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**Measuring Sex Trafficking:
A National-Level Victimization Survey of an At-Risk Sample**

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**Measuring Sex Trafficking:
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Abstract

The current study administered a self-report survey with behaviorally specific questions to a stratified sample of non-college educated women, aged 18 to 29, in the general population (N = 996). Notably, the women were classified as being trafficked as adults only (3.8%), minors only (9.6%), or as both adults and minors (9.3%) using the federal legal definition. More than 1 in 5 (22.7%) women in the sample met the criteria for sex trafficking victimization at some point in their lives. However, only 39.6% of the respondents who experienced trafficking as an adult reported these events to police—further contributing to the “hidden figure” of crime. Guided by victimological theories, vulnerabilities, individual characteristics, and lifestyle factors increased the odds of being trafficked but varied depending on the type of exploitation. The implications of these findings are reviewed, including the utility of studying trafficking using behaviorally worded self-report surveys.

Keywords:

sex trafficking, self-report survey, behaviorally specific questions, victimological theories

The classification of sex trafficking as a new offense within the last two decades has resulted in an emerging criminological enterprise to better understand these events. Sex trafficking can be defined in a number of ways, but it generally involves compelling another person to exchange sexual acts for “something of value” (e.g., money, drugs). Although the transaction of sex for something of value—otherwise known as commercial sex—can be viewed as voluntary behavior and classified as prostitution, sex trafficking involves exploitation through the use of force (e.g., physical assault), fraud (e.g., false promises), or coercion (e.g., threats) (Victims of Trafficking and Violence Protection Act of 2000). Traffickers—those who exploit others—may harm, deceive, or threaten individuals to induce them to engage in commercial sex, which removes any voluntary consent that may have initially been given by the victim.

Although increasingly considered to be a major form of victimization, measuring sex trafficking remains a challenge (e.g., Finkelhor et al., 2017). Sex trafficking estimates generally rely on official crime reports or other efforts (e.g., respondent-driven sampling) that prioritize high-risk populations (e.g., child welfare, homeless, justice-involved individuals) and cannot generalize or be verifiable. Notably, the broader field of victimology has developed a measurement strategy to account for those cases that do not come to the attention of police or service providers (e.g., Black et al., 2011). This approach administers self-report surveys using behaviorally specific language—or questions that describe victimizing behaviors in detail—to a sample drawn from the general population. At present, there is no effort to measure sex trafficking victimization among the general population in this way.

Given these considerations, the current study undertook a general population survey of a potentially at-risk sample—that is, individuals who share demographic characteristics with identified sex trafficking victims—using behaviorally specific language. As a prelude to reviewing the current study, the following sections will examine measurement strategies within

trafficking research and how this endeavor builds on extant work.

Measuring Sex Trafficking Victimization

Efforts to accurately measure sex trafficking victimization experiences have been underway for the past two decades. Because this is a relatively new area of study, scholars across disciplines have tried to measure trafficking victimization through official crime reports, victimization surveys, or other strategies (e.g., respondent-driven sampling). Although it is beyond the scope of this paper to compare and contrast all strategies used to measure trafficking, Table 1 presents some innovative examples (see also Farrell & de Vries, 2020). Note that scholars can use a mix of strategies to measure these crimes, but Table 1 discusses these methods as though they are independent for simplicity. The following sections will briefly review methods that have been used to measure sex trafficking victimization and their limitations.

---Insert Table 1 About Here---

Official Crime Reports

Official crime reports from law enforcement agencies are the most common way to “count” victims of crime. Early efforts to quantify crime were primarily drawn from police reports, and the Uniform Crime Reports (UCR) specifically (Cantor & Lynch, 2000). However, these reports were geared toward understanding offending behavior and not the victims of crime. The National Incident-Based Reporting System (NIBRS) was developed to capture additional individual- and incident-level details of crimes reported to law enforcement agencies to help fill these gaps. Trafficking offenses—including sexual exploitation—were recently added to the NIBRS database as a crime type in 2013 to inform the nature and prevalence of these offenses across the country (Farrell et al., 2019).

Although informative, official crime reports suffer from three limitations. First, these sources are only reporting on cases that are identified by law enforcement—with concerns that

there are more trafficked victims than those identified by official records alone (Farrell et al., 2010). In this way, official crime reports are unable to inform details on cases that may have been misclassified as another offense (e.g., promoting prostitution) (Farrell & Reichert, 2017; Farrell et al., 2019). Second, these databases may not be generalizable to the broader population. For example, the NIBRS database includes sex trafficking offenses but is not yet representative of police agencies and cannot provide national estimates on these offenses (Farrell et al., 2019; Kulig et al., 2020). Third, official crime reports are unable to provide any information on individuals who are not trafficked (i.e., non-victims), which means that risk factors cannot be examined to determine vulnerabilities to these crimes.

Victimization Surveys

In response to concerns of official crime reports, the U.S. Department of Justice launched the National Crime Survey (NCS), which was first administered across the nation in 1973 (Cantor & Lynch, 2000). The NCS was designed to be complimentary to the UCR but relied on self-report surveys so respondents could indicate whether they had personally experienced various harms regardless of whether they reported them to law enforcement officials. The result of these efforts were the first national-level estimates of victimization. The NCS offered an innovative approach to understand victimization, and has been redesigned several times to modernize and improve data collection (e.g., add new victimization and lifestyle questions) (Langton et al., 2017; Rennison & Rand, 2006). The name of the survey was also changed to the current National Crime Victimization Survey (NCVS) in 1992 to more accurately reflect its focus on “victimization.” Notably, research suggests that more crimes are reported in the NCVS than the UCR official crime statistics—suggesting that a number of crimes are “hidden” from law enforcement but accessible through self-reports (Lauritsen et al., 2014). For this reason, the NCVS is believed to be a more accurate estimate of crime than official reports. However, the

NCVS does not currently ask any questions regarding sex trafficking victimization and cannot give national-level estimates on these experiences.

The NCVS has been an invaluable resource for victimologists to explore the prevalence and predictors of crime across the country. This methodology has also informed other, specialized victimization surveys on topics such as intimate partner violence, sexual assault, and stalking (e.g., Black et al., 2011; Fisher et al., 2000). Although the NCVS does not assess sex trafficking victimization, tailored victimization surveys serve as a promising approach to examine these experiences. Notably, surveys can be developed to measure sex or labor trafficking (Chisolm-Straker et al., 2019; Dank et al., 2017b; International Labour Organization [ILO], 2017; Vera Institute of Justice, 2014; Wright et al., 2021), with the following discussion and current study focusing on sex trafficking exclusively as a starting point because much of the existing research in this area has provided a foundation to study these experiences.

Victimization surveys have been recognized as an important methodological step for human trafficking research (ILO, 2011), and some scholars have employed surveys to better understand trafficking events from individuals who work with victims (e.g., Cole & Sprang, 2019; Farrell et al., 2008). Only a few studies, however, have relied on surveys that directly ask respondents about sex trafficking victimization (e.g., Chisolm-Straker et al., 2019; Dank et al., 2017b; Edwards et al., 2006; Fedina et al., 2019; ILO, 2017; Martin et al., 2010, 2020; Middleton et al., 2018; Rothman et al., 2020; Vera Institute of Justice, 2014; Wright et al., 2021). These studies have provided insights into sex trafficking victimization and tend to examine a rich array of variables to assess their relationship with exploitation (e.g., family dysfunction, substance use, mental health) (Dank et al., 2017b; Fedina et al., 2019).

However, existing trafficking victimization surveys have three limitations. First, these surveys tend to focus primarily on youth samples or on experiences during adolescence even

when adults are surveyed, which has resulted in a gap in research on adult exploitation (e.g., Edwards et al., 2006; Fedina et al., 2019; Martin et al., 2020). Second, the sample sizes are relatively small and limited to specific high-risk subgroups (e.g., homeless, criminal justice system involvement, identified trafficking victims), restricting the generalizability of the findings (e.g., Middleton et al., 2018; Wright et al., 2021). Even when general population surveys are administered across countries, they may only have small samples within a given country, relying on unverifiable extrapolations that project trafficking victimization in the millions (ILO, 2017). Third, the items used to assess sex trafficking generally do not use behaviorally specific language that has guided tailored surveys in the field of victimology more broadly. Graphic, behaviorally specific questions have been identified as important to ensure that the respondents and researchers are defining experiences in the same way (Fisher, 2009; Fisher et al., 2000).

As an example, a behaviorally specific question for rape could ask a respondent whether someone “made you have sexual intercourse by using force or threatening to harm you or someone close to you” and by clarifying that “by intercourse I mean putting a penis in your vagina” (Fisher et al., 2000, p. 5). Conversely, a direct question might only ask the respondent: “have you ever been raped?” Behaviorally specific questions can remove “victimizing” language that could prime respondents about these events—especially if someone is asked if they have been “raped” and they do not define their experience that way even if it legally can be classified as such. In two nationally representative samples, college women who were asked behaviorally specific questions about sexual assault were significantly more likely to endorse experiences that could be classified as a completed sexual assault than respondents who were asked direct questions about sexual assault: 19.3 compared to 2.0 per 1,000 students, respectively (Fisher, 2009). Because the studies were methodologically comparable, it is likely that the difference in reporting estimates are due to the wording of questions (Fisher, 2009). Thus, how

questions are asked has serious implications for who is “counted.”

Other Strategies

Beyond official crime reports and victimization surveys, scholars have employed various strategies to measure sex trafficking victimization (see Table 1). Interviews, for example, can be conducted with service providers who work with victims or victims themselves to provide insights into their experiences. Interviews that rely on individuals identified through referrals (i.e., respondent-driven sampling) can also help uncover the hidden victims that would otherwise not be accessible (e.g., Curtis et al., 2008). These interviews, however, are oftentimes limited to a specific context (e.g., city), with findings that may not generalize to the population.

Open source information and existing agency records are other ways to gain rich insights into cases identified by public media files (e.g., newspaper articles; Albanese et al., 2004) or various providers (e.g., child welfare, court files; Bouché, 2017). Similar to official statistics, this information relies only on those cases that are identified and classified as sex trafficking victimization—these records are not able to provide details on those cases that do not come to their attention. Definitions of trafficking can also vary across sources or agencies, making comparisons difficult (e.g., Anderson et al., 2019).

Another notable methodological development in the trafficking literature is multiple systems estimation (MSE), which builds off the capture-recapture approach (Bales et al., 2020; Durgana & van Dijk, 2021). The technique has been applied to various social problems (e.g., tracking wildlife populations) and has recently been used to study human trafficking victimization (e.g., Farrell et al., 2019; Bird & King, 2018). MSE seeks to provide a qualified estimate of existing cases and to inform the hidden population of victims by drawing on merged administrative lists from various sources (e.g., hospitals, police, service providers) to develop a capture history matrix across lists (Vincent et al., 2020). Researchers are thus able to estimate

the probability of an individual being captured in a particular source or in a combination of sources, including not being identified on any lists and thus identifying the “hidden” population (Farrell & de Vries, 2020). Although MSE has been able to inform estimates of human trafficking, it is rooted in assumptions that may not be true (e.g., likelihood of being captured is independent of being captured at other times), relies on administrative records that may be flawed (e.g., varying levels of details on cases), and provides a hidden estimate that cannot be verified (Farrell & de Vries, 2020).

Statistical projections address some of the aforementioned concerns (e.g., lack of generalizability) by extrapolating information from existing sources of at-risk populations (e.g., aggregate population details) to provide an estimate of the likely population that is trafficked. This method thus offers some guidelines on the extent of the problem in a specified context (e.g., region, nation) (e.g., Estes & Weiner, 2001). Of course, these projections tend to rely on proxy risk factors (e.g., proportion immigrants, homeless, runaway youths) and cannot be verified.

Current Study

Given the growing concern surrounding the measurement of sex trafficking, the lack of knowledge on these events highlights a crucial gap in the research. Although various methods exist for examining these events, they have a number of limitations (e.g., lack of generalizability, cannot be verified, details on identified victims only). The field of victimology, however, has developed a measurement strategy—self-report surveys with behaviorally specific language—that examines incidents in the population and regardless of whether individuals report them to police or service providers (e.g., Black et al., 2011). This strategy can also gather information on non-victims and theoretically relevant variables to inform risk factors of victimization—addressing limitations of other methods (e.g., Fisher et al., 2000). However, self-report surveys with behaviorally specific items have yet to be administered to any segment of the broader

population to understand trafficking victimization, including in national surveys such as the NCVS. The current study seeks to address this limitation by conducting the first self-report survey of a national subsample of at-risk women to measure the prevalence and predictors of these experiences. The goal being to illuminate whether this method is a viable option to measure sex trafficking in the community. Thus, this study builds off victimological sampling and measurement strategies in two ways.

First, this study extends much of the prior research on sex trafficking by focusing on at-risk women in the general population rather than high-risk populations (e.g., homeless youths). These terms are distinguished in the following way. *High-risk populations* for sex trafficking are generally considered to be homeless, runaways, justice-involved individuals, or other vulnerable groups that have been identified as having an increased likelihood of exploitation (e.g., Chisolm-Straker et al., 2019; Dank et al., 2017b; Palines et al., 2020). *At-risk women* are defined here as sharing demographic characteristics with identified sex trafficking victims—or aspects of an individual that might make them an attractive target for offenders—but are otherwise not known to be vulnerable to sex trafficking victimization (Cohen & Felson, 1979; Hindelang et al., 1978). Thus, these women could be at-risk for exploitation because of their shared demographic characteristics with known or high-risk sex trafficking victims, but are not surveyed for being part of a high-risk population, per se. This strategy to target a subgroup of potentially at-risk women within the general population has been used in sexual assault research where women in college settings were surveyed based on early findings that younger females are generally at risk for such crimes (Fisher et al., 2000; Mustaine & Tewksbury, 2002). Based on previous research, younger women (aged 18 to early 30s) who have lower levels of education were identified as sharing characteristics of individuals who are high-risk for exploitation (e.g., Banks & Kyckelhahn, 2011; Chohaney, 2016; Halter, 2010; Martin et al., 2010). Although all

racial/ethnic groups are vulnerable to victimization, research suggests that racial and ethnic minorities are disproportionately high-risk for sex trafficking victimization (e.g., Anderson et al., 2019; Banks & Kyckelhahn, 2011). The current study sampled potentially at-risk individuals who meet this demographic profile—while also obtaining representative samples of White, Black, and Hispanic women—to explore whether this method is useful at identifying events in the general population.

Second and based on past sexual victimization research, the current study focuses in detail on the categorization of sex trafficking events using behaviorally specific items. Existing self-report surveys on sex trafficking are typically limited in the ways in which questions are asked. For example, some surveys may ask whether the individual has been “compelled,” “forced,” or “coerced” to perform a sexual act without defining what these behaviors mean (e.g., Middleton et al., 2018). The important caveat to note here is that the respondents may not necessarily share the same definitions for certain terms with the researchers. The questions here incorporated behaviorally specific wording to address definitional concerns where respondents may not self-identify as a victim (Farrell & de Vries, 2020). In other words, no language was added into the survey to prime respondents that they were being asked about being a “victim” generally or a “trafficking victim” specifically. The respondents were only responding to whether they experienced the behaviors described, which aligned with the federal legal criteria to define acts of sex trafficking and is discussed in more detail in the Method section. The respondents who endorsed items that met the threshold for sex trafficking by federal legal standards were then classified as victims to determine prevalence.

Although the current study is not able to assess causal ordering of variables given the cross-sectional nature of these data, this analysis allows for an examination of risk factors in a multivariate context to inform the sources of sex trafficking victimization in young, non-college

educated women from the general population. In this context, the current study seeks to answer three questions:

1. What is the prevalence of sex trafficking victimization among an at-risk sample of women in the population?
2. Are the at-risk women in the current sample willing to report these experiences to law enforcement officials or someone else they know?
3. What individual factors are associated with sex trafficking victimization during adulthood only, during adolescence only, and both in adolescence and in adulthood?

Method

Data and Sample

Identifying and surveying the selected at-risk sample of women in the general population poses some challenges given the parameters described above (i.e., White, Black, and Hispanic young [aged 18-29], non-college educated). Few studies have the resources or scope to engage in a nationally representative survey like the NCVS. Therefore, scholars are required to use creative strategies to gain access to appropriate samples (e.g., college students). For this study as a first effort in informing the usefulness of the methodology, however, it is important to survey potentially at-risk individuals in the population who share characteristics with known trafficking victims to uncover the hidden figure of these events (e.g., Fisher et al., 2000). To this end, YouGov America, Inc. was commissioned to survey a representative subgroup of young, non-college educated women. YouGov administers an array of polls, including on topics related to marketing, politics, current affairs, and victimization experiences (e.g., Whitty & Buchanan, 2012; YouGov, 2012). It uses a panel of more than 2 million American adults who have “opted-in” or agreed to complete online surveys in exchange for earning points toward vouchers for gift cards (e.g., Amazon) (YouGov, 2018).

YouGov uses a two-stage sample-matching design to construct representative samples

from current population surveys (e.g., American Community Survey) to select a matched sample of respondents from its volunteer online panel based on a joint distribution of covariates (e.g., race, age, region) (Rivers, 2006). Then, YouGov uses propensity score matching to weight the sample to increase the nationally representativeness of the individuals who provide responses (Ansolabehere & Rivers, 2013). This sample matching strategy has been shown to generalize to the U.S. population and generally rivals other sampling methods, including the high-response rate probability sample from the General Social Survey (Ansolabehere & Schaffner, 2014; Graham et al., 2020). Minority racial groups were over sampled in the current study and then also weighted to provide more generalizable findings in this subset of the population (Tracy & Carkin, 2014) (see Online Supplemental Note #1 for more details). The survey was administered between February and March 2020, and respondents were informed that the survey was about various life experiences that can happen to people and how they respond to these events before they opted-in (see also Online Supplemental Note #2). The respondents were not told this was a survey about victimization or sex trafficking, and the trafficking questions were embedded in a larger survey that asked about various victimization and life experiences to avoid any obviousness about the purpose of the survey (ILO, 2011). The study was approved by the institutional review board at the University of Nebraska Medical Center.

Weighted data are analyzed in the current study to increase the representativeness of this sample, with unweighted descriptive comparisons presented in Table 2 to illustrate the similarities across variables (see also Online Supplemental Note #3). Due to some missing data on the key variables of interest in the current study ($n = 4$), the sample size was reduced to 996 female respondents. Importantly, the weighted sample of 18- to 29-year-old, non-college educated women is similar to estimates from the 2018 American Community Survey (ACS; see Online Supplemental Table S1). The only variable that differed widely from the ACS was

employment status, where 37.7% of the current sample was employed compared to 55.9% of the population. In this way, the current sample could be more representative of individuals who choose not to obtain employment for other roles (e.g., homemaker) or who are unable to find employment. Overall, the similarities on demographic characteristics increases confidence in the ability of the findings to generalize to this subsample of the population.

---Insert Table 2 About Here---

However, *findings from this study of young, non-college educated women should not be used to generalize to all women or the population more broadly.* The current subsample of at-risk women differs widely from populations of women who may be less likely to have characteristics from which trafficking victims are drawn. More specifically, the current sample differs in average age, racial/ethnic composition, education levels, and marital status from (a) young women who are college educated (aged 18-29), (b) women aged 30 and older, and (c) women in the population more broadly (aged 18 and older) (see Online Supplemental Table S1). Although some characteristics of non-college educated women in the current sample and college educated women (aged 18-29) are similar (i.e., average age, marital status, region), the current sample is more racially/ethnically diverse and less likely to be employed. Other differences such as older average age, larger percentage of being White, having higher levels of education, being married, and being employed illustrate greater discrepancies between this sample and older/all women. It is likely that these variations in major demographic characteristics could be indicators of other structural constraints and lifestyle choices that influence risk for victimization (e.g., Hindelang et al., 1978). For this reason, factors that are identified as significant correlates for sex trafficking in this subsample should not be interpreted as applying to all young women or all women in general—the current subsample reflects findings that cannot readily be generalized outside the scope of this study population. Still, the current population reflects a sizable portion

of women in the United States who are potentially at-risk for exploitation.

Dependent Variables

After the respondents opted-in to the survey but before the victimization questions were asked, the respondents were given a prompt, which is similar to other self-report victimization surveys (e.g., Cantor et al., 2020; Fisher et al., 2000). Specifically, the respondents were cued that they were going to be asked about a wide range of unwanted experiences that could be committed by a stranger or someone they know (e.g., partner, coworker, family member); and that the experiences could occur in public or private. The respondents were asked to keep these considerations in mind as they answered the questions. They were then informed that the questions may seem graphic, but it is the only way to assess accurately whether the women in the study have had such experiences. Again, behaviorally specific questions were used to ensure there were no miscommunications or definitional issues (Fisher et al., 2000).

The legal definition from the federal Victims of Trafficking and Violence Protection Act of 2000 (otherwise known as the Trafficking Victims Protection Act [TVPA]) was used to develop measures of sex trafficking victimization and for classification purposes. Although all 50 states have their own legal criteria, states are gradually updating their legal standards to align with the federal definition used here, with particular emphasis on the classification of minors as victims (Sprang et al., 2020). The TVPA defines sex trafficking through three factors: actions, means, and purpose (U.S. Department of Health and Human Services, 2017). The *actions* that are required include the recruitment, harboring, transportation, provision, obtaining, patronizing, or soliciting of a person for exploitive purposes. *Means* refer the tactics used to induce a victim by coercion (e.g., threats, impression that serious harm will occur), fraud (e.g., false promises), or force (e.g., physical restraint or harm). Individuals under the age of 18 who engage in commercial sex are considered to be victims of sex trafficking without the burden of proving any

level of coercion, fraud, or force. Lastly, the *purpose* is captured by the behavior of commercial sex. At least one component within each factor must be present to classify behavior as sex trafficking, with particular emphasis on the *means* used to compel someone to engage in commercial sex. Although sex trafficking is oftentimes considered an ongoing enterprise with repeated exploitation (e.g., Rothman et al., 2020), it is not necessary to prove that these victimizations occurred repeatedly to constitute sex trafficking. An individual who is exploited for commercial sex one time is still a trafficking victim under the TVPA.

Sex Trafficking Victimization. To tap into sex trafficking victimization experiences, a two-step process was used to distinguish individuals who engaged in commercial sex from those who did not, and allowed for post-survey classifications to separate sex trafficking victims from voluntary sex workers. First, the respondents were asked about commercial sex involvement—a question that might traditionally be seen as a criminal offending measure. The respondents were asked whether they have ever engaged in a sexual act for anything of value *after* they turned 18 years old—the legal definition for commercial sex. Both “sexual act” and “anything of value” were defined for the respondents to ensure that they understood this experience involved some sexual exchange (see Appendix A; Dank et al., 2017b; Rothman et al., 2020). Furthermore, the respondents were informed that “anything of value” could be given to them or any other person for the sexual act that they engaged in to account for transactions between potential traffickers and sex buyers.

Second, and if the respondents indicated that they had engaged in commercial sex, they were prompted to answer questions about whether they were ever threatened (i.e., coercion), manipulated (i.e., fraud), or physically harmed (i.e., force) to get them to engage in commercial sex using behaviorally specific language that aligned with the federal TVPA definition of sex trafficking (see Dank et al., 2017b; Victims of Trafficking and Violence Protection Act of 2000).

The respondents were not provided with the TVPA definition, but the definition was used to guide the behaviorally specific language that is used to define the concepts. For example, the respondents who indicated that they had engaged in commercial sex were then asked whether anyone had “ever threatened to harm (e.g., punch, kick, slap, choke, burn), physically restrain, or call the legal authorities on them or someone they know if they did not engage in a sexual act for anything of value”—a behaviorally specific question tapping into the element of coercion (see Appendix A). The respondents were classified as adult victims of sex trafficking if they endorsed ever experiencing coercion, fraud, or force when they engaged in commercial sex, per the federal TVPA (1 = yes, 0 = no).

The respondents were also asked whether they ever engaged in a sexual act for anything of value *before* they turned 18 years old. Again, “sexual act” and “anything of value” were defined (see Appendix A). The purpose of this variable was to determine if these were recurrent experiences (i.e., happened in adolescence and adulthood). Engaging in commercial sex as a minor could be a marker of vulnerabilities that carry on into adulthood (e.g., in close proximity to traffickers). Although there could be cases where an individual may have chosen to engage in commercial sex on their own volition as a minor, any respondents who indicated that they engaged in commercial sex under the age of 18 were considered to be a minor victim of sex trafficking following the federal TVPA definition (1 = yes, 0 = no).

Based on these classifications, three binary dependent variables were created to examine whether the respondents (1) experienced sex trafficking as an adult only, (2) experienced sex trafficking as a minor only, or (3) experienced sex trafficking as both a minor and an adult (1 = yes, 0 = no). No trafficking victimization served as the reference group for each variable.

Reporting Decisions. Any respondents who acknowledged experiencing coercion, fraud, or force when engaging in commercial sex as an adult were subsequently asked two questions

about their reporting behaviors after each item (see Appendix A). The respondents were asked whether they ever *reported the experience to law enforcement* (1 = yes, 0 = no). A separate question asked whether they ever *discussed the experience with someone else known to them* (1 = yes, 0 = no).

Key Covariates

Beyond the measurement of sex trafficking, the current study also sought to account for key factors that could elevate the risk of exploitation, including (1) target vulnerability, (2) lifestyles that could increase exposure to potential offenders, and (3) individual traits. Notably, some items ask the respondents about experiences as minors to assess potential early opportunities for exposure to traffickers that could affect risk for exploitation in adulthood. Each of these sources and their theoretical underpinnings are reviewed below.

Target Vulnerability. A recurring theme in sex trafficking research is that victims tend to have various vulnerabilities that could increase their risk for victimization. In particular, victims of sex trafficking tend to come from abusive and/or neglected homes, with other forms of family dysfunction (e.g., substance use, mental illness) that may require the intervention of foster care or child protective services (e.g., Miller-Perrin & Wurtele, 2017; Reid et al., 2017; Rothman et al., 2020). Victims of sex trafficking may also be more susceptible to multiple forms of victimization—another possible indicator of underlying exposure or vulnerabilities (e.g., lack of guardianship) (Fedina et al., 2019; Reid & Piquero, 2014). These types of experiences align with what Finkelhor and Asdigian (1996, p. 6) described as target vulnerability, which accounts for victim characteristics that make them an easier target for an offender. Sex traffickers could target individuals who suffer from emotional or psychological distress due to their volatile childhoods (e.g., Reid, 2012). Individuals in these situations may never have been given the social support needed to thrive if they grew up in dysfunctional or violent homes—making them

particularly vulnerable targets for would-be traffickers' manipulative tactics. For example, traffickers may further facilitate their crimes by offering love, acceptance, support, shelter, clothing, or other items that indicate a false-sense of caring for these individuals to make them easier to control (Reid, 2012). The broader point here is that external surroundings and circumstances beyond the victim's control could facilitate trafficking offenses.

The respondents were asked various questions about childhood and victimization experiences that could indicate underlying vulnerabilities (see Online Supplemental Appendix). A measure of childhood (before the age of 18) abuse, neglect, and family dysfunction was captured using the established *Adverse Childhood Experiences (ACE) score* (Felitti et al., 1998). The respondents answered a series of questions related to childhood adversities on 10 subscales (1 = yes, 0 = no). If any of the items within each subscale were endorsed as occurring (e.g., a parent often swore, insulted, put down, or humiliated the respondent [emotional abuse]), then the indicator was noted as being present. Following past research (Felitti et al., 1998; Reid et al., 2017), the responses on each of the 10 subscales were summed to create an overall index of adverse childhood experiences—with higher scores indicating the presence of more ACEs (Cronbach's $\alpha = .82$). The respondents also answered questions about other victimizations that ever happened as a possible indicator of susceptibility to various victimization experiences (1 = yes, 0 = no). The *victimization index* was created by summing seven items, with higher scores indicating experiencing more types of victimization (Cronbach's $\alpha = .79$). A final measure of ever being involved in *child protective services (CPS)* before the age of 18 was also included (1 = yes, 0 = no).

Exposure to Risky Situations. According to the lifestyle-routine activities theory, individuals who engage in particularly risky lifestyles are hypothesized to increase exposure and proximity to would-be offenders in the absence of capable guardianship—effectively increasing

the likelihood of victimization (Cohen & Felson, 1979; Cohen et al., 1981; Hindelang et al., 1978; Pratt & Turanovic, 2016). More specifically, individuals who run away from home or who associate with deviant peers (e.g., other individuals who commit crime or engage in commercial sex) are identified as being at greater risk for sex trafficking victimization (de Vries et al., 2020; Franchino-Olsen, 2021; Gerassi, 2015). Engaging in “risky” behaviors such as fleeing caregivers’ oversights as adolescents or associating with known deviants could increase the chances of being exposed to potential offenders where guardians are not present to intervene.

Although the respondents in this survey are young adults, a preference to run away from home as an adolescent could also be an indicator that the respondent had to find external caregivers to meet their needs at a young age (e.g., love, support)—possibly connecting them to would-be traffickers. The behavior of the individual then could put them at higher risk of victimization. Importantly, just because someone engages in actions that could be classified as increasing exposure to would-be offenders does not make them responsible for any subsequent victimizations that could occur—offenders are ultimately responsible for their own choices to harm or exploit another person (Cornish & Clarke, 2003). Of course, some behavioral choices such as running away from home could be due to abusive, neglectful, or ineffective “guardians” in the house (Reid, 2011). In these instances, there are likely other external factors—such as the vulnerability factors noted above—that could play a role in increasing target attractiveness of potential victims beyond what the individual is doing.

Several measures were included to tap into experiences that could have increased exposure to offenders (see Online Supplemental Appendix). *Running away* was a binary variable asking the respondents whether they ran away before the age of 18 (1 = yes, 0 = no). The respondents were also asked a series of questions to tap into their associations with peers who engage in deviant or criminal behaviors. More specifically, the respondents were asked

whether they personally know anyone who has *sold drugs* (1 = yes, 0 = no), committed a *serious crime* (1 = yes, 0 = no), *been arrested* (1 = yes, 0 = no), or engaged in *commercial sex* (1 = yes, 0 = no).

Individual Traits. Another important consideration when examining victimization is the role of individual-level characteristics. Research suggests that individuals with lower levels of self-control or who endorse antisocial attitudes are at greater risk for victimization (e.g., Bonta & Andrews, 2017; O’Brennan et al., 2009; Pratt et al., 2014). This relationship between individual characteristics and victimization could exist for one of two reasons. The first explanation—that of criminal propensity—suggests that individuals with low self-control or antisocial attitudes tend to be more likely to have an inclination for thrilling activities that provide immediate gratification, and may self-select into high-risk behaviors (e.g., deviant peer associations) that subsequently increase their likelihood of victimization (Pratt, 2016; Pratt et al., 2014; Schreck, 1999). The second explanation highlights the role of antagonistic behaviors that could impede prosocial relationships (e.g., Finkelhor & Asdigian, 1996; Pratt, 2016). Individuals who have lower levels of self-control or who exhibit attitudes that are meant to be distancing (e.g., preference for violence) might be aggravating to others around them, resulting in potential isolation (e.g., Augustine et al., 2002). Would-be traffickers could then exploit this vulnerability if there are few guardians to intervene. Importantly, the characteristics of impulsivity and antisocial attitudes have not been adequately tested in research on sex trafficking. The limited inclusion of impulsivity suggests that it is not significantly related to sex trafficking victimization of adolescents after controlling for other variables (Reid et al., 2021; Reid & Piquero, 2014). An examination of these individual characteristics that have historically been associated with victimization could provide insights into whether they are important predictors of sex trafficking victimization as well.

Two items were included to assess individual characteristics (see Online Supplemental Appendix). *Impulsivity* was created by averaging four items that asked the respondents their level of agreement (1 = “strongly disagree” to 5 = “strongly agree”) on items tapping into their ability to think through actions or delay gratification (Cronbach’s $\alpha = .63$). Although impulsivity is only one subscale of the overall construct of self-control (Grasmick et al., 1993), research suggests that even reduced self-control indicators tend to have general effects (Pratt & Cullen, 2000; Pratt et al., 2014). Furthermore, indicators of impulsivity are commonly used as predictors in victimization research (e.g., Sullivan et al., 2011). A measure of *antisocial attitudes* was adapted from prior research indicating the respondents’ level of agreement with breaking the law and hurting others (1 = “strongly disagree” to 5 = “strongly agree”) (Jonson et al., 2012). The five items were averaged (Cronbach’s $\alpha = .80$). Higher scores on both scales indicates greater levels of impulsivity and antisocial attitudes.

Control Variables

A number of control variables were included to determine their unique effects when predicting sex trafficking victimization (see Online Supplemental Appendix). *Age* was computed from year of birth and *race* was coded as White, Black, and Hispanic (White served as reference group). *High school graduate* (1; 0 = less than a high school degree) was a dummy coded variable that accounted for the highest educational attainment of the respondents. Given that a majority of the respondents indicated that they were *never married*, marital status was dichotomized (1 = never married, 0 = other relationship). Employment status was coded to represent whether the respondents were *employed* or not (1 = employed; 0 = other). Finally, *region* was a categorical variable indicating current residence (South served as reference group).

Analytic Strategy

The current analysis was carried out in three steps. First, the classifications of

commercial sex involvement and sex trafficking victimization were analyzed to determine the prevalence of each in the current subsample of the population, including (1) adult victimization only, (2) minor victimization only, and (3) both adult and minor victimization. Second, the reporting decisions of adults who were classified as sex trafficking victims were reviewed to assess the “hidden figure” of crime not coming to the attention of law enforcement officials. Third, three multivariate binary logistic regression models were estimated to determine which variables were significantly related to sex trafficking victimization. Although temporal ordering cannot be established with a retrospective, cross-sectional study, some of the indicators in the current study could be more relevant to experiences during adolescence than others (e.g., events prior to age 18 compared to items that do not have a timeframe range such as knowing someone who sold drugs). Thus, demographics, individual propensities, and items focused on events prior to the age of 18 were included in analyses where minor sex trafficking victimization only was the dependent variable. Two separate multicollinearity checks were completed for adult and minor victimization variables. The multicollinearity checks indicated that the variance inflation factor (VIF) values were within an acceptable range (Adult model variables: highest VIF = 1.89; Minor model variables: highest VIF = 1.38), but the condition index was slightly elevated for the adult model variables (Adult model variables: 38.82; Minor model variables: 11.78) (Belsley, Kuh, & Welsch, 1980). Additional estimations suggested that the high condition index was due to age—once age was removed, both estimates were below recommended cutoffs for the adult model variables (highest VIF = 1.88; condition index = 18.92). Supplemental checks with and without the age variable in the multivariate models suggested that it did not substantively alter the significance levels or effect sizes (see Online Supplemental Notes #4-#9 for additional checks).

Results

Prevalence of Sex Trafficking Victimization

Table 3 provides an overview of how many individuals endorsed items indicating their engagement in commercial sex and the victim classifications that were created using the behaviorally specific survey items. As noted previously, several steps were taken to classify these cases based on the federal TVPA legislation. Again, these estimates are only applicable to young (aged 18-29), non-college educated women—a portion of the overall population—and should not be used to inform the prevalence of trafficking among all women or the population more generally. Still, the behaviorally specific items asked to measure sex trafficking indicated that experiences that meet the federal legal criteria can be identified in this subsample of the population.

---Insert Table 3 About Here---

Commercial Sex Involvement. Approximately 177 (17.7%) young, non-college educated women responded that they engaged in commercial sex after they turned 18 years old. Of the 177 women in this sample who engaged in commercial sex, 78 (44.0%), 110 (62.1%), and 69 (39.1%) indicated that they experienced coercion, fraud, or force, respectively. There were 188 (18.9%) non-college educated women who indicated that they engaged in commercial sex before the age of 18. Overall, one-quarter of the respondents in the current sample (24.9%) ever engaged in commercial sex.

Any Sex Trafficking Victimization. Using the federal TVPA definition, the respondents were then classified as sex trafficking victims if (1) they were an adult who experienced coercion, fraud, or force while engaging in commercial sex or (2) they engaged in commercial sex as a minor. As presented in Table 3, 130 (13.1%) young, non-college educated women were classified as being an adult sex trafficking victim based on the criteria that they experienced coercion, fraud, or force. All of the respondents who noted that they engaged in commercial sex as minors were also classified as sex trafficking victims (18.9%). Note, however, that these

classifications are not mutually exclusive and account for overlap between adult and minor trafficking victimization experiences (i.e., some individuals classified as adult victims were also victimized as minors). These estimates should thus be interpreted with caution. When the adult and minor victim classifications were combined, more than 1 in 5 young, non-college educated women (22.7%) could be classified as being victims of sex trafficking based on the federal TVPA legislation definition.

Discrete Sex Trafficking Victim Classifications. To better understand trafficking experiences and remove overlap between categories, discrete classifications were developed to indicate whether the respondents who had endorsed any trafficking items were victimized as adults only, minors only, or adults and minors. Approximately 3.8% of young, non-college educated women in this sample were trafficked as adults only, whereas 9.6% of respondents were trafficked as minors only. A similar percentage of respondents were trafficked during both adolescence and adulthood (9.3%).

Reporting Decisions of Adult Sex Trafficking Victims: The “Hidden” Figure

The next step in the analysis was to determine how the women in the current sample responded to the coercion, fraud, or force that they experienced when they were engaging in commercial sex. Appendix B presents an overview of all reporting decisions to law enforcement officials or someone else known to them for the young, non-college educated women who indicated that they were compelled to engage in commercial sex through as adults ($N = 130$). Overall, only 39.6% of the 130 women who had endorsed being compelled to engage in commercial sex as adults reported their experience to law enforcement; however, 59.3% of the sample discussed their experience with someone else. Black respondents were more likely than White or Hispanic females to report their experiences to law enforcement officials (see also Online Supplemental Table S2). Black females were also more likely than Hispanic females to

discuss their experience with someone known to them.

The separate reporting decisions for individuals who experienced coercion, fraud, or force are also presented in Appendix B. Although the estimates themselves vary, the trends are similar regardless of whether coercion, fraud, or force was used. In particular, the respondents reported their experiences to law enforcement officials at a lower rate than discussing them with someone else they know. Black females also indicated that they reported their experiences to law enforcement officials and someone they know at a higher rate than White or Hispanic females. Hispanic respondents had the lowest reporting rates regardless of the means used to compel them to engage in commercial sex. Still, there were generally higher rates of reporting to law enforcement officials when coercion or force were used—possibly indicating a level of seriousness in these offenses that prompted a response (Greenberg & Ruback, 1992).

Predicting Sex Trafficking Victimization

The final step in the analysis was to determine which theoretically relevant variables were significantly related to adult sex trafficking victimization only, minor sex trafficking victimization only, and both adult and minor sex trafficking victimization. Again, the reference group for all discrete dependent variables was no trafficking victimization, which reduced the sample sizes slightly in the final regression models. All findings are presented in Table 4.

---Insert Table 4 About Here---

Adult Sex Trafficking Victimization Only. As shown in Model 1, the profiles of victims who experienced sex trafficking as adults only suggest that being a victim more generally (Odds Ratio [OR] = 1.28; 95% Confidence Interval [CI] [1.03, 1.58]), knowing someone who has sold drugs (OR = 6.91; 95% CI [2.15, 22.19]), being more impulsive (OR = 1.98; 95% CI [1.11, 3.53]), and being Black (OR = 5.68; 95% CI [1.84, 17.54]) or Hispanic (OR = 3.21; 95% CI [1.21, 8.54]) increased the odds of victimization (see Table 4). Notably, the ACE score was not

a significant correlate but approached significance ($b = .17, p = .063$). A supplemental analysis examining the ACE subscales suggested that this effect was driven by substances being in the home at an early age (OR = 4.33; 95% CI [1.39, 13.51]) (see Online Supplemental Table S3).

Minor Sex Trafficking Victimization Only. Findings for minor sex trafficking victims only are presented in Model 2 and mirror risk factors highlighted in the extant literature (e.g., Reid et al., 2017). More specifically, having higher ACE scores (OR = 1.21; 95% CI [1.10, 1.33]) and running away from home (OR = 2.46; 95% CI [1.46, 4.14]) increased the odds of minor sex trafficking victimization (see Table 4). Endorsing antisocial attitudes (OR = 1.47; 95% CI [1.12, 1.95]) was also a significant risk factor (see Table 4). Again, the ACE subscales were examined in a supplemental analysis and indicated that the odds of being a minor sex trafficking victim only were 3.09 (95% CI [1.77, 5.38]) and 2.92 (95% CI [1.59, 5.38]) times greater for respondents who experienced sexual abuse and family violence, respectively (see Online Supplemental Table S3).

Both Adult and Minor Sex Trafficking Victimization. Model 3 provides the findings for respondents who experienced sex trafficking as adults *and* minors. Significant risk factors that increased the odds of victimization included being a victim more generally (OR = 1.49; 95% CI [1.23, 1.80]), being involved in CPS (OR = 1.94; 95% CI [1.07, 3.50]), running away (OR = 3.41; 95% CI [1.79, 6.51]), knowing someone who has sold drugs (OR = 2.77; 95% CI [1.29, 5.95]), knowing someone who has engaged in commercial sex (OR = 3.09; 95% CI [1.54, 6.19]), having higher levels of impulsivity (OR = 1.64; 95% CI [1.13, 2.39]), and being Black (OR = 4.22; 95% CI [1.93, 9.23]) (see Table 4). The supplemental analysis examining the ACE subscales indicated that the odds of being both an adult and minor victim were 2.38 (95% CI [1.13, 5.01]) and 2.76 (95% CI [1.18, 6.42]) times greater for women who experienced sexual abuse and physical neglect in childhood, respectively (see Online Supplemental Table S3).

Discussion

For the past two decades, research on sex trafficking has proliferated and been used to inform who is at greatest risk for being exploited. As part of this discussion, there have been concerns surrounding “how many” victims are affected by these crimes and the inherent challenges in measuring trafficking (e.g., Bailey & Wade, 2014; Logan et al., 2009). In this way, research on sex trafficking has primarily focused on identified victims or high-risk populations (e.g., Anderson et al., 2019; de Vries et al., 2020; Farrell et al., 2019). The field of victimology, however, has relied on self-report surveys using behaviorally specific language to uncover the prevalence and nature of different victimization experiences in the population (e.g., Fisher et al., 2000; Tjaden & Thoennes, 1998). In this context, the current study sought to adapt the victimological approach of self-report surveys with behaviorally specific language to determine whether this was a viable strategy to study sex trafficking victimization among a representative sample of at-risk women. Three insights can be gleaned. (Again, these findings cannot be used to inform sex trafficking victimization among all women or the population more generally.)

First, sex trafficking victimization can be studied in the general population using self-report surveys and without explicitly asking respondents if they have been “trafficked.” Using behaviorally specific wording to explain actions that can be classified as sex trafficking victimization, the current study was able to identify women who have been exploited. Approximately 1 in 5 young, non-college educated women (22.7%) experienced sex trafficking victimization at some point in their lives in the current study. When considering adult experiences of sex trafficking victimization only, approximately 3.8% of these women were exploited under the federal TVPA definition. These rates indicate that sex trafficking victims are represented in this segment of at-risk women in the general population—and at a similar rate to sexual assaults experienced among female college students using this method (Cantor et al., 2020; Fisher et al., 2000). Notably, this study was also able to identify women who were *not*

trafficked so analyses could examine correlates of exploitation—an important line of inquiry that not all methods are able to assess (e.g., official crime reports). The broader point is that administering surveys with behaviorally specific items has implications for human trafficking research moving forward. Scholars can adapt this victimological method that has been used to study other difficult-to-measure crimes (e.g., sexual assault) to inform our understanding of trafficking events (e.g., Fisher et al., 2000). Furthermore, this study focused on an at-risk sample of women, but the method can be applied to anyone in the general population (e.g., Black et al., 2011). In this way, future research can continue to build on and expand this research to examine human trafficking victimizations across subgroups (e.g., gender, race/ethnicity).

Second, a majority—approximately 60%—of the respondents who were classified as being exploited never reported their experiences to law enforcement officials—a finding that illustrates a large “hidden figure” of sex trafficking victimization among young, non-college educated women. The women in this sample were, however, more willing to reveal their experiences to someone close to them—59.3% of the respondents discussed the exploitation with friends, family, or someone else they know. This finding is also consistent with prior research on the lack of official reporting behaviors of individuals who are victimized more generally, but who are willing to share their experiences with friends or family (e.g., Buhi et al., 2009; Langton et al., 2012). The discovery of sex trafficking victims among the population of at-risk women is informative because it provides scholars with a new way to explore the scope and nature of these events among individuals who may never seek out services or other professional assistance. The fact that these individuals are also sharing their experiences with others—even if not legal officials—also means that this could be a potential point of intervention to connect victims to services through the population.

Two other important findings within this sample were the reporting behaviors of Black

and Hispanic women. Between 64.3% and 79.0% of the Black respondents *reported* their experiences of coercion, fraud, or force to law enforcement officials. These estimates are a bit counterintuitive, but can perhaps be explained through other contacts with the police. African American women may be more likely to come into contact with law enforcement officials, which can present the opportunity to disclose their victimization (Weisburd & Majmundar, 2018). For example, research suggests that individuals in Black neighborhoods could be more likely to interact with the police through stops, searches, and arrests (Payne et al., 2017). Indeed, research shows that African American females are disproportionately arrested for prostitution and related crimes—possibly facilitating opportunities for reporting (Dank et al., 2017a). It is not known in the present study, however, the circumstances under which these reports are being made or whether law enforcement officials take their accounts seriously. Hispanic women were the least likely to report their victimization experiences in the current study. Extant literature offers mixed findings on whether Hispanic individuals are more/less likely to report their victimization (e.g., Fisher et al., 2003; Rennison, 2007). It is possible, however, that reporting behaviors can vary by the type of victimization being experienced—with more serious violent crimes being more likely to be reported by Hispanic victims (Rennison, 2007). More generally, victims of sex trafficking do not view their experiences as “trafficking” even if they do view them as harmful, which could influence how they respond to these crimes (e.g., reporting decisions) (e.g., Farrell et al., 2019). It is unclear whether the Hispanic women in this study viewed their experiences as serious offenses. Future research would benefit from continuing to include questions on reporting decisions for comparisons and exploring these reports in more detail.

Third, vulnerabilities, lifestyle choices, and individual traits matter when assessing risk of sex trafficking victimization among the current sample of young, non-college educated women. Although the findings are based on a limited number of cases, they suggest that sex trafficking

victimization is one of the byproducts of a challenging life involving diverse hardships (e.g., early trauma). There are certain implications that can be drawn from these findings, with the caveat that future research should continue to explore these insights with quantitative and qualitative methods among different samples. Notably, risk factors associated with sex trafficking victimization may vary depending on when the exploitation occurred.

For adult victims only, women in the current sample were more likely to be victimized by other crimes—sexual exploitation being another harm that was inflicted on them—and have higher levels of impulsivity. Both of these qualities likely indicate an underlying propensity to be targeted (e.g., Pratt et al., 2014; Reid & Piquero, 2014). Young, non-college educated women of color were particularly vulnerable to sex trafficking in adulthood only, highlighting the need to examine other contextual factors that could expose them to potential traffickers (e.g., neighborhood violence, socioeconomic status) (Hindelang et al., 1978). Having substances in their lives (i.e., knowing someone who has sold drugs, having substances in the home at an early age [ACE subscale]) was also a risk marker. The implication is that substances may be important for creating a vulnerability in adulthood. Past research suggests that traffickers can use or exploit substances to manipulate victims to engage in commercial sex (e.g., Cole & Sprang, 2015; Martin et al., 2010; Rajaram & Tidball, 2018). However, more research is needed to confirm whether substances are actually being used by adult only victims and how it plays a role in the exploitation process—aspects unable to be assessed in the current analyses. Notably, risk factors traditionally identified for minor sex trafficking victims (e.g., running away, CPS involvement) were not significant correlates in this sample (e.g., Franchino-Olsen, 2021; Reid et al., 2017). This finding indicates that risk factors for adult only trafficking may be age-graded, an issue future inquiry should consider (e.g., Reid, 2012).

The women in the current sample who experienced sex trafficking victimization during

adolescence only manifested a distinctive pattern of risk factors. In contrast to adult only victims, having higher ACE scores and running away from home were associated with exploitation as a minor. Having higher antisocial attitudes was also positively related to minor sex trafficking victimization only, but it is unclear if these attitudes were a risk factor during adolescence or a reaction to their experiences. Still, these findings align with past research that illustrates the importance of the home context in creating opportunities for exploitation (e.g., Reid, 2011). The findings from the ACE subscale analysis—that sexual abuse and family violence were positively related to exploitation—are also consistent with sex trafficking experiences of young females and further indicate how damaging abuse can be for youths (Reid et al., 2017). It is likely then that women with early traumatic experiences have few options for support, which facilitates potential traffickers' ability to target and exploit them (e.g., Rothman et al., 2015).

Sex trafficking victims who were exploited both as minors and adults were also more likely to be victimized in other ways, again suggesting that exploitation may be another consequence of an already difficult life (e.g., Rajaram & Tidball, 2018). As adolescents, these individuals were involved with CPS and ran away from home; ACE subscale analysis also suggested that sexual abuse and physical neglect were significant correlates of their exploitation. Being Black, being impulsive, and associating with individuals who have sold drugs or engaged in commercial sex were also related to sex trafficking victimization during adolescence and adulthood. In sum, these individuals were afflicted with multiple risk markers and had likely been abused or maltreated since they were young. These ongoing events and struggles—many of which were out of their control—likely contributed to their overall vulnerability throughout the life course and experiences of recurrent exploitation (Farrell & Pease, 1993).

Overall, the current findings are not entirely surprising, and lend credence to research

indicating underlying vulnerabilities could facilitate exploitation among young, non-college educated women (e.g., childhood maltreatment, other victimization experiences, being Black or Hispanic). Early adverse experiences in particular are likely an indicator of potential vulnerability (Farrell & Pease, 1993). It seems logical then that interventions should continue to focus on youths who could be abused, neglected, or otherwise maltreated in their homes (Dank et al., 2017b). Yet, the unique experiences of being an adult victim only also suggests that moving beyond adolescence does not mean that risk for exploitation disappears. Understanding these unique trajectories and predictors for sex trafficking victimization could thus inform intervention and prevention efforts across the life course (e.g., Reid et al., 2019).

Limitations and Future Directions

This study provides an initial assessment of measuring sex trafficking among a representative subsample of at-risk women in the United States through a self-report survey using behaviorally specific language. Still, the current study has four limitations that should be considered and improved upon in future research. First, this study was intentionally restricted to an opt-in sample of potentially at-risk women due to similarities in characteristics with known trafficking victims (Banks & Kyckelhahn, 2011; Chohaney, 2016; Farrell et al., 2012). Although intended as a way to access this portion of the population and move beyond juveniles only or high-risk populations, opt-in surveys such as YouGov are still limited to the individuals who actually sign up to be included on their platform. It is possible that findings could differ if other samples are used (e.g., college students). With that noted, it is informative that the prevalence of sex trafficking (as legally defined) was still sizeable, and suggests that self-report, behaviorally worded surveys could be a fruitful endeavor to inform our understanding of cases that may never come to the attention of police or providers.

Second, and as noted previously, there are a number of studies that have been completed

to measure trafficking (see Table 1). This is one more study in the search to measure and obtain a certain level of prevalence of sex trafficking among a subsample of young, non-college educated women. Numerous studies are thus needed to provide comparisons for adult victims of sex trafficking and to expand beyond the scope of the current work. For example, would similar rates be found in college or adolescent samples, or are the estimates identified here relatively high given the characteristics of the respondents who were surveyed? Future scholars can take this method as a template to assess prevalence among additional members of the population (e.g., all females/males). The findings here are encouraging and highlight the need to continue to explore this form of victimization, including the possibility of adding a trailer on trafficking victimization to the NCVS survey.

Third, the field of victimology guided the methodology and question wording, but slight changes to the survey may result in different estimates. Specifically, the current study used the federal TVPA to define the classification of sex trafficking victims. As mentioned earlier, different definitions could be used to classify these events (e.g., state legislation, agency definitions). Therefore, how the victimization experience is defined can have implications for who is “counted.” By not using other definitions, it is unclear how these behaviors may be classified for comparisons. For example, the questions that provide examples of coercion, fraud, or force could be defined differently by legislation, or be expanded to account for different exploitive behaviors (e.g., locked up, deprived of sleep or food; see Dank et al., 2017b). Similar considerations would need to be taken into account if the survey was adapted for adolescents or children to ensure the language was appropriate for their age.

Fourth, this survey was not able to include more detailed questions due to space constraints. There is a need to build off of this research to illuminate other aspects of victimization that were unable to be accounted for in the current study. For example, additional

questions could be included to assess the prevalence of labor trafficking, pathways to victimization (e.g., how many times were they trafficked and by whom), duration of exploitation, rationales for reporting behaviors, and perceptions of commercial sex and their involvement. The findings from this study suggest that adding a detailed incident report for each victimization experience—following research in sexual assault—would be an important addition to explore these important research areas (see Fisher et al., 2000). Furthermore, because these females were part of a reputable opt-in survey, it is possible that they are no longer being exploited. If these individuals had escaped, it is important to determine their pathways out of trafficking (e.g., identified by first responders). Future research could also explore whether victims identified from population surveys are unique/similar to victims identified through other venues (e.g., homeless shelters).

Conclusion

Sex trafficking is complex and historically it has been difficult to gain access to individuals who have been exploited. In response to these challenges, this study adapted traditional victimological methods to inform an innovative template to study and measure sex trafficking victimization among young, non-college education women. The findings suggest that it is imperative to consider the role of behaviorally worded self-report surveys when attempting to measure sex trafficking victimization in the population. This untapped area of research can inform the circumstances under which trafficking happens and risk factors of these events. As a first study of its kind, it is evident that sex trafficking experiences—as defined by legislation—are more common than previously believed among this at-risk population of women. Importantly, these experiences are oftentimes not being reported to law enforcement officials and likely are undetected by any formal systems. It is vital that future research explore the role of self-report surveys with behaviorally specific language to inform the nature of these events.

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Table 1. Overview of Example Strategies to Measure Human Trafficking

Strategy and Selected Citations	Brief Description	Strengths	Limitations
<p><i>Official crime reports</i></p> <ul style="list-style-type: none"> • Banks & Kyckelhahn (2011) • Kulig et al. (2020) 	<p>Cases that are identified, classified, and recorded by law enforcement officials</p>	<ul style="list-style-type: none"> • Provides an estimate of how many victims are coming to the attention of law enforcement officials • Can include additional details on the type of trafficking (sex/labor), victim characteristics, offender characteristics, and case details • Can be captured as part of national initiatives that are publicly available in databases (e.g., National Incident-Based Reporting System) 	<ul style="list-style-type: none"> • Only relies on those cases that come to the attention of law enforcement officials • Unable to account for the “hidden figure” of trafficking cases that are never reported and non-victims • Definitions of trafficking can vary by jurisdiction and make it difficult to integrate sources • Victims may be misclassified (e.g., as offenders engaging in prostitution)
<p><i>Victimization surveys</i></p> <ul style="list-style-type: none"> • Global Slavery Index (2018)/ILO (2017) • Martin et al. (2020) 	<p>Surveys administered to individuals that ask about exploitive experiences that can be defined as trafficking</p>	<ul style="list-style-type: none"> • Provides information on cases that may never come to the attention of law enforcement officials or providers • Can provide details on the “hidden figure” of trafficking if asked about reporting behaviors • Can include theoretically relevant variables to determine correlates of these experiences • Can be used as a screener in settings where victims may be identified (e.g., medical settings, service providers) 	<ul style="list-style-type: none"> • Can be expensive and/or time consuming to administer • Can be difficult to gain access to the population to administer the survey (e.g., low response rates) • Generally does not use behaviorally specific questions to remove any priming language • Oftentimes only administered to high-risk populations (e.g., homeless, justice-involved individuals) • Definitions of trafficking can vary depending on the criteria of the survey • Findings may not be generalizable depending on the sample
<p><i>Interviews</i></p> <ul style="list-style-type: none"> • Love et al. (2018) • Marcus et al. (2014) 	<p>Obtaining access to trafficking victims or key stakeholders (e.g., police, service providers, advocates) who work with victims to inform the nature or experiences working with these cases</p>	<ul style="list-style-type: none"> • Can obtain rich data from participants on their own personal experiences • Information gathered in interviews can be used to inform future studies on key themes that should continue to be explored 	<ul style="list-style-type: none"> • Can require incentives to facilitate interviews • Time-intensive and substantial resources needed to engage in this strategy • Participants may not self-identify as victims or still be under the control of a trafficker when interviewed • Estimates of number of cases or projections from key stakeholders in an area can usually not be verified • Findings may not be generalizable
<p><i>Respondent-driven sampling</i></p> <ul style="list-style-type: none"> • Curtis et al. (2008) • Zhang et al. (2014) 	<p>Works by examining initial “seeds” or individuals of the population that provide referrals to others in the population that can be connected to the researcher</p>	<ul style="list-style-type: none"> • Provides access to individuals who otherwise may remain “hidden” • Can obtain rich data from participants on their own personal experiences 	<ul style="list-style-type: none"> • Generally requires incentives to facilitate the referral process • Time-intensive and substantial resources needed to engage in this strategy • Participants may not self-identify as victims or still be under the control of a trafficker when interviewed/surveyed • Findings may not be generalizable
<p><i>Open source information</i></p> <ul style="list-style-type: none"> • Albanese et al. (2004) • Roe-Sepowitz et al. (2017) 	<p>Use publicly available records to examine the nature of trafficking cases</p>	<ul style="list-style-type: none"> • Information is generally freely available to review • Allows for relatively easy review of coding decisions that may inform conclusions 	<ul style="list-style-type: none"> • Only relies on cases that come to the attention of providers, media, or other publicly available databases • Open source information can be limited and lack details on the victim, offender, or case • Cases classified as trafficking may vary due to legislative or agency differences depending on the context examined (e.g., state, national)

Table 1. Overview of Example Strategies to Measure Human Trafficking

Strategy and Selected Citations	Brief Description	Strengths	Limitations
<p><i>Existing agency records</i></p> <ul style="list-style-type: none"> • Anderson et al. (2019) • Bouché (2017) 	<p>Examine independent agency records from sources that are likely to come into contact with trafficking victims to provide an overview of the population in a context (e.g., city, county, region)</p>	<ul style="list-style-type: none"> • Relies on existing records of known or at-risk cases of trafficking to determine an estimate (may do some calculations to obtain a point estimate with confidence intervals) • Can provide systematic review of data gathering systems in a region or area • Can provide guidance on how to maximize resources and develop a central reporting system 	<ul style="list-style-type: none"> • Only relies on those cases that come to the attention of agencies • Provides an estimate that may not generalize outside of the agency (e.g., social service providers may not provide accurate representation of the population) • Definitions can vary across agency sources, making integration challenging • Not all agencies will collect the same information or at the same level of detail that can be integrated • Agencies may not be willing to share data • Depending on estimate calculations, it may not be verifiable
<p><i>Capture-recapture</i></p> <ul style="list-style-type: none"> • Belser et al. (2005) • van der Heijden et al. (2015) 	<p>Examine independent samples (e.g., records from independent sources) of a population to estimate how likely it is that a member of the population will be “recaptured” or reidentified when sampled again</p>	<ul style="list-style-type: none"> • Provides an estimate with confidence intervals on the potential number of victims that may be affected in a context (e.g., region, nation, global) • Can use open-source information that is publicly available 	<ul style="list-style-type: none"> • Rooted in several assumptions that may not be true (e.g., population being studied does not change, likelihood of being captured is independent of being captured at other times) • Provides an estimate that is rooted in sound statistical practices but cannot be verified
<p><i>Multiple systems estimation</i></p> <ul style="list-style-type: none"> • Farrell et al. (2019) • Bales et al. (2020) 	<p>Builds off of capture-recapture by using existing administrative sources to determine how often particular victims are identified across more than one source and then used to estimate an unknown population</p>	<ul style="list-style-type: none"> • Provides an estimate with confidence intervals on the potential number of victims that may be affected in a context (e.g., region, nation, global) and the “hidden figure” of crime • Can use records that may not be accessible to the public and possibly more reliable representation of the individuals being studied 	<ul style="list-style-type: none"> • Rooted in several assumptions that may not be true (e.g., likelihood of being captured is independent of being captured at other times) • Definitions can vary across agency sources, making integration challenging • Not all agencies will collect the same information or at the same level of detail that can be integrated • Agencies may not be willing to share data • Provides an estimate that is rooted in sound statistical practices but cannot be verified
<p><i>Statistical projections</i></p> <ul style="list-style-type: none"> • Estes & Weiner (2001) • Williamson et al. (2010) 	<p>Taking estimates from existing sources (e.g., surveys, records) and extrapolating or using multipliers to estimate the total affected population in a context (e.g., region, nation, global)</p>	<ul style="list-style-type: none"> • Uses existing work to inform the possible number of cases in a different context • Can oftentimes use open-source information that is publicly available 	<ul style="list-style-type: none"> • Generally relies on proxy indicators to inform the estimate (e.g., homelessness, runaway youths) • Provides an estimate that cannot be verified

Note: Some details adapted from Farrell and de Vries (2020). Scholars may also use a mix of strategies to measure trafficking, but are only included in one category here for parsimony.

Table 2. Descriptive Statistics ($N = 996$)

Variable	Weighted Percent/Mean (SD)	Unweighted Percent/Mean (SD)	Range	Weighted Correlations with Dependent Variables		
				Adult ST Only	Minor ST Only ^a	Both Adult/Minor ST
<i>Dependent Variables</i>						
Adult ST Victimization Only	3.8%	3.8%	0–1	–	–	–
Minor ST Victimization Only	9.6%	9.7%	0–1	–	–	–
Adult and Minor ST Victimization	9.3%	9.9%	0–1	–	–	–
<i>Target Vulnerability</i>						
ACE Score	3.54 (2.82)	3.56 (2.85)	0–10	.20**	.23**	.35**
Victimization Index	3.56 (2.20)	3.57 (2.22)	0–7	.18**	–	.36**
CPS Involvement Before 18	9.5%	10.4%	0–1	.04	.15**	.32**
<i>Exposure to Risky Situations</i>						
Ran Away Before 18	25.1%	26.2%	0–1	.14**	.23**	.40**
Know Someone: Sold Drugs	43.9%	43.3%	0–1	.19**	–	.25**
Know Someone: Serious Crime	24.6%	25.4%	0–1	.11**	–	.23**
Know Someone: Arrested	53.6%	53.2%	0–1	.10*	–	.16**
Know Someone: Commercial Sex	27.8%	28.0%	0–1	.20**	–	.40**
<i>Individual Traits</i>						
Impulsivity	2.76 (0.80)	2.77 (0.81)	1–5	.08*	.08*	.21**
Antisocial Attitudes	2.27 (0.90)	2.29 (0.92)	1–5	.05	.13**	.24**
<i>Control Variables</i>						
Age	23.55 (3.38)	23.59 (3.33)	19–29	.06	–	.11**
Race			0–2	.07	.03	.11**
White	51.4%	50.0%				
Black	18.4%	24.9%				
Hispanic	30.2%	25.1%				
High School Graduate	83.3%	83.2%	0–1	.05	–	.03
Never Married	65.7%	67.1%	0–1	.07	–	.14**
Employed (full/part)	37.7%	36.9%	0–1	.01	–	.06
Region of Residence			0–3	.07	.08	.03
South	41.2%	44.9%				
Northeast	15.4%	15.0%				
Midwest	20.4%	19.2%				
West	23.0%	21.0%				

Notes: ST = sex trafficking; ACE = adverse childhood experience; CPS = child protective services.

^aOnly demographic characteristics, individual traits, and items that asked about events before the age of 18 were examined.

* $p < .05$; ** $p < .01$

Table 3. Commercial Sex Involvement and Sex Trafficking Victimization Classifications ($N = 996$)

Variable	n (%)
<i>Commercial Sex Involvement</i>	
Adult (after the age of 18)	177 (17.7)
Coercion Present	78 (44.0)
Fraud Present	110 (62.1)
Force Present	69 (39.1)
Minor (before the age of 18)	188 (18.9)
Any Commercial Sex Involvement	248 (24.9)
<i>Any Sex Trafficking Victimization</i>	
Any Adult ST Victim ^a	130 (13.1)
Any Minor ST Victim ^b	188 (18.9)
Any ST Victim ^c	226 (22.7)
<i>Discrete Sex Trafficking Victim Classifications</i>	
Adult ST Victim Only ^d	38 (3.8)
Minor ST Victim Only ^e	96 (9.6)
Both Adult and Minor ST Victim ^f	93 (9.3)
No ST Victimization ^g	770 (77.3)

Note: ST = sex trafficking. Weighted sample sizes and/or percentages have been rounded and may not equal to total estimates.

^aIncludes any adults who endorsed experiencing coercion, fraud, or force when engaging in commercial sex acts. Some respondents experienced a combination of coercion, fraud, and/or force, so the total is not the sum of these categories to avoid duplicate counting.

^bIncludes any respondents who indicated that they engaged in commercial sex before the age of 18 as outlined by the federal TVPA legislation.

^cA proportion of the adult respondents who were classified as sex trafficking victims also engaged in commercial sex as minors ($n = 93$), so the total is not the sum of “Any Adult ST Victim” and “Any Minor ST Victim” to avoid double counting of respondents.

^dIncludes adults who endorsed experiencing coercion, fraud, or force when engaging in commercial sex acts as adults only. Some respondents experienced a combination of coercion, fraud, and/or force, so the total is not the sum of these categories to avoid duplicate counting.

^eAll respondents who indicated that they only engaged in commercial sex before the age of 18 were classified as sex trafficking victims as outlined by the federal TVPA legislation.

^fThis classification includes respondents who indicated that they were compelled to engage in commercial sex through coercion, fraud, or force as adults and who also engaged in commercial sex as minors.

^gIncludes all individuals who did not endorse any sex trafficking victimization items.

Table 4. Logistic Regression Models Predicting Sex Trafficking Victimization

	Model 1			Model 2			Model 3		
	Adult ST Victimization Only			Minor ST Victimization Only ^a			Both Adult and Minor ST Victimization		
	<i>b (SE)</i>	OR	[95% CI]	<i>b (SE)</i>	OR	[95% CI]	<i>b (SE)</i>	OR	[95% CI]
ACE Score	.17 (.09)	1.19	[0.99, 1.43]	.19 (.05)***	1.21	[1.10, 1.33]	.06 (.06)	1.06	[0.94, 1.21]
Victimization Index	.24 (.11)*	1.28	[1.03, 1.58]	–	–	–	.40 (.10)***	1.49	[1.23, 1.80]
CPS Involvement Before 18	-.13 (.53)	0.88	[0.31, 2.47]	.68 (.37)	1.98	[0.96, 4.08]	.66 (.30)*	1.94	[1.07, 3.50]
Ran Away Before 18	.59 (.44)	1.80	[0.76, 4.31]	.90 (.27)**	2.46	[1.46, 4.14]	1.23 (.33)***	3.41	[1.79, 6.51]
Know Someone: Sold Drugs	1.93 (.60)**	6.91	[2.15, 22.19]	–	–	–	1.02 (.39)*	2.77	[1.29, 5.95]
Know Someone: Serious Crime	-.22 (.45)	0.81	[0.34, 1.93]	–	–	–	-.17 (.35)	0.84	[0.43, 1.66]
Know Someone: Arrested	-.86 (.64)	0.42	[0.12, 1.47]	–	–	–	-.58 (.41)	0.56	[0.25, 1.26]
Know Someone: Com. Sex	.73 (.44)	2.07	[0.87, 4.92]	–	–	–	1.13 (.36)**	3.09	[1.54, 6.19]
Impulsivity	.68 (.29)*	1.98	[1.11, 3.53]	.05 (.16)	1.05	[0.77, 1.43]	.50 (.19)*	1.64	[1.13, 2.39]
Antisocial Attitudes	-.24 (.28)	0.78	[0.45, 1.36]	.39 (.14)**	1.47	[1.12, 1.95]	.28 (.17)	1.32	[0.95, 1.85]
Age	.05 (.06)	1.05	[0.93, 1.18]	–	–	–	.02 (.05)	1.02	[0.93, 1.12]
Race									
White (ref)									
Black	1.74 (.58)**	5.68	[1.84, 17.54]	.42 (.31)	1.52	[0.83, 2.77]	1.44 (.40)***	4.22	[1.93, 9.23]
Hispanic	1.17 (.50)*	3.21	[1.21, 8.54]	-.21 (.31)	0.81	[0.44, 1.50]	.52 (.38)	1.69	[0.80, 3.56]
High School Graduate	.47 (.56)	1.60	[0.53, 4.83]	–	–	–	.35 (.41)	1.42	[0.63, 3.20]
Never Married	-.58 (.46)	0.56	[0.23, 1.38]	–	–	–	-.59 (.31)	0.55	[0.30, 1.01]
Employed (full/part)	-.17 (.44)	0.84	[0.35, 2.00]	–	–	–	.04 (.32)	1.04	[0.55, 1.96]
Region									
South (ref)									
Northeast	.24 (.67)	1.27	[0.34, 4.74]	.41 (.34)	1.51	[0.77, 2.97]	.36 (.42)	1.43	[0.63, 3.27]
Midwest	-.05 (.58)	0.95	[0.30, 2.98]	-.38 (.40)	0.69	[0.31, 1.51]	.15 (.45)	1.16	[0.48, 2.79]
West	-1.09 (.63)	0.34	[0.10, 1.16]	.48 (.32)	1.61	[0.86, 3.01]	.47 (.39)	1.61	[0.75, 3.43]
Constant	-8.96 (1.91)***			-4.35 (.51)***			-8.78 (1.45)***		
LR χ^2		81.39***			80.03***			253.27***	
Nagelkerke R ²		.31			.18			.52	
McFadden's Adjusted R ²		.06			.08			.33	
Observations		808			866			863	

Note: ST = sex trafficking; OR = odds ratio; CI = confidence interval; ACE = adverse childhood experience; CPS = child protective services.

^aOnly demographic characteristics, individual propensities, and items that asked about events before the age of 18 were examined.

*p < .05; **p < .01; ***p < .001

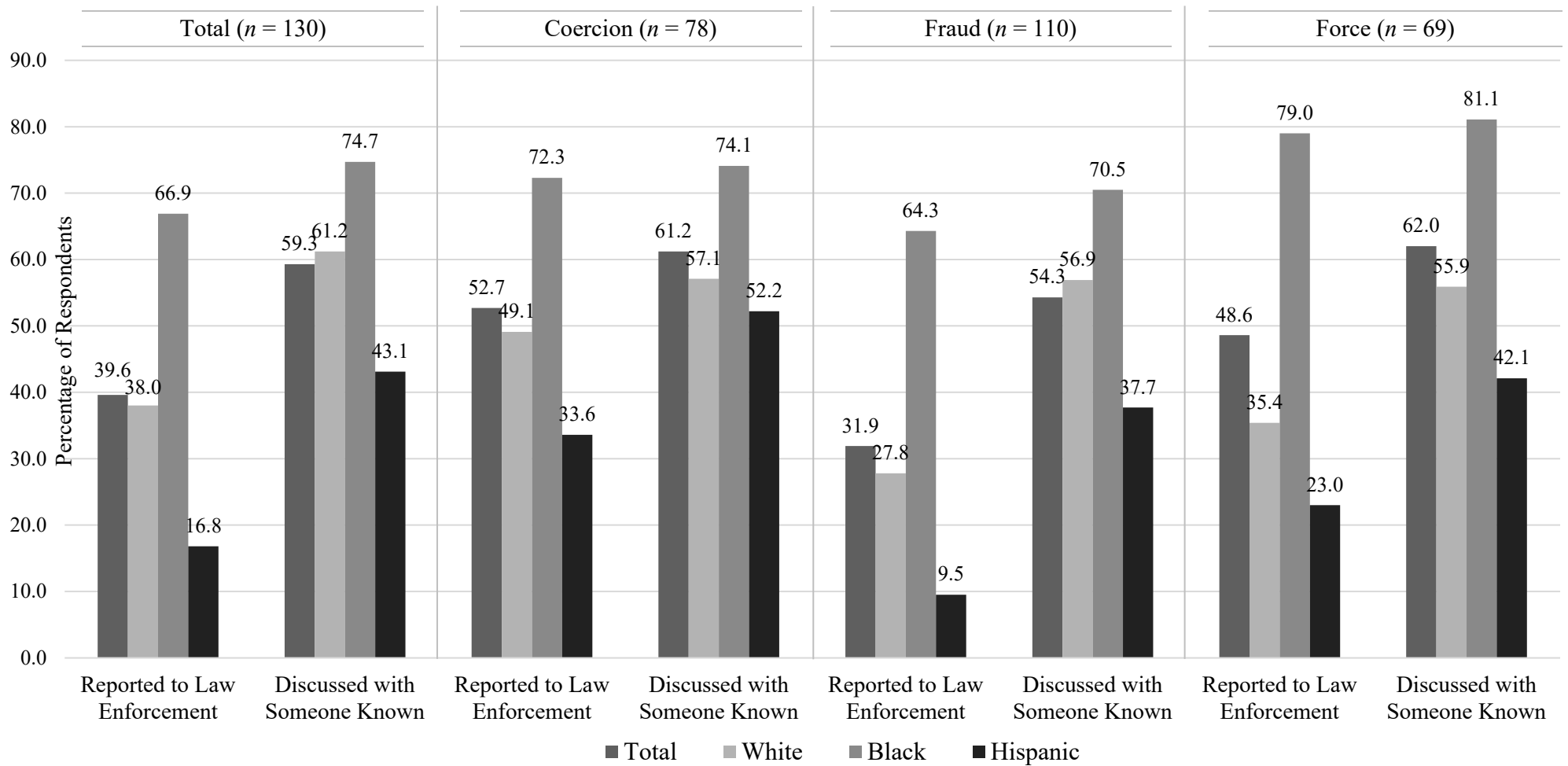
Appendix A
Dependent Variable Question Wording

Variable	Survey instructions and items
Adult Sex Trafficking Victimization	<p>People engage in a variety of types of sexual activity. Here, we are interested in finding out if you have ever engaged in a sexual act where anything of value was exchanged.</p> <ul style="list-style-type: none"> • Just so there is no confusion, a <i>sexual act</i> could include oral, vaginal, or anal intercourse, masturbation, or something else sexual. The sexual behavior may have been performed on you or you may have performed the sexual behaviors on another person. • <i>Anything of value</i> could include money, favors, drugs, a place to stay, food, gifts, or something else. • Again, anything of value could be given to you or somebody else for the sexual act that you engaged in. <p>In this context, we want to ask you the following questions (Response: 1 = yes, 0 = no):</p> <ol style="list-style-type: none"> 1. Have you ever engaged in a sexual act where anything of value was given to you or any other person after you turned 18 years old? [if “yes,” then the respondents were asked items 1a-1c] <p><i>[the instructions from above defining commercial sex were presented with each question below]</i></p> <p>Now, thinking about your experiences after you turned 18 years old (Response: 1 = yes, 0 = no):</p> <ol style="list-style-type: none"> 1a. [<i>Coercion</i>] Has anyone ever threatened to harm (e.g., punch, kick, slap, choke, burn), physically restrain, or call the legal authorities on you or someone you know if you did not engage in a sexual act for anything of value? 1b. [<i>Fraud</i>] Has anyone ever told you a lie or made false promises to get you to engage in a sexual act for anything of value? 1c. [<i>Force</i>] Has anyone ever actually punched, kicked, slapped, choked, burned, assaulted, physically restrained, or otherwise physically harmed you to get you to engage in a sexual act for anything of value?
Minor Sex Trafficking Victimization	<p>People engage in a variety of types of sexual activity. Here, we are interested in finding out if you have ever engaged in a sexual act where anything of value was exchanged.</p> <ul style="list-style-type: none"> • Just so there is no confusion, a <i>sexual act</i> could include oral, vaginal, or anal intercourse, masturbation, or something else sexual. The sexual behavior may have been performed on you or you may have performed the sexual behaviors on another person. • <i>Anything of value</i> could include money, favors, drugs, a place to stay, food, gifts, or something else.

Variable	Survey instructions and items
	<ul style="list-style-type: none"> • Again, anything of value could be given to you or somebody else for the sexual act that you engaged in. <p>In this context, we want to ask you the following questions (Response: 1 = yes, 0 = no):</p> <ol style="list-style-type: none"> 1. Have you <i>ever</i> engaged in a sexual act where anything of value was given to you or any other person <i>before</i> you turned 18 years old?
Reporting Decisions—Adult Sex Trafficking Victimization	<p><i>[the respondents who endorsed engaging in commercial sex <u>after</u> they turned 18 years old where coercion, fraud, or force was present were then asked the following questions after each item]</i> (Response: 1 = yes, 0 = no):</p> <ol style="list-style-type: none"> 1. Did you <i>ever</i> report this experience to law enforcement? 2. Did you <i>ever</i> discuss this experience with a friend, family member, or someone else who is close to you?

Appendix B

Figure. Reporting Decisions for Respondents Who Endorsed Experiencing Coercion, Fraud, or Force After the Age of 18



Online Supplemental Information

Methodological Notes

1. In the current study, YouGov (2020) employed stratified sampling methods to interview 1,101 women who were 18 to 29 years of age with a high school degree or less. These respondents were then matched down to a sample of 500 White, 250 Black, and 250 Hispanic females ($N = 1,000$). To increase the representativeness of the sample, the respondents were matched to a sampling frame on gender, age, and region using the 2017 American Community Survey. The matched cases for each race group were weighted to the sampling frame using post-stratification on 2016 Presidential vote choice (estimated from available 2016 exit polls), and a 2-way stratification on age and region to produce weights for each race group. Each race group was then combined and post-stratified on a 3-way stratification on age, race, and region, to produce an overall weight in which each race group is the correct proportion as found in the overall population (YouGov, 2020).

Although the inclusion criteria focused on young (aged 18-29), non-college educated women, the descriptives indicate that the age range for the sample is between 19-29 years old. As noted in the manuscript, *age* was calculated from birth year. Data were collected in February and March 2020, and age was created by subtracting birth year from 2020. Therefore, the youngest respondents (born in 2001) were listed as 19 years old. However, it is likely that some respondents were 18 years old and had not had a birthday yet given that data were collected in early 2020.

2. To avoid making the survey obvious and to remove language that could prime participants about the events in question (Fisher, 2009; International Labour Organization, 2011), the respondents were not informed on the specific victimization items they would be asked. Rather, the respondents received instructions before they opted in to the survey that the questions could be perceived as personal in nature and that they did not have to answer any questions that made them uncomfortable. The participants were also made aware that they could close the survey if they did not want to continue after agreeing to participate. To ensure the respondents were aware that personal items were going to be asked, they were cued before the victimization items (after they opted in) that the following questions may seem graphic to assess accurately whether the women in the study have had such experiences. In this way, the respondents were informed two times that sensitive questions were going to be asked—once when opting in and once immediately before they reviewed the victimization items—so they could choose whether they wanted to continue with the survey.
3. A supplemental model check was estimated to assess any substantive changes if unweighted data were analyzed. The unweighted data findings in the multivariate analyses were generally consistent with the weighted data based on the direction/size of coefficients and significance levels. Some coefficients were slightly smaller than the weighted findings, but the overall conclusions remained the same. There were three notable exceptions in the adult sex trafficking only model ([1] the ACE score was significant [$b = .17, p = .040$], [2] knowing someone who has engaged in commercial sex was significant [$b = .89, p = .039$], and [3] being Hispanic was no longer significant [$b = .85, p = .078$]) and two exceptions in the adult/minor model ([1] CPS involvement is no

longer significant [$b = .60$, $p = .117$] and [2] impulsivity is no longer significant [$b = .37$, $p = .071$]; the unweighted minor only model was consistent with the weighted estimate findings. The supplemental unweighted models are available upon request.

4. Principal-component factor extraction methods with varimax rotation were performed to assess item loadings for each scale and index; eigenvalues and scree plots indicated that one factor was appropriate for the victimization index, impulsivity, and antisocial attitudes. The ACE subscales loaded on two separate factors (factor 1 loadings [emotional abuse/neglect, physical abuse/neglect, sexual abuse, family violence]: .47-.82; factor 2 loadings [parent separation, substance use in house, mental illness in house, incarceration of family member]: .51-.76). However, it is not expected that respondents who experience one adverse experience would be subjected to others as well. The ACE score was designed to indicate an index of experiences and thus was summed as intended by previous research (Felitti et al., 1998). The scale properties for the ACE score restricted to one factor are presented in the Supplemental Appendix.
5. Because the ACE score and victimization index are tapping into some similar constructs (e.g., physical assault, sexual assault), a supplemental principal-component factor analysis with varimax rotation was estimated with each of the ACE subscales and the victimization items. Importantly, the items loaded on separate factors. The victimization items loaded on a single factor (factor loadings: .55-.72) and the ACE subscales again loaded on multiple factors. There were no substantial cross-loadings (factor cross-loadings: -.02-.34). In this way, the ACE subscales and the victimization items are representing unique constructs.
6. Similar to other research, eight items were originally measured to tap into constructs of impulsivity and risk-seeking behavior for an overall measure of low self-control (Reyns et al., 2014; Turanovic & Pratt, 2013). The principal-component factor extraction method with varimax rotation, however, indicated that the impulsivity and risk-seeking subscales were two separate constructs, with a relatively strong relationship ($r = .50$, $p < .01$). An additional sensitivity check with impulsivity, risk-seeking, and antisocial attitudes indicated that these items loaded on their three respective factors, with some risk-seeking items having high cross loading values on the antisocial attitudes factor (factor cross loadings: .10-.48). The correlation between risk-seeking and antisocial attitudes was also relatively strong ($r = .57$, $p < .01$). Thus, only the impulsivity and antisocial attitudes scales are presented in the current analyses to avoid issues with overlap between constructs and the risk-seeking factor.
7. A number of the respondents had employment statuses besides full/part time (37.7%), including unemployed (22.8%), homemaker (15.4%), student (17.6%), or other employment (6.5%). To assess any potential effects of different employment statuses on victimization, supplemental models were estimated with a categorical employment variable: full/part-time employment (37.7%), unemployed (22.8%), and other employment (39.5%). None of the updated employment categories were significantly related to adult only or adult/minor sex trafficking victimization. For this reason, only the binary employment variable is presented in the current analysis. The supplemental models are available at request.

8. The respondents were asked a two-part question about running away from home before they were 18 years old: (1) did they ever run away from home (yes/no) and (2) how many times they ran away from home (count). A majority of the respondents never ran away and relatively few individuals ran away multiple times in the current sample. Following past research, the current analysis examines whether the respondents ever ran away from home as a binary variable (e.g., Fedina et al., 2019). As a check, supplemental models were estimated with the frequency run away variable in place of the binary variable. The findings and effect sizes in the supplemental models were not substantively altered when the frequency measure was included, and the variable was not significant in any of the estimations. In this context, how often someone ran away seems to be less important than whether they ran away at all. The supplemental models are available at request.

9. Additional supplemental checks were estimated to assess the degree to which sex trafficking victimization items were invariant between the sociodemographic subgroups (i.e., race/ethnicity, education, marital status, employment, and region). Although the items themselves are not a scale of sex trafficking experiences, they represent the means of exploitation (i.e., coercion, fraud, force) which could be indicators of the construct of sex trafficking victimization in adulthood. A series of multiple group structural equation models (accounting for the categorical nature of the trafficking items) were completed with increasing constraints on factor loadings and thresholds (Baldwin, 2019; Svetina et al., 2020). Although the results approximate invariance across the education variable, issues arose prior to any constraints being implemented in the other models and indicated multiple group estimation was no longer an appropriate analysis. Therefore, caution should be taken in making any interpretative comparisons of the sex trafficking measures in adulthood between sociodemographic subgroups. All supplemental models are available upon request.

Methodological Note References

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Supplemental Appendix

Supplemental Appendix: Key Covariate/Control Variable Items and Scale Properties

Variable	Survey instructions and items
ACE Score	<p>While you were growing up, during your first 18 years of life (Response: 1 = yes, 0 = no):</p> <ol style="list-style-type: none"> 1. [<i>Emotional Abuse</i>] Did a parent or other adult in the household <i>often</i> ... Swear at you, insult you, put you down, or humiliate you? or Act in a way that made you afraid that you might be physically hurt? 2. [<i>Physical Abuse</i>] Did a parent or other adult in the household <i>often</i> ... Push, grab, slap, or throw something at you? or Ever hit you so hard that you had marks or were injured? 3. [<i>Sexual Abuse</i>] Did an adult or person at least 5 years older than you <i>ever</i>... Touch or fondle you in a sexual way? or Have you touch their body in a sexual way? or Try to or actually have oral, anal, or vaginal sex with you? 4. [<i>Emotional Neglect</i>] Did you <i>often</i> feel that ... No one in your family loved you or thought you were important or special? or Your family didn't look out for each other, feel close to each other, or support each other? 5. [<i>Physical Neglect</i>] Did you <i>often</i> feel that ... You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you? or Your parents were too drunk or high to take care of you or take you to the doctor if you needed it? 6. [<i>Family Violence</i>] Was your mother or stepmother: <i>Often</i> pushed, grabbed, slapped, or had something thrown at her? or <i>Sometimes or often</i> kicked, bitten, hit with a fist, or hit with something hard? or <i>Ever</i> repeatedly hit over at least a few minutes or threatened with a gun or knife? 7. [<i>Parents Separated</i>] Were your parents <i>ever</i> separated or divorced? 8. [<i>Substances in Home</i>] Did you... Live with anyone who was a problem drinker or alcoholic? or Live with anyone who used street drugs? 9. [<i>Mental Illness in Family</i>] Was a household member depressed or mentally ill or did a household member attempt suicide? 10. [<i>Incarcerated Family Member</i>] Did a household member go to prison?

Factor loadings: .44-.72

Variance explained: 38.2%

Supplemental Appendix: Key Covariate/Control Variable Items and Scale Properties

Variable	Survey instructions and items
Victimization Index	<p>(Response: 1 = yes, 0 = no)</p> <ol style="list-style-type: none"> 1. [<i>Harassment</i>] Has anyone <i>ever</i> repeatedly called you mean names, made fun of you, or teased you in a hurtful way either face-to-face or electronically (e.g., texting, email, online)? 2. [<i>Theft</i>] Has anyone <i>ever</i> stolen something that belonged to you when you were not around such as a cellphone, wallet, jewelry, luggage, or something else? 3. [<i>Stalking</i>] Has anyone <i>ever</i> repeatedly followed you, watched you, phoned, written, e-mailed, or communicated with you in other ways that seemed obsessive, made you afraid or concerned for your safety or the safety of others close to you, or caused you emotional distress? 4. [<i>Threats of Violence</i>] Has anyone <i>ever</i> threatened to seriously harm you with physical violence (e.g., punch, kick, slap, choke, burn) or threatened you with a gun, knife, or some other weapon? 5. [<i>Physical Violence</i>] Has anyone <i>ever</i> actually seriously harmed you with physical violence (e.g., punch, kick, slap, choke, burn) or harmed you with a gun, knife, or some other weapon? 6. [<i>Sexual Harassment</i>] Has anyone <i>ever</i> made unwanted sexual remarks such as comments, jokes, cat calls, whistles about your looks, or noises with sexual overtones to you or about you when you did not want them to? 7. [<i>Sexual Assault</i>] Has anyone <i>ever</i> touched you in a sexual manner that was unwanted or uninvited? Touching could include forced kissing, touching of private parts, grabbing, fondling, and rubbing up against you in a sexual way, even if it is over your clothes. <p>Factor loadings: .60-.76 Variance explained: 43.9%</p>
CPS Involvement Before 18	Were you <i>ever</i> part of the foster care or child welfare system while you were under the age of 18? (Response: 1 = yes, 0 = no)
Ran Away Before 18	Did you <i>ever</i> run away from home when you were under the age of 18? (Response: 1 = yes, 0 = no)
Know Someone: Sold Drugs	Do you personally know anyone who has sold drugs? (Response: 1 = yes, 0 = no)
Know Someone: Serious Crime	Do you personally know anyone who has committed a serious crime (e.g., rape, murder, armed robbery)? (Response: 1 = yes, 0 = no)
Know Someone: Arrested	Do you personally know anyone who has been arrested for a crime? (Response: 1 = yes, 0 = no)
Know Someone: Commercial Sex	<p>Do you personally know anyone who has <i>ever</i> engaged in a sexual act for anything of value? (Response: 1 = yes, 0 = no)</p> <ul style="list-style-type: none"> • Just so there is no confusion, a <i>sexual act</i> could include oral, vaginal, or anal intercourse, masturbation, or something else sexual. The sexual behavior may have been performed on the individual or they may have performed the sexual behaviors on another person. • <i>Anything of value</i> could include money, favors, drugs, a place to stay, food, gifts, or something else.

Supplemental Appendix: Key Covariate/Control Variable Items and Scale Properties

Variable	Survey instructions and items
Impulsivity	<p>To what extent do you agree or disagree with the following statements (Response: 1 = strongly disagree to 5 = strongly agree)</p> <ol style="list-style-type: none">1. I often act on the spur of the moment without stopping to think2. I don't devote much thought and effort to preparing for the future3. I often do whatever brings me pleasure here and now, even at the cost of some distant goal4. I'm more concerned with what happens to me in the short run than in the long run <p>Factor loadings: .68-.72 Variance explained: 47.8%</p>
Antisocial Attitudes	<p>Please indicate your level of agreement with each item below (Response: 1 = strongly disagree to 5 = strongly agree)</p> <ol style="list-style-type: none">1. It's alright to beat up another person if they insulted you2. It's okay to break the law if you can get away with it3. To get ahead, sometimes you have to do things that seem wrong4. Most things that people call "crime" don't really hurt anyone5. It's okay to break the law if nobody is hurt by it <p>Factor loadings: .63-.82 Variance explained: 56.4%</p>
Age	Birthyear (Coded in years)
Race	What racial or ethnic group best describes you? (Response: White [reference group], Black, Hispanic)
Education	What is the highest level of education you have completed? (Response: 1 = high school graduate, 0 = no high school degree)
Marital Status	What is your marital status? (Response recoded as: 1 = never married, 0 = other relationship)
Employment	Which of the following best describes your current employment status? (Response recoded as: 1 = employed [full/part], 0 = other employment)
Region of Residence	Response recoded based on state of residence: South [reference group], Northeast, Midwest, West

Table S1. Comparison of Current Sample to 2018 American Community Survey

Demographics	Current Sample	ACS Comparison	Other ACS Comparisons		
	18- to 29-year-old, non-college educated women	18- to 29-year-old, non-college educated women	18- to 29-year-old women, any college education	Women aged 30 and older	All women in the population aged 18 and older
Average Age	23.55	22.71	24.05	54.83	48.51
Race/Ethnicity ^a					
White	51.4%	49.7%	59.8%	66.4%	64.4%
Black	18.4%	18.4%	14.6%	12.5%	13.2%
Hispanic	30.2%	27.9%	17.9%	14.3%	15.7%
Education					
No HS Degree	16.7%	25.9%	--	11.5%	11.0%
HS Graduate	83.3%	74.1%	--	26.4%	26.2%
Any College	--	--	100.0%	62.1%	62.8%
Marital Status					
Never Married	65.7%	79.2%	76.8%	14.8%	27.5%
Married	18.9%	17.3%	20.7%	55.8%	48.5%
Other ^b	15.3%	3.5%	2.5%	29.4%	24.0%
Employment					
Employed	37.7%	55.9%	74.2%	53.9%	56.7%
Unemployed	22.8%	7.9%	4.2%	2.1%	2.8%
Other ^c	39.5%	36.2%	21.6%	44.0%	40.5%
Region					
Northeast	15.4%	15.2%	18.1%	17.9%	17.7%
Midwest	20.4%	20.2%	20.8%	20.8%	20.8%
South	41.2%	40.8%	36.6%	38.2%	38.1%
West	23.0%	23.8%	24.5%	23.1%	23.3%
<i>Population</i>	<i>996</i>	<i>9,098,348</i>	<i>17,271,649</i>	<i>103,951,338</i>	<i>130,321,335</i>
<i>Percent of Adult Females</i>		<i>7.0%</i>	<i>13.3%</i>	<i>79.8%</i>	<i>100.0%</i>

Note: ACS: American Community Survey. HS: high school. Current sample reflects weighted estimates. Some percentages may not equal to 100% due to rounding. The U.S. Census defines the "South" as incorporating multiple, highly populated states (e.g., Texas, Florida; https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf). The region variable in the current study matches the U.S. Census regions, which contributes to the relatively high percentage females from the South. ACS data retrieved from 1-year estimates: <https://data.census.gov/mdat/#/search?ds=ACSPUMS1Y2018>.

^aRace and ethnicity in the YouGov survey were combined into one question. For this reason, ACS comparisons for race/ethnicity examine White and Black groups that are non-Hispanic only.

^bIncludes categories such as being in a partnership, separated, divorced, and widowed.

^cIncludes categories such as temporarily laid off, homemaker, student, permanently disabled, and "other."

Table S2. Reporting Decisions for Respondents Who Endorsed Experiencing Coercion, Fraud, or Force After the Age of 18

Variable	<i>n</i> (%)			
	Total	White	Black	Hispanic
Any Reporting/Discussion	130	51	38	42
Reported to Law Enforcement	52 (39.6)	19 (38.0)	25 (66.9)	7 (16.8)
Discussed with Someone Known	77 (59.3)	31 (61.2)	28 (74.7)	18 (43.1)
Coercion Present	78	35	24	18
Reported to Law Enforcement	41 (52.7)	17 (49.1)	18 (72.3)	6 (33.6)
Discussed with Someone Known	48 (61.2)	20 (57.1)	18 (74.1)	10 (52.2)
Fraud Present	110	43	31	36
Reported to Law Enforcement	35 (31.9)	12 (27.8)	20 (64.3)	3 (9.5)
Discussed with Someone Known	60 (54.3)	24 (56.9)	22 (70.5)	14 (37.7)
Force Present	69	27	26	17
Reported to Law Enforcement	34 (48.6)	9 (35.4)	20 (79.0)	4 (23.0)
Discussed with Someone Known	43 (62.0)	15 (55.9)	21 (81.1)	7 (42.1)

Note: Weighted sample sizes and/or percentages have been rounded and may not equal to total estimates.

Table S3. Logistic Regression Models Predicting Sex Trafficking Victimization with ACE Subscales

	Model 4			Model 5			Model 6		
	Adult ST Victimization Only			Minor ST Victimization Only ^a			Both Adult and Minor ST Victimization		
	<i>b</i> (SE)	OR	[95% CI]	<i>b</i> (SE)	OR	[95% CI]	<i>b</i> (SE)	OR	[95% CI]
ACE Subscales									
Emotional Abuse	.60 (.67)	1.83	[0.49, 6.74]	-.38 (.37)	0.68	[0.33, 1.42]	-.03 (.45)	0.97	[0.40, 2.34]
Physical Abuse	.11 (.62)	1.12	[0.33, 3.76]	.15 (.36)	1.16	[0.57, 2.35]	.35 (.44)	1.41	[0.60, 3.33]
Sexual Abuse	.43 (.45)	1.53	[0.64, 3.68]	1.13 (.28)***	3.09	[1.77, 5.38]	.87 (.38)*	2.38	[1.13, 5.01]
Emotional Neglect	-.05 (.57)	0.96	[0.31, 2.95]	.35 (.34)	1.42	[0.73, 2.75]	-.67 (.40)	0.51	[0.23, 1.11]
Physical Neglect	-.44 (.44)	0.64	[0.27, 1.53]	-.66 (.34)	0.52	[0.26, 1.01]	1.01 (.43)*	2.76	[1.18, 6.42]
Family Violence	.004 (.46)	1.00	[0.41, 2.47]	1.07 (.31)**	2.92	[1.59, 5.38]	.63 (.38)	1.87	[0.89, 3.96]
Parents Separated	-.10 (.49)	0.90	[0.34, 2.37]	.28 (.31)	1.33	[0.73, 2.42]	-.55 (.39)	0.58	[0.27, 1.26]
Substances in Home	1.46 (.58)*	4.33	[1.39, 13.51]	.18 (.31)	1.20	[0.65, 2.22]	-.54 (.46)	0.58	[0.23, 1.44]
Mental Illness in Home	-.43 (.49)	0.65	[0.25, 1.69]	.05 (.29)	1.05	[0.60, 1.85]	-.72 (.46)	0.48	[0.20, 1.19]
Incarcerated Family Member	-.03 (.51)	0.97	[0.36, 2.64]	-.20 (.35)	0.82	[0.41, 1.64]	-.14 (.43)	0.87	[0.37, 2.01]
Victimization Index	.27 (.11)*	1.31	[1.05, 1.63]	–	–	–	.43 (.11)***	1.53	[1.24, 1.90]
CPS Involvement Before 18	.03 (.52)	1.03	[0.37, 2.85]	.77 (.40)	2.16	[0.98, 4.76]	.37 (.36)	1.45	[0.72, 2.94]
Ran Away Before 18	.63 (.44)	1.87	[0.79, 4.41]	.83 (.27)**	2.28	[1.33, 3.91]	1.29 (.35)***	3.65	[1.84, 7.24]
Know Someone: Sold Drugs	1.95 (.56)***	7.05	[2.37, 21.00]	–	–	–	1.17 (.46)*	3.23	[1.32, 7.90]
Know Someone: Serious Crime	-.27 (.45)	0.76	[0.32, 1.85]	–	–	–	-.11 (.38)	0.89	[0.42, 1.90]
Know Someone: Arrested	-.93 (.59)	0.39	[0.12, 1.26]	–	–	–	-.36 (.45)	0.70	[0.29, 1.69]
Know Someone: Com. Sex	.87 (.45)	2.39	[0.98, 5.80]	–	–	–	1.16 (.39)**	3.18	[1.47, 6.84]
Impulsivity	.69 (.29)*	2.00	[1.13, 3.53]	-.02 (.17)	0.98	[0.70, 1.37]	.56 (.22)*	1.76	[1.15, 2.69]
Antisocial Attitudes	-.22 (.28)	0.80	[0.46, 1.38]	.49 (.15)**	1.64	[1.21, 2.22]	.20 (.19)	1.22	[0.84, 1.76]
Age	.06 (.07)	1.06	[0.93, 1.20]	–	–	–	-.01 (.05)	0.99	[0.90, 1.10]
Race									
White (ref)									
Black	1.81 (.60)**	6.12	[1.89, 19.82]	.23 (.33)	1.26	[0.67, 2.40]	1.37 (.46)**	3.94	[1.61, 9.65]
Hispanic	1.09 (.50)*	2.97	[1.11, 7.91]	-.40 (.34)	0.67	[0.34, 1.31]	.30 (.41)	1.35	[0.61, 2.98]
High School Graduate	.59 (.64)	1.81	[0.52, 6.34]	–	–	–	.43 (.50)	1.54	[0.58, 4.10]
Never Married	-.52 (.48)	0.60	[0.23, 1.52]	–	–	–	-.62 (.33)	0.54	[0.28, 1.02]
Employed (full/part)	-.26 (.44)	0.77	[0.32, 1.82]	–	–	–	.17 (.35)	1.19	[0.60, 2.35]

Table S3. Logistic Regression Models Predicting Sex Trafficking Victimization with ACE Subscales

	Model 4			Model 5			Model 6		
	Adult ST Victimization Only			Minor ST Victimization Only ^a			Both Adult and Minor ST Victimization		
	<i>b</i> (SE)	OR	[95% CI]	<i>b</i> (SE)	OR	[95% CI]	<i>b</i> (SE)	OR	[95% CI]
Region									
South (ref)									
Northeast	.19 (.60)	1.21	[0.37, 3.94]	.62 (.36)	1.85	[0.91, 3.77]	.49 (.41)	1.64	[0.73, 3.66]
Midwest	-.23 (.61)	0.79	[0.24, 2.63]	-.22 (.41)	0.80	[0.36, 1.80]	.34 (.49)	1.41	[0.54, 3.68]
West	-1.27 (.68)	0.28	[0.07, 1.07]	.63 (.33)	1.87	[0.99, 3.54]	.73 (.42)	2.07	[0.90, 4.75]
Constant	-9.76 (2.02)***			-4.48 (.53)***			-8.25 (1.58)***		
LR χ^2	92.09***			109.31***			287.70***		
Nagelkerke R ²	.34			.24			.57		
Observations	808			866			863		

Note: ST: sex trafficking; OR: odds ratio; CI: confidence interval; ACE: adverse childhood experience; CPS: child protective services.

^aOnly demographic characteristics, individual propensities, and items that asked about events before the age of 18 were examined.

p* < .05, *p* < .01, ****p* < .001