interview, seeds were provided up to three referral coupons to distribute to other eligible respondents. Referral chains then continued until the target sample of 500 interviews per county (1,000 total) was achieved.

Within each county, Kantar (NORC's data collection partner) was given a breakdown of demographic characteristics to target among seeds to avoid clustering effects that could result from link-tracing the more conspicuous individuals in the population. Specifically, 80 percent were to be girls and 20 percent boys. Within each gender strata, half were to be pimp/boss-controlled, and the other half were to be freelance or home-based. To further diversify the sample, it was also required that pimp/boss-controlled seeds could not work under the same boss or be in the same gang as another seed. Finally, the strata were broken up by age group such that 50 percent

<sup>13</sup> The initial seed size and the final sample size per study region are the same as the baseline.

were 16-17, 40 percent were 14-15, and 10 percent were 13 years of age. Targeting a higher proportion of older children was done based on learnings from a formative assessment conducted prior to the baseline study, which suggested older respondents could effectively recruit from all age ranges whereas younger respondents were unlikely to be able to recruit older children.

*Table 4: Sample Distribution by Wave for Study Regions*

Study Region	Initial Sample	First Wave	After First Wave	Final Sample Size
Kilifi	75	202	216	493
Kwale	75	211	195	481

*Sample distribution by initial sample (seeds), first wave, and all succeeding waves for each of the three study regions.*

Respondents were asked to nominate up to five individuals in their personal network and which intersected with the study population and corresponding region. Their nominees' covariate/demographic information was recorded to facilitate post data collection sample linking. Respondents were then given a set of coupons to pass to up to three of their nominations. Respondents received 1,200 KSH (approximately 11 USD) for completing the survey, as well as an additional 500 KSH (approximate 4.5 USD) for each eligible person they recruited who completed the survey. Sample recruitment continued for as many waves as was required in order to reach the desired sample size. Respondents were allowed to take the survey more than once if they held a valid coupon that was not given by someone they had referred before nor by someone who had referred them earlier.

#### LINK-TRACING USING REFERRAL AND REDEMPTIONS DATA

The link-tracing design and approach was consistent across both rounds of study. Links between respondents were fully observed and traced via redemption of the referral coupons. Each respondent received up to three coupons with a unique coupon code, which were recorded in the survey platform/software. The respondent was then instructed to pass each physical coupon to another child involved in the sex trade. Once these coupons were redeemed by another respondent there was a clear linkage between the respondent who was given the referral coupon and the individual that redeemed the coupon. This is believed to be a "strong linkage" because the respondents would have known each other well enough for them to give the other respondent the physical coupon in person, and to describe the study in sufficient detail for invitation purposes.

#### LINK-TRACING USING NOMINATIONS DATA

Link-tracing/observation via the nominations data was a trickier process because there were no unique codes passed between respondents. Instead, only nomination data in the form of covariate/demographic information could be used for matching purposes. All matching was performed using STATA. Recall that each respondent was asked to nominate up to five other children involved in CSEC and to give basic demographic information on each person they nominated. This information was then matched to the demographic information on the respondent that was collected in the survey. The information used for matching nominees to respondents selected for the final sample were name (first name, last initial), sex, age, county, sub-county, ethnicity, marital status, and number of children.

The demographic information was broken into three different categories for matching:

1. A "fuzzy" match was used to match different elements that are approximately similar, but not an exact match:

- a. Name was matched using a fuzzy matching program in STATA called *matchit* with a threshold of a 60 percent name match.<sup>14</sup>
  - b. Age was considered to be a match if the nominee's age was within one year of the respondent's age.
2. An exact match was used for elements that should have been exactly the same:
    - a. Sex was required to be an exact match for all cases.
  3. A "soft" match was used to match different elements that have match, but not necessarily all, of their characteristics:
    - a. The respondent and nominee needed to match on four out of five for county, sub-county, ethnicity, marital status, and number of children.

The name variable was matched using a fuzzy matching criteria because people may not know the exact spelling of another person's name, in particular if they only communicate verbally with this person. Additionally, the enumerator was the one who entered the names into the tablet and they would not be expected to know the exact spelling of names for each nominee. It is important to have the names match to some extent to ensure with a level of confidence that the respondent and nominee do in fact know each other.

The variable for sex was set to be an exact match since the sex of another individual would typically be known and clear to the respondent nominating this individual.<sup>15</sup> The age range was set to plus or minus one year because exact ages of friends and colleagues are not always known, but in most cases the respondent would be expected to know an approximate age.

The remaining five variables for county, sub-county, ethnicity, marital status, and number of children are not always known exactly by the respondent depending on the relationship between the respondent and nominee. A threshold of four out of five matching criteria gave information that we believe to be the most credible and consistent after also considering network plots based on criteria of three out of five for matching purposes.<sup>16</sup>

## TARGET VERSUS ACTUAL SAMPLE

As with the baseline study, the target sample for each county this round was 500 respondents. Table 5 shows that the field team was able to conduct 499 interviews in Kilifi, and 494 interviews in Kwale. In preparing the final sample for matching, six respondents were determined to be interviewed twice in Kwale, and one in Kilifi. The duplicate responses were dropped so each respondent would have only one response, however all associated nomination and referral information was merged to the retained response. A final analysis sample of 974 unique responses was achieved.

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14 The 60 percent threshold for the *matchit* command will pick up names that are similar but have some small differences. For example, a respondent with the name "John Doe" would be matched with a nominee if the nominee's name was "Jahn Doe" or "John Dee."

15 This is not true for all cases, and we do recognize that sex and gender are not always binary or the same as how someone may present themselves to the world. However, for the purposes of matching respondents and nominees for this study we needed to make a set of assumptions to be able to create network linkages.

16 The number of network linkages when using three out of five for the soft matching technique provided a number of linkages much higher than the number of people nominated and referred by a single respondent. This should not be possible because we believe that the respondents are each unique individuals so there should be no more than five linkages.



*Table 55: Target Sample Size versus Final Sample Size*

Respondents	County		Overall
	Kilifi	Kwale	
Target	500	500	1,000
Total Surveys	499	494	993
Unique Respondents	493	481	974

*The target sample and total sample size per study region, with the total number of unique respondents per study region after accounting for duplicated entries from multiple redemption of coupons.*

Respondents were determined to have redeemed more than one coupon if either of the following criteria was met:

1. Exact and fuzzy matching
  - a. Name, county, sub-county, sex, marital status, number of children, and ethnicity as matching exactly and with the age fuzzy match of one year.
2. Matching used for nominees and respondents indicating they redeemed more than one coupon.
  - a. Fuzzy match on name and age.
  - b. Exact match on sex.
  - c. Soft match on county, sub-county, marital status, number of children, and ethnicity.
  - d. Respondent indicated that they were previously interviewed.

The main difference in the matching criteria is that the fuzzy and soft match was only used in cases where the respondent indicated that they had been previously interviewed. In cases where neither respondent indicated that they had been interviewed the match was only made if all information matched exactly except for an age range of one year.<sup>17</sup> The matching criteria was stricter for identifying duplicate respondents than for identifying network linkages between respondents because the respondent would be expected to give more accurate and consistent information on themselves than they would for others.

## **DATA COLLECTION PREPARATION AND MANAGEMENT**

### **INTERVIEWER TRAINING AND PILOTING**

NORC and Kantar co-led an eight-day interviewer training from July 18 to July 25, 2022. The training brought together enumerators from the two target counties of Kilifi and Kwale. The final training team had a total of 12 enumerators, 10 of which were female. Of these enumerators, four had participated in the first round of the prevalence study, seven in the second round of the KAP study, and one that was new but with sound experience conducting research with vulnerable populations and on sensitive subjects. Previous experiences and lessons learned were shared by those who participated in the first round in 2021, bringing practical and contextual dynamics into the training.

<sup>17</sup> The age range of one year was still used for respondents even though they should know their own age to account for the fact that they may have had a birthday in between interviews.

The training focused on orienting participants to the study, data collection procedures, sampling, logistics, respondent screening, survey administration, and trauma-informed research practices. The training also included a two-day field pilot of the survey instrument. The purpose of the pilot was to assess whether respondents struggled with understanding, comprehension, or recall; identify which tools/approaches were helpful in improving comprehension and recall; determine if any questions were subject to response bias or perceived as overly sensitive by respondents; and identify any other unforeseen issues or challenges. Each enumerator interviewed one CSEC victim/survivor on each day of the pilot (n=24). NORC's Research Coordinator and the Kantar team observed the interviews, albeit from a distance given the highly sensitive nature of the study topic. Following the field pilot, NORC and Kantar conducted extended debrief sessions with the trainees to identify any necessary final adjustments to the instruments.

Given that this was a second round of the study, amendments to the tools were kept at the minimum. All tools and study materials, including the consent forms, were translated into Kiswahili to make them easier to administer without losing the original meaning of the questions. A review of the translations only led to a few edits that did not have a material impact on the meaning of the affected sentences.

After completing the training, selected teams travelled to their respective counties to commence data collection, which took place from August 2 to September 6. The interviews were primarily conducted in Kiswahili (94 percent) and all interviews were conducted in person. Additional information on interview protocols can be found in

RESEARCH ETHICS AND STUDY AUTHORIZATION.

## RESEARCH ETHICS AND STUDY AUTHORIZATION

### DATA MANAGEMENT

In this round of data collection, NORC continued its subcontractor partnership with Kantar Public. Kantar is an international data collection, research, and consultancy firm with headquarters in Nairobi and two additional regional offices in Kenya. Kantar was selected based on their experience managing logistically complex data collection activities in Kenya; ability to rapidly mobilize to recruit a large pool of experienced and qualified supervisors and enumerators; demonstrated expertise managing methodologically demanding mixed-methods research; experience using tablets for data collection; past performance conducting exercises of similar scope and scale; and value for money. Kantar has also established relationships with Kenyan government agencies, NGOs, and the local academic and research community.

### DATA QUALITY ASSURANCE

Data collection was through tablet-based, SurveyCTO/Open Data Kit (ODK) platform. NORC research team was responsible for programming the survey and centrally managing the data collection platforms/servers in-house. All tablets and servers were encrypted to ensure maximum data security. Data were synced on a daily basis (connectivity permitting) to allow for real-time data quality reviews. A data quality assurance (DQA) protocol was established to set forth data quality standards/requirements and team member responsibilities in ensuring high quality data during field work. The data quality review (DQR) procedures can be found in ANNEX I. DATA QUALITY REVIEWS.

## RESEARCH ETHICS AND STUDY AUTHORIZATION

This study was conducted in line with human subjects research guidelines both in the United States and Kenya. NORC follows established protocols for gathering informed consent, protecting anonymity and identifying information, and ensuring ethical data collection—including from children and other vulnerable populations. To ensure compliance with our high ethical standards, all research involving vulnerable populations must pass through formal Institutional Review Board (IRB) review prior to data collection and all research staff must complete a certified course in Protecting Human Research Participants through the National Institutes of Health (NIH) or Collaborative Institutional Training Initiative (CITI).

Field teams were extensively trained on research ethics, including confidentiality and informed consent procedures. Consent/assent was verbally attained from study participants, and all respondents were offered the option to obtain parental consent if they deemed it appropriate. NORC also provided interviewers with contextually-grounded training on child protection, psychological first aid, and trauma-informed research. The comfort and privacy of the respondents was a key aspect of all interviews. The interviews were held at a neutral location chosen by the interviewee, without employer knowledge whenever possible, and personal information of respondents was protected by keeping appointment scheduling sheets out of sight. Additionally, enumerators were extensively trained on trauma-informed research and psychological first aid to enable them to support respondents that became distressed during the interview.

Enumerators were trained on protocols for reporting abuse to law enforcement or social services, as well as offering referrals resources. If the respondent reported illegal abuse and directly asked for law enforcement intervention, then the enumerator was trained to submit a safety assessment to their supervisor and the supervisor would refer the case to law enforcement within 24 hours. If the respondent directly requested social services other than law enforcement intervention, the enumerator would submit a safety assessment to their supervisor and the supervisor would refer the case to social services within 72 hours. All respondents were also offered referral resources after the interview was completed.

NORC sought and received approval from its internal IRB, which follows a formal process for ensuring all research projects are conducted in accordance with the U.S. Federal Policy for the Protection of Human Subjects. NORC's IRB is registered with the U.S. Department of Health and Human Services Office of Human Research Protection and has a Federal-wide assurance (Federal-Wide Assurance FWA 00000142). The IRB takes an active role in helping guide protocols to meet the highest standards for human subject protections. NORC's IRB requires that research protocols provide sufficient detail to ensure that (1) the selection of subjects is equitable, subjects' privacy is protected, and data confidentiality is maintained; (2) informed consent is written in language that study participants can understand and is obtained without coercion or undue influence; and (3) appropriate safeguards to protect the rights and welfare of vulnerable subjects. NORC also obtained IRB approval from AMREF, a local IRB accredited by Kenya's National Commission for Science, Technology and Innovation (NACOSTI).

### 3. FINDINGS

In this section, we first present summary statistics on the endline study population including demographic characteristics of victims/survivors, conditions and circumstances driving respondents to initially fall into the sex trade, whether and to what extent third parties financially benefit from respondents, and the prevalence of probable post-traumatic stress disorder (PTSD) among the study population. Thereafter, we present results for the study's primary research question—i.e., the count of CSEC victims/survivors in Kilifi and Kwale counties at endline (2022) as compared to baseline (2021) estimates—followed by a discussion of the methodological limitations of the estimation approach. All summary statistics presented in this section are weighted averages using the sample weights described in PREVALENCE ESTIMATION METHODOLOGY.

#### RESPONDENT DEMOGRAPHIC CHARACTERISTICS

Table 6 below shows that the average age of respondents was around 16 years in both counties, which is slightly above the median age (15) of the study's target population (13–17-year-olds). In line with the seed selection protocol, girls comprised 70 percent of the study population with boys making up the remaining 30 percent. At the time of the survey, the great majority of respondents were never married (96 percent) and childless (0.2 children on average).

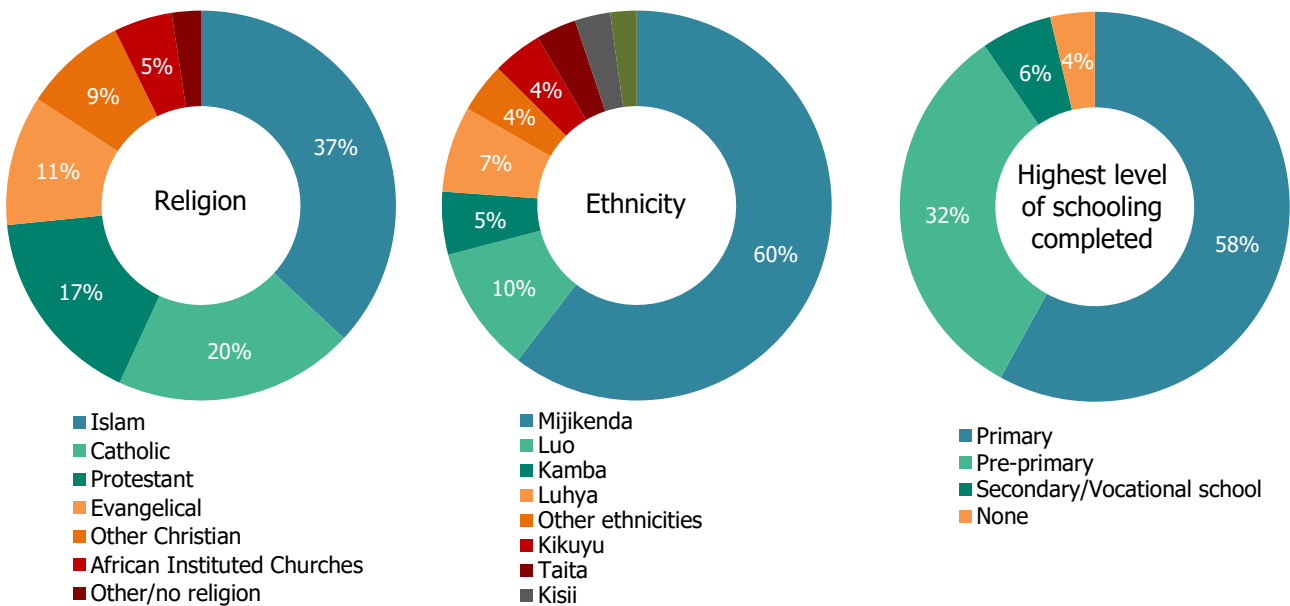
*Table 6: Respondent Demographic Characteristics, by County*

Variable	County		Overall
	Kilifi	Kwale	
Age	15.86	16.01	15.94
Number of children	0.15	0.23	0.19
Currently enrolled in school	40%	41%	41%
Sex			
Male	37%	23%	30%
Female	63%	77%	70%
Country of Birth			
Kenya	100%	100%	100%
Another Country	0%	0%	0%
Marital Status			
Never married	97%	96%	96%
Married, divorced, or widowed	3%	4%	4%
Primary Language Spoken			
Kiswahili	90%	96%	93%
English	1%	0%	1%
Other	8%	4%	6%

*Additional countries of birth, marital statuses, and languages were included in the survey instrument, but no other categories reached greater than one percent of respondents and were thus excluded from the tables above.*

Less than half of the respondents were enrolled in school at the time of the survey (40 percent in Kilifi and 41 percent in Kwale). As shown in **Error! Reference source not found.**, 58 percent of respondents had primary school as the highest level of schooling completed, however, this varied somewhat by county (51 percent in Kwale compared to 65 percent in Kilifi). Education levels among Kwale respondents were lower on average than those in Kilifi. Forty-one percent of respondents in Kwale had less than primary school education, compared to 31 percent in Kilifi. For a complete breakdown of schooling by county, see Table 15 in ANNEX II. TABLES.

All study participants were born in Kenya, and the most common language spoken is Kiswahili at 93 percent, followed by English at two percent.

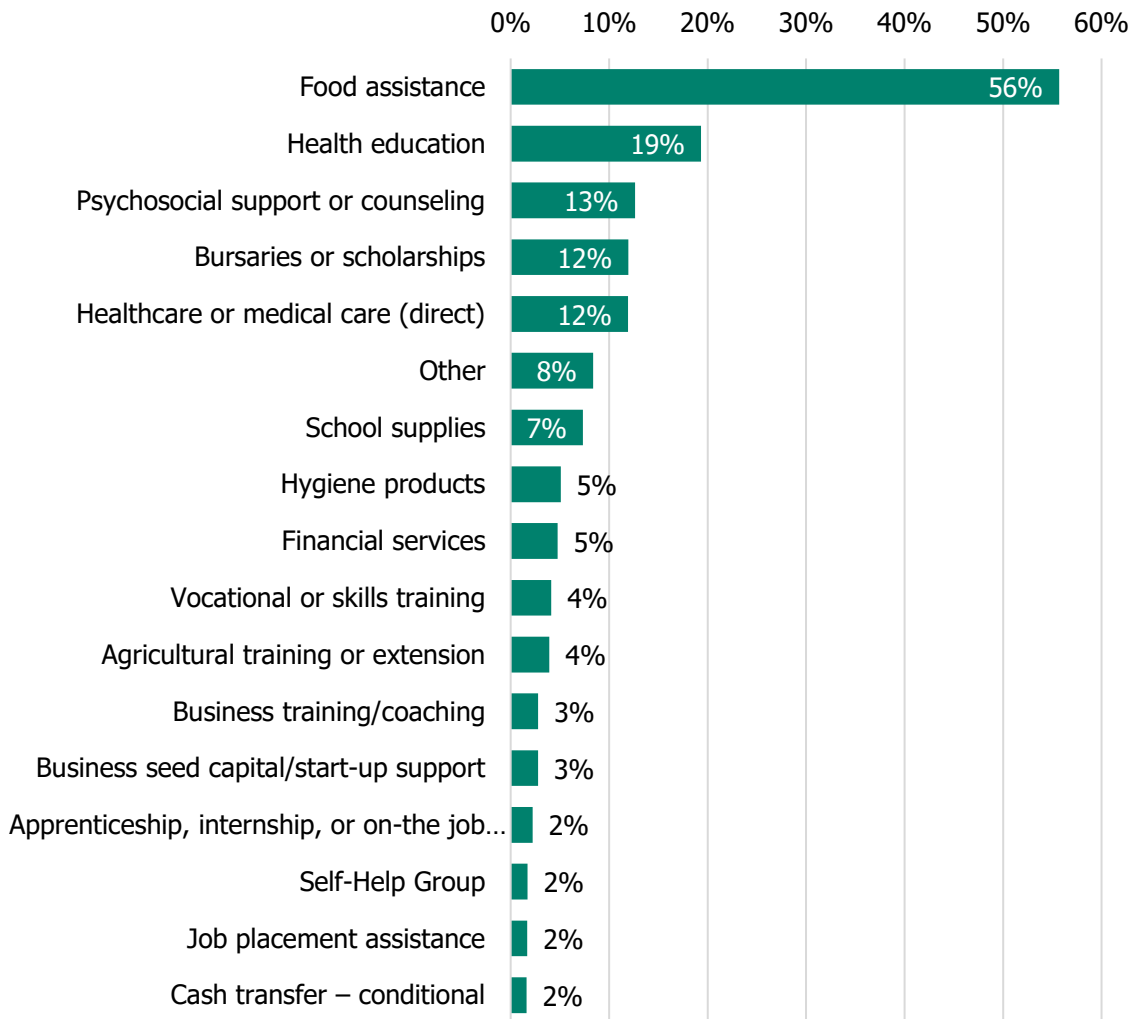


*Categories were only included if they were reported by at least 2 percent of respondents, all other categories were then combined into other.*

**Error! Reference source not found.** Figure 4 shows that Islam was the most common religion overall at 37 percent of respondents, but the proportion of respondents identifying as Muslim varied significantly across counties (21 percent in Kilifi compared to 52 percent in Kwale). Christian religions including Catholicism, Protestantism, and Evangelicalism were the next most commonly cited religious affiliations overall at 20, 17, and 11 percent, respectively. The most common ethnicity among respondents in both counties was Mijikenda (60 percent overall), with no other ethnicity representing more than ten percent of respondents. See Table 15 in ANNEX II. TABLES for complete breakdowns of religion and ethnicity by county.

Fifteen percent of respondents reported receiving direct support from NGOs, faith-based organizations (FBOs), or community-based organizations (CBOs) over the past 12 months. The most frequent types of support mentioned by these recipients were food assistance (56 percent), health education (19 percent), psychosocial support or counseling (13 percent), tuition or scholarships (12 percent), and direct healthcare (12 percent). There were some variations of support by county. Among the Kilifi respondents who received direct support, nine percent mentioned financial services and/or conditional cash transfers and five percent mentioned business seed capital and/or business training; no one in Kwale reported either of these supports. On the other hand, eight percent of respondents in Kwale who received support mentioned skills training, which was not reported by anyone in Kilifi.

Figure 56: Nature of the support received from NGOs, FBOs, or CBOs



Categories were only included if they were reported by at least 2 percent of respondents, all other categories were then combined into other.

When asking these fifteen percent of respondents who provided these supports, they recognized Kesho Kenya (16 percent), Red Cross (15 percent), Catholic Relief Services (13 percent), Amkeni (12 percent), and Mombasa Cement (12 percent).

**ENGAGEMENT IN COMMERCIAL SEX TRADE**

Respondents were eligible to participate in the study if they self-reported having engaged in sexual activities in return for money or things worth money like a place to stay, food, or gifts at least once in the past 12 months. Although what qualifies as a commercial “sex act” varies somewhat across governmental and intergovernmental agencies, at baseline we observed that self-reporting using the general definition above was well-aligned with the various formal definitions.<sup>18</sup> As such, we relied on respondents’ self-reporting at endline and dropped questions on specific sex acts given their sensitive and intrusive nature.

18 For example, the U.S. State Department definition states that “sex includes genital or anal contact or penetration of a person, regardless of whether such contact or penetration is genital, oral, or manual...and can include virtual situations, such as when a trafficker pays to watch a trafficking victim engaging in a sex act, including self-masturbation.” The



Table 7 below shows summary statistics on endline respondents' circumstances when they first engaged in a commercial sex act(s). The average age that respondents first engaged in any sexual activity was around 13.3 years old. The average age that respondents first engaged in sexual activity in exchange for goods and money was at 14 years overall.<sup>19</sup>

Over one-third (37 percent) of respondents were first introduced to the sex trade by other children. Eighty-three percent of respondents were living with a parent or guardian when they first engaged in commercial sex act(s), and 80 percent of respondents were living in their hometown or village when they first engaged in commercial sex act(s). These figures are fairly consistent across counties.

*Table 7: Characteristics of First Engagement in Commercial Sex Act(s) Among Respondents*

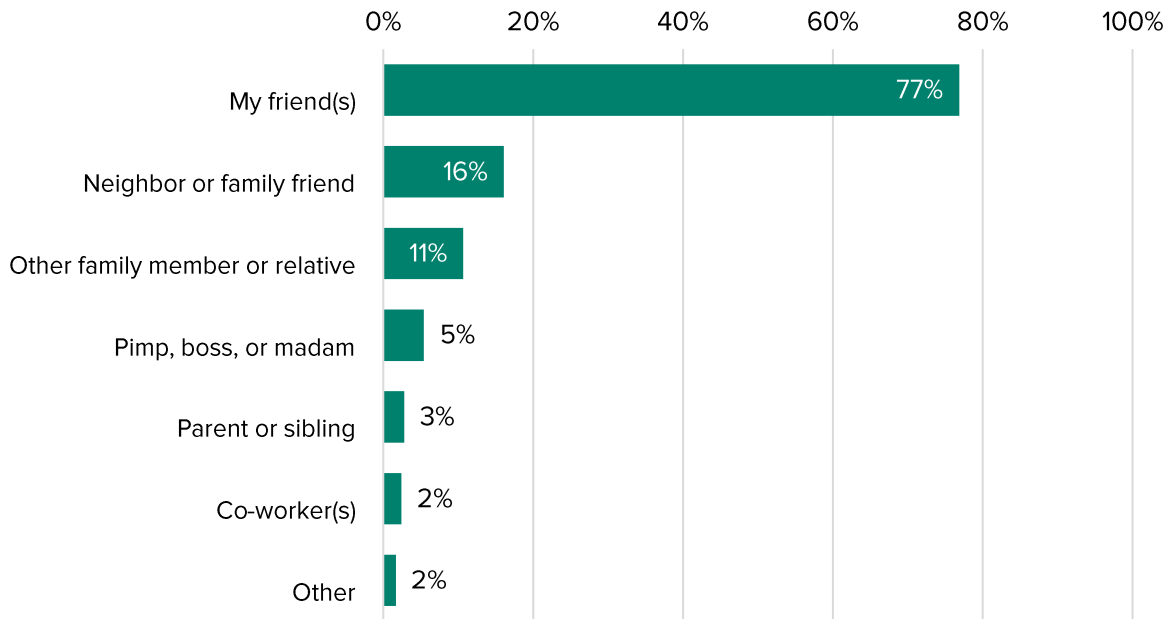
Variable	County		
	Kilifi	Kwale	Overall
Age first engaged in any sexual activity	13.36	13.26	13.31
Age first engaged in sexual activity in exchange for goods/money	14.12	13.90	14.01
Living arrangement when you first engaged in sexual activity for goods/money			
With a parent/guardian	82%	83%	83%
In hometown/village	76%	83%	80%
Person who first introduced you to the sex trade			
Adult	63%	63%	63%
Male	34%	29%	31%
Forced, pressured, coerced you into entering the sex trade	12%	16%	14%

Figure 6 shows that approximately four out of five respondents said that a friend first introduced them to the sex trade, which was the most common response by far and consistent across study rounds and counties. However, it should be noted that "friend" is an ambiguous umbrella term that could also be used to refer to brokers within their peer group. The next most common response was a neighbor or family friend, which was selected by 16 percent of respondents followed by other family members or relatives (11 percent). No other type of person was indicated by more than five percent of respondents. We observed no statistically significant differences in these findings across the two time points.

Government of Kenya includes "indecent exhibition or show"—regardless of genital contact or penetration—among its definition while the ILO includes any media of a sexual nature.

<sup>19</sup> Note that the sample was only for children aged 13-17, so children that entered sex work below the age of 13 and have not turned 13 yet would not be included and this may bias the estimate.

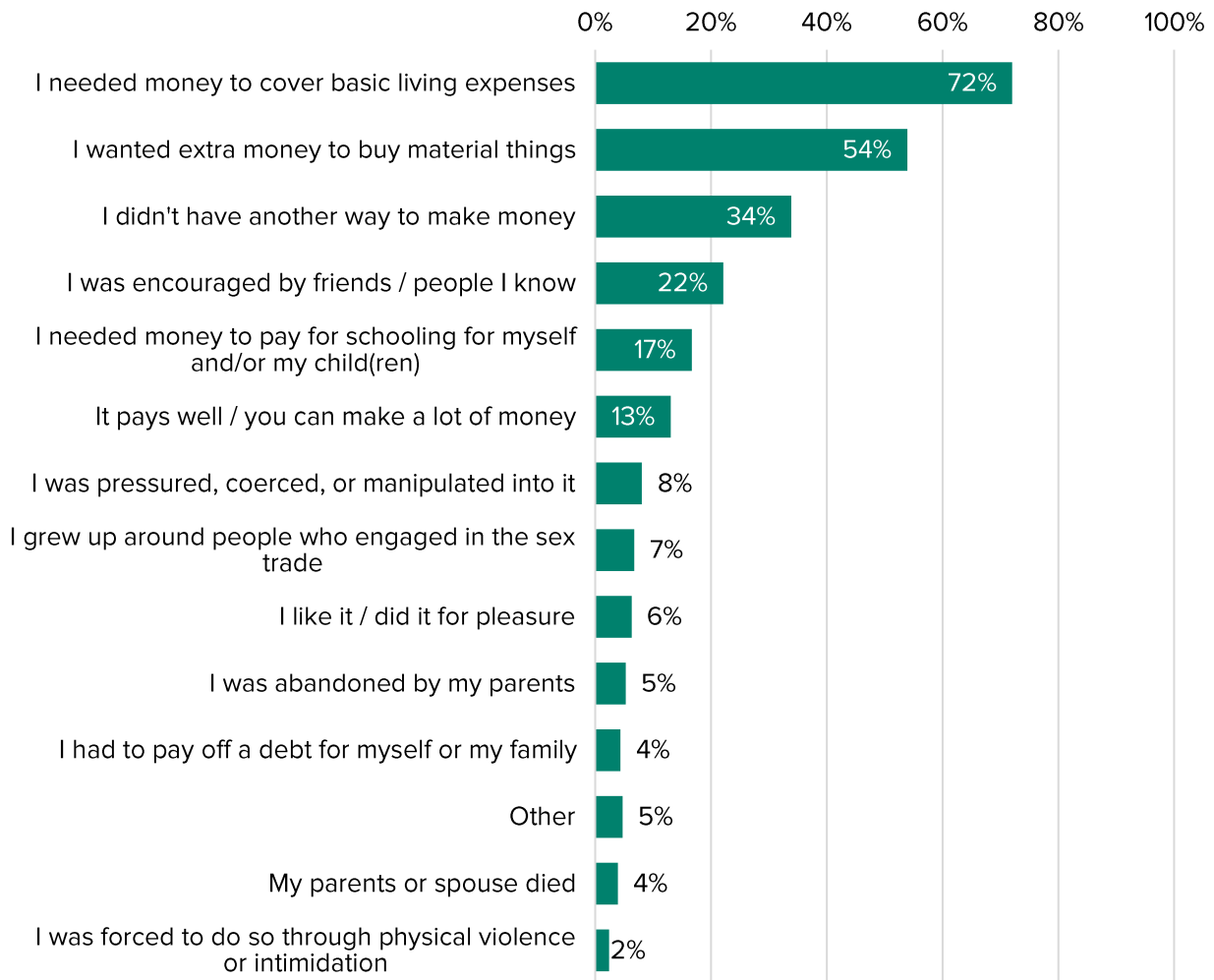
Figure 6: Who First Introduced Respondent to the Sex Trade



Categories were only included if they were reported by at least 2 percent of respondents, all other categories were then combined into other. The responses are multi-select, so response options will not necessarily add up to 100 percent.

Figure 7 lists the reasons that led respondents to enter the sex trade. Four out of the top five reasons (excluding the “other” category) were of a financial nature: needing money to cover basic living expenses (72 percent), wanting extra money to buy material things (54 percent), not having any other way to make money (34 percent), and needing money to pay for schooling for themselves and/or their child(ren) (14 percent). The only reason in the top five that was not directly related to money was being encouraged by friends or contacts at 22 percent.

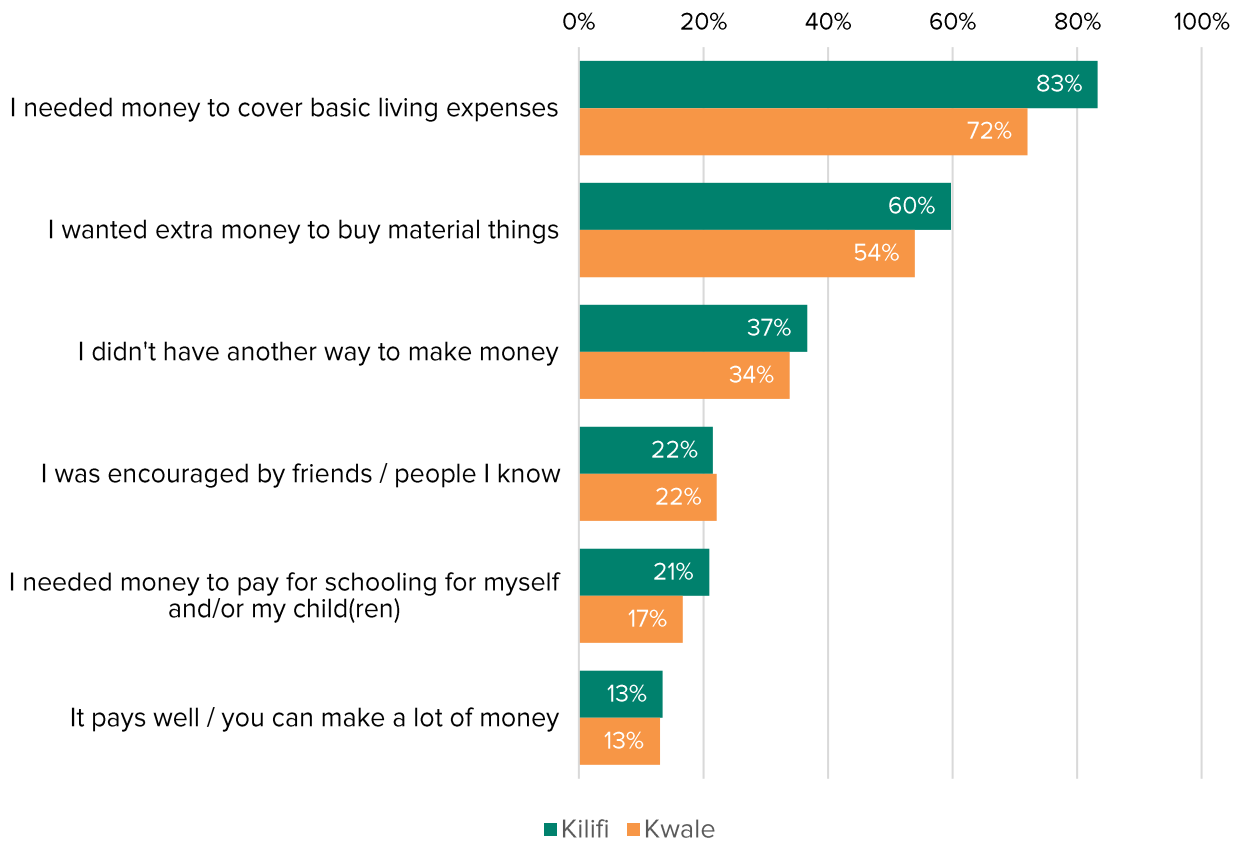
Figure 78: Reasons Respondents First Entered the Sex Trade (Self-Reported)



Categories were only included if they were reported by at least two percent of respondents, all other categories were then combined into other. The responses are multi-select, so response options will not necessarily add up to 100 percent.

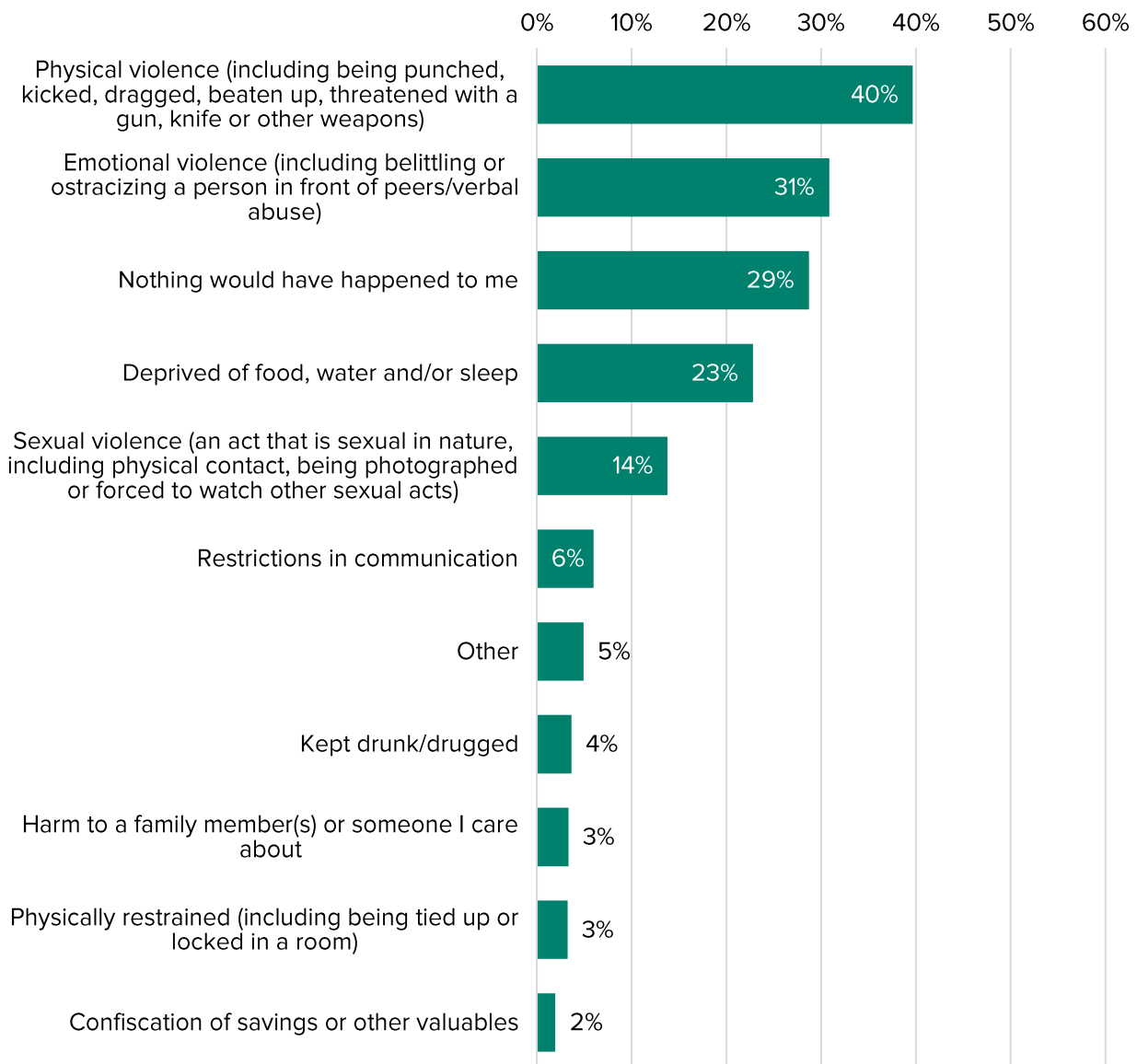
When disaggregating the top reasons (i.e., options selected by more than 10 percent of the respondents) by county, children in Kwale were more likely to mention each of the top five reasons related to money in comparison to their Kilifi counterparts. See Table 17 in ANNEX II. TABLES for complete breakdowns of who first introduced respondents to the sex trade and the reasons respondents first entered the sex trade by county.

Figure 8. Top Reasons Respondents First Entered the Sex Trade, by County



Respondents who reported first engaging in commercial sex acts due to pressure/coercion/manipulation or violence/intimidation (10 percent) were followed up with a question on what they believe would have happened if they had refused that first time. As shown in Figure 9, 63 percent of these respondents said that they would have been subjected to some type of violence had they refused (physical violence at 40 percent, emotional violence at 31 percent, and sexual violence at 14 percent). The next most common response was that they would have been deprived of basic needs such as food, water, and/or sleep (23 percent). Compared to Kilifi, respondents in Kwale were more likely to report the threat of physical or sexual violence; deprivation of food, water, or sleep; and restrictions in communication as consequences for refusing. See Table 17 in ANNEX II. TABLES for complete breakdowns by county.

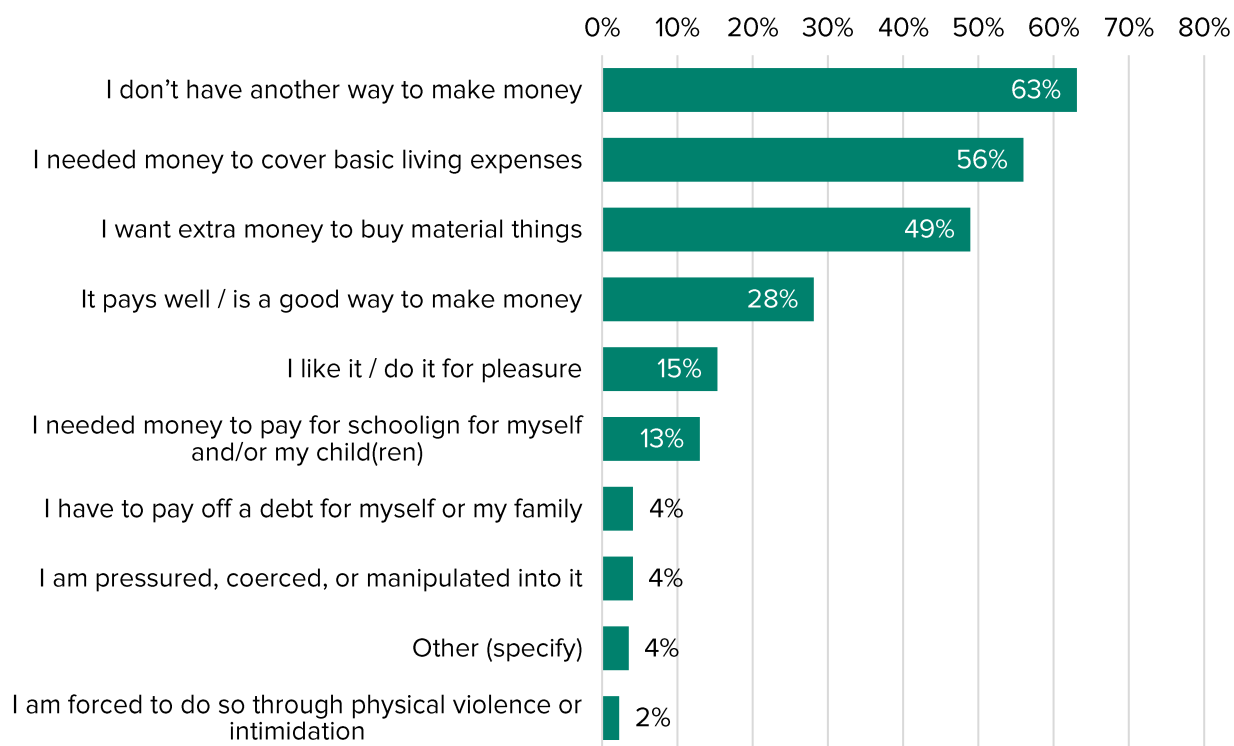
*Figure 9: What Would Have Happened to Respondents that Faced Pressure or Intimidation to First Engage in CSEC Had They Refused*



*Categories were only included if they were reported by at least two percent of respondents, all other categories were then combined into other. The responses are multi-select, so response options will not necessarily add up to 100 percent.*

Figure 10 shows the reasons why respondents exchanged sex for goods or money more recently, which were similar to the reasons respondents first entered the sex trade. The top three reasons were again centered on finances: 63 percent said that they didn't have another way to earn money, 56 percent said that they needed money to cover basic living expenses, and 49 percent said they wanted extra money to buy material things. Additionally, four percent of the respondents mentioned needing to pay off a debt.

Figure 10: Reasons Exchanged Sex for Goods or Money More Recently



Categories were only included if they were reported by at least 2 percent of respondents, all other categories were then combined into other. The responses are multi-select, so response options will not necessarily add up to 100 percent.

Table 8 shows that 17 percent of respondents indicated that their parents or guardians were aware of their involvement in the sex trade. Around 33 percent of respondents had someone else help them find clients, arrange their transactions, or manage their involvement in the sex trade. The average number of such intermediaries per respondent was 1.6. The percentages varied by country, from 25 percent in Kwale to 40 percent in Kilifi. The person who arranged their engagement in the sex industry was typically an adult (72 percent overall) and female (74 percent overall).

It is noteworthy that in both Kilifi and Kwale, over a quarter of third-party facilitators were other children. (31 percent and 25 percent, respectively) The fraction was close, though slightly higher, to the self-reported value at 22 percent. The latter indicated that over one in five respondents earned money by finding clients and arranging sex work for other children.

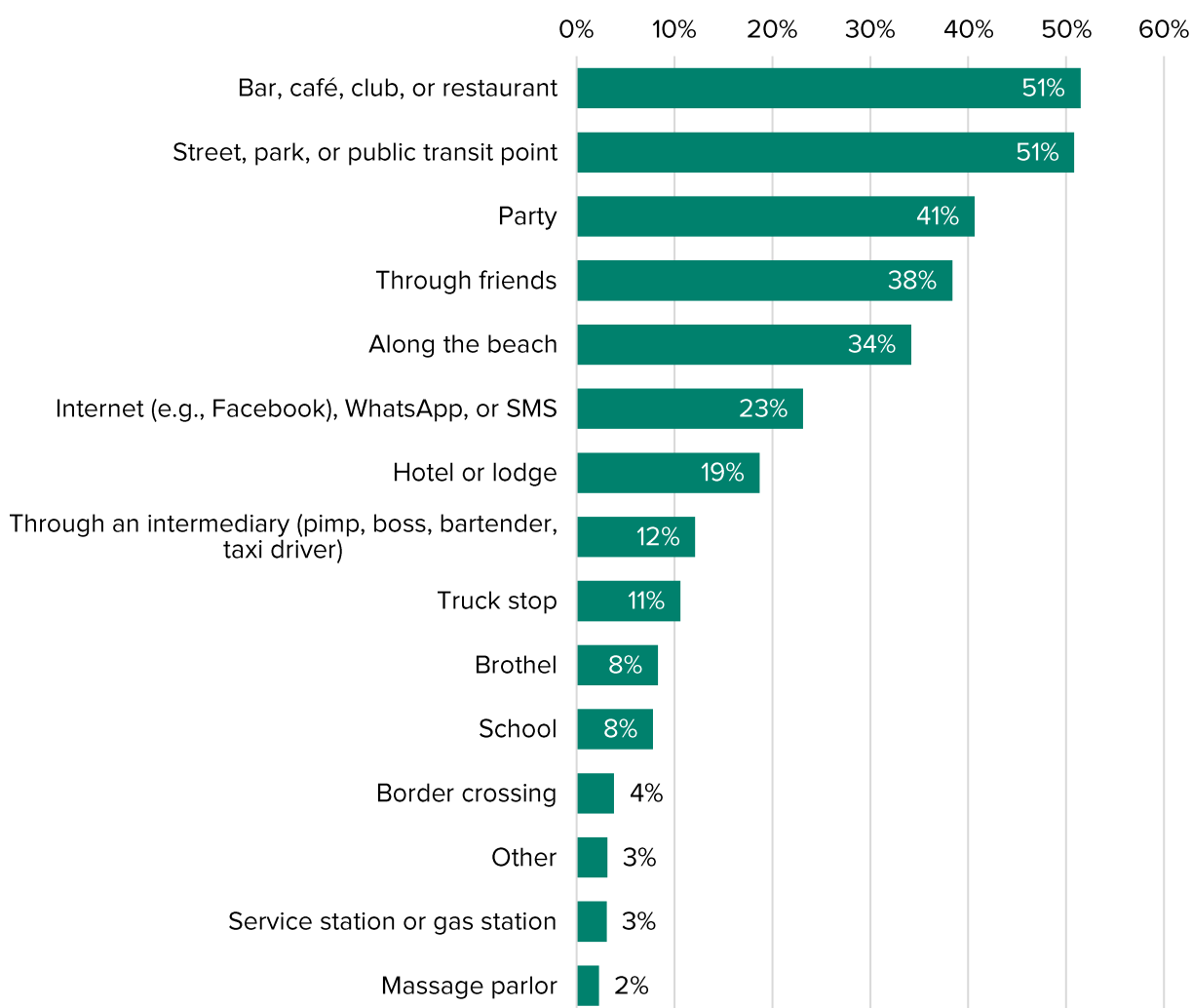
Table 88: Third Party Knowledge and Facilitation of CSEC Transactions

Variable	County		
	Kilifi	Kwale	Overall
Parents/guardians aware of involvement in the sex trade	16%	18%	17%
Earn money by finding clients/arranging transactions for other children in the sex trade	26%	17%	22%
Someone else helps find clients/arrange transactions/manage involvement in the sex trade	40%	25%	33%
For those who have someone else helps find clients/arrange transactions/manage involvement in the sex trade			
Number of people who help find clients/arrange transactions/manage	1.60	1.48	1.55

Person who arranges transactions is an adult	69%	75%	72%
Person who arranges transactions is a female	69%	83%	74%
Person charges a fee to arrange transactions	77%	82%	79%
For those who have a facilitator (pimp, boss, or madam) that helps find clients/arrange transactions/manage involvement in the sex trade			
Money paid for sexual services kept by a facilitator to cover basic needs (housing/food)	31%	39%	35%
Money paid for your sexual services kept by a facilitator to pay off a debt	11%	18%	15%

Overall, nearly eight in 10 third-party facilitators charged a fee for arranging the respondent’s sexual transactions. Of those respondents who reported that their facilitator collected a fee, 35 percent said the fee was kept to cover their basic needs such as housing or food, and 15 percent said the fee was kept to pay off a debt. A higher percentage of respondents in Kwale reported the usage of fees for both basic needs (39 percent) and debt (18 percent), compared with those in Kilifi (31 and 11 percent, respectively).

Figure 11: Where Respondent Normally Find Buyers



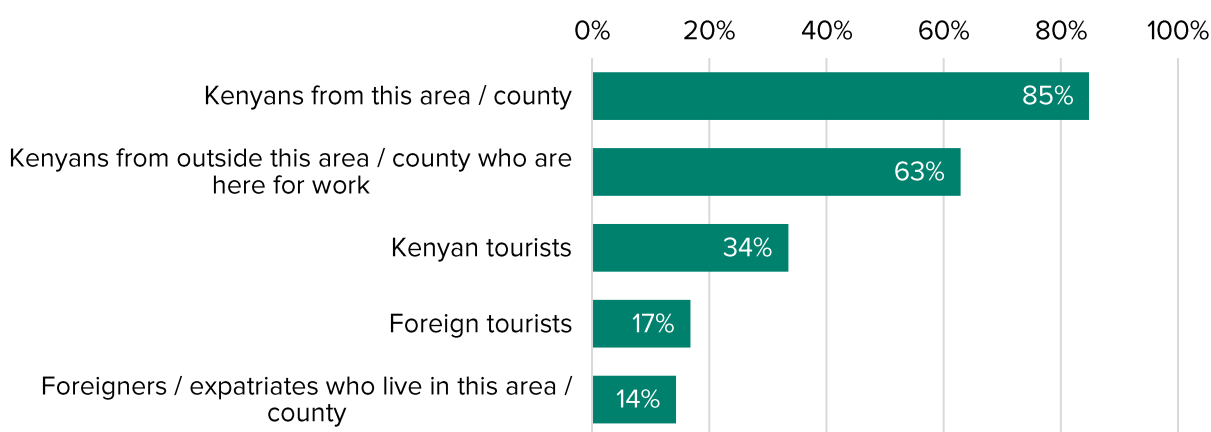
The responses are multi-select, so response options will not necessarily add up to 100 percent.

Figure 11 summarizes where respondents typically find clients or buyers. The majority of respondents said that they normally found clients in a public arena: 51 percent at a

bar/café/club/restaurant, 51 percent on a street/park/public transportation, 41 percent at a party, 34 percent along the beach, and 19 percent at a hotel/lodge. More than one in three respondents (38 percent) said that they found clients through a friend, and 12 percent through an intermediary. Additionally, just under a quarter of respondents found their clients through online platforms. In Kwale, respondents were much more likely to find clients along the beach (50 percent) than in Kilifi (18 percent). In Kilifi, a higher fraction of respondents found their clients through friends (43 percent) or through online services (27 percent); the percentages were 34 percent and 19 percent, respectively, in Kwale. See ANNEX II. TABLES for the complete breakdowns of where respondents find clients by county.

A large majority of respondents identified Kenyan nationals as their main type of clients. Eighty-five percent reported providing sexual services to Kenyans who were from the area, 63 percent served Kenyans who stayed in the area for work, and 34 percent had Kenyan tourists who came as clients. There were also a non-negligible proportion of respondents who identified foreign tourists (17 percent) or expats living in the area (14 percent) as clients

Figure 12: Types of Clients



The responses are multi-select, so response options will not necessarily add up to 100 percent.

Notably, over three in 10 respondents reported having enforcement officials or local authorities as clients. See ANNEX II. TABLES for the complete breakdowns of the source of clients by county.

Table 9: Respondents having law enforcement or government officials as clients

Variable	County		
	Kilifi	Kwale	Overall
Ever have policemen or law enforcement officials as clients	30%	33%	31%
Ever have other local authorities or government officials as clients	31%	30%	30%



Figure 13: Number of Paying Partners<sup>20</sup> for Sexual Activities

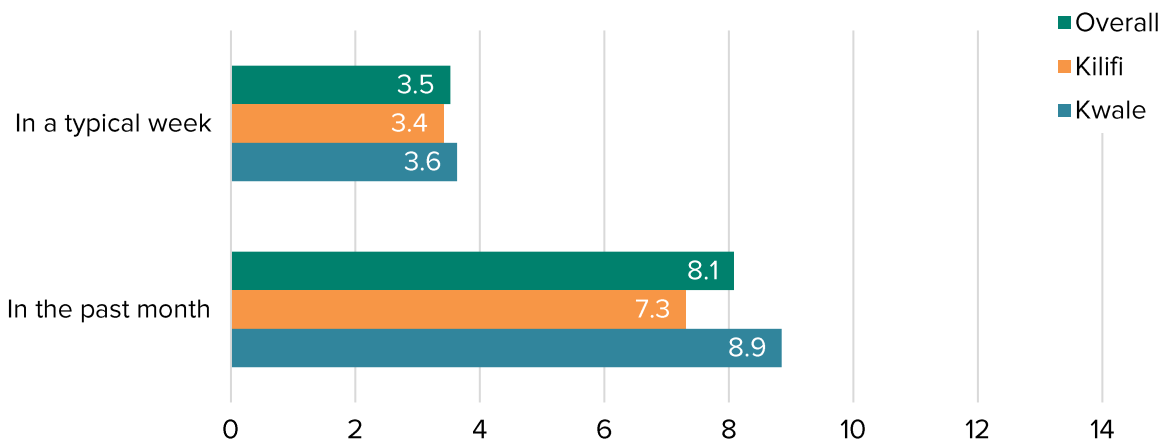


Figure 13 shows that the average number of paying partners with whom respondents engaged in commercial sex acts in a typical week was 3.5, with little variation across counties. The average number of paying partners over the past month was 8.1 overall, and slightly higher in Kwale than in Kilifi.

Table 10: Current and Future Engagement in Sexual Activities and Sex Trade

Variable	County		Overall
	Kilifi	Kwale	
Had unprotected sex with a client in the past year	51%	53%	52%
Feel you can stop engaging in the sex trade anytime if you want	46%	36%	41%
COVID-19 has changed how you support yourself	23%	12%	17%

As shown in Table 10, 52 percent of all respondents reported that they had had unprotected sex with a buyer in the past year. Four in 10 respondents felt that they could stop engaging in the sex trade anytime if they wanted to, which corroborates the previous finding of over 60 percent of respondents stating they didn't have another way to earn money.

Seventeen percent of respondents indicated that since COVID-19 the way they supported themselves had changed. This represents a drop from 30 percent in the 2021 baseline, and this difference was observed most dramatically in Kwale (22 percent to 12 percent).

Respondents reported that sexual transactions are also taking place virtually and through the internet. Nine percent of the respondents said there were sexually explicit live streams, videos, or photos of themselves shared over the internet or through social media platforms. These percentages varied across counties (14 percent in Kilifi and 4 percent in Kwale). Among these respondents, seven in 10 said they received goods or money in exchange and five in 10 said they had sexual contact with another person in the sexually explicit media.

<sup>20</sup> Note that this figure is the number of paying partners and not the number of sexual transactions, therefore if one partner paid for sex multiple times they would still be counted once. This distinction is why the number of paying partners in the past week is not four times as large as the number of paying partners in the past month.

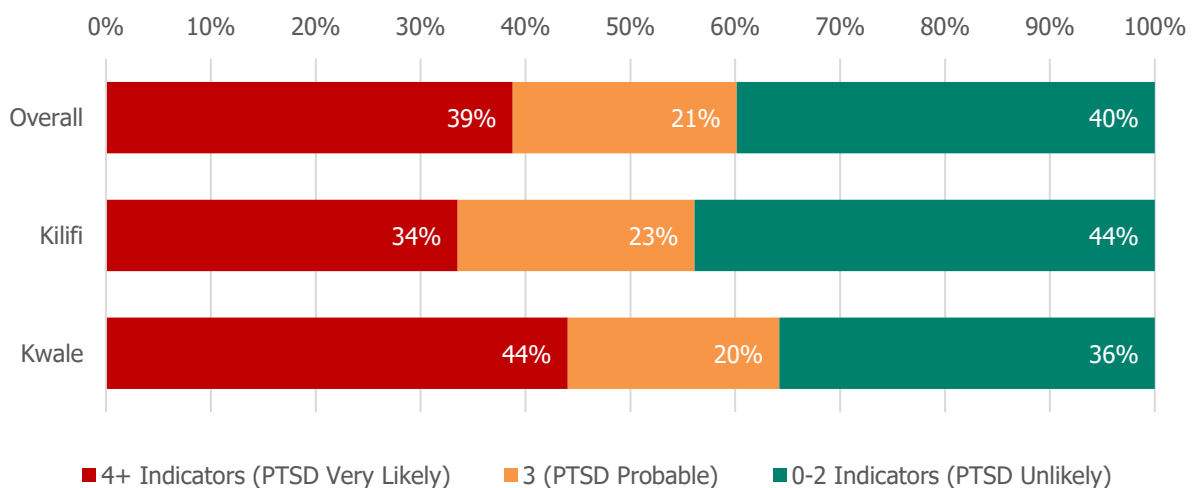
For the latter group who reported having sexual contact with another person in the media, 74 percent were with adults, five percent were with minors, and 21 percent were with both. When asked who the buyers of these sexually explicit media were, 26 percent and 37 percent said the buyers were from Kenya and outside of Kenya, respectively. Another 37 percent mentioned that buyers were from both places. See ANNEX II. TABLES for complete breakdowns of OSEC patterns and buyers by county.

At the end of the survey, respondents were asked a series of five questions to quickly and reliably assess the likelihood that they have Post-Traumatic Stress Disorder (PTSD).<sup>21</sup> Specifically, they were asked if they had experienced any of the following over the past month:

1. Had nightmares about traumatic event(s) or thought about traumatic event(s) when you did not want to?
2. Tried hard not to think about traumatic event(s) or went out of your way to avoid situations that reminded you of traumatic event(s)?
3. Felt guilty or unable to stop blaming yourself or others for traumatic event(s) or any problems those event(s) may have caused?
4. Been overly alert or easily startled?
5. Felt numb or detached from people, activities, or your surroundings?

If the respondent answered yes to at least three questions then this is optimally sensitive to screening for probable PTSD, meaning that it minimizes false negative screen results. If the respondent answered yes to four or more questions, then this is optimally efficient to screening for PTSD meaning that this balances the false positive and false negative results (the percentage of respondents that answered yes to each question can be found in Table 20: PTSD Questions in ANNEX II. TABLES).

*Figure 14: Number of PTSD Indicators per Respondent*



<sup>21</sup> For additional resources on how the PTSD screener is used the reader can reference the Primary Care PTSD Screen: <https://www.ptsd.va.gov/professional/assessment/documents/pc-ptsd5-screen.pdf>

The proportion of respondents who were probable PTSD sufferers remained high during this round of study. As shown in Figure 14, 60 percent of respondents reported at least three indicators. This proportion decreased by a statistically significant 12 percentage points compared with the 2021 study. A higher share was observed among Kwale respondents, where approximately two thirds reported at least three PTSD indicators (compared to 57 percent in Kilifi). Additionally, 39 percent of respondents overall reported at least four indicators of PTSD and are thus very likely to have PTSD; these proportions were 34 percent in Kilifi and 44 percent in Kwale.

## **PREVALENCE ESTIMATION**

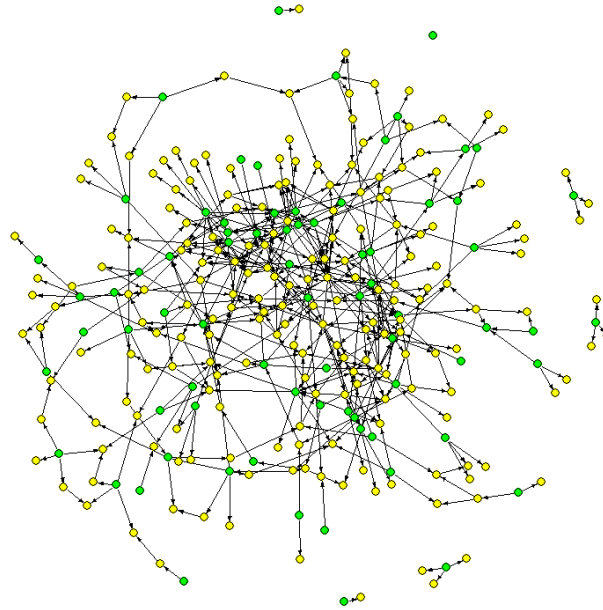
### **SAMPLE NETWORK PLOTS**

Network plots of the sample networks for each county are included below to illustrate the results of the coupon redemption/link-tracing and matching process. The green nodes represent the initial sample (seeds) and the yellow nodes represent individuals that were selected after the initial sample. Edges between nodes indicate a referral with the arrow indicating its direction. Each county corresponds to two plots:

1. Plots of the initial sample and first wave. Notice that the majority of the arrows emanate from the seed respondents.
2. Plots of the fully observed network sample. Notice that the arrows stretch over waves and in both directions so as to capture observations/nominations from any one individual to another in the final sample.

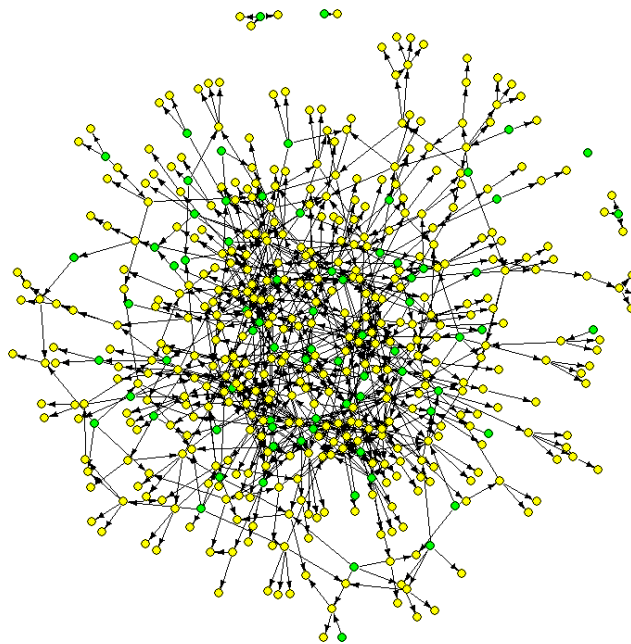
The initial sample sizes were homogeneous at 75 across both counties and rounds of sampling, and it was observed that the number of links within the Kwale adjacency matrix was found to be larger than that for the Kilifi adjacency matrix; this is reflected in the illustrations as the Kwale network is noticeably denser than the Kilifi network. Compared with the observations in 2021, the sample networks were found to be denser in both counties. Interestingly, both initial samples gave rise to a first wave of similar magnitude (see Figure 15 and Figure 17). Such characteristics have implications for population size estimation since more well-connected graphs typically lead to more efficient estimates for the population size (see Figure 16). Clustering tendencies among the observed individuals are especially evident in the Kwale sample networks, which reflect the sampling design's ability to capture information that summarizes the network topology of the parent populations.

*Figure 15: Kilifi Network Plot of Seeds and First Wave*



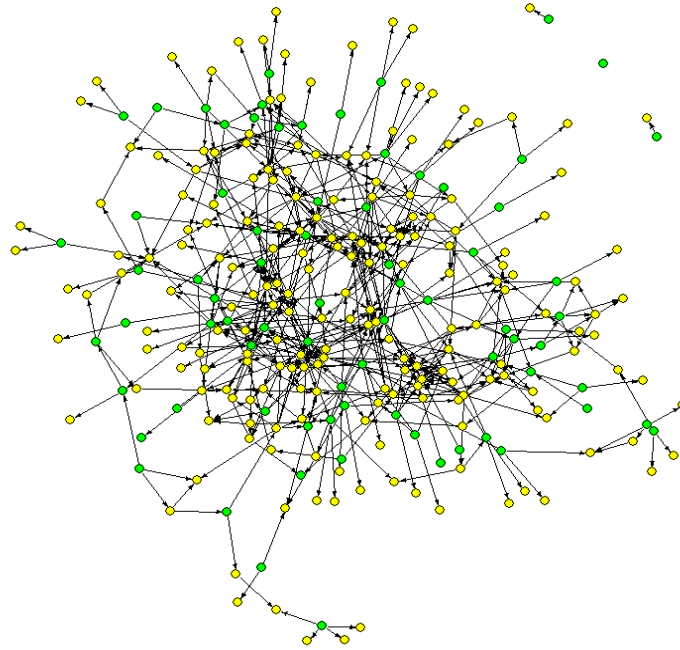
*The Kilifi sample network plot of initial sample and first wave. Yellow nodes represent those selected for the initial sample and green nodes represent those selected after the initial sample. The directed edges indicate a nomination/referral.*

*Figure 16: Kilifi Network Plot of Full Sample*



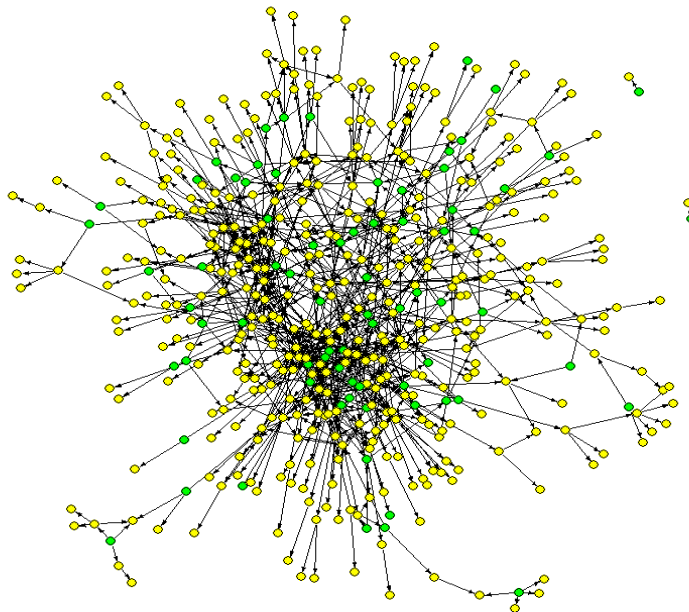
*The Kilifi sample network plot of the full sample. Yellow nodes represent those selected for the initial sample and green nodes represent those selected after the initial sample. The directed edges indicate a nomination/referral.*

*Figure 17: Kwale Network Plot of Seeds and First Wave*



The Kwale sample network plot of initial sample and first wave. Yellow nodes represent those selected for the initial sample and green nodes represent those selected after the initial sample. The directed edges indicate a nomination/referral.

*Figure 18: Kwale Network Plot of Full Sample*



The Kwale sample network plot of full sample. Yellow nodes represent those selected for the initial sample and green nodes represent those selected after the initial sample. The directed edges indicate a nomination/referral.

## DATA ANALYSIS

Estimation of the full study population size is based on the approach outlined in Frank and Snijders (1994). Table 11 gives the point estimates, standard errors, and confidence intervals corresponding to each of the two counties and the full study area for baseline and endline.

In 2022, we estimate that 1,149 children in Kilifi and 1,277 children in Kwale are actively involved in the sex trade. The overall point estimates in the two study counties dropped from 5,136 in 2021 to 2,426 in 2022. A two-sample t-test indicates that the differences in the target population size between the two time points are statistically significant at the 0.05 level.

*Table 11: Population Size Estimation for Each Study Region*

Study Region	Baseline		Endline	
	Point Estimate	95% Confidence Interval <sup>22</sup>	Point Estimate	95% Confidence Interval
Kilifi	3,328 (1,458)	(1,481; 7,600)	1,149 (213)	(806; 1,653)
Kwale	1,808 (636)	(938; 3,553)	1,277 (313)	(662; 1,891)
Mombasa	1,220 (329)	(734; 2,064)	-	-
<b>Overall</b>	<b>6,356</b> <b>(1,624)</b>	<b>(3,173; 9,539)</b>	<b>2,426</b> <b>(379)</b>	<b>(1,683; 3,169)</b>

*Population size estimates with corresponding standard errors and confidence intervals for each study region. The estimation procedure is based on the design-based approach detailed in Frank and Snijders (1994).*

Table 12 below combines county- and age-disaggregated population size data from the 2019 census with the point estimates above to obtain an estimated prevalence rate of CSEC among the general population of 13- to 17-year-olds in the respective counties in 2021 and 2022. In 2022, we estimate that 0.6 to 1.2 percent of all 13- to 17-year-olds in the two coastal counties were engaged in CSEC at some point in the preceding 12 months. Compared with the estimate in 2021, the overall prevalence rate dropped from 1.7 percent to 0.8 percent.

<sup>22</sup> The  $1 - \alpha = 95\%$  confidence intervals are based on the log transformation.

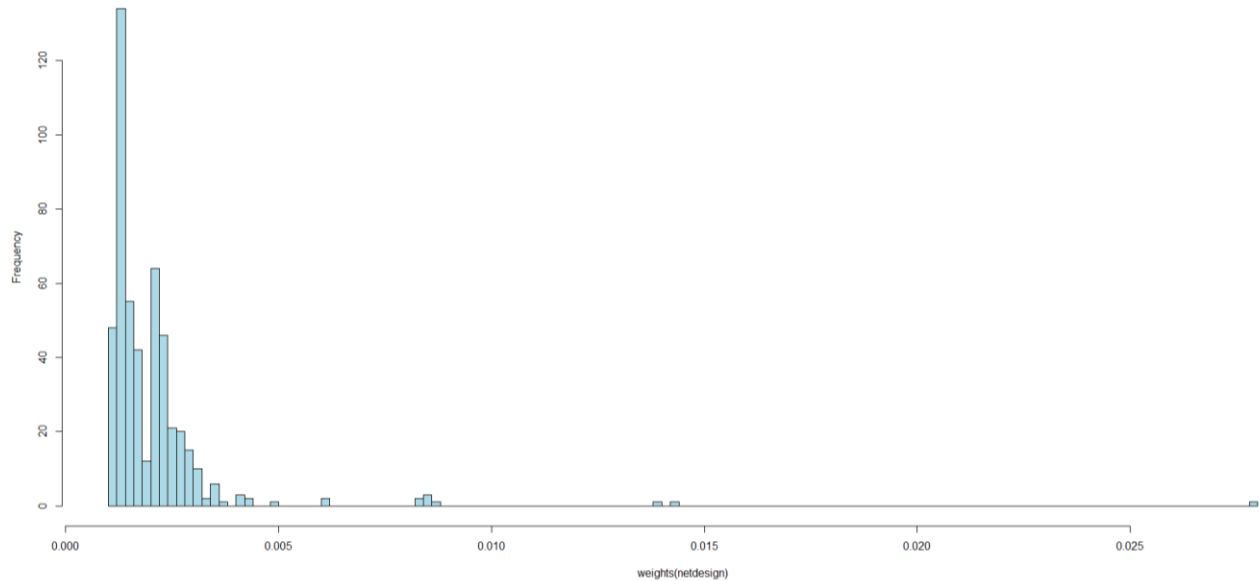
Table 12: CSEC Prevalence Estimation for Each Study Region

Study Region	Total Population Size <sup>23</sup>	2021		2022	
		Point Estimate	Prevalence Rate	Point Estimate	Prevalence Rate
Kilifi					
Total	189,359	3,328	1.76%	1,149	0.61%
Female	94,129	2,614	2.78%	726	0.77%
Male	95,230	714	0.75%	423	0.44%
Kwale					
Total	110,367	1,808	1.64%	1,277	1.16%
Female	54,127	1,389	2.57%	988	1.83%
Male	56,240	417	0.74%	289	0.51%
<b>Overall (Including Kilifi and Kwale)</b>					
<b>Total</b>	<b>299,726</b>	<b>5,136</b>	<b>1.71%</b>	<b>2,426</b>	<b>0.81%</b>
<b>Female</b>	<b>148,256</b>	<b>4,003</b>	<b>2.70%</b>	<b>1,714</b>	<b>1.16%</b>
<b>Male</b>	<b>151,470</b>	<b>1,131</b>	<b>0.75%</b>	<b>712</b>	<b>0.47%</b>

<sup>23</sup> Total estimated population of 13-17 year olds in the county, per the 2019 census.

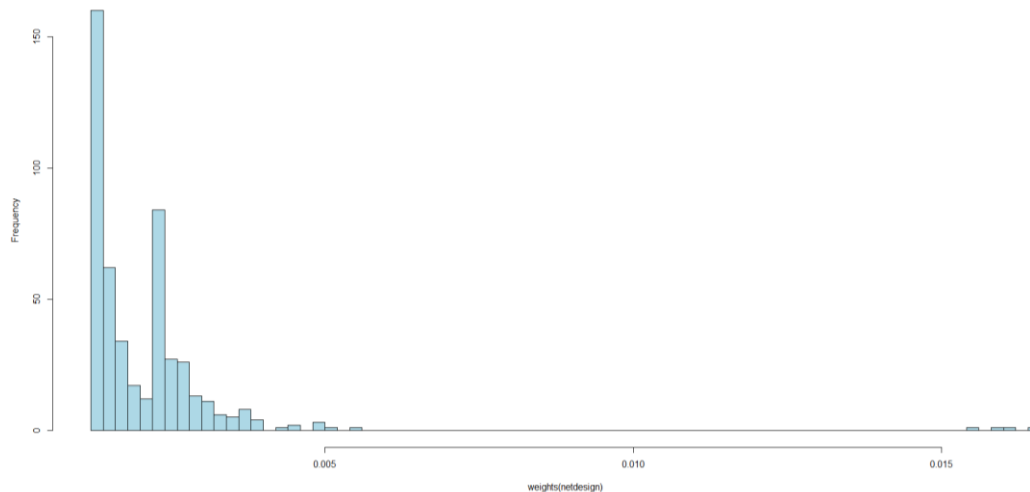
Figure 19 and Figure 20 give histograms of the scaled sample weights for each study region. Recall that the recently introduced resampling procedure that is detailed in Thompson (2020) was used to calculate the sample weights. The algorithm tends to assign larger weights to the more isolated individuals and smaller weights to the more well-networked individuals to mitigate the homophily effects. Homophily effects refer to the tendency of respondents to recruit people who belong to the same group instead of outside the group. As such, groups with strong bonding ties are likely to be overrepresented in the obtained sample.

*Figure 19: Sample Weights for Kilifi Respondents Based on Resampling Procedure*



*Scaled sample weights for Kilifi respondents based on Thompson's (2020) resampling procedure.*

*Figure 20: Sample Weights for Kwale Respondents Based on Resampling Procedure*





*Scaled sample weights for Kwale respondents based on Thompson's (2020) resampling procedure.*

## LIMITATIONS

As noted earlier, the sampling and inference strategies possess both advantages and disadvantages relative to contemporary network-based approaches. The strategies have been primarily developed to enable efficient estimation of the study population and subpopulation sizes, which are typically the most sought-after quantities in studies on hard-to-reach populations. Other strategies are either limited or require unreasonable and possibly unverifiable assumptions for population size estimation, oftentimes when the population network is assumed to be generated for an elaborate model. The strategy also gives rise to a much richer data set since it encourages observations/records of nominations across sampled networks and repeat interviews (cf. the "network trees" which are obtained with applications of an RDS design), which can allow for sophisticated network-modeling procedures to be applied to infer on network parameters that govern attributes such as the cohesiveness and rate of transmission within the population.

The primary limitations of link-tracing are outlined as follows. First, since the initial sample forms the basis for both the design and inference components of this strategy, a moderately sized and representative initial sample is critical for efficient inference for population level quantities. Obtaining such a sample can be challenging for especially rare or elusive populations. Second, social links are almost always automatically mapped in network sampling designs when these are used as sampling paths for recruitment (i.e., through redemption of coupons). In this strategy, any untraced links within the final sample must be observed for the corresponding inference procedure to be applied. This has required post-data collection mapping based on covariate information, as was successfully applied in Vincent, Dank, and Zhang (2019). Such matching exercises will always be subjected to a degree of error, and the corresponding lessons and experiences learned from previous studies were applied to the analysis for this study to ensure such mapping exercises are as efficient as possible.

This study has exploited the nomination and identifying information within the initial sample and across to the first wave to obtain a population size estimate and corresponding confidence interval. Further, the full sample link structure was completely observed to most efficiently apply the innovative network analysis procedure, governed by the algorithm detailed in Thompson (2020), to mitigate limitations commonly encountered with studies based on network-based approaches.

## 4. CONCLUSIONS AND RECOMMENDATIONS

### CONCLUSIONS

- **An estimated 2,426 children in Kilifi and Kwale are currently engaged in CSEC**, accounting for nearly 1 percent of the total population of 13- to 17-year-olds in the two counties (we estimate the 95 percent CI to be 1,683 and 3,169). However, this may be underestimated relative to pre-pandemic times, as respondents reported a drop in demand for CSEC since 2020.<sup>24</sup>
- **The overall CSEC prevalence rate dropped from 1.7 percent in 2021 to 0.8 percent in 2022.** In 2021, an estimated 5,136 children (with 95% CI between 2,018 and 8,254) in Kilifi and Kwale were actively involved in sex trade, which is 2,710 greater than the current estimates. Between the two time points, two-sample statistical tests show that changes in population size and by gender are statistically significant at the  $p < 0.05$  level.
- **Over 60 percent of CSEC victims are likely suffering from Post-Traumatic Stress Disorder (PTSD).** This proportion decreased by a statistically significant 12 percentage points compared with the 2021 study. The highest share was in Kwale, where two-thirds of respondents reported at least three (of five) PTSD indicators, while the rate was 57 percent in Kilifi. Additionally, nearly 40 percent of respondents overall reported at least four indicators of PTSD and are thus “very likely” to have PTSD. Despite this, only 13 percent of CSEC victims have ever received any form of psychosocial support or counseling.
- **Children continue to play an important role in perpetuating the cycle of child sex trafficking.** While the majority of children are first introduced to the sex trade by an adult, 37 percent were first introduced by another minor and 77 percent were introduced by persons they consider their friends and peers. In addition, one in five respondents said they personally financially benefit from arranging transactions/clients for other children in the sex trade.
- **Around 30 percent of CSEC victims report engaging in commercial sex acts with police officers, government officials, and/or local authorities.** In addition, local Kenyans and Kenyan tourists are the primary perpetrators of CSEC, with only 17 percent of respondents reporting ever engaging in commercial sex acts with foreign tourists.

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24 Keaveney, E., Vincent, K., Lord, S., Kysia, K. (2021). GFEMS Kenya Research Program: CSEC Prevalence Estimation Report. Retrieved from <https://www.gfems.org/wp-content/uploads/2021/12/GFEMS-CSEC-Prevalence-Report.pdf>.

**Nine percent of CSEC victims in Kilifi and Kwale reported being subject to online sexual exploitation**, including via sexually explicit live streams, videos, or photos over the internet or through social media platforms. This varies across counties, with 14 percent in Kilifi and four percent in Kwale. The reach of this child sexual abuse material extends beyond the national border, with 74 percent of CSEC victims reporting their buyers are from abroad.

- **Opportunities for alternative livelihoods outside of the sex trade are limited.** While many CSEC victims receive food aid and health education, few reported receiving support that could enable them to pursue alternative livelihoods such as educational scholarships (only 12 percent), vocational or skills training (4 percent), business support (3 percent), and job placement assistance (2 percent).

## RECOMMENDATIONS

- **Enhance the provision of trauma-informed mental health services to CSEC victims/survivors.** The high rates of probable PTSD among respondents suggest a strong need for high-quality mental health services to supplement other basic services for survivors. Service providers also should educate caregivers of reintegrated survivors on recognizing and coping with the aftereffects of trauma. In addition, projects targeting current victims (e.g., reproductive and sexual health outreach activities) should explore ways to integrate basic mental health services into their programming. While there are governmental and non-governmental organizations offering psychosocial support services locally, only 13 percent of CSEC victims have ever benefited from such services, suggesting low awareness and/or supply.
- **Help community members see CSEC victims/survivors as children needing care and protection rather than criminals.** Data from this study on PTSD rates among victims/survivors and the age of entry into the sex trade (14 for the average respondent in the study) could be disseminated to the public alongside information on the negative psychosocial effects CSEC. Furthermore, educating the public on PTSD may help community members and policymakers become more sensitized towards victims, and therefore more proactive agents of change.
- **Enhance peer-to-peer education for CSEC victims and other at-risk children.** Implement community- and school-based prevention programming with current CSEC victims/survivors to help them understand the harmful effects of CSEC to enable them to protect themselves and others. Helping children understand the harmful effects of CSEC may also discourage them from recruiting, and financially benefiting from, other child victims.
- **Educate community members on CSEC reporting channels in addition to police and local authorities.** According to a 2021 report, only three percent of adults

in the study area know of Childline Kenya (116).<sup>25</sup> Childline offers an anonymous reporting pathway which may make community members less fearful of retaliation from complicit authorities. Given the growth of online sexual exploitation of children (OSEC), web and social media users should also have clear and anonymous platforms for reporting suspected OSEC cases online.

- **Provide alternative livelihoods for CSEC victims/survivors, particularly those who are unable to return to formal schooling.** Sixty-three percent of respondents said they continue to engage in commercial sex acts because they have no other way to earn a living. Providing high-quality, demand-based education, training, and job placement support could help these children find alternative ways to earn money so they can leave the sex trade for good.

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<sup>25</sup> NORC at the University of Chicago (2021). GFEMS Kenya CSEC KAP Survey. Available at <https://www.gfems.org/wp-content/uploads/2021/12/GFEMS-CSEC-KAP-Baseline-Report.pdf>

## ANNEXES

### ANNEX I. DATA QUALITY REVIEWS

Data quality reviews (DQRs) were conducted by NORC’s data management team at regular intervals throughout the course of data collection. The purpose of a DQR is to proactively identify and remedy issues related to survey programming, question clarity, and enumerator error/performance. Specific issues that were checked during DQRs are summarized below:

*Table 13: Data Quality Reviews*

Data Quality Review Type	Description
Date/time verification	This check ensures that the start and end times of the surveys are logical (i.e., sequential and within the field period) and that the survey duration is not abnormally short or long.
Form completeness	This check determines whether any required variables in the form are missing.
ID verification	This check flags any unresolved duplicate IDs as well as cross-verifies components of manually entered IDs.
Speed violations	This check flags longer/more complex questions for which enumerators advance in the survey form more quickly than would be expected.
Soft check suppressions	An alternative to programming constraints, “soft checks” serve to alert enumerators to potential errors in either data entry or question interpretation (either by the enumerator or the respondent). Soft checks consist of a simple “select one” question immediately following the question of concern, where the enumerator is alerted to a possible error (using relevancy rules) and required to either go back in the form and edit the entry or select “continue” to advance in the form. This check summarizes all soft check suppressions alongside the recorded values.
“Don’t know / no response” frequencies	This check flags variables for which the don’t know/no response rate is five percent or more as well as cases where a given enumerator has at least five don’t know/refused responses.
Open-ended response review	This check involves reviewing all open-ended responses (including “other: specify” entries and enumerator notes).
Outlier review	This check flags continuous numerical variables that are more than two standard deviations from the mean value.

Following each round of DQR, the assessment team flagged areas of concern to Kantar in a cloud-based DQR log. Each issue was flagged based on urgency; a summary of urgency levels, illustrative issues, and required response times is below:

*Table 14: Data Quality Review Urgency Levels and Examples*

Urgency level	Examples of issues	Response time
Most Urgent	Suspected data falsification, using incorrect versions of tools	<24 hours
High	Missing form submissions, excessive speed violations, excess replacements	48 hours
Medium	Confirming outliers	2-3 days
Low	Simple cleaning tasks that don't require enumerator recall	1 week

Issues flagged in the DQR log as “most urgent” (e.g., possible data falsification) were expected to be resolved in less than 24 hours whereas issues with less urgency (e.g., basic cleaning tasks that don't require enumerator recall) could be resolved within a few days. Over the course of data collection, NORC flagged 26 DQR items to Kantar's management team—the majority of which were related to ID discrepancies, variable outliers, and high frequency of “don't know” responses for certain enumerators and questions—all of which were addressed to NORC's satisfaction by the conclusion of field work.

**ANNEX II. TABLES***Table 15: Religion, Ethnicity, and Highest Level of Schooling Completed*

	County		
	Kilifi	Kwale	Overall
Religion			
Catholic	23%	17%	20%
Protestant	26%	7%	17%
Evangelical	18%	4%	11%
African Instituted Churches	3%	7%	5%
Orthodox	0%	0%	0%
Other Christian	6%	11%	9%
Islam	21%	52%	37%
Hindu	0%	0%	0%
Traditionalist	0%	1%	1%
Other religion	1%	0%	0%
No religion	2%	0%	1%
Ethnicity			
Kikuyu	3%	3%	3%
Luhya	7%	3%	5%
Kalenjin	1%	0%	0%
Luo	5%	3%	4%
Kamba	6%	15%	10%
Somali	2%	0%	1%
Kisii	2%	0%	1%
Mijikenda	63%	57%	60%
Meru	1%	0%	1%
Maasai	0%	0%	0%
Turkana	0%	0%	0%
Swahili	2%	4%	3%
Bajun	2%	2%	2%
Taita	4%	4%	4%
Other (specify)	2%	7%	4%

	County		
	Kilifi	Kwale	Overall
Highest Level of Schooling Completed			
None	3%	5%	4%
Pre-primary	28%	36%	32%
Primary	65%	51%	58%
Secondary	3%	7%	5%
Vocational school	0%	2%	1%



Table 16: Support

	County		
	Kilifi	Kwale	Overall
What is the nature of the support received?			
Agricultural training or extension	2%	6%	4%
Apprenticeship, internship, or on-the job training	2%	3%	2%
Bursaries or scholarships	11%	13%	12%
Business seed capital/start-up support	5%	0%	3%
Business training/coaching	5%	0%	3%
Cash transfer – conditional	3%	0%	2%
Cash transfer – unconditional	0%	1%	0%
Financial services	9%	0%	5%
Food assistance	50%	61%	56%
Healthcare or medical care (direct)	13%	11%	12%
Health education	20%	18%	19%
Job placement assistance	2%	1%	2%
Microloan	1%	0%	0%
Psychosocial support or counseling	15%	10%	13%
Self-Help Group	2%	1%	2%
Vocational or skills training	0%	8%	4%
Childcare	1%	2%	1%
Hygiene products	6%	4%	5%
School supplies	6%	9%	7%
Legal support	1%	0%	0%
Other (specify)	14%	0%	7%
What is the name of the NGO(s), FBO(s), or CBO(s) that provided support?			
Catholic Relief Services	10%	16%	13%
Coalition on Violence Against Women (COVAW)	0%	2%	1%
FIDA	0%	0%	0%
International Justice Mission (IJM)	0%	0%	0%
Inua Jamii	3%	0%	1%
Kesho Kenya	8%	24%	16%

	County		
	Kilifi	Kwale	Overall
Kwacha Afrika	0%	0%	0%
MWENDO	0%	0%	0%
Okoa Sasa	0%	0%	0%
Red Cross	14%	17%	15%
SOS Children's Villages	0%	0%	0%
UWEZO	0%	2%	1%
Women Enterprise Fund	5%	2%	3%
UNICEF	0%	1%	1%
Other	59%	43%	51%

Table 17: Sex Work First

	County		
	Kilifi	Kwale	Overall
Who first introduced you to the sex trade			
Partner or spouse	0%	0%	0%
Parent or sibling	1%	4%	3%
Other family member or relative	7%	14%	11%
Neighbor or family friend	10%	22%	16%
My friend(s)	80%	74%	77%
Pimp, boss, or madam	5%	6%	5%
Employer	1%	1%	1%
Co-worker(s)	2%	3%	2%
Other	2%	1%	2%
Reasons that led you to exchange sex for goods or money the first time			
I needed money to cover basic living expenses	61%	83%	72%
I had to pay off a debt for myself or my family	6%	3%	4%
I didn't have another way to make money	31%	37%	34%
I grew up around people who engaged in the sex trade	5%	9%	7%
I was forced to do so through physical violence or intimidation	2%	3%	2%

	County		
	Kilifi	Kwale	Overall
I was pressured, coerced, or manipulated into it	8%	8%	8%
I like it / did it for pleasure	7%	6%	6%
I was encouraged by friends / people I know	23%	22%	22%
It pays well / you can make a lot of money	13%	13%	13%
I was abandoned by my parents	3%	8%	5%
I was abandoned by my spouse	0%	1%	1%
I wanted extra money to buy material things	48%	60%	54%
My parents or spouse died	2%	6%	4%
I needed money to pay for schooling for myself and/or my child(ren)	12%	21%	17%
Other	4%	3%	4%
What would have happened to you if you had refused that first time			
Physical violence	28%	51%	40%
Physically restrained	3%	4%	3%
Deprived of food, water and/or sleep	1%	44%	23%
Sexual violence	12%	16%	14%
Emotional violence	34%	28%	31%
Harm to a family member(s) or someone I care about	3%	3%	3%
Legal action	1%	0%	1%
Withholding of identity/citizenship documents	0%	0%	0%
Loss of wages	0%	0%	0%
Confiscation of savings or other valuables	0%	4%	2%
Kept drunk/drugged	3%	5%	4%
Restrictions in communication	1%	10%	6%
Nothing would have happened to me	37%	20%	29%
Other	6%	4%	5%

*All three indicators are multi-select question, so the categories will not necessarily sum to 100 percent.*

Table 18: Sex Work Clients

	County		
	Kilifi	Kwale	Overall
Reasons exchanged sex for goods or money recently			
I don't have another way to make money	53%	73%	63%
I am forced through physical violence/intimidation	2%	3%	2%
I am pressured, coerced, or manipulated into it	4%	5%	4%
I like it/do it for pleasure	18%	13%	15%
It pays well/is a good way to make money	29%	27%	28%
I want extra money to buy material things	45%	53%	49%
I have to pay off a debt for myself or my family	6%	3%	4%
I have been shunned by my community for engaging in the sex trade	1%	0%	1%
I needed money to cover basic living expenses	45%	67%	56%
I needed money to pay for school for myself and/or my child(ren)	11%	15%	13%
Other	4%	1%	3%
Where normally find clients			
Brothel	11%	5%	8%
Bar, café, club, or restaurant	56%	47%	51%
Hotel or lodge	16%	21%	19%
Along the beach	18%	50%	34%
Street, park, or public transit point	48%	54%	51%
Through friends	43%	34%	38%
Internet (e.g., Facebook), WhatsApp, or SMS	27%	19%	23%
School	11%	4%	8%
Party	39%	42%	41%
Service station or gas station	3%	3%	3%
Through an intermediary	10%	14%	12%
Truck stop	6%	16%	11%
Border crossing	0%	8%	4%
Massage parlor	3%	2%	2%
Other	4%	2%	3%
What types of clients do you serve?			

Foreign tourists	17%	16%	17%
Foreigners / expatriates who live in this area / county	13%	15%	14%
Kenyan tourists	36%	31%	34%
Kenyans from this area / county	83%	87%	85%
Kenyans from outside this area / county who are here for work	65%	61%	63%
Other (specify)	0%	0%	0%

*All indicators in this table are multi-select question, so the categories will not necessarily sum to 100 percent.*

*Table 19: OSEC Questions*

	County		
	Kilifi	Kwale	Overall
Have there ever been any sexually explicit live streams, videos, or photos of you shared over the internet or through platforms like WhatsApp?	14%	4%	9%
[If yes] Did you or someone else ever receive goods or money in exchange for sexually explicit live streams, videos, or photos?	71%	75%	72%
[If yes] Did you have sexual contact with another person in any of these live streams, videos, or photos?	43%	66%	47%

*Table 20: PTSD Questions*

	County		
	Kilifi	Kwale	Overall
In the past month, have you...			
Had nightmares about traumatic event(s) or thought about traumatic event(s) when you did not want to?	49%	61%	55%
Tried hard not to think about traumatic event(s) or went out of your way to avoid situations that reminded you of traumatic event(s)?	58%	73%	66%
Felt guilty or unable to stop blaming yourself or others for traumatic event(s) or any problems those event(s) may have caused?	57%	74%	65%
Been overly alert or easily startled?	46%	51%	48%
Felt numb or detached from people, activities, or your surroundings?	56%	56%	56%

**ANNEX III. DATA COLLECTION TOOLS****NORC AT THE UNIVERSITY OF CHICAGO CSEC LINK TRACING SURVEY (ENDLINE, JULY 2022)**

Hello, and thank you for taking the time to speak with me today. My name is [Interviewer Name], and I work with Kantar, a local Kenyan organization that conducts research on social issues. You have been referred by [an NGO/someone you know] to participate in this study. I am going to read to you some information about the study, including what you will be asked to do, and then you can decide if you want to participate or not.

Kantar is working with NORC at the University of Chicago on a research study about 13-17 year olds involved in Kenya's sex trade. In this interview, I will ask you questions about your experiences with and knowledge of the sex trade in your community. This will include questions about your own involvement in the sex trade, whether voluntary or involuntary. We will also ask you some questions about your life and background. This interview is expected to last about 60 minutes. Please be sure to let me know if any question I ask is unclear or you are not sure how to answer.

- [Check point] Do you understand the purpose of this survey and the types of questions I'll be asking you?
- [Check point] Do you have any questions about the purpose of this survey and the types of questions I'll be asking you?

The risk of doing this interview is that some of our questions are very personal, and might bring up painful memories including possible past abuse or sexual abuse. You also might get tired of answering questions or they might feel hard to answer. If you do not want to be interviewed, you do not have to be. If you do not want to answer a question, say so, and I will move on to the next question. Your emotional well-being is very important to us and if you are feeling distressed at any time, please let me know so we can pause or stop the interview. We also have telephone counselors you can talk to if needed. You may stop the interview at any time for any reason. Deciding not to answer a question or to stop the interview won't have any impact on our relationship, on getting any referrals or services, or on receiving compensation for your time today.

It is important that you know that we will take all steps to protect your privacy. Only the research team will know your individual answers and we will not share any information that can be used to identify you. No answers will be able to be traced back to you and the research team will not tell anyone that you participated in this interview. We won't tell anyone about your participation in

the study or what you say, but we cannot guarantee your privacy since the study is based on network referrals. If you have any questions at a later time, you may contact: [Insert Name and Contact Information of Senior Manager at Data Collection Firm].

- [Check point] Can you repeat back to me the risks of participating in the study?
- [Check point] Do you have any questions about the risks of the study or what we will do to reduce those risks?

Besides telephone counseling, this study has identified local organizations that may be able to support study recruits who seek help or protection. If you would like me to put you in contact with these organizations, please ask me at any time. We can't guarantee that they will give you what you need, but we can tell you what they say they might be able to do for you. We are happy to give you as much information about the services that are out there as you want or need. We can give you this information even if you decide not to take part in this research.

To cover your travel expenses today, we will provide 1,200 KSH for your participation in this interview. If you agree later on to help the project recruit additional people to survey, you will also be provided with 500 KSH for each eligible person (up to three) that you recruit who completes the survey. Besides this compensation, there are no direct benefits to you for participating in this study. However, in the future, this study may help social services organizations design projects that better meet the needs of 13-17 year olds affected by Kenya's sex trade.

- [Check point] Can you repeat back to me the benefits of participating in the study?
- [Check point] Do you have any questions about study compensation or benefits?
- Do you have any other questions about the study?
- Do you agree to participate?

0. Field control			Enumerator notes
<i>county_0</i>	Select county where interview is taking place	(1) Kilifi (2) Kwale (3) Mombasa	
<i>sub_county_0</i>	Select sub-county where interview is taking place		
<i>division_0</i>	Select division where interview is taking place		
<i>interviewer</i>	Select interviewer name		
<i>start_date</i>	Confirm the date of interview (DD-MM-YY)	_ _ - _ _ - _ _	
<i>start_time</i>	Confirm start time (HH:MM)	_ _ : _ _	
<i>gps</i>	Allow automatic recording of GPS coordinates		
<i>consent</i>	Has the respondent agreed to be interviewed today?	(1) Yes (0) No	<i>Enumerator, by selecting yes, you certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the respondent and he/she has verbally consented to participate.</i>



0. Field control			Enumerator notes
<i>consent_specify1</i>	[If <i>consent</i> =0] Why didn't the respondent agree to be interviewed?	(1) Refused (2) Other (specify)	
<i>consent_specify2</i>	[If <i>consent_specify1</i> =2] Specify other:		→ Skip to end of survey
<i>consent_refused</i>	[If <i>consent_specify1</i> =1] Why did the respondent refuse to be interviewed?		→ Skip to end of survey

1. Basic eligibility screener			Enumerator notes
<i>name</i>	What is your first name and last initial?		
<i>language</i>	Which language would you prefer to be interviewed in?	(1) Kiswahili (2) English (3) Kikuyu (4) Luo (5) Akamba (6) Maa	
<i>age</i>	How old are you?	_ _ _	→ If >17 or <13, skip to end of survey  Should be age s/he turned on his/her last birthday. Refer to notable events to help respondent estimate when unknown. Enter -998 for "refused" and -999 for "don't know."

1. Basic eligibility screener			Enumerator notes
<i>county</i>	Which county do you currently live in?		
<i>sub_county</i>	Which sub-county do you currently live in?		
<i>res_length</i>	About how long have you lived in [sub_county]?	__ __ __  Years  __ __ __  Months	<i>In completed years/months. Use any fields as appropriate to enter the TOTAL amount of time lived in the sub-county. Do not enter duplicate values (e.g., do not enter both 2 years and 24 months). Enter -998 for "refused" and -999 for "don't know."</i>
<i>work_location</i>	In the past 12 months, have you worked or done other things for money in [county_0]?	(1) Yes (0) No (-998) Refused	
<i>work_loc_scs</i>	[If work_location = 1] Which sub-counties in [county_0] have you worked in over the past 12 months?		
<i>work_length</i>	[If work_location = 1] About how long have you worked in [sub_county]?	__ __  Years  __ __  Months	<i>In completed years/months. Use any fields as appropriate to enter the TOTAL amount of time spent working in the sub-county. Do not enter duplicate values (e.g., do not enter both 2 years and 24 months). Enter -998 for "refused" and -999 for "don't know."</i>
<i>sex_work</i>		(1) Yes (0) No	➔ If 0, skip to end of survey



1. Basic eligibility screener			Enumerator notes
	<p>We will only use this information to determine if you get invited to take the survey again. That is, if someone else offers you a referral coupon to participate in the study in the future, you may participate in the study again, but we need to know that you have taken the survey multiple times.</p>		<p><i>If respondent refuses to share his/her phone number, enter -998.</i></p> <p><i>If respondent does not know his/her phone number, enter -999.</i></p>
<i>birth_date</i>	<p>[If mobile=-997, -998, or -999] For tracking purposes, can you please share your date of birth? (DD-MM-YY)</p> <p>Again, we will only use this information to determine if you get invited to take the survey again.</p>	<p> _ _ - _ _ - _ _ </p>	
<i>couponid</i>	<p>What is the coupon code [tell them where on coupon it is located] that you were given by the person who referred you?</p>	<p> _ _ _ _ _ _ _ </p>	
<i>recruiter</i>	<p>What is your relationship to the person who provided you this coupon?</p>	<p>(1) Spouse/Partner                      (2) Son/Daughter/Step-Child                      (3) Son-in-law/Daughter-in-law                      (4) Father/Mother                      (5) Father-in-Law/Mother-in-Law</p>	<p><i>Do not read list.</i></p>



A. Demographic information			Enumerator notes
<i>country</i>	In what country were you born?	(1) Kenya (2) Uganda (3) Somalia (4) Tanzania (5) S. Sudan (6) Ethiopia (7) Rwanda (8) Democratic Republic of Congo (9) Other (Specify) (-998) Refused (-999) Don't know	<i>Do not read list.</i>
<i>country_other</i>	[If <i>country</i> = 9] Specify other		
<i>country_moth</i>	In what country was your mother born?	(1) Kenya (2) Uganda (3) Somalia (4) Tanzania (5) S. Sudan (6) Ethiopia (7) Rwanda (8) Democratic Republic of Congo (9) Other (specify) (-998) Refused (-999) Don't know	<i>Do not read list.</i>
<i>country_moth_oe</i>	[If <i>country_moth</i> = 9] Specify other		
<i>country_fath</i>	In what country was your father born?	(1) Kenya (2) Uganda (3) Somalia (4) Tanzania	<i>Do not read list.</i>

A. Demographic information			Enumerator notes
		(5) S. Sudan (6) Ethiopia (7) Rwanda (8) Democratic Republic of Congo (9) Other (specify) (-998) Refused (-999) Don't know	
<i>country_fath_oe</i>	[If <i>country_fath</i> = 9] Specify other		
<i>sex</i>	What is your gender identity?	(1) Male (2) Female (3) Other	
<i>ethnic</i>	What is your ethnicity?	(1) Kikuyu (2) Luhya (3) Kalenjin (4) Luo (5) Kamba (6) Somali (7) Kisii (8) Mijikenda (9) Meru (10)Maasai (11)Turkana (12)Swahili (13)Bajun (14)Taita (15)Other (specify) (-998) Refused (-999) Don't know	

A. Demographic information			Enumerator notes
<i>ethnic_oe</i>	[If <i>ethnic</i> = 15] Specify other		
<i>lang</i>	What is the primary language you speak?	(1) Kiswahili (2) English (3) Kikuyu (4) Luo (5) Akamba (6) Maa (7) Other (specify)	<i>Do not read list.</i>
<i>lang_oe</i>	[If <i>lang</i> = 7] Specify other:		
<i>lang_mother</i>	What is the primary language that you used with your parents or guardian when you were a child?	(1) Kiswahili (2) English (3) Kikuyu (4) Luo (5) Akamba (6) Maa (7) Other (-998) Refused (-999) Don't know	<i>Do not read list.</i>
<i>lang_mother_oe</i>	[If <i>lang_mother</i> = 7] Specify other		



A. Demographic information			Enumerator notes
<i>religion</i>	What is your religion?	(1) Catholic (2) Protestant (3) Evangelical (4) African Instituted Churches (5) Orthodox (6) Other Christian (7) Islam (8) Hindu (9) Traditionalist (10) Other religion (11) No religion (-998) Refused (-999) Don't know	<i>If respondent says "Christian," probe on specific sect of Christianity. If unknown, enter "Other Christian."</i>
<i>maritst</i>	What is your marital status?	(1) Never married (2) Married – monogamous (3) Married – polygamous (4) Divorced – not remarried (5) Widowed – not remarried (6) Separated (-998) Refused (-999) Don't know	<i>If respondent says s/he is "single" probe if s/he has ever been married before and mark accordingly.  If respondent says "married," probe as to whether s/he is in a monogamous or polygamous marriage.</i>
<i>num_child</i>	How many children do you have?	_ _ _	<i>Enter -998 for "refused" and -999 for "don't know."</i>
<i>educ</i>	What is the highest level of schooling you have completed?	(1) None (2) Pre-primary (2) Primary	<i>Under the system experienced by current 13-17 year olds, learners spend 2 years in pre-primary, 8 years in primary (Class 1-Class 8), 4 years in secondary (Form 1-Form 4), and 4 years in tertiary (Year 1-Year 4).</i>

A. Demographic information			Enumerator notes
		(3) Secondary (4) Vocational School (5) University or college (-998) Refused (-999) Don't know	
<i>educ_curr</i>	Are you currently enrolled in school?	(1) Yes (0) No (-998) Refused (-999) Don't know	
<i>educ_noreas</i>	[If <i>educ_curr</i> = 0] Why aren't you currently enrolled in school?	(1) I have completed my compulsory schooling (2) I am too old for school (3) I stopped going due to illness or injury (4) I stopped going due to pregnancy (5) The school is too far (6) I cannot afford schooling (7) My family does not allow me to go / made me stop (8) I am not very good in my studies (9) I am not interested in school / education is not valuable to me (10) My school is not safe (11) I wanted to learn a job / skill instead (12) I wanted to make money (13) I have to help at home with household chores (14) I have to care for other household members (15) Other (specify) (-998) Refused (-999) Don't know	<i>Do not read list. Select all that apply.</i>

A. Demographic information		Enumerator notes
<i>educ_nooth</i>	[If <i>educ_noreas</i> = 15] Specify other:	
<i>educ_grade</i>	[If <i>educ_curr</i> = 1] What grade are you currently in?	<i>Please indicate whether this is the Class (primary), Form (secondary), or Year (tertiary) as well as the grade number. For example, enter "Class 1" or "Form 4".</i>  <i>Enter -998 for "refused" and -999 for "don't know."</i>
<i>educ_abs</i>	[If <i>educ_curr</i> = 1] How often are you absent from school?	(1) Rarely or never miss school (2) Sometimes miss school (but the days I attend are more than the days I miss) (3) Regularly miss school (and the days I miss are more than the days I attend) (4) I rarely go to school (-998) Refused (-999) Don't know
<i>educ_abs_r</i>	[If <i>educ_abs</i> = 2, 3, or 4] What are the main reasons that you miss school?	(1) Illness or injury (2) I am too tired (3) I can't pay the school fees (4) School is too far away (5) No transportation or money for transportation (6) To engage in the sex trade (7) To do other work (8) To help with household chores (9) To care for other household members (10) To care for my child(ren) (11) I don't like school (12) I struggle to do well at school (13) Kids tease or bully me (14) Other (specify) (-998) Refused  <i>Do not read list. Select all that apply.</i>

A. Demographic information			Enumerator notes
		(-999) Don't know	
<i>educ_abs_oth</i>	[If <i>educ_abs_r</i> = 14] Specify other: / bainisha mengine		
<i>ppi_prim_res</i>	In which county is your <u>primary household</u> located? By primary household I mean the place that you consider to be your permanent home.		<i>Household is defined as a person or group of related or unrelated persons, who—for at least 6 of the last 12 months—live together in the same dwelling, who acknowledge one adult male or female as the head of the household, who share the same housekeeping arrangements, and are considered as one unit. Members of a household are not necessarily related by blood or marriage.</i>  <i>Primary household refers to the household which the respondent considers to be his/her permanent residence, regardless of how long s/he is away. It may or may not be where s/he is living and working at the time of the interview.</i>
<i>ppi_educ_fam</i>	I will now ask you some questions about your <u>primary household</u> in [ <i>ppi_prim_res</i> ] county.  What is the highest level of schooling anyone in your <u>primary household</u> has completed?	(1) Pre-primary, none, or other (2) Primary (3) Secondary or post-primary, vocational (4) College level or higher (-998) Refused (-999) Don't know	<i>Includes all members of the permanent household, even if they are temporarily away.</i>

A. Demographic information			Enumerator notes
<i>ppi_walls</i>	What are the walls made out of for the main dwelling unit [for your <u>primary household</u> ]?	(1) Finished walls (cement, stone with lime/cement, bricks, cement blocks, covered adobe, or wood planks/shingles) (2) Uncovered adobe, plywood, cardboard, reused wood, or corrugated iron sheets (3) Natural walls (cane/palm/trunks, grass/reeds, or mud/cow dung), no walls, bamboo with mud, stone with mud, or other (-998) Refused (-999) Don't know	<i>For cases where a mixture of wall types are used, code the one that makes up the greatest wall surface.</i>
<i>ppi_floors</i>	What is the floor made out of for the main dwelling unit [for your <u>primary household</u> ]?	(1) Natural floor (earth/sand or dung) or palm/bamboo (2) Other (including wood planks/shingles, parquet or polished wood, vinyl or asphalt strips, ceramic tiles, cement, or carpet) (-998) Refused (-999) Don't know	<i>Decorative materials such as carpets should not be considered as floor finish material unless it covers from wall to wall and it's not temporary. For cases where a mixture of floor finish is applied, code the one that covers the greatest floor surface.</i>
<i>ppi_towels</i>	Does your <u>primary household</u> own any towels?	(1) Yes (0) No (-998) Refused (-999) Don't know	<i>Includes kitchen towels or bath towels. Does not include paper towels.</i>
<i>ppi_thermos</i>	Does your <u>primary household</u> own any thermos flasks?	(1) Yes (0) No (-998) Refused (-999) Don't know	

A. Demographic information			Enumerator notes
<i>ppi_prim_same</i>	Are you currently staying in your primary household?	(1) Yes (0) No (-998) Refused (-999) Don't know	<i>Primary household refers to the household which the respondent considers to be his/her permanent residence, regardless of how long s/he is away. It may or may not be where s/he is living and working at the time of the interview.</i>
<i>ppi_bread</i>	I will now ask some questions about where you are staying now.  Over the past 7 days, did you or anyone in your <u>current residence</u> purchase, consume, or acquire any bread?	(1) Yes (0) No (-998) Refused (-999) Don't know	<i>Current residence refers to current household to which s/he is attached at the time of the interview. It may or may not be the same as the primary household.</i>
<i>ppi_fish</i>	Over the past 7 days, did you or anyone in your <u>current residence</u> either purchase, consume, or acquire any meat or fish?	(1) Yes (0) No (-998) Refused (-999) Don't know	<i>Meat includes beef, minced meat, pork, mutton/goat, camel, chicken, rabbit, tinned/packeted soups (meat), offals, sausages/smokies/hot dogs, brawn, canned meat, meat paste, and other meat products. Fish includes fresh, frozen, dried/smoked, omena, prawns, tinned, and other fish.</i>
<i>ppi_bananas</i>	Over the past 7 days, did you or anyone in your <u>current residence</u> either purchase, consume, or acquire any ripe bananas?	(1) Yes (0) No (-998) Refused (-999) Don't know	
<i>support</i>	In the past 12 months, did you receive any	(1) Yes (0) No (-998) Refused	

A. Demographic information			Enumerator notes
	direct support from NGOs, FBOs, or CBOs?	(-999) Don't know	
supp_type	[If <i>support</i> = 1] What is the nature of the support received? (mark all that apply)	(1) Agricultural training or extension (2) Apprenticeship, internship, or on-the job training (3) Bursaries or scholarships (4) Business seed capital/start-up support (5) Business training/coaching (6) Cash transfer – conditional (7) Cash transfer – unconditional (8) Financial services (9) Food assistance (10) Healthcare or medical care (direct) (11) Health education (12) Job placement assistance (13) Microloan (14) Psychosocial support or counseling (15) Self-Help Group (16) Vocational or skills training (17) Childcare (18) Hygiene products (19) School supplies (20) Legal support (21) Other (specify) (-998) Refused (-999) Don't know	
supp_type_oth	[If <i>supp_type</i> = 21] Specify other:		
supp_who	[If <i>support</i> = 1] What is the name of the NGO(s), FBO(s), or CBO(s) that	(1) Catholic Relief Services (2) Coalition on Violence Against Women (COVAW)	

A. Demographic information			Enumerator notes
	provided support? (mark all that apply) NGO(s), FBO(s) ama CBO(s) iliyokupatia msaada inaitwa aje?	(3) FIDA (4) International Justice Mission (IJM) (5) Inua Jamii (6) Kesho Kenya (7) Kwacha Afrika (8) MWENDO (9) Okoa Sasa (10) Red Cross (11) SOS Children's Villages (12) UWEZO (13) Women Enterprise Fund (14) UNICEF (15) Other (specify)/ Mengine (bainisha) (-998) Refused/ kakataa (-999) Don't know/ Sijui	
<i>supp_who_oth</i>	[If <i>supp_who</i> = 15] Specify other:/bainisha mengine		

B. Engagement in sex trade or [ <i>sex_work_lang</i> ]			Enumerator notes
<i>sw_age_any</i>	These next questions are going to focus on sexual activity and engagement in the sex trade or [ <i>sex_work_lang</i> ]. Remember you don't have to answer any question if you don't want to, and all of your	_ _ _	<p><i>Definition of sex does not need to be provided at this stage. Child should use his/her own definition. However if they ask for clarity on what is meant by "sex", note that it includes genital or anal contact or penetration of another person, regardless of whether such contact or penetration is genital, oral, or manual/digital.</i></p> <p><i>Enter -998 for "refused" and -999 for "don't know."</i></p>



<b>B. Engagement in sex trade or [sex_work_lang]</b>			<b>Enumerator notes</b>
	<p>responses are confidential.</p> <p>At what age did you first engage in <u>any</u> sexual activity?</p>		
sw_age	<p>At what age did you first engage in sexual activity in exchange for goods or money?</p>	<p>_ _ _ _ </p>	<p><i>Definition of sex does not need to be provided at this stage. Child should use his/her own definition. However if they ask for clarity on what is meant by "sex", note that it includes genital or anal contact or penetration of another person, regardless of whether such contact or penetration is genital, oral, or manual/digital. Persons who engage in the sex trade or [sex_work_lang] exchange sex acts for something of value including cash or material items that would otherwise not be extended to them by their sex partners.</i></p> <p><i>Enter -998 for "refused" and -999 for "don't know."</i></p>
sw_parent	<p>When you first engaged in sexual activity for goods or money, were you living with either a parent or guardian?</p>	<p>(1) Yes (0) No (-998) Refused (-999) Don't know</p>	
sw_hometown	<p>When you first engaged in sexual activity for goods or money, were you living in your</p>	<p>(1) Yes (0) No (-998) Refused (-999) Don't know</p>	

<b>B. Engagement in sex trade or [sex_work_lang]</b>			<b>Enumerator notes</b>
	hometown or home village?		
<i>sw_first_reason</i>	What were the reasons that led you to exchange sex for goods or money <u>the first time</u> ?	(1) I needed money to cover basic living expenses (2) I had to pay off a debt for myself or my family (3) I didn't have another way to make money (4) I grew up around people who engaged in the sex trade (5) I was forced to do so through physical violence or intimidation (6) I was pressured, coerced, or manipulated into it (7) I like it / did it for pleasure (8) I was encouraged by friends / people I know (9) It pays well / you can make a lot of money (10)I was abandoned by my parents (11)I was abandoned by my spouse (12)I wanted extra money to buy material things (13)My parents or spouse died (14)I needed money to pay for schooling for myself and/or my child(ren) (15)Other (specify) (-998) Refused (-999) Don't know	<i>Do not read list. Select all that apply.</i>
<i>sw_first_reason_oth</i>			

B. Engagement in sex trade or [sex_work_lang]		Enumerator notes
	[If sw_first_reason = 15] Specify other:	
sw_first_penalty	[If sw_first_reason = 5 or 6] What do you think would have happened to you if you had refused that first time?	<ul style="list-style-type: none"> <li>(1) Physical violence (including being punched, kicked, dragged, beaten up, threatened with a gun, knife or other weapons)</li> <li>(2) Physically restrained (including being tied up or locked in a room)</li> <li>(3) Deprived of food, water and/or sleep</li> <li>(4) Sexual violence (an act that is sexual in nature, including physical contact, being photographed or forced to watch other sexual acts)</li> <li>(5) Emotional violence (including belittling or ostracizing a person in front of peers/verbal abuse)</li> <li>(6) Harm to a family member(s) or someone I care about</li> <li>(7) Legal action (including being arrested)</li> <li>(8) Withholding of identity/citizenship documents</li> <li>(9) Loss of wages</li> <li>(10) Confiscation of savings or other valuables</li> <li>(11) Kept drunk/drugged</li> <li>(12) Restrictions in communication</li> <li>(13) Nothing would have happened to me</li> <li>(14) Other (specify)</li> <li>(-998) Refused</li> <li>(-999) Don't know</li> </ul>

*Do not read list. Select all that apply.*

B. Engagement in sex trade or [sex_work_lang]			Enumerator notes
sw_first_penalty_oth	[If sw_first_penalty = 14] Specify other:		
sw_reason_now	What are the reasons that you have exchanged sex for goods or money more recently?	(1) I don't have another way to make money (2) I am forced to do so through physical violence or intimidation (3) I am pressured, coerced, or manipulated into it (4) I like it / do it for pleasure (5) It pays well / is a good way to make money (6) I want extra money to buy material things (7) I have to pay off a debt for myself or my family (8) I have been shunned by my community for engaging in the sex trade (9) I needed money to cover basic living expenses (10) I needed money to pay for schooling for myself and/or my child(ren) (11) Other (specify) (-998) Refused (-999) Don't know	<i>Do not read list. Select all that apply.</i>
sw_reason_now_oth	[If sw_reason_now = 11] Specify other		
sw_debt_amt			<i>Please record the monetary unit along with the number. If respondent cannot give a single</i>

<b>B. Engagement in sex trade or [sex_work_lang]</b>		<b>Enumerator notes</b>
	[If sw_reason_now = 7] What is the approximate value of the outstanding debt you are trying to pay off?	number answer, use the blank space to record what they say.
sw_forcer	Who first introduced you to the sex trade or [sex_work_lang]?	(1) Partner or spouse (2) Parent or sibling (3) Other family member or relative (4) Neighbor or family friend (5) My friend(s) (6) Pimp, boss, or madam (7) Employer (8) Co-workers (9) Other (specify) (-998) Refused (-999) Don't know
sw_forcer_oth	[If sw_forcer = 9] Specify other:	
sw_forcer_age	Was the person who first introduced you to the sex trade or [sex_work_lang] over 18 or under 18?	(1) Over 18 (2) Under 18 (-998) Refused (-999) Don't know
sw_forcer_sex	What was the gender of the person who first introduced you to the sex trade or [sex_work_lang]?	(1) Male (2) Female (3) Other (-998) Refused (-999) Don't know

B. Engagement in sex trade or [sex_work_lang]			Enumerator notes
sw_forcer_coerc	Did this person force, pressure, or coerce you into entering the sex trade or [sex_work_lang]?	(1) Yes (0) No (-998) Refused (-999) Don't know	
sw_parent_know	Are one or more of your parents/guardians aware that you are involved in the sex trade or [sex_work_lang]?	(1) Yes (0) No (-997) N/A - I do not have a parent or guardian (-998) Refused (-999) Don't know	
sw_arrange	Does anyone help you find clients, arrange your transactions, or manage your involvement in the sex trade or [sex_work_lang]?	(1) Yes (0) No (-998) Refused (-999) Don't know	➔ If answer is "No," skip to sw_other_children
sw_arrange_count	[If sw_arrange = 1] How many different people help you find clients, arrange your transactions, or manage you?	_ _ _	If respondent has trouble counting the number of different people, enumerator can clarify that they should count only the number of people who have helped them find clients, arrange transactions, or manage them in the past 12 months.  Enter -998 for "refused" and -999 for "don't know."
sw_arrange_rel	[If sw_arrange_count > 0] I will now ask a few questions about each of	(1) Spouse (2) Romantic partner (3) Parent or guardian	Questions sw_arrange_rel- sw_arrange_amount to repeat [sw_arrange_count] times.

<b>B. Engagement in sex trade or [sex_work_lang]</b>			<b>Enumerator notes</b>
	<p>these [sw_arrange_count] people.</p> <p>What is the nature of your relationship with person [#]?</p>	<p>(4) Sibling                      (5) Other family member or relative                      (6) Neighbor or family friend                      (7) My friend                      (8) Pimp, boss, or madam                      (9) Other sex worker                      (10) Employer                      (11) Co-worker                      (12) Hotel owner/manager                      (13) Restaurant owner/manager                      (14) Club or bar owner/manager                      (15) Driver (taxi, boda boda, tuk-tuk, matatu, etc.)                      (16) Teacher or Head Teacher                      (17) Other (specify)                      (-998) Refused                      (-999) Don't know</p>	<p><i>Do not read list. Select all that apply.</i></p>
sw_arrange_rel_oe	<p>[If sw_arrange_rel = 17]                      Specify other:</p>		
sw_arrange_sex	<p>[If sw_arrange_count &gt; 0]                      What is person [#]'s gender identity?</p>	<p>(1) Male                      (2) Female                      (3) Other                      (-998) Refused                      (-999) Don't know</p>	
sw_arrange_age	<p>[If sw_arrange_count &gt; 0]                      Is person [#] over 18 or under 18?</p>	<p>(1) Over 18                      (2) Under 18                      (-998) Refused                      (-999) Don't know</p>	

B. Engagement in sex trade or [sex_work_lang]			Enumerator notes
sw_arrange_fee	[If sw_arrange_count > 0] Does person [#] take a cut or referral fee for the transactions s/he helps you with?	(1) Yes (0) No (-998) Refused (-999) Don't know	
sw_arrange_amount	[If sw_arrange_fee = 1] About how much does person [#] take for each transaction s/he helps you with?	(1) 0-10% (2) 11-20% (3) 21-30% (4) 31-40% (5) 41-50% (6) 51-75% (7) 75-99% (8) 100% (-998) Refused (-999) Don't know	<i>Do not read list. In cases where respondent is unable to estimate percentages, ask "out of every 100 shillings you earn, how many are kept by X?"</i>
sw_basic_needs	[If sw_arrange_rel = 8] Is any of the money paid for your sexual services kept by your pimp, boss, or madam to cover your basic needs, like housing and food?	(1) Yes (0) No (-998) Refused (-999) Don't know	
sw_debt	[If sw_arrange_rel = 8] Is any of the money paid for your sexual services kept by your pimp, boss, or madam to pay off a debt (whether yours or someone else's)?	(1) Yes (0) No (-998) Refused (-999) Don't know	



<b>B. Engagement in sex trade or [sex_work_lang]</b>			<b>Enumerator notes</b>
<i>sw_other_children</i>	Do you earn money by finding clients or arranging transactions for other children in the sex trade?	(1) Yes (0) No (-998) Refused (-999) Don't know	
<i>sw_otherchild_cut</i>	[If <i>sw_other_children</i> = 1] About how much of a cut or referral fee do you take for each transaction you help arrange for other children?	(1) 0-10% (2) 11-20% (3) 21-30% (4) 31-40% (5) 41-50% (6) 51-75% (7) 75-99% (8) 100% (-998) Refused (-999) Don't know	<i>Do not read list. In cases where respondent is unable to estimate percentages, ask "out of every 100 shillings they earn, how many are kept by you?"</i>
<i>sw_othch_rec</i>	Have you personally recruited or introduced other children into the sex trade or [sex_work_lang] for the first time?	(1) Yes (0) No (-998) Refused (-999) Don't know	
<i>sw_othch_count</i>	[If <i>sw_othch_rec</i> = 1] About how many other children have you personally recruited into the sex trade or [sex_work_lang]?	_ _ _	<i>Enter -998 for "refused" and -999 for "don't know."</i>
<i>sw_othch_why</i>			

<b>B. Engagement in sex trade or [sex_work_lang]</b>			<b>Enumerator notes</b>
	[If sw_othch_rec = 1] Why did you recruit these other children into the sex trade or [sex_work_lang]? Please be as specific as possible.		
sw_othch_alt	[If sw_othch_rec = 1] If you hadn't recruited these other children, do you think they would have still entered the sex trade?	(1) Yes (0) No (-998) Refused (-999) Don't know	
sw_othch_hh	[If sw_othch_rec = 1] Do you believe these other children were ultimately helped or hurt by entering the sex trade?	(1) Helped (2) Hurt (-998) Refused (-999) Don't know	
sw_othch_help	[If sw_othch_hh = 1] In what ways did entering the sex trade help these other children?		
sw_othch_hurt	[If sw_othch_hh = 2] In what ways did entering the sex trade hurt these other children?		
sw_clients	Where do you normally find clients?	(1) Brothel (2) Bar, café, club, or restaurant (3) Hotel or lodge (4) Along the beach (5) Street, park, or public transit point (6) Through friends	<i>Respondent may list places where they find clients for themselves or for other children (if they help to find clients for other children).  Do not read list. Select all that apply.</i>

<b>B. Engagement in sex trade or [sex_work_lang]</b>			<b>Enumerator notes</b>
		(7) Internet (e.g. Facebook), WhatsApp, or SMS (8) School (9) Party (10) Service station or gas station (11) Through an intermediary (pimp, boss, bartender, taxi driver) (12) Truck stop (13) Border crossing (14) Massage parlor (15) Other (specify) (-998) Refused (-999) Don't know	
<i>sw_clients_oth</i>	[If <i>sw_clients</i> = 15] Specify other:		
<i>client_type</i>	What types of clients do you serve? (read list and select all that apply)	(1) Foreign tourists (2) Foreigners / expatriates who live in this area / county (3) Kenyan tourists (4) Kenyans from this area / county (5) Kenyans from outside this area / county who are here for work (6) Other (specify)	<i>Enter -998 for "refused" and -999 for "don't know."</i>
<i>client_type_oth</i>	[If <i>client_type</i> = 6] Specify other:		
<i>client_law</i>	Do you ever have policemen or law enforcement officials as clients?	(1) Yes (0) No (-998) Refused (-999) Don't know	

<b>B. Engagement in sex trade or [sex_work_lang]</b>			<b>Enumerator notes</b>
<i>client_govt</i>	Do you ever have other local authorities or government officials as clients?	(1) Yes (0) No (-998) Refused (-999) Don't know	
<i>osec</i>	Have there ever been any sexually explicit live streams, videos, or photos of you shared over the internet or through platforms like WhatsApp?	(1) Yes (0) No (-998) Refused (-999) Don't know	
<i>osec_comm</i>	[If <i>osec</i> = 1] Did you or someone else ever receive goods or money in exchange for sexually explicit live streams, videos, or photos?	(1) Yes (0) No (-998) Refused (-999) Don't know	
<i>osec_contact</i>	[If <i>osec</i> = 1] Did you have sexual contact with another person in any of these live streams, videos, or photos?	(1) Yes (0) No (-998) Refused (-999) Don't know	
<i>osec_adch</i>	[If <i>osec_contact</i> = 1] Were the person(s) you had sexual contact with over 18, under 18, or both?	(1) Over 18 (2) Under 18 (3) Both (-998) Refused (-999) Don't know	
<i>osec_count</i>	[If <i>osec_comm</i> = 1] About how many times in the past 12 months did you exchange sexually	_ _ _ _	Enter -998 for "refused" and -999 for "don't know."

B. Engagement in sex trade or [sex_work_lang]			Enumerator notes
	explicit live streams, videos, or photos for goods/money?		
osec_change	[If osec_count >2] Would you say that the number of such exchanges has increased, decreased, or stayed the same over time?	(1) Increased (2) Decreased (3) Stayed the same (-998) Refused (-999) Don't know	
osec_known	[If osec_count > 0] of these \$ {osec_count} transactions, how many were with persons known to you personally?	_ _ _	Enter -998 for "refused" and -999 for "don't know."
osec_buyers	[If osec_comm = 1] To your knowledge, were the buyers of this sexually explicit content from Kenya, from outside of Kenya, or both?	(1) From Kenya (2) From outside of Kenya (3) Both (-998) Refused (-999) Don't know	
sw_partner_week	In a typical week, about how many paying partners do you engage in sexual activities with?	_ _ _	Enter -998 for "refused" and -999 for "don't know."  If respondent cannot give a single number answer, use the blank space to record what they say.
sw_partner_count_m	In the past month, about how many paying partners have you	_ _ _	Enter -998 for "refused" and -999 for "don't know."

<b>B. Engagement in sex trade or [sex_work_lang]</b>			<b>Enumerator notes</b>
	engaged in sexual activities with?		<i>If respondent cannot give a single number answer, use the blank space to record what they say.</i>
<i>sw_earn</i>	About how many shillings are paid to you or others for each of your client interactions?	_ _ _	<i>Enter -998 for "refused" and -999 for "don't know."  If it varies depending on the circumstances, record as much detail as possible.</i>
<i>sw_keep</i>	Of these $\{sw\_earn\}$ shillings, how many do you typically keep for yourself?	_ _ _	<i>Enter -998 for "refused" and -999 for "don't know."</i>
<i>sw_risk</i>	In the past year, have you ever had unprotected sex with a client?	(1) Yes (0) No (-998) Refused (-999) Don't know	
<i>sw_preg</i>	[If sex = 2 (female)] What protection methods, if any, have you used with clients to prevent pregnancy?	(1) Use condoms (2) Use other barrier methods (3) Use hormonal birth control (including the pill) (4) Intrauterine device (IUD) (5) Use morning after pill (6) Do not engage in vaginal sex (7) Spacing method / periodic abstinence (8) Withdrawal method (9) Other (specify) (10) Nothing (-998) Refused (-999) Don't know	<i>Ask only to female respondents.  Do not read list. Select all that apply.</i>

<b>B. Engagement in sex trade or [sex_work_lang]</b>			<b>Enumerator notes</b>
sw_preg_other	[If sw_preg = 9] Specify other:		
sw_sti	What protection methods, if any, have you used with clients to lower your risk of sexually transmitted infections (STIs)?	(1) Use condoms (2) Use other barrier methods (3) Avoid vaginal sex (4) Avoid anal sex (5) Avoid oral sex (6) Withdrawal method (7) Pre-exposure prophylaxis (PrEP) (8) Other (specify) (9) Nothing (-998) Refused (-999) Don't know	<i>Do not read list. Select all that apply.</i>
sw_sti_oth	[If sw_sti = 8] Specify other:		
sw_quit	Do you feel that you can stop engaging in the sex trade or [sex_work_lang] anytime, if you wanted to?	(1) Yes (0) No (-998) Refused (-999) Don't know	
sw_quit_why	[If sw_quit = 0] Why do you feel that you cannot stop engaging in the sex trade or [sex_work_lang] anytime, if you wanted to?	(1) I have no other way of earning money (2) I would experience physical violence (including being punched, kicked, dragged, beaten up, threatened with a gun, knife or other weapons)	<i>Do not read list. Select all that apply.</i>

B. Engagement in sex trade or [sex_work_lang]		Enumerator notes
	<ul style="list-style-type: none"> <li>(3) I would be/am being physically restrained (including being tied up or locked in a room)</li> <li>(4) I would be deprived of food, water and/or sleep</li> <li>(5) I would experience sexual violence (an act that is sexual in nature, including physical contact, being photographed or forced to watch other sexual acts)</li> <li>(6) I would experience emotional violence (including belittling or ostracizing a person in front of peers/verbal abuse)</li> <li>(7) My family member(s) or someone I care about would experience harm</li> <li>(8) I would experience legal action (including being arrested)</li> <li>(9) Someone is withholding my ID cards/citizenship</li> <li>(10) I have not received my past wages and would not get them if I quit</li> <li>(11) Someone has confiscated my savings or other valuables, and I would lose them if I quit</li> <li>(12) I would be/am being kept drunk/drugged</li> <li>(13) I cannot communicate with others who would help me get out</li> <li>(14) Other (specify)</li> <li>(-998) Refused</li> <li>(-999) Don't know</li> </ul>	



<b>B. Engagement in sex trade or [sex_work_lang]</b>			<b>Enumerator notes</b>
sw_quit_why_oe	[If sw_quit_why = 14] Specify other:		
sw_quit_choose	[If sw_quit = 1] What are the main reasons you choose to remain in the sex trade or [sex_work_lang] despite being able to quit anytime?		
sw_quit_what	[If sw_quit = 1] What would it take for you to stop engaging in the sex trade or [sex_work_lang]?		
covid	Since COVID-19, has anything changed about how you support yourself?	(1) Yes (0) No (-998) Refused (-999) Don't know	
covid_what	[If covid = 1] What has changed about how you support yourself?		
sw_age_18	Out of every 100 people in the sex trade in [county_0], how many do you think are under the age of 18?	_ _ _ _	Enter -998 for "refused" and -999 for "don't know."
sw_age_15	Out of every 100 people in the sex trade in	_ _ _ _	Enter -998 for "refused" and -999 for "don't know."

<b>B. Engagement in sex trade or [sex_work_lang]</b>			<b>Enumerator notes</b>
	[county_0], how many do you think are under the age of 15?		
sw_age_10	Out of every 100 people in the sex trade in [county_0], how many do you think are under the age of 10?	_ _ _	Enter -998 for "refused" and -999 for "don't know."
sw_boys	Out of every 100 <b>children</b> in the sex trade in [county_0], how many do you think are boys?	_ _ _	Enter -998 for "refused" and -999 for "don't know."

In this next section, we want to understand how any traumatic events you may have experienced impact your day-to-day life. Examples of traumatic events may include a serious accident or natural disaster, a physical or sexual assault, seeing a loved one die, or anything else that was unusually or especially frightening, horrible, or traumatic for you.

For the next few questions, think about any traumatic events you have experienced in your life. You do not have to tell me what the traumatic events are.

<b>C. PTSD Screener</b>			<b>Enumerator notes</b>
ptsd_night	In the past month, have you had nightmares about traumatic event(s) or thought about traumatic event(s) when you did not want to?	(1) Yes (0) No (-998) Refused (-999) Don't know	"Past month" refers to past ~30 days. E.g., if today is November 15, we are asking about the period from October 15 to now.
ptsd_avoid	In the past month, have you tried hard not to think about traumatic event(s) or went out of your way to	(1) Yes (0) No (-998) Refused (-999) Don't know	

C. PTSD Screener			Enumerator notes
	avoid situations that reminded you of traumatic event(s)?		
<i>ptsd_guilt</i>	In the past month, have you felt guilty or unable to stop blaming yourself or others for traumatic event(s) or any problems those event(s) may have caused?	(1) Yes (0) No (-998) Refused (-999) Don't know	
<i>ptsd_startled</i>	In the past month, have you been overly alert or easily startled?	(1) Yes (0) No (-998) Refused (-999) Don't know	
<i>ptsd_numb</i>	In the past month, have you felt numb or detached from people, activities, or your surroundings?	(1) Yes (0) No (-998) Refused (-999) Don't know	

Okay, we're done talking about how traumatic events impact your day-to-day life. The survey is almost over. In this final section, I'm going to ask you about other 13-17 year olds that you know who have engaged in the sex trade or  $\$(sex\_work\_lang)$

D. Network information			Enumerator notes
<i>net_count</i>	About how many 13-17 year olds do you personally know by name/alias who have engaged in the sex trade or $[sex\_work\_lang]$ in $\$(county\_0)$ in the last 12 months? If you don't know for sure, please provide your best estimate.	_ _ _	Enter -998 for "refused" and -999 for "don't know."

D. Network information			Enumerator notes
<i>net_isolated</i>	Do you know of any 13-17 year olds who engage in the sex trade or $\{\text{sex\_work\_lang}\}$ and are kept by their facilitators/employers and never hang out with other teenagers in the sex industry? You don't need to know them by name, just know of them.	(1) Yes (0) No (-998) Refused (-999) Don't know	
<i>net_isolated_count</i>	[If <i>net_isolated</i> = 1] About how many such 13-17 year olds do you know of?	_ _ _	Enter -998 for "refused" and -999 for "don't know."
<i>no_net_endnote</i>	[If <i>net_count</i> <= 0] That completes your interview.		➔ Skip to end of survey
<i>net_nom</i>	[If <i>net_count</i> > 0] That completes your interview. At the beginning of this survey, I mentioned that we would talk to you about helping the project recruit additional youth to participate.  If you are willing to help, this will involve you giving referral coupons to up to 3 people that you know in this area who are 13-17 years old, and have engaged	(1) Yes (0) No	➔ If 0, skip to end of survey

D. Network information			Enumerator notes
	in sex work in the past year. For each eligible person (up to 3) that enrolls in the study, we will provide you with 500 KSH to cover any travel or communication costs associated with the recruitment. Are you able and willing recruit people in this manner?		

[If *net\_nom*=1] I am going to ask you to give me some demographic information about up to 5 people that you could share these 3 coupons with. We will ask for their first name and other demographic characteristics. We only collect this information for record-keeping purposes for the researchers and will not make any effort to find them or contact them. You don't have to give any information if you are not comfortable or if you don't know.

E. Nominations										
Person / Mtu	First name and last initial (e.g., "Julia W.") of nominee [#]/ Jina ya kwanza na herufi ya kwanza ya jina la mwisho (e.g. Julia W.)	Sex of nominee [#]/ Jinsia	Age of nominee [#]/ Umri	Home county of nominee [#]/ Kaunti ya nyumbani	Ethnicity of nominee [#]/ Jamii	Current sub-county of nominee [#]/ Kaunti ya sasa	Nature of relationship of nominee [#]/ Hali ya uhusiano	Number of children for nominee [#]/ Nambari ya watoto	Marital status of nominee [#]/ Hali ya ndoa	Last 3 digits of mobile # for nominee [#]/ Nambari tatu za mwisho za simu
nom_1		_ _ _	_ _ _	_ _ _	_ _ _	_ _ _	_ _ _	_ _ _	_ _ _	_ _ _
nom_2		_ _ _	_ _ _	_ _ _	_ _ _	_ _ _	_ _ _	_ _ _	_ _ _	_ _ _
nom_3		_ _ _	_ _ _	_ _ _	_ _ _	_ _ _	_ _ _	_ _ _	_ _ _	_ _ _

nom_4		_ _ _	_ _ _	_ _ _	_ _ _	_ _ _	_ _ _	_ _ _	_ _ _	_ _ _
nom_5		_ _ _	_ _ _	_ _ _	_ _ _	_ _ _	_ _ _	_ _ _	_ _ _	_ _ _

Thank you for taking the time to speak with me, I've learned a lot from our conversation. [Enumerator instruction: Offer the respondent the list of referrals to service, say goodbye, and then complete the rest of the questionnaire].

F. Metadata			Enumerator notes
result	Record result of interview:	(1) Completed (2) Partially completed; will not be completed at a later date / Imekamilika kwa kiasi; haitakamilika baadaye (3) Partially completed; will be completed at a later date (4) Other (specify)	
result_specify	[If result = 4] Specify other:		
cooperation	In your opinion, how cooperative was the respondent?	(1) Cooperative (2) In-between (3) Uncooperative	
honesty	In your opinion, how honest was the respondent when answering?	(1) Honest (2) In-between (3) Misleading (-999) Don't know	
resources	Did you provide the respondent with the referral resources card?	(1) Yes (0) No	
counsel	Did the respondent receive emergency telephone counseling?	(1) Yes (0) No	
counsel_desc	[If counsel = 1] Please describe events precipitating emergency telephone counseling as well as the nature of services provided:		

F. Metadata			Enumerator notes
<i>intervene</i>	Did you facilitate emergency intervention at the respondent's request, such as contacting law enforcement or social services?	(1) Yes (0) No	
<i>intervene_desc</i>	[If <i>intervene</i> = 1] Please describe events precipitating emergency intervention as well as the nature of support provided:		
<i>incentive</i>	Did you provide the respondents with the 1200 KSH incentive?	(1) Yes (0) No	
<i>incentive_form</i>	[If <i>incentive</i> = 1] In what format was the incentive provided?	(1) Cash (2) M-Pesa (3) Other (specify)	
<i>incentive_oe</i>	[If <i>incentive_form</i> = 3] Specify other:		
<i>incentive_no</i>	[If <i>incentive</i> = 0] Why didn't you provide the respondent with the 1200 KSH incentive?		
<i>endnote</i>	Record any other notes about this interview:		
<i>end_time</i>	Confirm end time (HH:MM)	_ _ : _ _	

**ANNEX VI. REFERENCES**

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