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Adverse Childhood/Adolescent Experiences and Risk of Recruitment Into Sex Trafficking

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Walden University

College of Health Sciences and Public Policy

This is to certify that the doctoral study by

Shwana Coleman

has been found to be complete and satisfactory in all respects,
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Walden University
2023

Abstract

Adverse Childhood/Adolescent Experiences and Risk of Recruitment Into Sex

Trafficking

by

Shwana Coleman

MPH, Cleveland State University, 2001

BS, Ohio University, 1998

Doctoral Study Submitted in Fulfillment

of the Requirements for the Degree of

Doctor of Public Health

Walden University

February 2023

Abstract

Human trafficking victims are negatively impacted by the process of coercion, kidnapping, and forced sexual interactions. Previous research studies showed that sex trafficking impacts victims' mental health. The purpose of this quantitative study was to investigate whether adverse childhood/adolescent experiences (i.e., substance abuse, psychological abuse, and physical abuse) influence recruitment to sex trafficking in the United States and whether age acts as a moderator. The health belief model provided the theoretical framework for the study that includes data from 2010–2015 collected by the Polaris Project, a global sex trafficking database. Convenience sampling was done to delineate the study variables and study time-period. This study focused on the 7,345 records for women who were exploited in the United States. A series of logistic regression analyses were used to calculate the relationship, if any, that exists between substance abuse, psychological abuse, and physical abuse and recruitment into sex trafficking in the United States, adjusting for age. The results of these analyzes indicated that substance abuse, physical abuse, and psychological abuse are all significant predictors of recruitment into sex trafficking, with age as a covariate. This study may lead to improved knowledge regarding pre-existing adverse childhood/adolescent experiences that were present among sex trafficking victims. Implications for positive social change are that the findings could lead to increased awareness of the potential link between children's adverse experiences and the risk of recruitment into sex trafficking and increased targeted prevention efforts to help prevent sex trafficking from thriving.

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Dedication

This doctoral study is dedicated to the family and friends that supported me throughout my pursuit of higher education. Their listening ears, words of encouragement, patience, and understanding sustained me through what was sometimes a daunting task. Most of all, I'd like to dedicate this body of work to my mother and father, who instilled the pursuit of reaching the highest level of education in my chosen field, through love, gentle guidance, and constant encouragement.

They taught me that education was the cornerstone of life, and through it, I could do and be anything. Finally, I'd like to dedicate this important body of work to the public health community and to survivors of sex trafficking. It is my sincere hope that this doctoral study will raise awareness and serve as an education tool to facilitate strategic and relevant victim-centered services.

Acknowledgments

Thank you to God, and all the family, friends, and colleagues that supported me throughout this process. There have been a lot of joys and sorrows along this journey, and I could not have succeeded without their wise counsel, love, support, and encouragement. I also want to wholeheartedly thank my chair, Dr. Claire Robb, for thoughtful guidance, thorough feedback, always being a listening ear, and helping me to navigate the challenges of life while staying on task to successfully complete my doctoral study.

Thank you to my committee members. You provided timely and insightful feedback at every turn. Collectively, you ALL have contributed to the successful completion of my doctoral study. I am proud to submit this body of work to the public health community.

Table of Contents

List of Tables	iv
List of Figures	v
Section 1: Foundation of the Study and Literature Review	1
Background	2
Problem Statement	3
Purpose of the Study	4
Research Questions	5
Theoretical Framework	6
Nature of the Study	10
Review of Related Literature	12
Literature Search Strategy	12
Literature Review Related Key Concepts	13
Substance Abuse and Sex Trafficking	14
Physical Abuse and Sex Trafficking	15
Psychological Abuse and Sex Trafficking	17
Literature Summary	18
Definitions	19
Assumptions	19
Scope and Delimitations	20
Limitations	20
Significance	21

Summary and Conclusions	22
Section 2: Research Design and Data Collection	24
Research Design and Rationale	24
Methodology	26
Population	26
Sampling and Sampling Procedures	26
Operationalization.....	28
Data Analysis Plan.....	29
Threats to Validity	30
External Validity.....	30
Internal Validity	31
Ethical Considerations	31
Summary	32
Section 3: Presentation of the Results and Findings.....	33
Accessing the Dataset for Secondary Analysis.....	34
Descriptive Statistics.....	35
Results.....	37
Summary	43
Section 4: Application to Professional Practice and Implications for Social Change	44
Interpretation of the Findings.....	47
Substance Abuse and Recruitment to Sex Trafficking	47
Psychological Abuse and Recruitment to Sex Trafficking.....	48

Physical Abuse and Recruitment to Sex Trafficking.....	49
Psychological Abuse, Substance Abuse, and Physical Abuse as Predictors	50
The HBM in the Context of the Findings	51
Limitations of the Study.....	52
Recommendations.....	53
Implications for Professional Practice and Social Change	55
Conclusion	56
References.....	58

List of Tables

Table 1. Frequencies and Percentages of Psychological Abuse, Substance Abuse, and Physical Abuse Variables	35
Table 2. Frequencies and Percentages of Age by Participants Recruited Into Sex Trafficking....	36
Table 3. Distribution of Independent Variables by Sexual Recruitment Status.....	39
Table 4. Binary Logistic Regression Using Substance Abuse as Predictor.....	40
Table 5. Binary Logistic Regression Using Psychological Abuse as Predictor	41
Table 6. Binary Logistic Regression Using Physical Abuse as Predictor	42
Table 7. Binary Logistic Regression Using Psychological, Substance, and Physical Abuse as Predictors	42

List of Figures

Figure 1. Health Belief Model for This Study 8

Section 1: Foundation of the Study and Literature Review

Sex trafficking is a significant issue in the United States (Barnert et al., 2017). Previous research exists regarding the role of the relationship between the recruiter and victim and highlights that sexual trafficking of adolescents in the United States results in an increase of mental health disorders, depression, suicidal risk, and anxiety (Barnert et al., 2017). Additionally, Lee et al. (2018) highlighted that sex trafficking is a public health concern that increases the spread of sexually transmitted infections (STIs) and sexually transmitted diseases (STDs) and mentally and physically endangers victims (Lee et al., 2018). In this study, I explored the topic of sex trafficking, specifically as it relates to sex trafficking victims' experiences of abuse when they were minors. Exploring this topic was essential because of the potential benefits that was realized through the findings from this study. A potential positive social change would be increasing society's awareness of the implications of how adverse childhood/adolescent experiences are linked to recruitment into sex trafficking in the United States. By improving awareness of this situation, different social groups and communities may work towards efficient, effective ways of preventing sex trafficking in the United States, possibly through addressing adverse childhood/adolescent experiences.

This study focused on adverse childhood/adolescent experiences and risk of recruitment into sex trafficking. The contents of this section include: (a) background of the study, (b) problem statement, (c) purpose of the study, (d) research questions and hypotheses, (e) theoretical framework, (f) nature of the study, (g) literature search

strategy, (h) theoretical framework, (i) literature review related to key variables and concepts, (j) definitions, (k) assumptions, (l) scope and delimitations, (m) limitations, and (n) significance. Section 1 will conclude with a summary and conclusion to transition to Section 2.

Background

Sex trafficking is a significant domestic problem in the United States (Moore et al., 2017; Titchen et al., 2017). Risk factors for minors who become sex trafficked individuals in the United States are identified as running away from home and previous history of difficulty in school or at home (Choi, 2015). Chohaney (2016) illustrated the growth of sex trafficking in rural regions of Ohio through surveying a group of 328 sex workers identified through the Human Trafficking Commission. Gender and peer influence were key risk factors. Rajaram et al. (2018) noted that sex-trafficked survivors reported mental health issues. The role of pre-existing adverse childhood/adolescent experiences was not examined but was identified as a recommended avenue for future research (Rajaram et al., 2018).

Although mental health issues resulting from trauma, maltreatment, family dysfunction, substance abuse, and history of STIs were identified as pre-existing conditions in the assessment of sex trafficking victims, there is a lack of quantitative studies to determine whether there is a statistically significant relationship between pre-existing adverse childhood/adolescent experiences and recruitment into sex trafficking (Miller-Perrin et al., 2017; Goldberg et al., 2017). Furthermore, current physician

assessment criteria also include high-risk behavior but do not screen for mental health risk factors (Greenbaum et al., 2018). Miller-Perrin et al. (2017) and Goldberg et al. (2017) argued for future analysis to examine the role of pre-existing mental health conditions in terms of recruitment into sex trafficking.

Problem Statement

Little is known about the relationship between pre-existing adverse childhood/adolescent experiences (e.g., substance abuse and psychological and physical trauma) and sex trafficking recruitment in the United States (Barnert et al., 2017; Judge, 2018; Tsutsumi et al., 2008). Human trafficking victims are negatively impacted by the process of coercion, kidnapping, and forced sexual interactions (Miller-Perrin & Wurtele, 2017; Sprang & Cole, 2018). Previous assessments demonstrated that sex trafficking impacts victims' mental health (Rimal & Papadopoulos, 2016). Also, researchers showed that those individuals with pre-existing adverse childhood/adolescent experiences are prone to sexual abuse and violence (Fuller-Thomson et al., 2020; Iglesias-Rios et al., 2018). However, only a few studies explored the assessments to examine whether pre-existing adverse childhood/adolescent experiences of substance abuse, psychological abuse, and physical abuse have a statistically significant relationship with an individual's recruitment into sex trafficking (Cook et al., 2018; Gezie et al., 2018; Tsutsumi et al., 2008). As such, there is a critical need to understand different risk factors such as substance abuse, psychological abuse, and physical abuse that may lead some individuals to be exposed to sex trafficking.

The research I conducted is critical to spreading awareness of recruitment into sex trafficking and new data regarding the public health concern posed through the spread of STIs and STDs (Le et al., 2018; Such et al., 2019; Zimmerman & Kiss, 2017). The spread of STIs and STDs can occur as individuals are coerced and forcibly moved throughout global settings. The movement of these vulnerable individuals also leads to an increase of spreading STIs and STDs across each region or state (Greenbaum & Dodd, 2018; Goldberg et al., 2017). Through demonstrating whether pre-existing adverse childhood/adolescent experiences serve as a risk factor, this research could aid in increasing awareness of pre-existing adverse childhood/adolescent experiences that contribute to increased risk of being trafficked for sex, and therefore reducing the risk. Additionally, this research could also contribute to informing public health interventions that could reduce the spread of STIs and STDs.

Purpose of the Study

The purpose of this quantitative study was to investigate whether adverse childhood/adolescent experiences (i.e., substance abuse, psychological abuse, and physical abuse) influence recruitment into sex trafficking in the United States and whether demographic variables (i.e., age, gender, and citizenship) act as moderators. The study is significant as it led to improved knowledge regarding pre-existing adverse childhood/adolescent experiences that were present among sex trafficking victims. To achieve the purpose of this study, I used data from a 5-year period, 2010–2015, collected by the Polaris Project (n.d.). The Polaris Project is an ideal data source due to its

extensive database, which houses global sex trafficking data including for the United States. A logistic regression analysis was used to calculate the relationship, if any, that exists between substance abuse, psychological abuse, and physical abuse and recruitment into sex trafficking in the United States and adjusted for age.

Research Questions

RQ1. Is there an association between substance abuse and the recruitment into sex trafficking in the United States adjusted for age?

H_01 . There is no association between substance abuse and the recruitment into sex trafficking in the United States adjusted for age.

H_a1 . There is an association between substance abuse and the recruitment into sex trafficking in the United States adjusted for age.

RQ2. Is there an association between psychological abuse and the recruitment into sex trafficking in the United States adjusted for age?

H_02 . There is no association between psychological abuse and the recruitment into sex trafficking in the United States adjusted for age.

H_a2 . There is an association between psychological abuse and the recruitment into sex trafficking in the United States adjusted for age.

RQ3. Is there an association between physical abuse and the recruitment into sex trafficking in the United States adjusted for age?

H_03 . There is no association between physical abuse and the recruitment into sex trafficking in the United States adjusted for age.

H_{a3}. There is an association between physical abuse and the recruitment into sex trafficking in the United States adjusted for age.

Theoretical Framework

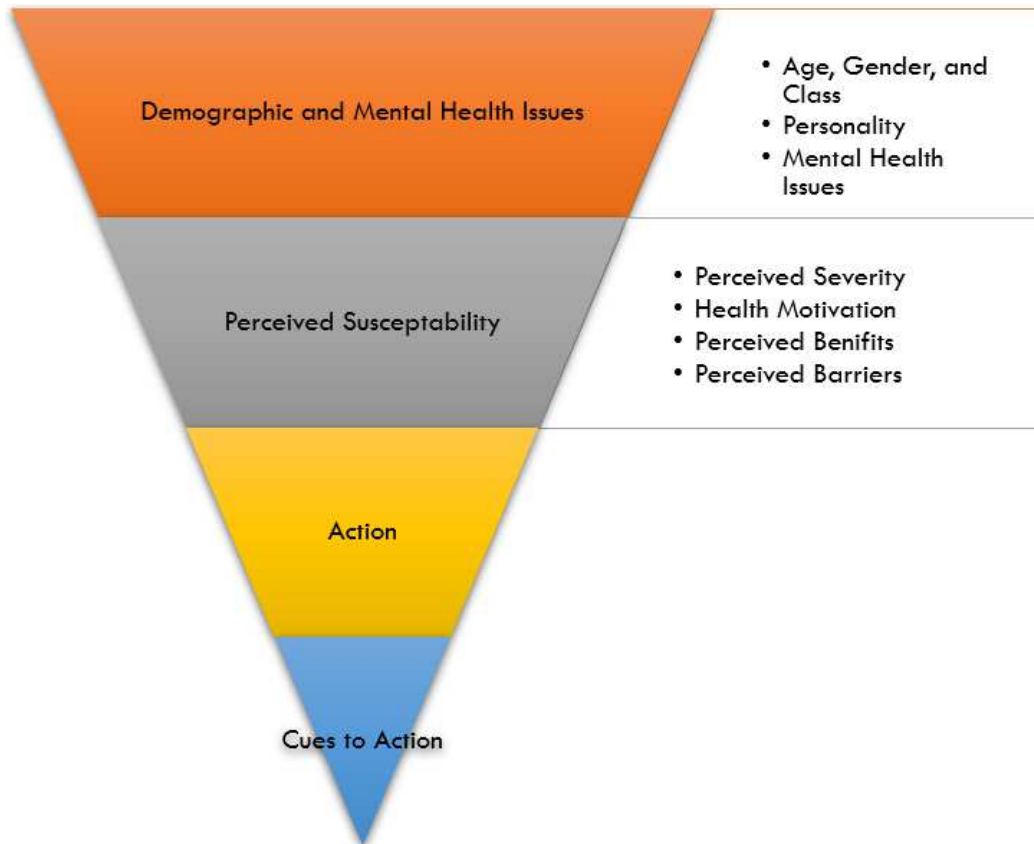
Hochbaum's health belief model (HBM; Hochbaum et al., 1952) served as the theoretical framework that guides this study. Hochbaum developed the original theoretical model in 1952. According to the HBM, the health behavior of an individual is dependent on their perceptions and beliefs regarding a specific illness and the available strategies for decreasing the occurrence and effects of that illness (Hochbaum et al., 1952). The context of the origin of the HBM was characterized as a time when the medical community placed great emphasis on screening programs for illness prevention; but the public was not enthusiastic about getting screened for illnesses for which they did not possess any symptoms (Nigussie et al., 2019).

However, in the past few decades, the theory has undergone significant expansion (Champion & Skinner, 2008; Janz & Becker, 1984; Strecher & Rosenstock, 1997). The foundation of the theory holds that social variables, such as age, class, race, and gender may lead to increased risk or prevalence of public health concerns. The HBM served as a foundation for addressing key concerns for public health in the United States, which is now extended towards explorations globally (Champion & Skinner, 2008; Darvishpour et al., 2018). The HBM has been described as one of the most widely employed theories of health behavior (Sulat et al., 2018; Xiang et al., 2020). Xiang et al. (2020) used the HBM to develop a health behavior questionnaire for oral health. Sulat et al. (2018) used the

HBM to predict behavioral changes to individuals. Understanding the variables that contribute to public health concern is considered vital to developing interventions, prevention strategies, and screening tests to assess for risk factors of individual vulnerability to illnesses (Champion & Skinner, 2008). In the original foundation of the HBM, Hochbaum et al. (1952) highlighted in psychological literature (a) that individuals will desire to avoid being sick or want to get well if they are sick and (b) that specific health actions can serve to cure and prevent illness based on the actions, perceptions, and efforts that address health behavior (Champion & Skinner, 2008). These two tenets were later expanded to include six domains that provide a more comprehensive view of health behavior.

In a seminal paper, Rosenstock et al. (1988), cofounders of the HBM, reviewed the model and showed how it was related to social learning theory, self-efficacy, and locus of control. Rosenstock et al. further expanded the model and included self-efficacy. The HBM also included six key tenets that were essential for providing a comprehensive overview: (a) perceived susceptibility, referring to the risk of the illness or a feeling of vulnerability; (b) perceived severity, which refers to the feelings of the individual towards contracting the illness; (c) perceived benefits, referring to the effectiveness of taking action towards avoiding the illness; (d) perceived barriers, which are barriers to reducing the likelihood of spread and infection; (e) cue to action, which is the stimulus that is considered vital to ensuring health actions from public and personal individuals and; (f) self-efficacy, which refers to the confidence of the individual to avoid the

behaviors that would lead to an increased risk of illness (Champion & Skinner, 2008). Figure 1 demonstrates these variables and the process that researchers could assess in considering action towards illness or a destructive behavior. Each of these factors, though originally referring to spread of illness, are now also considered essential to public health concerns that include social issues beyond only the illness itself (Champion & Skinner, 2008). The theoretical model shown in Figure 1 aided in framing my exploration of adverse childhood/adolescent experiences (e.g., substance abuse, psychological abuse, and physical abuse) and demographic variables (e.g., class, gender, and age).

Figure 1*Health Belief Model for This Study*

Note. Adapted from “The Health Belief Model,” by V. L. Champion and C. S. Skinner, in K. Glanz, B. K. Rimer, and K. Viswanath (Eds.), *Health behavior and health education: Theory, research, and practice* (pp. 45–65), 2008. Jossey-Bass.

The HBM has been used for various purposes in research about psychological and mental health (Bakhtiar et al., 2017; Langley et al., 2018, 2021). Langley et al. (2018) used the HBM to identify significant predictors of anxiety disorders. Bakhtiar et al. (2017) used the HBM to identify psychological determinants of self-medication among the elderly. Langley et al. (2021) used the HBM to predict help-seeking for depressive

symptoms. The HBM is an ideal tool in this study to explore the social predictive adverse childhood/adolescent experiences (e.g., substance abuse, psychological abuse, and physical abuse) in relationship with the public health concern of sex trafficking, which could lead to a spread of STIs and STDs. Using the HBM, the findings of this study can be contextualized within a greater foundational schema that also considers the role of public health and the recommendations for interventions and action based on the relationship, if any, revealed between adverse childhood/adolescent experiences and risk of recruitment into sex trafficking.

Nature of the Study

The purpose of this quantitative study was to investigate whether adverse childhood/adolescent experiences (i.e., substance abuse, psychological abuse, and physical abuse) influence recruitment into sex trafficking in the United States and whether age acts as a moderator. I used this quantitative research design to explore the regression model between substance abuse, psychological abuse, and physical abuse and recruitment into sex trafficking to answer the research questions and hypotheses. The adverse childhood/adolescent experiences (i.e., substance abuse, psychological abuse, and physical abuse) were the predictor variables, recruitment into sex trafficking was the criterion variable, and the moderator was age. All variables were measured in categorical form and analyzed using logistic regression analysis.

The sample for this study came from secondary data from the Polaris Human Trafficking Database (Polaris Project, n.d.) in the United States from 2010–2015. I used

convenience sampling to delineate the study variables and study time-period. The characteristics of the database accessed include demographic variables and mental and physical health variables of all individuals sex trafficked during 2010–2015 in the United States. The database houses approximately 48,801 records of victims of trafficking of at least 43 different nationalities who were exploited in at least 52 countries from 2010 to 2015. Filtering the data for cases in the United States resulted to a dataset of 12,512 data points. The data were then further filtered to produce data points from female adults who are 18 years old and above to consider the inclusion criteria set for the study. Based on the inclusion criteria I set, participants should be 18 years old and above to ensure that there are no minors involved in the study. After excluding data from samples who are not part of the target population, a total of 7,345 data points were included in the analyses. This study focused on the 7,345 records for women who were exploited in the United States.

I conducted a G*Power analysis to demonstrate the minimum number of participants required to reach data saturation. The categories and subcategories in the database are represented as present/not-present (Polaris Project, n.d.). Further, demographic variables are represented as nominal categories (e.g., age of victim). The demographic variables collected for this study included the age, gender, and citizenship of the individual as a means of providing context to the result of regression analysis between mental health variables and recruitment into sex trafficking. The data from the

Polaris Human Trafficking Database were de-identified, and as such, ethical risks in this project were minimal.

Review of Related Literature

Literature Search Strategy

In performing a review of related literature, I conducted a search for relevant articles, documents, and periodicals. Databases that were used to collect the documents included in this literature review were the following: Educational Resource Information Center (ERIC), JSTOR, PubMed, Psych Articles, ScienceDirect, and Google Scholar. In performing the database search, I used the following key terms: *human trafficking, sex trafficking, adverse experiences, childhood experiences, adolescent experiences, substance abuse, psychological trauma, physical trauma, recruitment risks, and health belief model*. These terms were chosen because of the relevance to the current study. The search terms were used in conjunction with each other to generate more specific and relevant search results.

The reference list of relevant articles was also reviewed. This literature was used to establish the components of the theoretical framework, research problem, and research phenomenon for the study. Most of the literature included in this review was published between 2017 and 2021, except for a few relevant seminal articles that were published before 2017.

Literature Review Related Key Concepts

Sex trafficking has been a pressing social issue in the United States (Reid et al., 2017; Sprang & Cole, 2018; Titchen et al., 2017). Although both adults and minors have been victims of sexual trafficking and commercial sexual exploitation, researchers and practitioners have agreed that children and minors are more vulnerable (DeVries & Goggin, 2020; Moore et al., 2017; Sprang & Cole, 2018). The vulnerability of this population is mainly associated with minors' lack of experiences and skills to cope effectively with childhood adversities and the decreased level of resiliency of people from this population (Franchino-Olsen, 2021).

Understanding the factors that make minors vulnerable to sex trafficking must be the focus of prevention efforts to properly design programs to prevent victimization of these children (Franchino-Olsen, 2021). Some adults have exploited children through forced labor and sex trafficking in private and because of economic advantage (Gerassi et al., 2018). Researchers have explored and identified the different risk factors for sex trafficking victimization of minor. Among these risk factors are sexual abuse and substance use and abuse (Moore et al., 2017; Sprang & Cole, 2018). Roby and Vincent (2017) claimed that children and youths exploited in commercial sex have been identified to have prior experiences of abuse and neglect. Other researchers also claimed that physical and psychological abuses are risk factors for sex trafficking (Reid et al., 2017). In this review of related key concepts, the details of these risk factors are discussed to identify the research gap addressed in this study.

Substance Abuse and Sex Trafficking

Among the risk factors associated with victimization of sex trafficking is substance abuse (Franchino-Olsen, 2021). The context of substance abuse in Franchino-Olsen's (2021) study involves cases for both the minor and parents of the minor or family members.

Prior abuses and trauma, including substance abuses, are said to be common experiences found among victims of sex trafficking (Le et al., 2018). In a systematic review of literature, Le et al. (2018) showed that victims of sex trafficking had increased burdens of substance use and abuse.

In De Vries and Goggin's (2020) study exploring the factors that could increase the risk for sex trafficking victimization among minors through a systematic review and meta-analysis, a major finding was that sexual abuse considerably increases the risk of exploitation, especially among female youth in the United States. However, the authors did not fully explore the relationship of substance abuse experiences among children to their chances of victimization of sex trafficking through empirical data and statistical analysis.

In a similar study, Goldberg et al. (2017) explored the different clinical characteristics of patients identified as victims of sex trafficking. They found that minors referred to as victims of domestic sexual trafficking had a history of sexual abuse (57%) and parental substance abuse occurred in cases where minors were sexually trafficked (60%). Goldberg et al.'s study, as well Devries and Goggin (2020), did not explore the

relationship between substance abuse experiences of children and their chances of victimization of sex trafficking through empirical data and statistical analysis.

Understanding and identifying the different experiences and events that are significantly associated with cases of sex trafficking is important. In this manner, professionals may prevent occurrences of such victimization and to develop programs that cater to minors of become victims of such social issue. Therefore, the relationship of previous substance abuse of the minor and their tendencies of sex trafficking victimization was explored in this study.

Physical Abuse and Sex Trafficking

Among the other factors associated with sex trafficking is past physical abuse (Hopper & Gonzalez, 2018). Instances of early forms of abuses could increase the risks of individuals for trafficking and other forms of re-victimization (DeVries & Goggin, 2020; Goldberg et al., 2017). Hopper and Gonzalez (2018) explicitly claimed that survivors of trafficking experience various forms of maltreatment prior to being trafficked, including childhood physical and sexual abuse. However, the cases of sexual trafficking in Hopper and Gonzalez's study did not necessarily happen during the childhood years of the individuals.

In a related study on risk factors for sex trafficking, it was found that the children referred as victims of domestic sexual trafficking had history of childhood maltreatment and family dysfunction (Goldberg et al., 2017). These same children were also found to have medical problems, such as STIs (32%), which may have been associated with past

physical abuses (Goldberg et al., 2017). Similar to Goldberg et al. (2017), Gonzalez-Pons et al. (2020) claimed that as many as 14% of youth victimized through sex trafficking in the United States have past experiences of physical and sexual abuse. Perkins and Ruiz (2017) also found that past physical abuse is related to sex trafficking. Specifically, Perkins and Ruiz interviewed minors who were identified as victims of sexual trafficking. These youth reported being victims of sexual or physical abuse in their home and being victims of sex trafficking (Perkins & Ruis, 2017). Based on these studies, it is evident that past physical abuses were associated with higher risks of victimization of sexual trafficking among minors in the United States (Goldberg et al., 2017; Gonzalez-Pons et al., 2020; Hopper & Gonzalez, 2018).

In a unique study, DeVries and Goggin (2020) found that physical abuse showed negligible or no significant independent impacts on the risk of exploitation for sexual trafficking among minors. This finding was based on a meta-analysis of literature about sexual trafficking, wherein only a small number of studies have found independent effects of physical abuse on sexual trafficking among the youth. Moreover, DeVries and Goggin focused on commercial sexual exploitation among the youth, instead of sexual trafficking of minors. Because of different methods used in different studies, results may vary especially when controlled variables are different for each case. Hence, in this study, I studied the variable of physical abuse in relation to recruitment into sex trafficking in the United States adjusted for age.

Psychological Abuse and Sex Trafficking

Among the other factors associated with sex trafficking is past physical abuse (Le et al., 2018). Having previous psychological trauma leaves minors vulnerable to victimization of sexual trafficking (Goldberg et al., 2017). Risk of being sex trafficking victims of minors with previous psychological trauma is high because of lack of coping skills needed to prevent this type of victimization (Franchino-Olsen, 2021). In a systematic review of literature, Le et al. (2018) showed that victims of sex trafficking had increased burdens of psychological and mental disorders, such as depression, posttraumatic stress disorder (PTSD), and suicidal behaviors. However, Le et al. did not explicitly explore the relationship between previous psychological trauma and tendencies of victimization of sex trafficking among minors through empirical data and statistical analysis. In another study, Goldberg et al. (2017) found that children who were referred to clinics as victims of sexual trafficking had psychiatric needs for acute suicidal tendencies (20%) and a minimum of one psychiatric admission in the past (46%). In Hopper and Gonzalez's (2018) related study, they explored the psychological symptoms associated with sexual trafficking and found that diagnosis of depression and PTSD was present in 71% and 61% of sex trafficking survivors, respectively. However, Hopper and Gonzalez only focused on these psychological factors as symptoms of sex trafficking, instead of identifying them as contributing factors to tendencies of being victims of sex trafficking. Unlike Goldberg et al., the population of minors was not included as the focus of Hopper and Gonzalez's study. Moreover, neither Goldberg et al. nor Hopper and

Gonzales were explicit in terms of exploring the relationship between previous psychological trauma and tendencies of victimization of sex trafficking among minors through empirical data and statistical analysis. Hence, in this study, I studied the variable of psychological abuse in relation to recruitment into sex trafficking in the United States adjusted for age.

Literature Summary

Literature supports that sexual trafficking is a pressing public health issue because of the risk factors and negative implications of this phenomenon to society and the victims of such an abusive action (Barnert et al., 2017; Le et al., 2018; Goldberg et al., 2017). Some of the risk factors related to sexual trafficking include sexual abuse and substance use, as well as physical and psychological abuses (Moore et al., 2017; Reid et al., 2017; Sprang & Cole, 2018). Among the negative implications of sexual trafficking are the occurrence of violence and re-victimization among victims (Fuller-Thomson et al., 2020; Iglesias-Rios et al., 2018). Although some researchers have focused on exploring the probabilities of sexual trafficking due to experiences of abuse and trauma in an individual's past, there is a gap in research in terms of exploring the influences of experiencing substance abuse, psychological abuse, and physical abuse in minors as it relates to their recruitment into sexual trafficking, while considering age, gender, and citizenship as moderators. I sought to address this gap through the research questions of this study.

Definitions

Physical abuse: Physical abuse is any act resulting in physical harm such as kicking, stabbing, or punching a child and examples of emotional abuse are verbal abuse or other acts encompassing the rejection, isolation, terrorization, ignorance, or corruption of a child (English, 1998).

Psychological abuse: Psychological abuse of children refers to the continuous and repeated infliction of different forms of inappropriate behaviors by adults, including the terrorizing, ignoring, belittling, intermeddling, and corrupting of minors (Zhang et al., 2020).

Sex trafficking: Sex trafficking is the recruitment, harboring, transportation, provision, or obtaining of a person for the purpose of a commercial sex act in exchange for money (Moore et al., 2017).

Sexual abuse: Sexual abuse of minors refers to any sexual activity that is performed on a child, with or in front of a child (Enache & Mihai, 2021).

Substance abuse: Substance abuse refers to the harmful or hazardous use of any psychoactive substance, which include licit and illicit drugs (Randhawa et al., 2020).

Assumptions

A key assumption of this study was the willingness of participants to answer the questions in an accurate, truthful, and complete manner. This assumption was necessary because of my inability to be certain of how the data were collected, as the data were

secondary. Another assumption of this study was that the participants understood the questions.

Scope and Delimitations

The first delimitation of this study was the focus of the phenomenon that is aligned with the topic and problem of the study: minors' recruitment into sex trafficking in the United States. The phenomenon is based on the problem of the study—that only a few researchers have explored assessments to examine whether pre-existing adverse childhood/adolescent experiences of substance and sexual abuses and psychological and physical trauma have a statistically significant relationship with an individual's recruitment into sex trafficking in the United States. No other phenomenon was explored in this study. Another delimitation of the study was that the participants consisted of secondary data from the Polaris Human Trafficking Database (Polaris Project, n.d.) in the United States from 2010–2015. Therefore, no other data were used for this study.

Limitations

A key limitation of this study is its quantitative nature, whereby causation or comparison cannot be determined. The quantitative design summarizes the patterns of the mental or physical health variables that are correlated with the recruitment into sex trafficking without the qualitative lens that would explain the reason and causes behind the patterns; therefore, this study only reveals a partial picture of the issue. Future research will be required to examine causation of the identified regression model

Another limitation is that while there are other forms of recognized human trafficking such as, debt bondage, and forced labor, this study only examines sex trafficking. Due to the hidden nature of sex trafficking, the Polaris Human Trafficking Database cannot be considered a representative or random sample of human trafficking victims (Polaris Project, n.d.). Therefore, the findings are not generalizable. Furthermore, data were limited to individuals who were identified or reported and did not capture information of unidentified victims of sex trafficking. Having missing information makes it difficult to accurately capture the full scope of this crime.

Finally, there is a lack of additional information about the 300 participants recruited into human trafficking but not sex trafficking. Therefore, the comparability of this group with the other participants cannot be adequately assessed. As such, the extent that unknown confounders could be impacting the conclusions is unknown.

Significance

Sex trafficking poses a serious public health risk in the United States (Greenbaum & Dodd, 2018; Goldberg et al., 2017). The concurrent spread of STIs, STDs, and the mental and physical trauma inflicted upon victims requires the focus of academic researchers to support clinicians and social workers' efforts in identifying potential victims (Le et al., 2018; Such et al., 2019; Zimmerman & Kiss, 2017). The coerced or forced recruitment by perpetrators requires that interventionists are educated about current data regarding the risk factors of potential victims (Goldberg et al., 2017).

The proposed study is significant in the field of sexual abuse as this study aims to determine whether pre-existing adverse childhood/adolescent experiences influence the recruitment to sex trafficking. This study specifically addressed the research gap by providing empirical evidence about how pre-existing adverse childhood/adolescent experiences related to the recruitment into sex trafficking in the United States. The known risk factors in academic literature include education and geographic region, as well as age and gender (Gezie et al., 2018; Tsutsumi et al., 2008) but none have studied about pre-existing adverse childhood/adolescent experiences. Researchers demonstrate that understanding and spreading awareness of these risk factors is essential for prevention of sex trafficking in the United States, as well as globally (Zimmerman & Kiss, 2017). As such, the findings in this proposed study had social change implications in which not only people will be aware of the risks of being exposed to sex trafficking if certain adverse childhood/adolescent experiences are present but also provide extra motivation for both government and non-government organizations to develop programs that will effectively minimize individuals' recruitment into sex trafficking.

Summary and Conclusions

Sex trafficking of minors is a pressing issue in the United States. Little is known about the relationship between pre-existing adverse childhood/adolescent experiences (e.g., substance abuse, psychological abuse, and physical abuse) and sex trafficking recruitment in the United States (Barnert et al., 2017; Judge, 2018; Tsutsumi et al., 2008). This was the problem addressed in this study. The purpose of this quantitative study is to

investigate if adverse childhood/adolescent experiences (i.e., substance abuse, psychological abuse, and physical abuse) influence recruitment into sex trafficking in the United States and whether age acts as a moderator. In the next section, the methodology that was implemented to address the problem and fulfill the purpose of this study will be presented and explained in detail.

Section 2: Research Design and Data Collection

The review of current literature on sex trafficking of minors and physical, psychological, and sexual abuse was provided in Section 1. The link between adverse childhood/adolescent experiences and the risk of recruitment into sex trafficking was also investigated. The study design, sample details, and the techniques used to analyze and address the gap in literature are presented in this section.

Research Design and Rationale

In this study, I used a quantitative nonexperimental research design to investigate whether adverse childhood/adolescent experiences (i.e., substance abuse, psychological abuse, and physical abuse) influence recruitment into sex trafficking in the United States and whether demographic variables (i.e., age, gender, and citizenship) act as moderators. I explored the linear regression model between substance abuse, psychological abuse, and physical abuse and recruitment into sex trafficking to answer the research questions and hypotheses. The adverse childhood/adolescent experiences (i.e., substance abuse, psychological abuse, and physical abuse) were the predictor variables, recruitment into sex trafficking was the outcome variable, and the demographic variables were moderating variables (i.e., age, gender, citizenship). All variables were categorical and were analyzed using logistic regression.

A quantitative methodology was chosen for this study because the approach is best suited to determining if there is a relationship between two identified variables (Punch, 2013). Although qualitative approaches can yield more in-depth information

about a specific phenomenon and lead to a more holistic understanding of the problem in question (Weiss, 1994), such an approach is not well-suited to examining relationships between two variables. Quantitative methodologies provide an objective approach to testing a theory or a phenomenon using statistical tests. Qualitative methodologies aim to answer “how” and “why” questions and cannot determine if statistically significant relationships exist between two variables, whereas quantitative methodologies are more appropriate for answering “what” questions (Creswell & Creswell, 2018), such as the ones explored in this study. Furthermore, quantitative methods are useful when working with large sample sizes and generalizing about the results across the target population, as was the case in this study.

The sample for this study was secondary data from the Polaris Human Trafficking Database (Polaris Project, n.d.) in the United States from 2010–2015. Since this study makes use of secondary data, it is by default a nonexperimental design, because there was neither manipulation of data on the part of the researcher, nor any participants or use of an intervention involved in the study. This study made use of a quantitative design, which is used when the focus of the study is to examine potential relationships between variables (Burkholder et al., 2019). A comparative research design is used when the study seeks to determine the nature of noncausal differences between variables without manipulation (Creswell & Creswell, 2018), whereas experimental designs involve the manipulation of variables and the comparison of different groups (Burkholder et al., 2019).

Methodology

Population

The target population of this study includes women who have adverse childhood/adolescent experiences within the United States. The sample for this study included individuals from the Polaris Human Trafficking Database (Polaris Project, n.d.) in the United States from 2010–2015. Convenience sampling was used to delineate the study variables and study time-period. The characteristics of the database accessed included demographic variables and mental health variables of all individuals sex trafficked during 2010–2015 in the United States. The database contains approximately 48,801 records of victims of trafficking of at least 43 different nationalities who were exploited in at least 52 countries from 2010–2015. The data were filtered to include cases from the United States which resulted to a dataset of 12,512 data points. The data were then further filtered to produce data points from female adults who are 18 years old and above to consider the inclusion criteria set for the study. Based on the inclusion criteria I set, participants should be 18 years old and above to ensure that there are no minors involved in the study. After excluding data from samples who are not part of the target population, a total of 7,345 data points were included in the analyses. This study focused on the 7,345 records for women who were exploited in the United States.

Sampling and Sampling Procedures

Convenience sampling was used to gather existing data from the publicly available Polaris Human Trafficking Database. Secondary data on substance abuse and

psychological and physical trauma being present or not present were gathered in the study. Demographic variables such as age of victim, gender, citizenship, and recruitment into sex trafficking were also collected. The data contained in the Polaris dataset are already de-identified.

In quantitative research, random and convenience sampling are the two main sampling methods (Maxwell, 2005). Probability sampling can allow more fruitful generalizations to be made from the sample to the population of interest due to the random nature of participant selection and is also useful when drawing from a large sample population (Maxwell, 2005). However, probability sampling can be more difficult when no specific data about the population of interest is available. Convenience sampling allows for a more targeted approach to participant selection and can be useful from drawing samples from a relatively small population, as is the case in this study. However, it is important to note that its nonrandom nature means it is more difficult to generalize results across the target population.

I conducted a G*Power analysis to demonstrate the minimum number of participants required to reach data saturation. The G*Power analysis involved a medium effect size, a power of 80%, a significance of .05, and a binary logistic regression. Based on the G*Power analysis, a minimum sample of 721 participants was necessary for the study. Therefore, the 7,345 available records for women who were exploited in the United States from the Polaris Human Trafficking Database are sufficient for the study. The categories and subcategories in the database are represented as present/not-present

(Polaris Project, n.d.). Further, demographic variables are represented as nominal categories (e.g., age of victim). The demographic variables collected for this study included the age, gender, and citizenship of the individual as a means of providing context to the result of regression analysis between mental health variables and recruitment into sex trafficking. The data from the Polaris Human Trafficking Database are de-identified; as such, ethical risks in this project were minimal.

Operationalization

The three research questions involved one dependent variable, which is the recruitment into sex trafficking. The dependent variable was operationalized using a binary variable wherein 1 denotes being recruited into sex trafficking and 0 denotes not being recruited into sex trafficking. Secondary data were collected from the Polaris Human Trafficking Database, which contains information about human trafficking victims. The independent variables are mental health variables such as substance abuse, psychological abuse, and physical abuse with 1 being present and 0 being not present for the sampled participants. Demographic characteristics were considered controlled variables in the study. The demographic characteristics include age, gender, and citizenship of individuals. The age ranges from 18 years old and above. The gender of participants is female. For the citizenship of individuals, each category was numerically coded for the data analyses.

Data Analysis Plan

IBM SPSS (Version 25.0) statistical software was used to analyze the results and conveniently sampled data were used for the analyses; therefore, selection bias may limit the generalizability of the findings of the study. Frequencies and percentages were used to describe the sampled participants. Frequencies and percentages were also used to describe the number of samples who have substance abuse and psychological and physical trauma, as well as whether they were recruited into sex trafficking. To test the hypotheses posed in the study, I conducted binary logistic regression analysis. A binary logistic regression analysis was used because the dependent variable is dichotomous in nature.

For the first research question, the independent variable is the category on substance abuse. For the second research question, the independent variable is the category on psychological abuse. For the third research question, the independent variable is the category on physical abuse. Control variables such as age and citizenship were also considered in the analyses. When interpreting the results of the analysis, I compared the resulting p values associated with the independent variable to the chosen significance value of .05. If the p value was smaller than .05, then the null hypothesis could be rejected as a p value smaller than .05 indicates an association between the explanatory variable and the response variable (recruited into sex trafficking). If the p value was larger than .05, then the null hypothesis could not be rejected because there would be no evidence of an association between the variables.

Threats to Validity

External validity refers to the generalizability of the results while internal validity refers to the extent to which what was done in the study produced the given results and that the results were not influenced by other factors (Price et al., 2017). In this section, I discuss threats to the external and internal validity of the study.

External Validity

Selection bias has one of the most profound effects on a study's external validity, since the way in which samples were chosen will influence how generalizable the findings are from the samples to the rest of the population (Leviton, 2017). In quantitative research, the sample taken should ideally be representative of the larger population to maximize the generalizability of the findings. Random (probability) sampling is one strategy that can be used to reduce the presence of selection bias since all the samples are drawn at random (Taherdoost, 2016). In other words, because each sample is equally as likely to be chosen, the results are more likely to be more generalizable to the rest of the population (and potentially to other populations) than they would have been had the samples been chosen purposefully or for convenience. In this study, I employed a convenience sampling technique to gather participants. When the sampling strategy does not result in a representative sample of participants, as can be the case when convenience sampling is used, it is important to consider how this might influence the generalizability of the results. It is important to note that the study's findings will only be generalizable to the target population, and that the specific characteristics that define the target population

will make it difficult to apply these results to other groups. Therefore, the results of the study are not generalizable to all women in the United States.

Internal Validity

Internal validity refers to the extent to which the research design supports the conclusions made (Price et al., 2017). Nonexperimental designs, such as the one used in this study, typically have lower validity than other quantitative research designs because the independent variables are not manipulated or controlled (Price et al., 2017). This means that it is more likely that an unmeasured variable, called a confounding variable, influenced the study's results. However, for this study, demographic characteristics are considered as control variables, which minimizes the threats to internal validity. Other potential threats to the internal validity of a study include changes in instrumentation, participant selection, maturation, and the administration of multiple tests (Da Costa & Schneider, 2016). The use of secondary data sourced from an existing database, instead of primary data collected during interviews or from surveys, helped increase this study's internal validity. The data were not influenced by the participants, nor by my perceptions of the study or the data collection methods used.

Ethical Considerations

Ethical considerations constitute a key component of the research process and should be considered through the design and implementation of a study (Bos, 2020). Getting approval from the Walden University Institutional Review Board (IRB) was the first step in the process of addressing the ethical concerns of this study. Secondary data

were collected from the Polaris Human Trafficking Database for this study. The database is publicly available through the Counter-Trafficking Data Collaborative website (<https://www.ctdatacollaborative.org>). The data collected from the database are de-identified and only variables relevant to the study were collected. All data that I collected have been stored in locked file cabinets and in password-protected computer files. After the required retention period, the stored data will be destroyed and permanently deleted.

Summary

In this section, I presented the research design employed in the study and procedures for data analysis and concerns relating to study validity and maintaining an ethical code of conduct were highlighted. A quantitative nonexperimental design was chosen for this study to examine whether adverse childhood/adolescent experiences (i.e., substance abuse, psychological abuse, and physical abuse) influence recruitment into sex trafficking in the United States and whether age acts as a moderator. To test the hypotheses posed in the study, I conducted descriptive statistics as well as binary logistics regression. This statistical test is appropriate for this study because it is used to determine the relationship of explanatory variables to a binary outcome variable. Potential validity threats include selection bias and confounding variables. All ethical procedures as required by the university IRB were followed, and participants were reassured that all information was kept secure and anonymous.

Section 3: Presentation of the Results and Findings

The purpose of this quantitative study was to investigate if adverse childhood/adolescent experiences (i.e., substance abuse, psychological abuse, and physical abuse) influence recruitment into sex trafficking in the U.S. and whether age acts as a moderator. To achieve the purpose of this study, data from a 5-year period from 2010–2015 from the Polaris Project was used (Polaris Project, n.d.). The following research questions and hypotheses guided the analyses for this study:

RQ1. Is there an association between substance abuse and the recruitment into sex trafficking in the United States adjusted for age?

H_01 . There is no association between substance abuse and the recruitment into sex trafficking in the United States adjusted for age.

H_a1 . There is an association between substance abuse and the recruitment into sex trafficking in the United States adjusted for age.

RQ2. Is there an association between psychological abuse and the recruitment into sex trafficking in the United States adjusted for age?

H_02 . There is no association between psychological abuse and the recruitment into sex trafficking in the United States adjusted for age.

H_a2 . There is an association between psychological abuse and the recruitment into sex trafficking in the United States adjusted for age.

RQ3. Is there an association between physical abuse and the recruitment into sex trafficking in the United States adjusted for age?

*H*₀₃. There is no association between physical abuse and the recruitment into sex trafficking in the United States adjusted for age.

*H*_{a3}. There is an association between physical abuse and the recruitment into sex trafficking in the United States adjusted for age.

This section includes a detailed discussion of how data were accessed from the Polaris Project and how these data were filtered and cleaned to focus on relevant variables for the study. Frequencies and percentages of demographic characteristics, as well as measures of central tendencies of continuous variables, were also presented. This section ends with a summary of the key findings of the data analyses for this study.

Accessing the Dataset for Secondary Analysis

Secondary data from the Polaris Human Trafficking Database (Polaris Project, n.d.) in the United States from 2010–2015 were used in this study. I accessed and downloaded the global dataset from the Counter-Trafficking Data Collaborative website. Upon accessing the global dataset, I filtered the data to focus on United States as the country of exploitation, which produced a dataset of 12,512 data points. The data were then further filtered to produce data points from female adults who are 18 years old and above to consider the inclusion criteria set for the study. Based on the inclusion criteria I set, participants should be 18 years old and above to ensure that there are no minors involved in the study. After excluding data from samples who are not part of the target population, a total of 7,345 data points were included in the analyses.

Descriptive Statistics

Of the 7,345 adult female U.S. citizens included in the analyses, 2,138 participants (29.1%) were 18 to 20 years old, 1,473 participants (20.1%) were 21 to 23 years old, and 1,388 participants (18.9%) were 30 to 38 years old. Only 167 participants (2.3%) were 48 years old and above, whereas there were 403 participants (5.5%) aged 39 to 47 and 707 (9.6%) aged 27 to 29 years old.

Table 1 presents the frequencies and percentages of the independent variables in the study. Participants were asked if they experienced substance abuse, psychological abuse, and physical abuse. About 25.2% of participants ($n = 1,852$) experienced psychological abuse, 19% ($n = 1,393$) experienced substance abuse, and 24.5% ($n = 1,798$) experienced physical abuse.

Table 1

Frequencies and Percentages of Psychological Abuse, Substance Abuse, and Physical Abuse Variables

Variable	Frequency	Percent
Psychological abuse		
No	5,493	74.8
Yes	1,852	25.2
Total	7,345	100.0
Substance abuse		
No	5,952	81.0
Yes	1,393	19.0
Total	7,345	100.0
Physical abuse		
No	5,547	75.5
Yes	1,798	24.5
Total	7,345	100.0

The Polaris database contains data on victims of human trafficking in general. Therefore, for the dependent variable, data were gathered on whether participants were recruited specifically to sex trafficking. Of the 7,345 human trafficking victims in the selected sample, 7,045 participants (95.9%) were recruited into sex trafficking. Only 300 (4.1%) were not recruited into sex trafficking.

Table 2 presents the frequencies and percentages of age classifications of participants by sex trafficking recruitment. Based on the results of the analysis, the majority of participants for both not sexually recruited and sexually recruited categories are participants who are 18 to 20 years old followed by 21 to 23 years old, and 30 to 38 years old. The distribution of sexually and not sexually recruited participants by age categories are similar indicating that age is not a confounding variable for the examined associations between the independent variables and sexual recruitment. No other variable can be used to compare the two groups.

Table 2

Frequencies and Percentages of Age by Participants Recruited Into Sex Trafficking

Age	Not sexually recruited		Sexually recruited	
	Frequency	Percent	Frequency	Percent

18–20	114	38.0	2,024	28.7
21–23	39	13.0	1,434	20.4
24–26	33	11.0	1,036	14.7
27–29	28	9.3	679	9.6
30–38	71	23.7	1,317	18.7
39–47	15	5.0	388	5.5
48+	0	0.0	167	2.4
Total	300	100.0	7,045	100.0

Results

To address the research questions posed in the study, I conducted binary logistic regression analyses considering sex trafficking as the dependent variable and variables of substance abuse, psychological abuse, and physical abuse as the independent variables. Moreover, the age categories were considered as a covariate. Citizenship and gender were not included as covariates because all samples considered in the analyses were female U.S. citizens. In conducting a binary logistic regression, several assumptions were tested. The first assumption is that the dependent variable is measured using a dichotomous variable (Laerd Statistics, 2018). In this study, the dependent variable was coded 0 to represent that the individual was not recruited for sex trafficking and 1 to represent that the individual was recruited for sex trafficking. The second assumption is that there is one or more independent variables measured using a continuous or a nominal variable. In this study, a binary variable (i.e., a nominal variable with two mutually exclusive categories) was also used to measure the presence of substance abuse, psychological abuse, and physical abuse. The third assumption is that there is independence of

observation, and the dependent variable is mutually exclusive. Each individual represented in the Polaris data set can only be classified as either recruited into sex trafficking or not recruited into sex trafficking. Therefore, these two categories are mutually exclusive and thus each data set is independent. The fourth assumption is the assumption of linearity. The assumption of linearity is met because there is only one independent variable in each binary logistic regression.

Table 3 presents the cross-tabulation of the number of participants who are sexually recruited and who experienced physical abuse, psychological abuse, and substance use. There were 1,745 (24.77%) physically abused women who were recruited into sex trafficking, compared to 53 (17.7%) physically abused of the 300 who were not sexually recruited. The chi-square analysis determined that there is a significant association between physically abused and sexually recruited participants ($\chi^2 = 7.852, p = .005$). There were 1,826 (25.92%) psychologically abused women who were recruited into sex trafficking compared to 26 (8.67%) psychologically abused women who were not recruited into sex trafficking. The chi-square analysis determined that there is a significant association between psychologically abused and sexually recruited participants ($\chi^2 = 45.420, p < .01$). There were 1,372 (19.47%) participants involved in substance use who were recruited into sex trafficking compared to 21 (7%) involved in substance use who were not recruited into sex trafficking. The chi-square analysis determined that there is a significant association between participants involved in substance abuse and sexually recruited participants ($\chi^2 = 29.137, p < .01$).

Table 3*Distribution of Independent Variables by Sexual Recruitment Status*

Variable	Sexual recruited (<i>n</i> = 7,045)		Not sexually recruited (<i>n</i> = 300)		Total (<i>n</i> = 7,345)	
	Yes	No	Yes	No	Yes	No
Physically abused	1,745	5,300	53	247	1,798	5,547
Psychologically abused	1,826	5,219	26	274	1,852	5,493
Substance use	1,372	5,673	21	279	1,393	5,952

For the first research question, substance abuse was considered as the predictor variable and age was considered as the covariate. Age was numerically coded based on the categories wherein 1 was 18–20, 2 was 21–23, 3 was 24–26, 4 was 27–29, 5 was 30–38, 6 was 39–47, and 7 was 48+. The result of the binary logistic regression is presented in Table 4. As observed, substance abuse is a significant predictor of being recruited into sex trafficking ($B = 1.161, p < .01$). A change of category from not experiencing substance abuse to experiencing substance abuse results to a change in category from not being recruited into sex trafficking to being recruited into sex trafficking. The model was also determined to be significant ($\chi^2 = 37.176, p < .05$). However, the independent variable only explains 1.7% of the variance in the dependent variable. Therefore, there is sufficient evidence to reject the null hypothesis, which stated that there is no association between substance abuse and the recruitment into sex trafficking in the United States adjusted for age.

Table 4*Binary Logistic Regression Using Substance Abuse as Predictor*

	Variable	B	SE	Wald	Df	Sig.	Exp(B)
Step 1	Substance abuse	1.161	0.228	25.856	1	0.000	3.194
	Age recode	0.034	0.034	0.997	1	0.318	1.035
	Constant	2.915	0.114	651.854	1	0.000	18.440

Note. Nagelkerke $R^2 = .017$; $\chi^2 = 37.176$ ($p < .05$).

For the second research question, psychological abuse was considered as the predictor variable and age was considered as the covariate. Age was numerically coded based on the categories exactly as it was for the first research question. The result of the binary logistic regression is presented in Table 5. As observed, psychological abuse is a significant predictor of being recruited into sex trafficking ($B = 1.302, p < .01$). A change of category from not experiencing psychological abuse to experiencing psychological abuse results to a change in category from not being recruited into sex trafficking to being recruited into sex trafficking. The model was also determined to be significant ($\chi^2 = 56.981, p < .05$). However, the independent variable only explains 2.7% of the variance in the dependent variable. Therefore, there is sufficient evidence to reject the null hypothesis, which stated that there is no association between psychological abuse and the recruitment into sex trafficking in the United States adjusted for age.

Table 5*Binary Logistic Regression Using Psychological Abuse as Predictor*

	Variable	B	SE	Wald	Df	Sig.	Exp(B)
Step 1 ^a	Psychological abuse	1.302	0.207	39.521	1	0.000	3.675
	Age recode	0.036	0.034	1.118	1	0.290	1.037
	Constant	2.843	0.115	611.176	1	0.000	17.163

Note. Nagelkerke $R^2 = .027$; $\chi^2 = 56.981$ ($p < .05$).

For the third research question, physical abuse was considered as the predictor variable and age was considered as the covariate. Again, age was numerically coded in the same manner as for the first two research questions. The result of the binary logistic regression is presented in Table 6. As observed, physical abuse is a significant predictor of being recruited into sex trafficking ($B = 0.439$, $p = .004$). A change of category from not experiencing physical abuse to experiencing physical abuse results to a change in category from not being recruited into sex trafficking to being recruited into sex trafficking. The model was also determined to be significant ($\chi^2 = 10.328$, $p = .006$). However, the independent variable only explains 0.5% of the variance in the dependent variable. Therefore, there is sufficient evidence to reject the null hypothesis, which stated that there is no association between physical abuse and the recruitment into sex trafficking in the United States adjusted for age.

Table 6*Binary Logistic Regression Using Physical Abuse as Predictor*

	Variable	B	SE	Wald	Df	Sig.	Exp (B)
Step 1 ^a	Physical abuse	0.439	0.154	8.117	1	0.004	1.551
	Age recode	0.047	0.034	1.889	1	0.169	1.048
	Constant	2.928	0.118	618.690	1	0.000	18.693

Note. Nagelkerke $R^2 = .005$; $\chi^2 = 10.328$ ($p = .006$).

Furthermore, a binary logistic regression was conducted considering all three independent variables in the model. The result of the analysis is presented in Table 7. As observed, psychological abuse ($B = 1.207$, $p < .01$) and substance abuse ($B = 1.024$, $p < .01$) are significant predictors of being recruited into sex trafficking. However, between the two independent variables, psychological abuse has stronger influence on the recruitment of participants to sex trafficking. The model was also determined to be significant ($\chi^2 = 86.349$, $p < .01$) with the independent variables explaining 4% of the variance in the dependent variable.

Table 7*Binary Logistic Regression Using Psychological, Substance, and Physical Abuse as Predictors*

	Variable	B	SE	Wald	df	Sig.	Exp(B)
Step 1 ^a	Psychological abuse	1.207	.208	33.698	1	.000	3.345
	Substance abuse	1.024	.230	19.817	1	.000	2.785
	Physical abuse	.216	.156	1.917	1	.166	1.241
	Constant	2.793	.069	1651.909	1	0.000	16.326

Note. Nagelkerke $R^2 = .040$; $\chi^2 = 86.349$ ($p < .01$).

Summary

The purpose of this quantitative study was to investigate whether adverse childhood/adolescent experiences (i.e., substance abuse, psychological abuse, and physical abuse) influence recruitment into sex trafficking in the United States. Data for 7,345 adult female victims of human trafficking available from the Polaris project were included in the study. Binary logistic regression analyses were conducted to determine whether substance abuse, psychological abuse, and physical abuse significantly predict the recruitment of samples to sex trafficking. Based on the results of these analyses, substance abuse, psychological abuse, and physical abuse are significant predictors of the recruitment to sex trafficking. Therefore, all null hypotheses were rejected at .05 level of significance.

Section 4: Application to Professional Practice and Implications for Social Change

The topic of this study was adverse childhood/adolescent experiences and risk of recruitment into sex trafficking. In the United States, sex trafficking is a significant domestic issue (Moore et al., 2017; Titchen et al., 2017). Little is known about the relationship between pre-existing adverse childhood/adolescent experiences (e.g., substance abuse and psychological and physical trauma) and sex trafficking recruitment in the United States (Barnert et al., 2017; Judge, 2018; Tsutsumi et al., 2008). Hence, the purpose of this quantitative study was to investigate whether adverse childhood/adolescent experiences (i.e., substance abuse, psychological abuse, and physical abuse) influence recruitment into sex trafficking in the United States and whether demographic variables (i.e., age, gender, and citizenship) act as moderators. The research questions and hypotheses addressed in this study were as follows:

RQ1. Is there an association between substance abuse and the recruitment into sex trafficking in the United States adjusted for age?

H_01 . There is no association between substance abuse and the recruitment into sex trafficking in the United States adjusted for age.

H_{a1} . There is an association between substance abuse and the recruitment into sex trafficking in the United States adjusted for age.

RQ2. Is there an association between psychological abuse and the recruitment into sex trafficking in the United States adjusted for age?

*H*₀₂. There is no association between psychological abuse and the recruitment into sex trafficking in the United States adjusted for age.

*H*_{a2}. There is an association between psychological abuse and the recruitment into sex trafficking in the United States adjusted for age.

RQ3. Is there an association between physical abuse and the recruitment into sex trafficking in the United States adjusted for age?

*H*₀₃. There is no association between physical abuse and the recruitment into sex trafficking in the United States adjusted for age.

*H*_{a3}. There is an association between physical abuse and the recruitment into sex trafficking in the United States adjusted for age.

The data used to address the research questions were from the Polaris Project from 2010–2015 (Polaris Project, n.d.). I accessed and downloaded these secondary data from the Counter-Trafficking Data Collaborative website. After several filtering iterations, the data set used for the study consisted of 7,345 data points. Specifically, 7,345 adult female U.S. citizens were included in the analyses.

A cross-sectional quantitative study was conducted using the secondary data collected. A cross-sectional quantitative design was appropriate for this study because the research questions explored relationships by linear regression model between the different variables of interest: (a) substance abuse and recruitment to sex, (b) psychological abuse and recruitment to sex, and (c) physical abuse, recruitment into sex

trafficking. These three associations reflect the three research questions of the study.

Statistical analysis was done through binary logistic regression.

From the initial descriptive analysis of the data, the results revealed that 25.2% of participants ($n = 1,852$) experienced psychological abuse, 19% ($n = 1,393$) experienced substance abuse, and 24.5% ($n = 1,798$) experienced physical abuse. From the total participants, 95.9% were recruited into sex trafficking.

In the binary logistic regression analysis for the first research question, substance abuse was the predictor variable and age was the covariate. The result showed that substance abuse is a significant predictor of being recruited into sex trafficking ($B = 1.161, p < .01$). For the first research question, there is sufficient evidence to reject the first null hypothesis, which stated that there is no association between substance abuse and the recruitment into sex trafficking in the United States, adjusted for age.

For the second research question, psychological abuse was the predictor variable and age was the covariate. The result of the analysis revealed that psychological abuse is a significant predictor of being recruited into sex trafficking ($B = 1.302, p < .01$). There is sufficient evidence to reject the second null hypothesis, which stated that there is no association between psychological abuse and the recruitment into sex trafficking in the United States, adjusted for age.

For the third research question, physical abuse was the predictor variable and age was the covariate. The statistical analysis revealed that physical abuse is a significant predictor of being recruited into sex trafficking ($B = 0.439, p = .004$). There is sufficient

evidence to reject the third null hypothesis, which stated that there is no association between physical abuse and the recruitment into sex trafficking in the United States adjusted for age.

Overall, the results of the study showed that the relationships of substance abuse, physical abuse, and psychological abuse to recruitment into sex trafficking are all statistically significant. Substance abuse, physical abuse, and psychological abuse are all significant predictors of recruitment into sex trafficking, with age as a covariate. Based on these findings, I present the interpretations, recommendations, and implications in the succeeding parts of this section.

Interpretation of the Findings

Substance Abuse and Recruitment to Sex Trafficking

The first research question explored the role of substance abuse to the tendencies of being recruited into sex trafficking. The literature review (see Section 1) revealed that substance abuse was among the risk factors associated with victimization of sex trafficking (Franchino-Olsen, 2021). The claim of Franchino-Olsen (2021) supports the results of the statistical analysis in this study: substance abuse is a significant predictor of being recruited into sex trafficking. Findings from Lee et al.'s (2018) research also provided support for the result of this analysis. Prior abuses and trauma are said to be common experiences found among victims of sex trafficking (Lee et al., 2018). In a different but related study, Carpinteri et al. (2018), whose research focused on the abuser, rather than the abused, claimed that sex trafficking offenders may have known or

unknown criminal histories including prior abuse of children. Carpinteri et al. further noted that abusing children in the past is a predictor of future behavior.

Psychological Abuse and Recruitment to Sex Trafficking

The second research question explored the role of psychological abuse in the recruitment into sex trafficking among children and adolescents. The literature review for this study revealed that past psychological trauma increases the vulnerability of minors for future victimization of sexual trafficking (Goldberg et al., 2017). The increased risk of victimization among children with previous psychological trauma is attributed to poor coping skills among these individuals (Franchino-Olsen, 2021). Coping skills are important in preventing or overcoming possible sexual trafficking incidents (Franchino-Olsen, 2021).

The result from the analysis of data for the second research question showed that psychological abuse is a significant predictor of recruitment into sex trafficking among children and adolescents. The literature reviewed in Section 1 supports the findings of this study (Franchino-Olsen, 2021; Goldberg et al., 2017). Other related studies are those of Lee et al. (2018) and Hopper and Gonzales (2018). Lee et al. showed that victims of sex trafficking had increased burdens of psychological and mental disorders. However, Lee et al. did not provide direct support for the significance in the relationship between previous psychological trauma and tendencies of victimization of sex trafficking among minors. Hopper and Gonzalez found that diagnosis of depression and PTSD was present in 71% and 61% of sex trafficking survivors, respectively. However, in Hopper and

Gonzalez's study, the association established was not necessarily psychological abuse as a predictor of recruitment into sex trafficking. Nevertheless, Lee et al., Hopper, and Gonzalez showed that psychological factors and traumatic experiences are associated with or related to experiences of sex trafficking among individuals, thus providing support for the findings for the second research question.

Physical Abuse and Recruitment to Sex Trafficking

The third research question explored the role of physical abuse in the recruitment into sex trafficking among children and adolescents. In the literature review in section 1, physical abuse and recruitment into sex trafficking were explored. Researchers noted that early forms of abuses could increase the risks of individuals for sex trafficking and other forms of re-victimization (DeVries & Goggin, 2020; Goldberg et al., 2017). Hopper and Gonzales (2018) added that survivors of sex trafficking experience various forms of maltreatment prior to being trafficked. According to Goldberg et al. (2017), the children referred to centers for victims of domestic sexual trafficking had a history of childhood maltreatment and family dysfunction. Similarly, Gonzalez-Pons et al. (2020) noted that as many as 14% of youth (i.e., children and adolescents) who were victims of sex trafficking in the United States had previous experiences of physical abuse.

In this study, the results showed that physical abuse is a strong predictor of recruitment into sex trafficking among children and adolescents. The literature review also supports the findings for the third research question. Conversely, a study by DeVries and Goggin (2020), which focused on commercial sexual exploitation among the youth,

showed that physical abuse had negligible or no significant independent impact on the risk of exploitation for sexual trafficking among minors (DeVries & Goggin, 2020).

DeVries and Goggin based their findings on a meta-analysis of existing literature. They also mentioned that a few studies suggested that experiencing multiple types of childhood abuse may aggravate a risk of sexual exploitation.

Psychological Abuse, Substance Abuse, and Physical Abuse as Predictors

When all three independent variables were combined and studied for the collective impact on sex trafficking, only psychological abuse ($B = 1.207, p < .01$) and substance abuse ($B = 1.024, p < .01$) were significant predictors, with psychological abuse as the stronger influencer of recruitment of participants into sex trafficking. From this model, physical abuse was no longer a significant predictor. These findings are in contrast with the results of several studies on this topic, wherein all three variables are significant predictors of recruitment to sex trafficking (DeVries & Goggin, 2020; Goldberg et al., 2017; Hopper & Gonzalez, 2018; Lee et al., 2018). This result may be interpreted as a unique addition to the body of literature. An implication of this result is that further investigation is needed to understand why physical abuse is no longer a significant predictor of sex trafficking victimization when considered with psychological and substance abuse. A possible means of further investigation is conducting primary data collection through interviews or focus group discussion with eligible participants. In this manner, limitations of the use of secondary data may be addressed and the findings of the study may be further explained.

The HBM in the Context of the Findings

The HBM was the theoretical framework that guided this study. According to the HBM, the health behavior of an individual is dependent on their perceptions and beliefs regarding a specific illness and the available strategies for decreasing the occurrence and effects of the said illness (Hochbaum et al., 1952). The HBM has undergone significant expansion, with the model serving as a foundation for addressing key concerns for public health (Darvishpour et al., 2018; Janz & Becker, 1984; Strecher & Rosenstock, 1997; Sulat et al., 2018). In the expanded model, six key tenets were included: (a) perceived susceptibility, referring to the risk of the illness or a feeling of vulnerability; (b) perceived severity, which refers to the feelings of the individual towards contracting the illness; (c) perceived benefits, referring to the effectiveness of taking action towards avoiding the illness; (d) perceived barriers, which are barriers to reducing the likelihood of spread and infection; (e) cue to action, which is the stimulus that is considered vital to ensuring health actions from public and personal individuals; and (f) self-efficacy, which refers to the confidence of the individual to avoid the behaviors that would lead to an increased risk of illness (Champion & Skinner, 2008). In the expanded version, each of these factors, though originally referring to the spread of illness, are now also considered essential to public health concerns that include social issues beyond the illness itself (Champion & Skinner, 2008).

The results of this study are to be understood within the context of the six tenets of the HBM. Based on the results, substance abuse, physical abuse, and psychological

abuse are all significant predictors of future recruitment into sex trafficking among minors. The cases of recruitment into sex trafficking among minors may be viewed as the illness that is referred to in the HBM. Among the six tenets, self-efficacy is seen as the most relevant to this study. Self-efficacy refers to the confidence of the individual to avoid the behaviors that would lead to an increased risk of illness (Champion & Skinner, 2008). In relation to this study, participants who experienced substance abuse, physical abuse, and psychological abuse are said to be more susceptible to recruitment into sex trafficking, which is seen as a social illness. Because of previous experiences related to substance abuse, physical abuse, and psychological abuse, the self-efficacy of the individual to avoid illness-inducing behaviors tend to be low. As stated in Section 1, the increased risk of victimization among children with previous traumatic experience is attributed to the poor coping skills among these individuals (Franchino-Olsen, 2021). Coping skills, which may be seen as self-efficacy in the HBM, are important in preventing or overcoming possible sex trafficking incidents (Franchino-Olsen, 2021).

Limitations of the Study

The study has a few limitations. The first limitation of this study is its quantitative nature, whereby causation or comparison cannot be determined. The second is that the quantitative design summarizes the patterns of the mental or physical health variables that are correlated with the recruitment into sex trafficking without the qualitative lens that would explain the reason and causes behind the patterns. Hence, the interpretation of the quantitative results is limited to the level of significance of the relationships between

variables explored in this study. The third limitation was the use of secondary data. Since primary data were not collected for the study, the use of secondary information from the database limited the capacity to perform a qualitative analysis of the data. In this context, the analysis of the data was limited depending on the availability of information and the manner of data collection. There was no opportunity to collect primary data to supplement the information gathered from the database. In relation to the third limitation, another limitation is that while there are other forms of recognized human trafficking, such as debt bondage and forced labor, this study only examines sex trafficking. Due to the hidden nature of sex trafficking, the Polaris Human Trafficking Database cannot be considered representative of or a random sample of human trafficking victims (Polaris Project, n.d.). Therefore, the findings are not generalizable.

Recommendations

Recommendations for future research are based on the limitations of the study. The first recommendation is for future researchers to consider expanding the scope of the study to include qualitative data to incorporate the perceptions of victims of sex trafficking. The findings of this current study may then be explained using in-depth data from participants to provide a deeper understanding of the findings for this current study. Including qualitative components to a study may provide in-depth understanding of numerical information that may be generated from quantitative research (Ahmad et al., 2019). Moreover, with qualitative data, the HBM framework may be used to further

understanding perceived susceptibility and perceived severity in the context of sex trafficking.

The second recommendation is to collect and incorporate primary quantitative data. Due to the limitations of using secondary data, there was lesser opportunity to gain deeper insight into the findings of the study (Brown, 2020). However, with primary information, a future researcher could perform more in-depth manipulation of the quantitative data to conduct further statistical analysis and identify more meaningful results from the data.

The third recommendation is for future researchers to explore perceptions of other stakeholders in the phenomenon of interest. For example, information from family members of sex trafficking victims, perpetrators of sex trafficking, social workers or therapists dealing with victims of sex trafficking could provide useful insights. By collecting data from these other stakeholders, future researchers could have a comprehensive perspective of the phenomenon being explored.

The fourth recommendation for future research is to consider expanding the scope of the study to include other forms of human trafficking such as, debt bondage, and forced labor. This study only examines sex trafficking, but with the expansion to other forms of trafficking, more empirical data may be identified. The scientific knowledge in this field of research may also be advanced.

Implications for Professional Practice and Social Change

The implications for professional practice are based on the findings of the study. The first practical implication of this study is to develop programs that address the predictors of recruitment into sex trafficking. The findings of this study showed that sexual, psychological, and physical abuses of minors are significant predictors of future recruitment into sex trafficking. Previous scholars also supported these findings (DeVries & Goggin, 2020; Franchino-Olsen, 2021; Goldberg et al., 2017; Lee et al., 2018). Therefore, different social programs that prevent sexual, psychological, and physical abuse of minors must be in place to minimize the probability of recruitment into sex trafficking in the future for these individuals.

Another practical implication is to strengthen or reinforce the positive role of parents and family in the development and early life of children. With a positive home environment, traumatic experiences (e.g., sexual, psychological, and physical) may be minimized (Franchino-Olsen, 2021; Goldberg et al., 2017). The self-efficacy of children to overcome challenges of different types during their youth may be improved; thus, improving their chances of avoiding recruitment into sex trafficking in the future.

Strengthening or reinforcing the positive role of the community in the development and early life of children is among the practical implications for this research. Like the important role of positive parenting and family life, the community where a child belongs also plays an important role in ensuring that sexual, psychological, and physical abuses are avoided (Franchino-Olsen, 2021; Goldberg et al., 2017). In this

manner, children may be secured from being exposed to traumatic experiences during their youth; thus, improving their chances avoiding recruitment into sex trafficking in the future.

The implications for social change are based on the general contribution of the study to society. Through the findings, readers of this research report are made aware of the different predictors of recruitment into sex trafficking. With such awareness, the readers are given relevant information that they may use provide targeted assistance in preventing future sex trafficking from thriving. The decision to use this information to improve society and to minimize sex trafficking victimization is still dependent on the willingness of individuals to be active participants in ensuring positive social change through minimizing the predictors of recruitment into sex trafficking.

Conclusion

Sex trafficking of minors is a significant social issue in the United States (DeVries & Goggin, 2020). Three significant predictors of recruitment to sex trafficking among minors are sexual abuse, psychological abuse, and physical abuse. The findings from this study revealed that preventing sexual abuse, psychological abuse, and physical abuse could have a significant impact on minimizing the victimization of minors related to recruitment into sex trafficking. Children must be protected from traumatic experiences if the goal is to prevent sex trafficking in the future. The three predictors often occur in the homes, in school, or within the community. An active campaign that focuses on strengthening the family unit, school, and the community could promote a

positive and protective culture. It is important to identify if children are in environments that are considered high risk for possible sexual, psychological, and physical abuse and to address this issue with ameliorative measures. Protecting children from potentially abusive settings should be an area of focus of social development programs.

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