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Examining Evidence of Reliability and Validity in Florida's Human Trafficking Screening Tool

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Examining Evidence of Reliability and Validity
in Florida's Human Trafficking Screening Tool

by

Monica Landers

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
Department of Child and Family Studies
College of Behavioral and Community Sciences
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Keywords: Commercial sexual exploitation, sex trafficking, domestic minor sex trafficking, youth

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The University of South Florida, where much of the analysis for this dissertation was conducted, sits upon the traditional Homelands and territories of the Seminole, Calusa, and Tocobaga peoples. Though not specific to my studies, I'd be remiss not to acknowledge the historical and continuing impacts of colonization on these indigenous lands.

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Abstract

Commercial sexual exploitation (CSE) involving children is understood to be a pervasive public health problem that negatively impacts individuals, families, and communities (Greenbaum, 2020). Combined efforts of the United States government, federal agencies, organizations such as the National Center for Missing and Exploited Children, researchers, and practitioners work toward understanding risk factors associated with CSE in an effort to prevent victimization (Fong & Cardoso, 2010). Given the amount of public and political attention to trafficking over the past two decades, it is concerning that prevalence estimates widely vary and may be unreliable. Further, there is not currently a validated screening tool widely used to identify victims of CSE.

With that in mind, the purpose of this dissertation is to examine the reliability and validity of a screening tool used in Florida to identify trafficking victims. The dissertation is comprised of three separate but related manuscripts that discuss human trafficking screening tools used throughout the United States, analyze the psychometric properties of Florida's screening tool, and empirically verify risk factors for sex trafficking based on data compiled on youth in Florida. Screening tool data and data on risk factors were collected by intake staff of Florida's Department of Juvenile Justice (DJJ). The paragraphs below outline the focus of each of the manuscripts compiled for this dissertation.

The first manuscript, presented in Chapter 2, presents a systematic literature review with a two-fold purpose. One focus of the review centered on compiling tools historically and currently used to screen for human trafficking with a deliberate focus around sex trafficking of minors. Secondly, the systematic review examined risk factors and indicators included in the tools commonly associated with the sex trafficking of minors. Twenty-six tools were identified to

screen for sex trafficking. Nine tools were specific to sex trafficking, whereas half of the tools included content to identify victims of sex and labor trafficking. An examination of the reliability and validity of less than half of the screening tools were available (46%). The review also observed that many of the risk factors commonly noted in extant literature were included in the screening tools.

Chapter 3, the second manuscript, focused on examining evidence of validity and reliability of a screening tool used in Florida. Strategies to assess content validity, construct validity, criterion-related validity, inter-rater reliability, and internal consistency of Florida's Human Trafficking Screening Tool (HTST) were employed. Screening tool data and administrative data for over 4,800 youth engaged with DJJ between 2017 and 2019 were assessed for this study. Findings suggested limited evidence that the HTST is a valid and reliable tool. Insufficient evidence of construct validity and little evidence of criterion-related validity were observed. Further, although internal consistency was adequate, inter-rater reliability indicated poor agreeability among raters. Suggestions for improving the reliability and validity of the tool were offered.

Lastly, the third manuscript, presented in Chapter 4, built on analyses presented in Chapter 3, and sought to empirically verify the relationship between risk factors and confirmed sex trafficking. Data from the HTST and DJJ's risk assessment tools were used to better understand youth and family characteristics associated with sex trafficking. This study estimated several logistic regression models to understand unique vulnerabilities for demographic subgroups. Many findings aligned with previous research. For instance, runaway history predicted sex trafficking across groups. Factors related to mental health and substance use varied among subgroups. Other findings were inconsistent with previous literature. A few explanations are offered that may account for those inconsistencies.

This dissertation concludes with a discussion summarizing and synthesizing findings of each of these studies. Limitations are discussed as well as implications for policy, practice, and research.

Chapter 1: Introduction

Background and Significance

Commercial sexual exploitation (CSE), describes sex-related exploitation of minors in the United States and includes offenses such as pornography, child prostitution, trafficking for sex, sex tourism, performing in strip clubs, and survival sex (Institute of Medicine and National Research Council, 2013). The trauma experienced by youth who have been exploited through DMST is complex (Baglivio et al., 2014; Clarkson-Freeman, 2014). Risk behaviors such as substance use and delinquency as well as behavioral problems such as oppositional behavior, aggression, and behavior problems at school are common among youth who have been sexually exploited (Edwards et al. 2006; Inciardi et al. 1991; Landers, McGrath, Johnson, Armstrong, Dollard, 2017; Loeber & Farrington 1998; Widom & Kuhns 1996).

Efforts to better identify youth victims of exploitation and trafficking have been the focus of many child-serving systems. Due to the clandestine and transient nature of trafficking, especially involving minors, estimation of the prevalence rate for trafficked and sexually exploited youth in the United States varies considerably (Greenbaum, 2014; Miller-Perrin & Wurtele, 2017). Although various screening tools have been developed to help identify trafficked and exploited youth, accompanying research attesting to the reliability and validity of most of these tools is lacking. In the absence of a uniform system to report incidences of trafficking involving minors, coupled with use of screening tools that are not validated, reliable estimates of these offenses will continue to elude researchers, practitioners, and policy-makers.

Given the challenges commonly noted in estimating the prevalence of trafficking victimization among children and youth, valid and reliable screening tools are needed to more

confidently estimate these offenses. To this end, this dissertation seeks to 1) survey screening tools used throughout the United States, 2) examining evidence of validity and reliability of a human trafficking screening tool used in Florida, and 3) empirically verify the relationship between commonly cited risk factors and sex trafficking.

Research Questions

The research questions guiding this dissertation are listed for each of the three manuscripts compiled for this dissertation.

Manuscript 1

- What screening tools are used to identify youth victims of sex trafficking?

Manuscript 2

- To what degree does Florida's HTST accurately and comprehensively measure sex trafficking?
- To what degree does Florida's HTST distinguish between youth who are trafficking victims and those who are likely not victims of trafficking?
- To what extent does the HTST demonstrate measurement equivalence across demographic subgroups and other subgroups of youth?
- What is the level of reliability of the Florida HTST?

Manuscript 3

- To what extent is sex trafficking related to risk factors commonly cited in previous literature?
- To what extent do risk factors predict sex trafficking among justice-involved youth?
- Does the relationship between sex trafficking and risk factors vary among demographic subgroups?

Study Design

This dissertation employed a mixed methods design. Although the studies are largely quantitative a small portion of this dissertation includes a qualitative analysis of Florida's HTST.

Measures

The primary measures used in this dissertation were the Florida HTST and data from a risk assessment used by the Department of Juvenile Justice—the Positive Achievement Change Tool (PACT). The HTST is administered with youth when 1) there is a history of running away or getting kicked out of his or her living situation four or more times, 2) there is a history of sexual abuse, or 3) there is a history or current incident of a sexual offense. Youth with a history of a prostitution offense would also trigger use of the HTST. Screening tool responses are summarized by 14 screening indicators. Screeners indicate whether there is evidence of various factors related to trafficking. The HTST concludes with the screener making a determination of the likelihood that the youth has been trafficked which is informed by his or her professional judgement, youth responses throughout the interview, screener's observations, and information from the youth's case file. The screening tool indicators and screener's determination form the basis for many of the analyses for this dissertation.

The PACT is a risk assessment tool administered during intake processes when youth are formally engaged with the DJJ. The PACT was designed to provide ongoing risk screening, assess youth's needs, determine level of care needed, and inform case management planning. Limited information from the PACT was available for this dissertation. Risk factors from school information, child welfare involvement, history of abuse and neglect, runaway history, family functioning, youth substance use, mental health, and risk behaviors were used to assess validity of the HTST and empirically verify the relationship between commonly cited risk factors and sex trafficking.

Data collection

Screening tool data and data on risk factors were compiled by intake staff of Florida's Department of Juvenile Justice and securely shared with researcher. Data represent screening tools and PACT assessments completed between 2017 and 2019. Although analysis of Florida HTST was beyond the scope of Manuscript 1, the final dataset analyzed for the second

manuscript included 4,890 completed screening tools and accompanying PACT assessment data. Almost 2,000 screening tools and associated PACT data were analyzed for the final manuscript.

Overview of Methods

Manuscript 1

The first study consists of a systematic review of screening tools used to screen for human trafficking with a deliberate focus around sex trafficking of minors. Strategies consistent with systematic reviews were used to collate and synthesize screening tools that have been developed and are currently being used within the United States. A comprehensive search process was used to identify screening tools and provide a synthesis of these tools. Key information extracted from each tool included the name of the tool, primary agency(ies) that utilize the tool, type(s) of trafficking assessed, availability of a training, manual, or administration instructions for the screening tool, method of administration, whether validation assessments of the tool have been published, and whether indicators of trafficking were described to trigger the use of the screening tool.

Manuscript 2

The second manuscript examines the reliability and validity of Florida's HTST. Several strategies were used to assess evidence of content validity, construct validity, criterion-related validity, internal consistency, and inter-rater reliability. To assess content validity, a panel of experts were recruited to review Florida's HTST and determine the extent to which it comprehensively included content relevant to the sex trafficking of minors. After critically reviewing the tool, experts responded to questions such as "How well does this tool cover the necessary content to identify victims of various demographic and subgroups?" and "What content/elements are missing from this tool or are poorly conceptualized in this tool?"

Qualitative analysis of expert reviews was conducted, and responses were summarized to explore evidence of content validity.

Construct validity is concerned with whether a tool measures the construct it is designed to measure (Carmines & Zeller, 1979; Coulacoglou & Saklofske, 2017; Murnane & Willett, 2010). Factor analysis, convergent validity, and discriminant validity were assessed for evidence of construct validity. Specifically, factor analysis was used to determine the factor structure of the HTST and compile subscales to represent latent constructs within the tool. A combination of criteria, including model fit indices, scree plots, eigenvalues greater than 1, and parallel analysis, informed the number of factors to retain. Confirmatory Factor Analysis (CFA) was then used to confirm the factor structure. Conceptual and theoretical meaningfulness and parsimony were considered in finalizing the factor analyses. Results of the EFA and CFA were used to calculate factor scores used in subsequent analyses.

Convergent and discriminant (or divergent) validity examined the extent to which theoretically-related items were correlated. High intercorrelation among screening indicators related to sex trafficking provided evidence of convergent validity, whereas low intercorrelation among theoretically unrelated items would be evidence of discriminant validity. Lower correlation coefficients are expected between screener indicators related to sex trafficking and screener indicators related to labor trafficking (i.e., discriminant validity). The relationship between sex trafficking factor scores and the screener's determination of the likelihood that youth were victims of sex trafficking was also assessed. Chi square analyses were also used to examine the relationship between the screener's determination of the likelihood of trafficking victimization and individual screening indicators related to sex trafficking. Only screening indicators related to sex trafficking were assessed.

Criterion-related validity compares values of the measure of interest to other validated measures attempting to examine the same construct (Carmines & Zeller, 1979; Coulacoglou & Saklofske, 2017; Murnane & Willett, 2010). However, there is no consensus on a gold standard

screening tool despite many tools being used to identify victims of trafficking. This dissertation, instead, correlated the likelihood of sex trafficking victimization with risk factors measured by the PACT. Specifically, concurrent validity, a component of criterion-related validity, examined the relationships between CSE and risk factors known to be associated with sex trafficking. Given that the HTST and the PACT are both administered during intake processes, concurrent validity was examined via correlation analyses. Analysis of Variance (ANOVA) tests were also used to compare average risk factor scores among categories of youth based on likelihood of trafficking victimization. Although predictively validity is a common strategy used to examine measurement validity, confirmation of sex trafficking victimization was not available for this dissertation and, therefore, could not be assessed.

Assessment of the reliability of the HTST included an examination of its internal consistency and inter-rater reliability. The consistency of responses within factors resulting from the EFA and CFA as well as for the sex trafficking items as a whole was examined. Cronbach's alpha (α) was used to determine the internal consistency of scores. Additionally, using information from 25 completed screening tools, content experts reviewed tools to come up with their own determination of how likely it was that the youth was a victim of sex trafficking. Agreeability between raters was analyzed using weighted Cohen's Kappa coefficients.

Manuscript 3

The final manuscript was designed to empirically verify the relationship between commonly cited risk factors and sex trafficking. Using a sex trafficking scale score computed from results of the EFA, youth were characterized as victims of CSE or not. Bivariate analyses were conducted to examine relationships between risk factors and sex trafficking. Further, separate logistic regression models were estimated to examine variations in risk factors that predict trafficking for various subgroups. Specifically, models for females, males, Black youth, White youth, Hispanic youth, older youth, and younger youth were estimated.

Definition of Terms

Human trafficking: Human Trafficking is a term used to describe a range of offenses wherein persons are recruited, transported, transferred, or harbored under the control of another person for the purpose of exploitation (22 USC § 7102(9); United Nations, 2000)

Sex trafficking is a form of human trafficking wherein persons exchange sex for money, goods, and/or services. In the case of minors, force, fraud, nor coercion are necessary to qualify as trafficking.

Labor trafficking is a form of human trafficking wherein persons are exploited for labor or services.

Commercial sexual exploitation: describes sex-related exploitation of minors in the United States and includes offenses such as pornography, child prostitution, trafficking for sex, sex tourism, performing in strip clubs, and survival sex (Institute of Medicine and National Research Council, 2013)

Given the overlap in conceptualization of sex trafficking and CSE involving minors, these terms are used interchangeably throughout this study.

Victim / survivor: an individual under the age of 18 who is engaged in commercial sex are legally considered trafficking victims (22 USC § 7102).

Conclusion

CSE involving youth is a problem throughout the United States. Child-serving systems throughout the nation have made concerted efforts to better identify and serve youth victims of exploitation and trafficking. However, there are a myriad of challenges in estimating the prevalence rate for trafficked and sexually exploited youth. Screening tools are currently being used to help identify trafficked and exploited youth; however, many of these tools have not been validated. Given the challenges commonly noted in estimating the prevalence of trafficking victimization among children and youth, valid and reliable screening tools are needed to

confidently estimate these offenses. With that in mind, this dissertation examines evidence of the reliability and validity of a human trafficking screening tool used in Florida. This dissertation goes further to empirically verify the relationship between commonly cited risk factors and sex trafficking.

Information learned from this dissertation will ensure that youth are properly and accurately identified so that they can receive appropriate services. This research will further add to our understanding of the observable indicators and risk factors related to sex trafficking involving minors.

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Chapter 2: Manuscript 1

Understanding Risk Factors for Commercial Sexual Exploitation: A Systemic Review of Human Trafficking Screening Tools

Abstract

Since the Trafficking Victims Protection Act (TVPA) was first enacted in 2000, considerable effort has been made to identify youth victims of trafficking, understand their experiences, and effectively meet the needs of trafficked and exploited youth. Research and knowledge of the risk factors associated with trafficking has been used to develop screening tools to better identify youth who have been victimized. This study presents a systematic review of human trafficking screening tools and compiles information on the types of risk factors and indicators included in these screening tools. Given challenges in reliably estimating commercial sexual exploitation (CSE) involving children, taking an environmental scan of screening tools is an important first step. The systematic review resulted in 26 screening tools used to identify youth victims of human trafficking. Thirteen tools (50%) included content to identify victims of both sex and labor trafficking and nine tools (35%) were specific to sex trafficking involving minors. Common risk factors and indicators included in screening tools described behavioral, physical, or interpersonal indicators associated with trafficking. Although screening tools are prevalent and easily accessible, there is some concern regarding the use of trafficking screening tools that are not evidence-based (Walker, 2013). An examination of the validity and reliability of less than half of the screening tools reviewed was available (46%). However, an important next step in correctly identifying CSE victims and combatting human trafficking is ensuring that screening tools used have demonstrated evidence of reliability and validity.

Introduction

Human Trafficking is a term used to describe a range of offenses wherein persons are recruited, transported, transferred, or harbored under the control of another person for the purpose of exploitation (United Nations, 2000). Commercial sexual exploitation (CSE) describes sex-related exploitation of minors and includes offenses such as pornography, child prostitution, trafficking for sex, sex tourism, performing in strip clubs, and survival sex (Institute of Medicine and National Research Council [IOM & NRC], 2013). Obtaining reliable estimates on the prevalence of CSE is complicated by the lack of a uniform system to report incidences of trafficking involving minors, youth's lack of awareness that they have been exploited or reluctance to disclose the abuse, and provider's discomfort labeling youth as victims of trafficking (Basson et al., 2012; Landers et al., 2017). Perhaps due to legislation aiming to better identify trafficking victims, several screening tools have been developed and are currently being used throughout the United States. This study provides a systematic review of screening tools used to identify youth victims of human trafficking. With a particular focus on sex trafficking this study examined content from these screening tools to compile risk factors associated with trafficking.

Background

The trauma of sexual exploitation impacts children's well-being, as well as their socio-emotional, physical, and psychological development (Clarkson-Freeman, 2014). Emotional and behavioral problems such as substance use, depression, post-traumatic stress disorder, anxiety, self-injurious behaviors, oppositional behavior, aggression, criminal activity, and behavior problems at school have been identified as adverse effects stemming from CSE victimization (Cole et al., 2016; Countryman-Roswurm & Bolin, 2014; Greene et al., 1999; Hossain et al., 2010; Warf et al., 2013; Willis & Levy, 2002; Zimmerman et al., 2008). Injuries resulting from physical and sexual assault, such as chronic medical conditions and sexually transmitted diseases, have also been identified (Clawson & Goldblatt-Grace, 2007; Gozdziaak &

Bump, 2008; Greenbaum, 2014; Willis & Levy, 2002). Further, in a study of characteristics of dependent youth who have also been victims of CSE, Landers et al. (2017) found 30% presented with a medical condition warranting medical attention, and 37% contracted a sexually transmitted infection or were suspected of having an undiagnosed STI.

Literature on CSE frequently cites individual and family risk factors that may make children and youth more susceptible to commercial sexual exploitation. Two of the most widely cited risk factors understood to increase the likelihood that a child will be sexually exploited are a history of sexual abuse and involvement in the child welfare system (Cole et al., 2016; Estes & Weiner, 2001; Fong & Cardoso, 2010; IOM & NRC, 2013; Gragg et al., 2007; Miller-Perrin & Wurtele, 2017; Sewell, 2012; Smith et al., 2011; Walker, 2013). Youth with a history of sexual abuse are at an increased likelihood of being recruited into “child prostitution” and often cope with the abuse by running away and engaging in substance use at an early age (Choi, 2015; Reid, 2011). Due to their increased vulnerability, traffickers prey on youth in the child welfare system who have histories of abuse and neglect and provide the illusion of affection, security, stability, and love that attract youth making it easier to sexually exploit them (Curtis et al., 2008; Reid, 2011). Dysfunction within the family such as family violence, parental substance abuse, and parental criminality have also been identified as risk factors for CSE (Miller-Perrin & Wurtele, 2017). At the societal level, communities experiencing sociocultural and economic challenges such as poverty and unemployment, high crime rates, and political corruption also present risk factors associated with CSE (Miller-Perrin & Wurtele, 2017). A lack of awareness of CSE and a dearth of resources to prevent and intervene with CSE is also cited as risk factors for youth becoming victims (Clawson & Goldblatt-Grace, 2007; Greenbaum, 2014; IOM & NRC, 2013).

Legislation

In 2000, the TVPA was enacted to prohibit and punish the sexual exploitation of a minor under the age of 18 (P.L. 106-386). This legislation introduced “commercial sex” as sex

exchanged for anything of value and, in the case of minors, force, fraud, or coercion was required to qualify the act as sexual exploitation. Given inherent power differentials and concerns that minors cannot fully appreciate the consequences of the act, whether or not a minor consented to engage in sex to receive something of value was not necessary to mitigate exploitation.

Protection, prosecution, and prevention were the initial focus of the TVPA and the intended impact was to protect victims, prosecute traffickers and establish recovery programs to rescue victims, and prevent the continued sexual exploitation of minors (Miller-Perrin & Wurtele, 2017; Roby & Vincent, 2017). Since the TVPA was enacted, there has been an increase in public awareness and assistance for trafficking victims through various programs and resources. Much of what has been learned since this legislation passed describes risk factors associated with trafficking, adverse outcomes for children and youth who have been victimized, and services and supports that might assist this population.

Improving identification of trafficking victims was incorporated in many of the TVPA reauthorizations since 2000 and is outlined in other trafficking-related legislation. For instance, the Preventing Sex Trafficking and Strengthening Families Act of 2014, which stemmed from TVPA reauthorizations, required states to develop procedures to identify, document, and screen youth who are victims of sex trafficking or who are at risk of being trafficked. A special emphasis was placed on identifying and determining appropriate services for children and youth who currently or formerly were placed in foster care. Data collected by states were to be reported to the Department of Health and Human Services. Just a year later, more legislation was passed to further strengthen approaches to identify and serve youth victims of sex trafficking. The Justice for Victims of Trafficking Act amended the Child Abuse Prevention and Treatment Act to include trafficking as a form of child abuse. States were required to develop policies and procedures to identify victims and investigate all reports of suspected sex trafficking

involving a minor. Training for Child Protection Services workers on human trafficking and how to identify victims of trafficking was mandated through this legislation.

Due to the clandestine and transient nature of these offenses, estimating the prevalence rate for trafficked and sexually exploited youth in the United States varies considerably (Bryan, 2014; Estes & Weiner, 2001; Greenbaum, 2014; Miller-Perrin & Wurtele, 2017). Some estimates suggest that 100,000 to more than 200,000 children and youth in the United States are victims of sex trafficking and upwards of 325,000 children and youth are at risk of sexual exploitation in the United States each year (Bryan, 2014; Estes & Weiner, 2001). Tueller et al. (2021) estimates the prevalence of sex trafficking among children engaged in child welfare is 3 to 15 times the observed rate. Despite development of the TVPA, there is not a uniform system to report incidences of trafficking involving minors. Some states, however, have enacted laws and policies that require suspicion of a minor being exploited or trafficked be called into a hotline to be investigated by that state's child welfare authority. Still, estimates of trafficking involving youth are not reliable (Greenbaum, 2014). Further, existing prevalence rates of trafficking of minors may more accurately only reflect those youths formally involved in child-serving systems such as those engaged with dependency or delinquency.

Efforts to better identify youth victims of exploitation and trafficking have been the focus of many child-serving systems. Various screening tools have been developed to help identify trafficked and exploited youth. However, many of these tools focus on those used in specific agencies such as healthcare agencies (Armstrong, 2017; Chang et al., 2015; Chisolm-Straker et al., 2019; Egyud et al., 2017; Kaltiso et al., 2018; Mostajabian et al., 2019; Schwarz et al., 2016; Stoklosa et al., 2017). To date, a systematic review of screening tools used to identify youth victims of human trafficking has not been conducted. To more reliably estimate the extent to which youth have been trafficked and to provide for the needs of exploited youth, an understanding of the availability of tools to identify youth is necessary. Therefore, the purpose of this study was to provide a comprehensive review of existing screening tools used to identify

victims of human trafficking. Although many tools include content on sex and labor trafficking, this study primarily focused on screening tools designed to identify sex trafficking victims. A secondary goal of this study was to compile information on the types of risk factors and content included in these screening tools.

Methods

Strategies consistent with systematic reviews were used to collate and synthesize screening tools that have been developed and are currently being used within the United States. As is typical with systematic reviews, a comprehensive search process was used to identify screening tools and results provide a narrative and tabular synthesis of these tools.

Sample

Search Strategy. Rigorous methods were used to locate and synthesize existing screening tools used to identify youth victims of human trafficking. An internet search using Google and Google Scholar search engines in addition to various academic databases were used to identify human trafficking screening tools. Specifically, the following electronic databases were searched: ProQuest (Sociology Databases and Social Sciences Databases), Scopus, EBSCO (Social Sciences Full-Text), Sociology Sage Full-text, PubMed, PsychInfo, and Google Scholar. Articles identifying screening tools were identified using specific search terms. The search algorithm used was “human trafficking” [in Abstract] AND “screening tool” [in Abstract] AND “youth” [in Abstract]. The reference lists of screened and eligible articles were also checked for additional screening tools meeting the criteria of this review.

Inclusion Criteria. In selecting screening tools to include in this review, the following criteria was used:

- 1) The stated purpose of the tool is to identify victims of sex trafficking;
- 2) The tool be applicable to youth victims;
- 3) The tool is used in the United States; and

4) The tool originated in the English language

There were no limitations on whether the tools were validated or used within certain settings. In addition to screening tools identified in peer-reviewed literature, this review also included screening tools identified in dissertations, theses, technical reports, and evaluations.

Screening

Titles, abstracts, and keywords of all articles identified were screened for eligibility by a single researcher. Full-texts of studies deemed to be eligible were, then, retrieved and reviewed again to ensure that each article fully met the inclusion criteria. Each article that met the inclusion criteria were thoroughly read to identify screening tools discussed in the article. A list of screening tools was compiled and an internet search was used to obtain the screening tools that were identified. An assessment of the quality of identified screening tools was not assessed as it was beyond the scope of this review.

Data Extraction and Synthesis

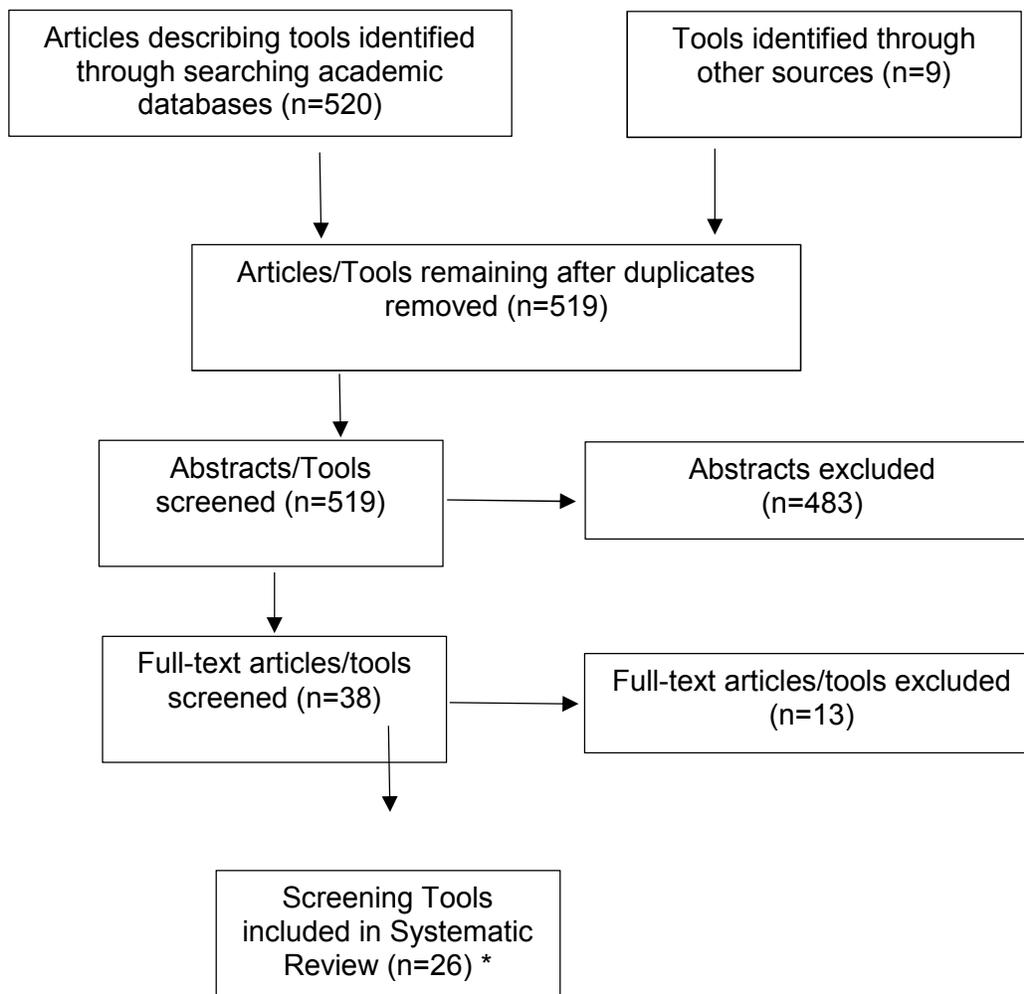
Data extraction from each screening tool followed a standard coding protocol. Key information extracted from each tool included the name of the tool, primary agency(ies) that utilize the tool, type(s) of trafficking assessed, availability of a training, manual, or administration instructions for the screening tool, method of administration, whether validation assessments of the tool have been published, and whether indicators of trafficking were described to trigger the use of the screening tool.

Results

Through the indexing and screening process, a total of 529 articles discussing human trafficking screening tools were identified and an additional nine were identified through internet search engines (see Figure 1). After duplicates were removed, the remaining 519 articles and resources were screened for eligibility. A large majority of articles and resources were deemed to be ineligible at the title and abstract level. Most of these tools discussed screening tools

generally and did not identify a screening tool to include in the list compiled. Few articles discussed screening tools specific to labor trafficking. Review of the full-text of potential articles and resources omitted another 13 articles due to ineligibility or on account of the tool already being identified. The final systematic review identified 26 screening tools.

Figure 1. Screening Tool Identification Flow Diagram



Note. * One article included information on two tools used in New York (Cook, 2021).

Table 1 provides a summary of key characteristics of the identified screening tools included in this review. Among the 26 tools identified, thirteen could be described as full

screening assessments which included more questions compared to brief screening tools (n=6) or tools used solely as a pre-screen assessment (n=4). One tool, the Michigan Department of Health and Human Services Human Trafficking of Children Protocol, includes pre-screening questions as well as a longer, full assessment. Another tool, the Human Trafficking Victim Identification Tool, offers a pre-screen assessment as well as a longer, full assessment to complete with youth who exhibit many of the indicators characteristic of trafficking victimization or who are at high risk of victimization. Thirteen screening tools were developed to identify victims of sex and/or labor trafficking and four other screening tools generally assessed for trafficking victimization without explicitly attempting to discern the type of trafficking youth experienced. Nine screening tools including the Child and Adolescent Needs and Strengths-Commercial Sexual Exploitation (Lyons, 2009), the Commercial Sexual Exploitation Identification Tool, and the Child Sex Trafficking Indicators Tool, for example, specifically assessed for commercial sexual exploitation involving youth. With few exceptions, a manual, training, or set of instructions was available for each of the tools identified (n=22). Most of the tools discussed best practices for assessing for trafficking victimization and described ideal settings for completing the tool with youth. In the instructions that accompanied each of these tools, it was stated that the questions should not be read word for word with youth. Instead, tools were guided interviews that promoted a dialogue through which responses to screening tool questions were discussed. As such, none of these tools are self-report measures. Most tool are to be completed by a trained screener. However, Chisolm-Straker et al. (2019), boasts that the Quick Youth Indicators for Trafficking (QYIT) can be administered by anyone and does not rely on the judgement of a trained screener.

Table 1. Summary of Screening Tools Identified

Tool Name	Type of Tool ^a	Trafficking Type Assessed	Primary use (agency)	Availability of Manual/ Training/ Instructions	Method of Administration	Validated (Yes / No)	Screening Tool Triggers (Yes / No)
Michigan Department of Health and Human Services (DHHS) Human Trafficking of Children Protocol	Pre-screen + full screen (12 questions in pre-screen; 39 questions in full screen)	Sex and Labor	Youth under supervision of DHHS	Yes	Trained screener	No	Yes
Comprehensive Human Trafficking Assessment	Full screen (up to 136 questions)	Sex and Labor	Can be tailored for youth in various agencies	Yes	Trained screener	No	No
Human Trafficking Assessment Tool for Domestic Violence Programs	Brief screen (up to 13 questions)	Sex and Labor	Domestic Violence Programs	Yes	Trained screener	No	Yes
Human Trafficking Assessment for Runaway and Homeless Youth	Full screen (up to 33 questions)	Sex and Labor	Can be tailored for youth in various agencies	Yes	Trained screener	No	Yes
Human Trafficking Assessment Tool for Airlines and Airports	Brief screen (up to 6 questions)	General; does not specify	Airlines and Airports	Yes	Trained screener	No	Yes
Tools for Educators	Pre-Screen (up to 15 questions)	General; does not specify	Schools and academic settings	Yes	Trained screener	No	Yes

Table 1. (Continued)

Florida Human Trafficking Screening Tool	Full screen (up to 47 questions)	Sex and Labor	Juvenile Justice and child welfare settings	Yes	Trained screener	No	Yes
Human Trafficking Victim Identification Tool (TVIT from the VERA Institute)	Pre-screen (short version) and Full screen (long version)	Sex and Labor	Victim service and social service agencies	Yes	Trained screener	Yes (Simich, Goyen, Powell, & Mallozzi, 2014)	No
Ohio Human Trafficking Screening Protocol	Brief Screen (5 – 6 questions)	General; does not specify	Juvenile Justice and child welfare settings	Yes	Trained screener	No	No
Screening Tool for Victims of Human Trafficking (U.S. DHHS)	Brief Screen (up to 13 questions)	General; does not specify	Healthcare providers	No	Trained screener	No	No
Massachusetts Human Trafficking Screening Tool	Brief Screen (up to 19 questions)	Sex and Labor	Healthcare Providers	Yes	Trained screener	No	Yes
Rapid Screening Tool for Child Trafficking	Pre-Screen (up to 12 questions)	Sex and Labor	Various Agencies	Yes	Trained screener	Reportedly ^b (see Jimenez, Jackson, & Deye, 2015)	No
Comprehensive Screening and Safety Tool (CSST; includes Child Trafficking Indicator Questionnaire and Child Trafficking Safety Assessment Form)	Full Screen (up to 30 questions for Indicator Questionnaire; up to 20 questions for Safety Assessment)	Sex and Labor	Various agencies; specifically child welfare and healthcare settings	Yes	Trained screener	Reportedly (see Jimenez, Jackson, & Deye, 2015)	No

Table 1. (Continued)

Intervene Intake Tool	Full screen (Proprietary; not available in public domain)	Sex and Labor	Various agencies	Yes	Trained screener; some self-report	Reportedly (see Jimenez, Jackson, & Deye, 2015)	Unknown
Human Trafficking Interview and Assessment Measure-14 (HTIAM-14)	Full screen (up to 18 questions)	Sex and Labor	Shelter for homeless, runaway, and trafficked youth	Yes	Trained screener	Reportedly (see Jimenez, Jackson, & Deye, 2015)	Unknown
Child and Adolescent Needs and Strengths-Commercial Sexual Exploitation (CANS-CSE)	Full assessment (67 questions)	Sex (CSE)	Various agencies	Yes	Trained screener	Reportedly (see Jimenez, Jackson, & Deye, 2015)	No
Commercial Sexual Exploitation Identification Tool (CSE-IT)	Full assessment (46 questions)	Sex (CSE)	Various child-serving agencies	Yes	Trained screener	Yes (see Basson, 2017)	No
Asian Health Services & Banteay Srei Commercially Sexually Exploited Children (CSEC) Protocol	Full screen (Proprietary; not available in public domain)	Sex (CSE)	Healthcare providers	Unknown	Trained screener	Yes (see Chang et al., 2015)	Yes
CSEC/Child Sex Trafficking (CST) Screening Tool	Pre-screen (6 questions)	Sex (CSE)	Healthcare providers; health centers	Yes	Trained screener	Yes (see Greenbaum et al., 2018a; Greenbaum et al., 2018b)	Unknown

Table 1. (Continued)

CSEC Screening Tool for San Luis Obispo County	Full screen (22 questions)	Sex (CSE)	Healthcare providers	Yes	Trained screener	No	Unknown
Sexually Exploited Children Screening Protocol	Pre-Screen (up to 10 questions)	Sex (CSE)	Healthcare providers; health centers	Yes	Trained screener	No	No
Human Trafficking Screening Tool (Urban Institute)	Full screen (up to 85 questions); short form available	Sex and Labor	Various agencies; specifically child welfare	Yes	Trained Screener	Yes (see Dank et al., 2017)	Unknown
Screening Tool for CST	Brief screen (up to 21 questions)	Sex (CSE)	Healthcare providers; specifically pediatric emergency rooms	Yes	Trained Screener	Yes (Kaltiso et al., 2018)	Unknown
Quick Youth Indicators for Trafficking (QYIT)	Brief screen (4 questions)	Sex and Labor	Various social services agencies	No	Trained screener not required	Yes (Chisolm-Straker et al., 2019)	No
Child Sex Trafficking Indicators Tool	Full screen (38 questions)	Sex (CSE)	Various social services agencies	Unknown	Unknown	No	Yes
Rapid Indicator Tool (from Child Sex Trafficking Indicators Tool)	Indicators Checklist used as a screener (11 questions)	Sex (CSE)	Various social services agencies	Unknown	Unknown	No	Yes
Child Victims of HT Screening Tool (CVHT)	Full screen (57 questions)	Sex and Labor	Social Work services agencies	Yes	Trained Screener	No	Yes

^a “Type of Tool” indicates whether the tool is a pre-screening tool for a longer assessment, if the tool is a brief screening measure, or if it is best described as a full screening assessment.

^b The cited reference states that these tools are validated, however, literature verifying the validation of these tools could not be found.

Several screening tools (n=7) were accompanied by research that attested to the validity of these tools. The following screening tools were empirically-supported as an effective means of identifying trafficked youth: the Human Trafficking Victim Identification Tool, the Commercial Sexual Exploitation Identification Tool, the Asian Health Services & Banteay Srei Commercially Sexually Exploited Children (CSEC) Protocol, the CSEC/Child Sex Trafficking (CST) Screening Tool, the Human Trafficking Screening Tool (Urban Institute), the Screening Tool for CST, and the Quick Youth Indicators for Trafficking (Basson, 2017, Chang et al., 2015, Chisolm-Straker et al., 2019, Dank et al., 2017, Greenbaum et al., 2018a, Greenbaum et al., 2018b, Kaltiso et al., 2018, Simich et al., 2014). Five additional tools were stated to be validated according to Jimenez et al. (2015), however, to date, research on the validation of these tools could not be found. As shown in Table 1, several screening tools included risk factors or high-risk indicators typical of trafficked youth that could be used to trigger the use of the screening tool. It can be assumed that manuals or training for many of the other tools outlined indicators or triggers that would necessitate use of the tools.

The tools included in Table 2 provided outlines commonly cited risk factors and indicators used to initiate use of a screening protocol. Many indicators can be characterized as behavioral, physical, or interpersonal. Youth involved in relationships with older men or who engage in high-risk sexual behavior exhibit behavioral indicators that might trigger use of a screening tool. Physical indicators may be branding, tattoos, or burn marks with a meaning the youth cannot explain or with the name of a person controlling the youth. Signs of physical and or sexual abuse was the most commonly included physical indicator. Further, multiple pregnancies or multiple terminated pregnancies within a short time frame might also be indicative of trafficking victimization. Interpersonal indicators describe relationships and dynamics between the youth and others. Many of these indicators describe a controlling relationship between the youth and the person exploiting them. Another often cited indicator was youth having money and expensive items that he or she cannot reasonably obtain or

cannot account for how he or she obtain those items. More blatant indicators would also trigger use of a screening tool. For instance, if the youth is known to have provided a commercial sex act, a potential screener would be prompted to complete a human trafficking screening tool with the youth. In some cases, a question such as “Have you been paid for having sexual relations with someone?” is the only question asked (Panlilio et al., 2019). Other indicators seem to focus more on labor trafficking. For instance, youth might not have access to money or identifying documents such as an ID, birth certificate, or passport. Specific to sex trafficking, many of these risk factors were included in screening tools that focused on sex trafficking or on both sex and labor trafficking. This was particularly the case among screening tools with available validation studies.

Table 2. Screening Tool Commonly Cited Risk Factors and Indicators

Behavioral Indicators	<ul style="list-style-type: none"> • High risk sexual behavior • Involved with relationships with older men • Changes in school participation, attendance, poorer grades
Physical Indicators	<ul style="list-style-type: none"> • Branding and/or tattoos with person’s (controller’s) name • Multiple pregnancies within short time frame • Multiple untreated STIs • Signs of physical and/or sexual abuse • Signs of confinement, malnourishment, or physical restraint
Interpersonal Indicators	<ul style="list-style-type: none"> • Not permitted to contact family or friends • Youth lives at his or her place of work or with many people in a small area • Youth is controlled by a person whom they are fearful of such as a boyfriend/girlfriend or caretaker • Youth not allowed to speak for him/her self
Other Indicators	<ul style="list-style-type: none"> • No access to money, bank account, or financial resources • No personal identification or documents, no access identifying documents, false identification • Sexually explicit online activity and profiles • History or running away or homelessness

An essential next step after completing a screening tool is to determine whether there is suspicion of trafficking victimization. Each of the tools identified through this review were examined to collate information on how victims were identified. Largely, these screening tools did not provide a scoring mechanism, rubric, or decision-making schema for determining the likelihood a youth was trafficked. In the case of many of these tools, trained screeners relied on indicators of trafficking and his or her professional judgement to indicate the likelihood of human trafficking victimization. For instance, the Florida Human Trafficking Screening Tool and the Human Trafficking Victim Identification Tool includes a post-screening assessment for the screener to summarize evidence obtained throughout the screening, including suspicion of deception or false responses, to indicate the likelihood the youth is a victim of trafficking. Further, the screener is asked to justify his or her determination. The Human Trafficking Interview and Assessment-14 is one of the few tools that does include a scoring rubric. Still, the screener is asked to rate the extent to which he or she believes the youth is a victim of trafficking on a scale from “0” indicating “no evidence” to “3” indicating “strong evidence” of victimization. Similarly, the Commercial Sexual Exploitation Identification Tool (CSE-IT) includes a scoring mechanism and instructions for determining the concern for trafficking victimization based on a continuum of concern from “no concern” to “clear concern.”

Many of the screening tools included in this review provided next steps once a determination of the likelihood of trafficking victimization was made. Most commonly, screeners were instructed to report suspicion of trafficking to either a local or national hotline equipped to take calls related to trafficking. Particularly in the case of minors, reports were to be made to child welfare authorities through a centralized process. For instance, after a screening determines a youth may be a victim of trafficking or is unsure of whether the youth has been victimized after completing the Florida Human Trafficking Screening Tool, he or she is instructed to call the Florida Child Abuse Hotline to generate a report.

In addition to taking reports of trafficking, the National Human Trafficking Hotline is prepared to provide technical assistance or general information, provide anti-trafficking resources, or inform the caller of services and supports in the area. After completing screening tools, the National Human Trafficking Hotline and associated Resource Center is also able to assist in determining the appropriate next steps. In many cases, the screening tools deferred to policies, procedures, and protocols set forth by the agency at which the screener works. However, in the absence of these specified policies and practices, reference to the hotline was made for recommended next steps to ensure the safety of the youth. With screening tools used in healthcare settings such as the Massachusetts Human Trafficking Screening Tool, positive screens are to be noted by the words “suspected human trafficking” being included as a finding in the client’s medical record. Of course, in the case of immediate danger, some tools such as the Ohio Human Trafficking Screening Protocol (Ohio Human Trafficking Task Force, 2017) or the Human Trafficking Assessment Tool for Airlines and Airports, instructed screeners to call 911.

Discussion

This study sought to provide a comprehensive review of existing screening tools used to identify youth victims of human trafficking. Most of the identified tools included questions to identify victims of both sex and labor trafficking and many other tools were specific to sex trafficking involving minors. Few tools assessed for trafficking more generally. Although many of these tools could be adapted for use in various child-serving agencies, many tools were developed for specific use in healthcare settings such as health centers, clinics, or emergency rooms. In many cases, pre-screening measures used in these facilities were, perhaps, more appropriately characterized as universal screening tools in which all youth between a specified age range were asked a small set of questions that indicated whether or not they experienced

high risk indicators of trafficking. Two tools were developed for use in school setting—Tools for Educators and the Sexually Exploited Children Screening Protocol (Mays et al., 2013).

Many of the screening tools were supplemented with a training, manual, or instructions for administration that provided tips and strategies for completing the tool in a trauma-informed way. Concern for youth's safety and acknowledgement of the trauma youth might have experienced is incorporated in training to complete these tools. Some tools, such as the Human Trafficking Victim Identification Tool used in victim services and social service agencies, allow the tool to be completed over an extended time frame so that rapport between the screener and youth can be established. This might encourage youth to be more forthcoming on details of what happened to them.

Concern has been raised regarding the use of trafficking screening tools that are not evidence based (Walker, 2013). Twelve of the 26 tools described in this paper have been validated, and there appears to be a recent effort to examine the evidence-base of these tools (Basson, 2017; Chang et al., 2015; Dank et al., 2017; Greenbaum et al., 2018; Kaltiso et al., 2018; Simich et al., 2014). It is plausible to assume that efforts to validate other human trafficking screening tools are currently underway. Still, it seems that most of the screening tools being used have not yet been validated.

Limitations

Although results of this review highlighted various screening tools to identify youth victims of trafficking, these findings provide only a descriptive summary of these tools. Further, this review only loosely followed systematic review methodologies. Although intentional, a quality assessment of the screening tools identified was beyond the scope of this paper.

It should also be noted that many of the screening tools included in this review were identified through internet search engines rather than academic databases. Even after identified, it was difficult to find supporting information on some screening tools in peer-reviewed literature. It seems that, although many screening tools are widely used, little information is

disseminated on the validity and reliability of these tools. A systematic review reliant on academic databases to identify screening tools may not allow for a comprehensive search of available tools.

Future Research

Although a quality assessment of the identified screening tools was beyond the scope of this paper, it would be helpful for future research to provide a critical assessment of human trafficking screening tools. The majority of the screening tools described in this study were not validated, however, the quality of a measure should be determined according to how well it measures what it is intending to measure. Although several screening tools are being developed and used in various child-serving agencies, the progress toward validating these tools should be assessed.

Conclusion and Implications

Since the TVPA was first enacted in 2000, considerable effort has been made to identify youth victims of trafficking, understand their experiences, and effectively meet the needs of trafficked and exploited youth. Research and knowledge of the risk factors associated with trafficking has been used to develop screening tools to better identify youth who have been victimized. Identifying these screening tools and ensure the validity of these tools to correctly identify victims is a necessary step towards combatting human trafficking and meeting the needs of these youth.

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Chapter 3: Manuscript 2
Examining Evidence of Validity and Reliability in
Florida's Human Trafficking Screening Tool

Abstract

Florida's Safe Harbor Act, enacted in 2012, spurred positive momentum in addressing commercial sexual exploitation (CSE). The act enhanced services and provisions for CSE victims and specified that youth be treated as dependents rather than delinquents (§409.1678, F.S.). As a result of this legislation, through the combined efforts of child serving agencies such as the Department of Juvenile Justice and the Department of Child Welfare, the Human Trafficking Screening Tool (HTST) was developed to identify trafficking victims. The HTST has been used throughout Florida since 2016. Each year, thousands of children are screened as possible victims of trafficking. However, there is little to no evidence of the validity and reliability of the tool (Woods et al., 2019). This study sought to comprehensively assess evidence of content validity, construct validity, criterion-related validity, internal consistency, and inter-rater reliability of the HTST. Findings suggested limited evidence that the HTST is a valid and reliable assessment. In addition to insufficient evidence of construct validity, bivariate analysis examining the relationship between the likelihood of trafficking victimization and risk factors associated with sex trafficking provided little evidence of criterion-related validity. For instance, the correlation between risk factors and sex trafficking victimization was low. The strongest relationships were observed for runaway history ($r = .174$), antisocial peer relationships ($r = .124$), and problems associated with drug use ($r = .129$). Further, although internal consistency was adequate, inter-rater reliability indicated

poor agreeability among raters. Suggestions for improving the validity and reliability of the tool are offered.

Introduction

In response to the Safe Harbor Act of 2012, the Florida Legislature enacted laws to enhance services and provisions for youth victims of commercial sexual exploitation (CSE). Florida statute required that the Department of Children and Families (DCF) develop or adopt a screening and assessment instrument to identify victims of commercial sexual exploitation [FS 409.1754(1)(a)]. The instrument was also required to determine the needs of exploited youth, plan for services, and inform appropriate placement for these youth. A Statewide Human Trafficking Tools Workgroup consisting of representation from DCF and the Department of Juvenile Justice (DJJ) convened for this purpose. As a result, the Human Trafficking Screening Tool (HTST) was developed with the purpose of assisting child welfare and juvenile justice personnel in identifying probable victims of trafficking. This tool and the accompanying administration guide were adapted from the Intervene Intake Tool, the Trafficking Victim Identification Tool (TVIT), and the Human Trafficking Interview and Assessment Measure—existing, validated tools and extant research on other screening tools (Bigelsen & Vuotto, 2013; Shared Hope International, 2010; Simich et al., 2014).

Currently, there is not a standardized screening tool used across child-serving systems to identify trafficked youth. Florida began piloting their HTST in 2015 in Hillsborough, Broward, and Duval Counties, as well as in the cities of Miami and Orlando. By 2016, the tool was implemented throughout Florida by trained DJJ staff, Child Protective Investigators, and Community-Based Care Lead Agencies. However, limited research on the validity and reliability of the HTST exists.

A recent report on the CSE of children in Florida stated more than 3,100 calls were made to the Florida Abuse Hotline to report suspected CSE (Office of Program Policy Analysis

and Government Accountability [OPPAGA], 2021). Investigations of these allegations identified almost 400 verified victims of sex trafficking in 2020. Almost half of CSE allegations were initiated by DCF personnel and another 18% were reported by Department of Juvenile Justice intake staff. Although reports of CSE have steadily increased from 1,279 in 2015 to 3,181 in 2020, the number of verified reports have remained relatively stable. Most frequently, calls were not accepted due to insufficient reasonable case to suspect abuse (OPPAGA, 2021). This underscores the need to examine evidence of reliability and validity of the screening tool most commonly used in Florida.

Florida's Human Trafficking Tool

The HTST was developed through the collaborative efforts of DCF and DJJ to identify victims of sex and labor trafficking. Prior to using the HTST, child welfare and juvenile justice professionals must complete extensive training on human trafficking and use of the screening tool. Completion of a 4-hour refresher training is required annually. An administrative guide that accompanies the HTST outlines conditions and considerations when completing the tool. According to these instructions, screeners are required to use strengths-based, non-judgmental approaches that are trauma-informed to best engage with youth throughout the interview. Given the sensitive nature of questions and topics included in the interview, it is important that screeners establish rapport with youth and create a physical environment where youth feel safe.

There are slight differences in the screening tools used by DCF and DJJ. Although questions asked in the screening protocol are the same for both agencies, there are minor differences in the indicators used to trigger use of the tool. Specifically, DJJ personnel such as juvenile probation intake staff and screeners at the Juvenile Assessment Center, complete the tool with youth when 1) there is a history of running away or getting kicked out of his or her living situation four or more times, 2) there is a history of sexual abuse, or 3) there is a history or current incident of a sexual offense. Youth with a history of a prostitution offense would also trigger use of the HTST. However, legislation passed in 2016 prohibited minors from being

charged with prostitution. HTST data prior to this legislation included youth with a history of “prostitution.” These data are collected in the agencies electronic record—the Juvenile Justice Information System—and DJJ staff and screeners are notified when a youth has any of these triggers. Additionally, if youth acknowledge that they were trafficked or there is a report of possible trafficking victimization, the tool will also be completed with youth per the DJJ HTST Administration Guide. Indicators that would trigger use of DCF’s version of the HTST are more broad to include triggers such as “child shows signs of being groomed,” “child has been recovered from a runaway episode in a hotel or area known for prostitution” or “child has inappropriate and sexually suggestive activity of social media websites.

Preliminary evidence of the validity and reliability of Florida’s HTST was conducted by Woods et al. (2019). They found evidence of predictive validity but also reported the screening tool demonstrated low reliability. Further, DCF personnel who use Florida’s HTST expressed concerns with how forthcoming youth were with information discussed to complete the screening tool (Magruder et al., 2018). When asked their perceptions on how often youth were forthcoming with screening tool topics, almost a third of DCF personnel perceived youth were forthcoming 0-25% of the time. Less than 15% of DCF personnel perceived youth were forthcoming 76-100% of the time. Concerns that youth do not cooperate with the screening interview was also noted (Magruder et al., 2018). This can have a negative effect on the reliability and validity of the tool and may have resulted in the misidentification of trafficked youth. Despite evidence of predictive validity, reliability is a necessary, though insufficient, condition for measurement validity (Moss, 1994; Woods et al., 2019).

Further research examining the psychometric properties of the HTST is needed to ensure the tool is able to accurately identify CSE victims. Accordingly, the current study aims to examine evidence of validity and reliability in Florida’s HTST guided by the following research questions:

- To what degree does Florida’s HTST accurately and comprehensively measure sex trafficking?
- To what degree does Florida’s HTST distinguish between youth who are trafficking victims and those who are likely not victims of trafficking?
- What is the level of reliability of the Florida HTST?

The HTST was designed to screen for human trafficking more generally—to include both sex trafficking and labor trafficking. However, the scope of the current study is only concerned with examining evidence of validity and reliability specific to with sex trafficking. In doing so, content validity, construct validity, criterion-related validity, internal consistency, and inter-rater reliability are assessed. Given the overlap in conceptualization of sex trafficking and CSE involving minors, these terms are used interchangeably throughout this study.

Methods

Study procedures and protocols were initially reviewed and approved by the University of South Florida Institutional Review Board (IRB). The IRBs of Florida’s DJJ and DCF also approved this study and letters of support were obtained from other agencies. A de-identified dataset of screening tools completed between 2015 and 2019 was compiled by the Human Trafficking Prevention Director with Florida’s DJJ. Other protected health information including date of birth, social security number, city residence, and information such as the school the youth attends were redacted from the dataset prior to data transfer. Data were securely transferred via Box—a HIPAA compliant platform—and stored on password protected computers. Data were only accessible by the Human Trafficking Prevention Director, researcher, and major professors.

Sample

Annually, the DJJ screens between 3,000 to 4,000 youth who present with indicators that would initiate use of the HTST. After reviewing the data, the large majority of data was omitted. One criteria used to reduce the dataset pertained to the way sex trafficking allegations were indicated. Prior to 2017, human trafficking allegations did not differentiate CSE from labor trafficking. Rather, a general human trafficking category was used. Therefore, only screening tools completed since 2017 were included. When the HTST was completed on a youth more than once between 2017 and 2019, the initial tool was retained and subsequent tools were omitted. Lastly, cases that did not include a response to the variable indicating the likelihood of trafficking victimization were also deleted. The final dataset used for this research included 4,890 completed screening tools.

Measures

The HTST used in Florida, described above, was the primary measure used in this study. Given that screening tools were administered by the DJJ, data from their Positive Achievement Change Tool (PACT) was used to supplement validity assessment of the HTST.

Human Trafficking Screening Tool. Florida's HTST is made up of 52-items including fill-in-the blank questions, yes/no questions, and multiple-choice questions. The HTST is divided into eight sections (Sections A - H) and a post-assessment section (Section I) completed by the screener made up of open-ended questions summarizing the assessment (see Appendix A). Administrative records are used to compile background information in Sections A and B. Sections C through H of the screening tool is designed as a structured interview completed in collaboration with the youth. Efforts are also made to collaborate with the youth's parents or guardians to complete Section H of the tool. In the post-assessment section (Section I), the screener makes an informed determination of the likelihood that the youth has been trafficked. The screener's determination is informed by their professional judgement, youth responses throughout the interview, screener's observations, and information

from the youth's case file. After making a determination on the likelihood that the youth has been trafficked, the screener lists reasons to support his or her decision. If the screener indicates a youth "likely is" or "definitely is" a victim of trafficking or if they cannot make a determination, the screener is required to make a call to the child abuse hotline to trigger an investigation by child welfare workers and multi-disciplinary team staffing. Findings from the investigation and staffing result in a designation in Florida's Safe Families Network (FSFN)---the statewide child welfare information system. The determination of whether the abuse allegation is substantiated is then shared with the DJJ.

Throughout the screening tool, screeners indicate whether there is evidence of various factors related to trafficking. The screener responds "Yes" or "No" to the following questions as informed by statements made by youth and observations of the youth during the interview. The 14 screening indicators are as follows:

1. Evidence of Unsafe Online Activity
2. Evidence of Suspicious/ Trafficking-Related Tattooing/Branding
3. Evidence of Unsafe Living Environment
4. Evidence of Deceptive Payment Practices
5. Evidence of Forced Labor
6. Evidence of Excessive Running Away
7. Evidence of Questionable Financial Support While Away
8. Evidence of Coercion to Stay on the Run
9. Evidence of Sexual Activities for Money, Support, or Gifts
10. Evidence of Inability to Leave
11. Evidence of Forced Identity Deception
12. Evidence of Sexual Exploitation
13. Evidence of Compensation for Sexual Activity
14. Evidence of Potential Trafficking (from Parent/Guardian report)

Due to missing data and an exorbitant amount of non-applicable data (i.e., from skip logic within the tool), use of all 52-items was not appropriate. For instance, data were not provided for four questions within the Evidence of Unsafe Online Activity domain. Non-applicable data were abundant for domains such as Evidence of Forced Labor and Evidence of Deceptive Practices when youth indicated they did not have a job and were not employed previously. Descriptive analysis of all questions included in the HTST resulted in only five complete tools following list-wise deletion. Therefore, following a similar study examining evidence on the validity and reliability of Florida's HTST using data from DCF screeners, only responses to the 14 screener indicators are included in the analysis (Woods et al., 2019).

PACT. The PACT is a risk assessment tool administered during intake processes when youth are formally engaged with the DJJ. Development of the PACT began 2005 to serve as a tool to provide ongoing risk screening, assess youth's needs, determine level of care needed, and inform case management planning. The PACT was heavily adapted from the Washington State Juvenile Court Assessment (WSJCA) also designed to determine youth's risk to reoffend.

Although the main outcome informed by the PACT assessment is risk to reoffend, the PACT includes rich information on risk and protective factors which can be used to comprehensively inform case planning (Baglivio, 2009). Research has shown the PACT is a valid assessment in predicting recidivism among justice-involved youth (McKenzie, 2018; Winokur-Early et al., 2012).

For this study, school information, child welfare involvement, history of abuse and neglect, runaway history, family functioning, youth substance use, mental health, and risk behaviors are used to assess concurrent validity of the HTST. Risk factors included in the PACT were not measured in a standardized way. Possible responses to risk factors were either nominal or ordinal and had different response options. For instance, the variable on school attendance originally included five response options: "1"= good attendance with few absences, "2"= no unexcused absences; "3"= some partial-day unexcused absences, "4"= some full-day

unexcused absences, and “5”= habitual truancy. For most risk factors, higher scores indicated greater problem severity. To standardize responses, variables were recoded to indicate no problem (“1”), some indication of a problem or problem history (“2”), or current and severe problem (“3”). Risk factors recoded in this way included school attendance, anti-social peer relationships, out-of-home (OOH) placements, runaway history, youth mental health, anger, depression / anxiety, problems related to drug use, and history of traumatic experiences.

Other variables had either a “yes” or “no” response. The PACT includes a variable on “history of violence or physical abuse” which includes very rich information on victimization within the child’s home by family members and non-family members, victimization in other settings such as group homes or foster care homes, and use of weapons when victimized. This variable was used to compute two new variables indicating whether youth were victims of physical abuse (victimization within the home by family members) and whether youth were violently victimized (victimization outside the home by non-family members). Both of these variables were dichotomous. Another variable on the PACT included extensive information on “problem history of parents in the household.” Responses to this variable compiled information on problems related to drug and alcohol use, mental health problems, physical health problems, and problems related to employment. This variable was recoded into three new variables indicating whether parents had problems related to substance use, mental health, or comorbid substance use and mental health problems. All binary responses were coded as follows: “no” = 1, “yes” = 2.

In May 2019, the DJJ replaced the PACT with the Community Assessment Tool (CAT). Similar to the PACT, the CAT is a comprehensive assessment used to understand youth’s needs and strengths with the primary goal of informing risk to reoffend. At the time of this research, the CAT was still undergoing validation studies. Therefore, assessment data from the PACT alone was used to examine validity of the HTST.

Assessing Validity and Reliability

Several strategies were used to comprehensively assess the psychometric properties of Florida's HTST. Content validity, construct validity, and criterion-related validity of the HTST were examined. Reliability assessments included internal consistency and inter-rater reliability.

To assess content validity, a panel of experts were recruited to review Florida's HTST and determine the extent to which it comprehensively included content relevant to the sex trafficking of minors. After critically reviewing the tool, experts responded to the following question:

- What type or types of trafficking does this tool assess?
- How well does this tool cover the necessary content to identify victims of various demographic and subgroups? Specifically, would this tool effectively identify male and female victims, victims of different races or ethnicities, foreign-born victims, and victims of various age groups?
- What content/elements are missing from this tool or are poorly conceptualized in this tool?
- Where is there redundancy or items that are relevant but less critical?

Qualitative analysis of expert reviews was conducted, and responses were summarized to explore evidence of content validity.

Examining the construct validity of a measure is concerned with whether a tool measures the construct it is designed to measure (Carmines & Zeller, 1979; Coulacoglou & Saklofske, 2017; Murnane & Willett, 2010). Factor analysis, convergent validity, and discriminant validity were examined. Factor analysis was used to determine the factor structure of the HTST and compile subscales to represent latent constructs within the tool. A combination of criteria, including model fit indices, scree plots, eigenvalues greater than 1, and

parallel analysis, informed the number of factors to retain. It was expected that HTST items would load on one or two factors since the tool was developed to identify victims of sex and labor trafficking. Although this study is specifically interested in sex trafficking, it is expected that all items will be conceptually related. Confirmatory Factor Analysis was then used to confirm the factor structure. Conceptual and theoretical meaningfulness and parsimony were considered in finalizing the factor analyses. Results of the EFA and CFA were used to calculate factor scores used in subsequent analyses. Although the HTST was designed to identify victims of trafficking more generally, factors related to sex trafficking were predominantly used in subsequent analyses.

Convergent and discriminant (or divergent) validity examined the extent to which theoretically-related items were correlated. High intercorrelation among screening indicators related to sex trafficking would demonstrate convergent validity, whereas low intercorrelation among theoretically unrelated items would be evidence of discriminant validity. Lower correlation coefficients are expected between screener indicators related to sex trafficking and screener indicators related to labor trafficking (i.e., discriminant validity). The relationship between sex trafficking factor scores and the screener's determination of the likelihood that youth were victims of sex trafficking was also assessed. It is expected that an increase in factor scores is associated with an increase in the likelihood that youth are deemed to be trafficked. Chi square analyses were also used to examine the relationship between the screener's determination of the likelihood of trafficking victimization and individual screening indicators. Only screening indicators related to sex trafficking were assessed.

Criterion-related validity compares values of the measure of interest to other validated measures attempting to examine the same construct (Carmines & Zeller, 1979; Coulacoglou & Saklofske, 2017; Murnane & Willett, 2010). However, there is no consensus on a gold standard screening tool despite many tools being used to identify victims of trafficking. This study instead correlated the likelihood of sex trafficking victimization with the PACT—a validated information

integration tool used by DJJ to inform individual case planning. Specifically, concurrent validity, a component of criterion-related validity examined the relationships between CSE and risk factors known to be associated with sex trafficking as cited by previous research. Given that the HTST and the PACT are both administered during intake processes, concurrent validity can be assessed. Risk factors such as conduct at school, school attendance, anti-social peer relationships, out-of-home (OOH) placements, runaway history, youth mental health, anger, depression / anxiety, problems related to drug use, sexual abuse history, physical abuse history, victimization, and history of traumatic experiences were analyzed. Strong correlation coefficients would demonstrate evidence of concurrent validity. Analysis of Variance (ANOVA) tests were also used to compare average risk factor scores among categories of youth based on likelihood of trafficking victimization. It was expected that youth deemed to likely or definitely be victims of trafficking would have greater risk factor scores than youth deemed not likely to be CSE victims. Predictive validity is a common strategy used to examine measurement validity. However, confirmation of sex trafficking victimization was not available for this study; therefore, predictive validity could not be assessed.

Assessment of the reliability of the HTST included an examination of its internal consistency and inter-rater reliability. The consistency of responses within factors resulting from the EFA and CFA—Sex Trafficking 1 and Sex Trafficking 2—as well as for the 11 sex trafficking items as a whole was examined. The internal consistency is a test of how well these indicators captured the same concepts. Given that the screening indicators are dichotomous, the Kuder-Richardson 20 test (KR-20) is the appropriate measure of internal consistency. However, in the absence of a specific test for the KR-20, results of Cronbach's alpha (α), another test of internal consistency, were used.

Lastly, inter-rater reliability was also assessed. Using information from 25 completed screening tools, three content experts reviewed tools to come up with their own determination of how likely it was that the youth was a victim of sex trafficking. Given that likelihood of

victimization is an ordinal variable, agreeability between raters was analyzed using weighted Cohen’s Kappa coefficients. The threshold for an acceptable Kappa coefficient for inter-rater reliability is 0.81 or greater (McHugh, 2012).

Results

A total of 4,890 completed screening tools administered between 2015 and 2017 were used to examine the validity and reliability of Florida’s HTST. PACT assessment data was matched for each youth screened. The tables below provide information on the screening tools included in the study. Almost half of the screening tools were completed in 2017 (48%) and another 35.2% of tools were completed in 2018. Fewer tools from 2019 were included because accompanying PACT assessment data was only available for the beginning half of the year.

Table 3. Screening Tools Included by Year

Year	n	%
January 2017 through December 2017	2,347	48.0%
January 2018 through December 2018	1,721	35.2%
January 2019 through May 2019	822	16.8%

Data represented youth across all six administrative regions in Florida. As shown in Table 4, almost 34% of the sample of screening tools were from the Suncoast Region followed by 19% coming from the Central Region. Sixteen percent of tools were administered each in the Northeast and Southeast Regions. The Southern Region was least represented (4.2%).

Table 4. HTST Representation by Region

Region	n	%
Northwest Region	477	9.8%
Northeast Region	788	16.1%
Central Region	967	19.8%
Suncoast Region	1,659	33.9%
Southeast Region	795	16.3%
Southern Region	204	4.2%

Reasons for the screening tool being completed are shown in Table 5. In many cases there was more than one reason for administering the tool. The most common reasons were youth having a history of sexual abuse (44.4%), youth having a history of running away four or more times (38.8%), and a history of the youth perpetrating a sexual offense (20.3%).

Observations made by DJJ intake personnel and reports from parents or guardians suggesting trafficking-related victimization were also common.

Table 5. Reason for Administering HTST

Screening Reason	n	%
Youth has sexual abuse history	2,173	44.4%
Youth has runaway history	1,898	38.8%
Youth has history of sexual perpetration	995	20.3%
DJJ observations	797	16.3%
Parent/Guardian report	301	6.2%
Youth referred by someone else	188	3.8%
Youth acknowledges behaviors	187	3.8%
Suspected trafficking	154	3.1%
Law enforcement	102	2.1%
Youth presenting offense if prostitution	8	0.2%
School personnel report	8	0.2%
Medical provider report	7	0.1%

The 14 screening indicators embedded in the HTST summarize evidence of trafficking victimization. Table 6 reports the prevalence for each of these indicators. Overall, evidence of trafficking was low for most indicators. For example, evidence of unsafe online activity was indicated for 6.3% of the sample. Evidence of trafficking was indicated for more than 10% of the sample for only three indicators: evidence of excessive running away (26.5%), evidence of sexual exploitation (14.4%), and evidence of questionable financial support while on the run (10.2%). For eight of the 14 screening indicators, prevalence was less than 5%. The least common indicators were evidence of forced labor (0.5%), evidence of forced identity deception (1.0%), and evidence of deceptive payment practices (1.3%).

Table 6. Prevalence of HTST Screening Indicators

Screening Indicator	n	%
Evidence of Unsafe Online Activity	306	6.3%
Evidence of Suspicious/ Trafficking-Related Tattooing/Branding	105	2.1%
Evidence of Unsafe Living Environment	258	5.3%
Evidence of Deceptive Payment Practices	62	1.3%
Evidence of Forced Labor	24	0.5%
Evidence of Excessive Running Away	1,298	26.5%
Evidence of Questionable Financial Support While Away	498	10.2%
Evidence of Coercion to Stay on the Run	105	2.1%
Evidence of Sexual Activities for Money, Support, or Gifts	193	3.9%
Evidence of Inability to Leave	241	4.9%
Evidence of Forced Identity Deception	50	1.0%
Evidence of Sexual Exploitation	702	14.4%
Evidence of Compensation for Sexual Activity	203	4.2%
Evidence of Potential Trafficking (from Parent/Guardian report)	362	7.4%

Screeners summarize the assessment by making an informed determination of the likelihood that youth were victims of trafficking. Screeners determined that 43.2% of youth were definitely not victims of trafficking and another 34.7% were likely not victims (see Table 7). It was further assessed that only a small proportion of youth likely were (4.5%) or definitely were (0.9%) victims.

Table 7. Screener’s Determination of Likelihood of Victimization

Screening Determination	n	%
Definitely Not	2,113)	43.2%
Likely Not	1,697)	34.7%
Not Sure	817)	16.7%
Likely Is	220)	4.5%
Definitely Is	43)	0.9%

When screeners determined that youth likely were or definitely were trafficking victims, or cases when they were unsure, protocol required that a call to the child abuse hotline be made. A call to the hotline was often made even if the screener determined that youth were definitely not or likely not victims of trafficking due to other information disclosed during the interview regarding possible abuse or neglect. Table 8 outlines how often a call was made for

each determination, how often calls were accepted, and how often calls were accepted for sex trafficking. As intended, when the screener was unsure of the youth’s victimization, or when they determined the youth likely was or definitely was a victim of trafficking, calls were made 95.2 – 97.7% of the time. Almost half of the time when the screener determined youth likely were not victims of trafficking, a call was still made to the child abuse hotline.

Table 8. Hotline Calls, Accepted Calls, and Calls Accepted for CSE (n=4,783)

	Call Made to Abuse Hotline ^a	Call Accepted to Abuse Hotline ^b	Call Accepted for CSE (sex trafficking) ^c
Screening Determination			
Definitely Not (n=2,049)	31.3%	43.6%	2.1%
Likely Not (n=1,668)	48.8%	44.3%	7.5%
Not Sure (n=807)	97.0%	52.7%	49.9%
Likely Is (n=217)	97.7%	81.6%	71.1%
Definitely Is (n=42)	95.2%	82.5%	84.8%
	n=2,491	n=1,260	n=390

^a Total calls not made to hotline: n=2,292. ^b Total calls not accepted to hotline: n=1,232. ^c Total calls not accepted for CSE: n=870

Fewer calls were accepted to the hotline than were made. For instance, only 82% of hotline calls were accepted in cases when youth were determined to likely be victims of trafficking, and 83% of hotline calls were accepted when the screener determined the youth definitely were victims of trafficking. It is unknown why these calls were not accepted in these cases. Of almost 2,500 calls made to the hotline, 390 calls were accepted for sex trafficking (15.7%). Calls were accepted half the time when screeners were unsure of the whether the youth was trafficked (49.9%). Almost 85% of the time when youth were determined to definitely be victims, the call to the abuse hotline was accepted for CSE. Interestingly, calls were accepted for sex trafficking 2.1% of the time when screeners determined youth were definitely not victims of trafficking and 7.5% of the time when they determined victimization was not likely. Most often,

calls not accepted for sex trafficking, were accepted for sexual abuse (56.6%), physical abuse (15.3%), or neglect (14.4%).

Validity

Content validity. To assess content validity, a panel of experts reviewed Florida's HTST to determine how well the tool comprehensively includes content relevant to the sex trafficking of minors. Recruited experts included six researchers, sex trafficking survivors, practitioners, and individuals who served on national workgroups to address trafficking. Two experts were especially knowledgeable of sex trafficking trends and research specific to Florida. In fact, both Florida-based content experts were already familiar with the HTST. When responding to the questionnaire, content experts were asked to speak specifically to sex trafficking.

Content experts agreed Florida's HTST addressed content specific to both sex and labor trafficking. However, they stated that the tool largely covers sex trafficking. One stated that the indicators that flag youth to be screened are specific to only sex trafficking and do not include situations that might trigger use of the tool to screen youth for labor trafficking. Another commented that the section on work and another on housing may be related to circumstances that would identify victims of sex or labor trafficking.

Although the HTST largely covers necessary content to identify victims of various demographic subgroups such as by race, ethnicity, age, and sex, experts are concerned that the tool does not include questions to identify LGBTQ+ youth. One expert stated, "My first impression is the tool reads very much like White straight victims. Another issue is the entire way it is being administered is also very white, traditional etc. Different groups and cultures do better sharing narratives from open ended questions and conversations." Culture and language are very important issues rarely discussed in conversations related to sex trafficking. Some youth may not perceive themselves as victims, therefore, using language suggesting victimization may negatively impact validity of youth responses. Understanding the language of

the victim and how the individual perceives his or her situation is an important precursor to the interview. Further, interviewers should be knowledgeable of the fact that, “sometimes, victims from different ethnicities (and religions) will have a hard time to share their stories about sex.” Accordingly, the interviewer should be prepared to adapt questions based on the culture/beliefs of the victim.

Youth experiencing developmental and intellectual challenges are often targeted by traffickers, according to another expert. However, there is no content specific to this subgroup, nor do the instructions for the tool give any suggestions for interviewing youth who may be experiencing these challenges. There are also concerns regarding the interviewer’s competency to discuss this material with youth. A few experts questioned what training interviewers participated in that would prepare them to effectively communicate with youth of various cultural identities. One suggested that questions may need to be rephrased when speaking to youth of different cultural groups.

When asked about what is missing from Florida’s HTST, content experts stated questions regarding gender identity should be included especially given the disproportional risk for sex trafficking victimization experienced by transgender youth, for example. One expert added that familial trafficking takes place at statistically high rates and stated that the tool does not distinguish various forms of exploitation. Revisions to the question on social media were also noted. The social networking sites and platforms included in the tool are outdated and does not include many of the current platforms used by youth. Given the waning popularity of social media apps, specifying apps and websites will not be relevant overtime. Apps previously used by youth such as MySpace, Facebook, Craigslist, and Backpage, are either no longer popular among youth or have been replaced by social media apps currently being used (e.g., SnapChat or TikTok). Popular sites today but may be very different a year from now.

Experts offered several suggestions for how questions might be reworded or response options might be revised to better capture risk of sex trafficking victimization. For instance, one

expert recommended “foster parent” be added as an option to the question “Who lives with you?” Another expert suggested asking a general question on whether youth were engaged in any sexual relationships to capture multiple sexual relationships. As a follow-up, the expert suggested asking the age of each partner.

When asked what elements of trafficking were poorly conceptualized, experts suggested the indicators that trigger use of the tool are problematic. For instance, being kicked out of the home or running away four or more times might dismiss youth who are victims of familial trafficking. Two reviewers questioned why four was the number of times that triggered the HTST being administered as opposed to another number. Experts also commented that many youth who experience trafficking do not understand it as trafficking. “They may think they are in a relationship that has benefits like money or gifts, and consider that person to be a partner,” when in reality, they are being exploited. Many times, youth victims have an emotional attachment to his or her trafficking. Given this, one expert suggested the language throughout the tool “should encompass the idea of being in relationships with people who are in positions of power,” whether the power dynamic was due to age or money.

Experts didn’t indicate redundancy or irrelevant items in the tool. Rather, a few stated that the tool was too long and attempts to “cover too much territory.” “All these questions aren’t needed to identify an HT victim,” according to one expert. In an effort to be trauma-informed, another expert commented that as much information should be gathered from youth’s case files and from case files of various child serving systems youth is engaged with prior to screening youth. “A point to being trauma informed is so victims only have to tell their story once.” If key information is already noted in youth’s files, that information should be used rather than asking youth to repeat or confirm information multiple times.

Although analysis of a measure’s content validity is qualitative rather than quantitative, feedback from experts suggest limited evidence for content validity. The tool covers a lot of information, but experts provided several examples of missing or misrepresented content.

Content validity alone provides insufficient evidence of a tool's validity. Examining evidence of construct and criterion-related validity provide a more comprehensive validity assessment.

Construct validity. The study sample was split randomly into two datasets to conduct an exploratory factor analysis on half the sample of screening tools and a confirmatory factors analysis with the remaining tools. An initial step in examining construct validity was to determine which dimensions of trafficking the tool measured. EFA was conducted to assess the factor structure of the HTST and determine which of the 14 screening indicators fit into subscales. An unrotated factor solution was first conducted to identify any highly correlated items and assess whether the data were able to be factored. A Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett test of sphericity were used to, first, determine if the data were able to be factored. A KMO of greater than 0.6 and a non-significant Bartlett test would indicate the data are factorable (Fergusson & Cox, 1993). Although the Bartlett test of sphericity was significant ($p < .001$), the KMO coefficient was 0.84 indicating that a minimum standard for factorability was met.

Given that the screening indicators are dichotomous, the unweighted least squares extraction method was used and the varimax, oblimin, and promax rotations were explored. For each model, the eigenvalues, scree plot, and factor loadings informed the number and nature of possible factors to retain. All three rotations suggested a three-factor model. An examination of scree plots also supported a three-factor solution. It is expected that screening indicators and, subsequently, factors are correlated. Therefore, the factor solution resulting from the direct oblimin rotation was used as the final solution. Further, parallel analysis, a method used to determine the optimal number of factors to extract, also suggested a three-factor solution (Horn, 1965). Table 9 shows the results of the EFA. Despite low factor loadings for two items, all items were above the 0.3 threshold and were retained.

Table 9. HTST Factors

	Factor 1 Sex Trafficking 1	Factor 2 Sex Trafficking 2	Factor 3 Labor Trafficking
$\alpha = .622$			
Compensation for Sexual Activity	.762		
Sex for Money, Support, Gift	.746		
Sexual Exploitation	.432		
Coercion to Stay on the Run	.415		
Inability to Leave	.316		
$\alpha = .661$			
Questionable Support		.714	
Potential Trafficking		.570	
Excessive Running Away		.554	
Unsafe Living Environment		.431	
Unsafe Online Activity		.426	
Tattooing/Branding		.347	
$\alpha = .511$			
Forced Labor			.771
Deceptive Payment			.455
Forced Identity Deception			.439
Total $\alpha = .751$			
Total $\alpha = .745$ (without labor trafficking items)			

* n=4,890

Eleven items remained across two factors related to sex trafficking. The first sex trafficking subscale is made up of screening indicators that relate directly to the definition of CSE. This subscale is called CSE. The second sex trafficking subscale is comprised of high-level risk factors associated with CSE. Therefore, this subscale is titled High Risk CSE. The third factor described screening indicators that relate to labor trafficking. Inclusion of this factor is limited in subsequent analysis since this study focused on sex trafficking specifically.

CFA was used to assess the viability of the three-factor structure of the HTST using the 14 screening indicators. Due to the dichotomous nature of the 14 screening indicators, the weighted least squares means and variance adjusted (WLSMV) estimation method was used to

conduct the CFA. Several model fit indices were used to examine how well the data fit including the model chi square, root mean square error of approximation (RMSEA) with its' 90% confidence interval, comparative fit index (CFI), and standardized root mean square residual (SRMR). Goodness of fit is determined by 1) chi-square test, 2) a RMSEA less than or equal to 0.05, 3) a CFI value of 0.95 or greater, and 4) an SRMR less than 0.10 (Kline, 2015). Hu and Bentler (1999) suggested joint criteria are ideal for assessing model fit. Specifically, a combination of 1) a CFI greater than or equal to 0.95 and SRMR less than or equal to 0.10 or 2) a RMSEA less than or equal 0.05 and SRMR less than or equal to 0.10. According to both joint criteria options, the model fit the data well. A CFI value of 0.973 was observed in addition to a SRMR value of 0.085. Further, the RMSEA estimate was 0.027 [90% CI (0.023, 0.032)]. These criteria indicated the three-factor model adequately fit the data. Scales were then created using the weighted results of the factor analysis for both sex trafficking subscales. A composite score consisting of all 11 sex-trafficking variables was also computed.

Determining convergent and discriminant validity of the screening tool built on findings of the EFA to assess the intercorrelation of the subscales confirmed through factor analysis. It was expected that the scales would correlate to some degree given that trafficking is not unidimensional. However, it is expected that scales related to sex trafficking would be more strongly correlated with each other and correlations between the sex trafficking scales and the labor trafficking scale would be weaker. Given that these data are dichotomous, phi (ϕ) was used to assess correlation between screener indicators. As shown in Table 10, correlation coefficients of screening indicators included in the Sex Trafficking 1 (CSE) factor ranged from $\phi = .17$ to $\phi = .60$ and coefficients among Sex Trafficking 2 (High Risk CSE) screening indicators ranged from $\phi = .15$ to $\phi = .42$. Though significant, the range of coefficients suggest weak to moderate relationships among screening indicators where high intercorrelations were expected. No strong correlations were observed and coefficients for only three bivariate relationships were greater than 0.40. Most coefficients suggested weak relationships. Similarly, correlation

coefficients between of between CSE screening indicators and High Risk CSE screening indicators ranged from $\phi = .10$ to $.45$ further indicating weak to moderate correlations. Taken together, evidence of convergent validity is limited due to lower than expected intercorrelation of screening indicators specific to sex trafficking.

Table 10. Intercorrelation (ϕ) among Screening Indicators

	Sex Trafficking 1 (CSE)					Sex Trafficking 2 (High Risk CSE)					Labor Trafficking		
	1	2	3	4	5	6	7	8	9	10	11	12	13
1	---												
2	.60***	---											
3	.33***	.29***	---										
4	.28***	.31***	.17***	---									
5	.21***	.18***	.24***	.23***	---								
6	.34***	.41***	.19***	.27***	.17***	---							
7	.20***	.24***	.10***	.17***	.15***	.42***	---						
8	.42***	.45***	.23***	.21***	.16***	.41***	.29***	---					
9	.14***	.20***	.13***	.14***	.15***	.31***	.22***	.24***	---				
10	.27***	.28***	.19***	.20***	.13***	.29***	.22***	.35***	.15***	---			
11	.17***	.18***	.10***	.11***	.12***	.24***	.15***	.24***	.19***	.21***	---		
12	.09***	.11***	.05***	.11***	.08***	.12***	.06***	.11***	.18***	.10***	.13***	---	
13	.11***	.15***	.09***	.10***	.04**	.19***	.09***	.19***	.17***	.12***	.07***	.36***	---
14	.20***	.26***	.14***	.24***	.17***	.21***	.10***	.16***	.17***	.13***	.14***	.31***	.19***

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

Low intercorrelations were expected when examining the relationship between sex trafficking screening indicators and labor trafficking indicators. For the CSE scale, correlation coefficients ranged between $\phi = .04$ and $.26$. Similarly, coefficients ranged from $\phi = .07$ to $.21$ when examining relationships between High Risk CSE screening indicators and Labor Trafficking indicators. Though significant, these relationships show little to no correlation providing some evidence of discriminant validity given that a weak relationship was expected.

As expected, a strong, positive intercorrelation between the two sex trafficking subscales was observed ($r = .736$). Moderate intercorrelations between sex trafficking subscales and the labor trafficking scale were also observed (see Table 11).

Table 11. Correlation between HTST Factors

	CSE	High Risk CSE
CSE	---	
High Risk CSE	.736 ***	---
Labor Trafficking	.402 ***	.474 ***

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

Table 12 displays the correlation between the likelihood of trafficking victimization with both sex trafficking subscales and the total sex trafficking scale. Although all bivariate analyses are significant, coefficients are of moderate strength. Likelihood of trafficking victimization was moderately associated with sex trafficking. It is expected that the relationships would be more highly correlated. These findings provide little evidence of convergent validity.

Table 12. Correlation between CSE Victimization and Sex Trafficking Scales

	1	2	3
1. Screener Likelihood Determination	---		
2. CSE	.498 ***	---	
3. High Risk CSE	.590 ***	.736 ***	---
4. Total Sex Trafficking Factor	.583 ***	.935 ***	.928 ***

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

Lastly, chi-square analyses examined the relationship between the likelihood of sex trafficking victimization and screening indicators related to sex trafficking. It is expected that a larger proportion of affirmative screening indicators are present among tools indicating that youth likely or definitely were victims of trafficking. Due to the small number of “definitely is” responses ($n=42$), these responses were combined with the youth deemed to likely be victims of CSE. As shown in Table 13, significant chi-square tests were observed for each indicator. Prevalence of screening indicators was substantially greater among youth determined to likely or definitely be victims. The greatest prevalence was observed for excessive runaway episodes (73%), potential trafficking as reported by parent/guardians (66.2%), and questionable financial

support while on the run (60.1%). Suspicious tattooing/branding and coercion to stay on the run were less common (15.2% and 19%, respectively).

Table 13. Screening Indicator Prevalence by Likelihood of CSE Victimization

	Definitely Not	Likely Not	Not Sure	Likely/ Definitely	χ^2
Unsafe Online Activity (n=306)	1.4%	3.4%	14.9%	36.9%	634.59 ***
Suspicious Tattooing (n=105)	0.3%	0.6%	5.9%	15.2%	320.66 ***
Unsafe Living Situation (n=258)	1.3%	3.4%	12.0%	28.5%	436.53 ***
Excessive Runaway (n=1,298)	13.2%	24.0%	51.4%	73.0%	748.74 ***
Questionable Finances (n=498)	1.5%	5.1%	27.1%	60.1%	1,190.89 ***
Coercion to Stay on Run (n=105)	0.5%	0.9%	3.7%	19.0%	406.10 ***
Sex Activity for Money (n=193)	0.2%	0.6%	8.0%	43.0%	1,218.24 ***
Inability to Leave (n=241)	2.1%	4.6%	8.2%	19.4%	171.81 ***
Sexual Exploitation (n=702)	7.6%	14.3%	21.4%	47.1%	342.27 ***
Compensation for Sex (n=203)	0.5%	1.4%	8.0%	39.5%	961.46 ***
Potential Trafficking (n=362)	0.3%	0.6%	20.8%	66.2%	1,805.84 ***

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

Criterion-related validity. Concurrent validity, a form of criterion-related validity, examines whether the values of the measure of interest are related to values of an already validated measure attempting to examine the construct. Therefore, assessing concurrent validity of Florida’s HTST, examined the relationship between the likelihood of victimization reported in the screening tool and data on known risk factors collected from the DJJ’s PACT assessment. Correlations between these risk factors and the likelihood of victimization are shown in Table 14. Although statistically significant relationships are observed for most risk

factors, overall, correlation coefficients are very low. The strongest relationships were observed for runaway history ($r = .174$), antisocial peer relationships ($r = .124$), and problems associated with drug use ($r = .129$). These relationships provide little evidence, if any, for concurrent validity.

Table 14. Correlation between CSE Victimization Likelihood and CSE Risk Factors

	Likelihood of CSE Victimization (<i>r</i>)
Risk Behaviors	
School Attendance	.086 ***
Conduct in School	.032
Academic Achievement	.062 ***
Antisocial Peer Relationships	.124 ***
Runaway History	.174 ***
Youth Mental Health	.046 **
Anger	.051 ***
Depression / Anxiety	.105 ***
Drug Problems	.129 ***
Abuse / Neglect	
Out-of-Home Placements	.066 ***
Physical Abuse	.039 **
Sexual Abuse / Rape	.122 ***
Neglect	.060 ***
Trauma Experience	.067 ***
Violent Victimization	.072 ***

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

Table 15 presents findings of ANOVA tests comparing risk factor scores according to the likelihood of CSE victimization. Due to the small proportion of youth determined to likely be or definitely be victims of trafficking, these categories were aggregated. It is expected that youth who are likely or definitely victims of trafficking have significantly higher scores for risk factors than youth who are definitely not or likely not victims of trafficking. In that way, the HTST should be able to distinguish between youth with clear indication of trafficking victimization and youth without clear indication of trafficking victimization. With few exceptions, higher risk factor scores are observed among youth determined to likely or definitely be trafficking victims.

Table 15. Mean Differences of CSE Risk Behaviors by CSE Victimization Likelihood

	Definitely Not	Likely Not	Not Sure	Likely / Definitely Is	F-test
Risk Behaviors					
School Attendance	1.84 (.94)	2.02 (.96)	2.06 (.96)	1.99 (.96)	<i>F</i> = 12.29 ***
Conduct in School	1.74 (.87)	1.82 (.89)	1.79 (.87)	1.82 (.85)	<i>F</i> = 2.33
Academic Achievement	2.19 (.76)	2.26 (.76)	2.36 (.73)	2.23 (.73)	<i>F</i> = 7.03 ***
Antisocial Peers	1.73 (.63)	1.82 (.64)	1.91 (.62)	1.98 (.63)	<i>F</i> = 24.78 ***
Runaway History	1.83 (.88)	1.98 (.85)	2.18 (.77)	2.33 (.75)	<i>F</i> = 49.68 ***
Mental Health	1.58 (.75)	1.68 (.79)	1.60 (.80)	1.67 (.75)	<i>F</i> = 5.25 **
Anger	2.14 (.80)	2.18 (.77)	2.22 (.76)	2.28 (.79)	<i>F</i> = 4.16 **
Depression/Anxiety	1.80 (.80)	1.93 (.82)	1.99 (.81)	2.10 (.85)	<i>F</i> = 18.19 ***
Drug Problems	1.67 (.79)	1.79 (.80)	1.89 (.82)	2.04 (.82)	<i>F</i> = 26.25 ***
Abuse/ Neglect					
Out-of-Home Placement	1.37 (.66)	1.43 (.71)	1.45 (.71)	1.57 (.77)	<i>F</i> = 7.73 ***
Sex Abuse / Rape	1.39 (.49)	1.45 (.50)	1.43 (.50)	1.50 (.50)	<i>F</i> = 6.00 ***
Physical Abuse	1.20 (.40)	1.24 (.43)	1.23 (.42)	1.25 (.43)	<i>F</i> = 3.58 *
Neglect	1.20 (.40)	1.23 (.42)	1.23 (.42)	1.33 (.47)	<i>F</i> = 8.22 ***
Trauma Experience	1.61 (.76)	1.67 (.78)	1.72 (.81)	1.81 (.83)	<i>F</i> = 7.39 ***
Violent Victimization	1.08 (.27)	1.10 (.30)	1.10 (.30)	1.20 (.40)	<i>F</i> = 12.10 ***

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

Post hoc tests used “Likely/Definitely Is” as a reference group to assess significant differences in risk behavior scores compared to youth who were “definitely not” and “likely not” CSE victims. Significantly greater risk behavior scores were observed for antisocial peer relationships, number of OOH placements, runaway history, anger, depression/anxiety, sexual abuse, problems related to drug use, history of neglect, and trauma history.

Reliability

Internal consistency. Internal consistency was conducted among screening indicators included in both sex trafficking subscales as well as for the 11 sex trafficking items as a whole. Given that the screening indicators are dichotomous, the Kuder-Richardson 20 test (KR-20) is

the appropriate measure of internal consistency. Given that findings from the Cronbach's alpha mirror that of the KR-20, and the interpretation is the same.

Internal consistency was less than adequate across the two sex trafficking subscales ($\alpha = .622$ and $\alpha = .661$, respectively). For both scales, these findings are just under the .70 threshold for Cronbach's alpha indicating acceptable internal consistency. The tool as a whole, including all 11 items related to sex trafficking, displayed an acceptable level of internal consistency ($\alpha = .761$).

Inter-rater reliability. Using information from 25 completed HTSTs, three content experts reviewed screening tools to come up with their own determination of how likely it was that youth were a victim of sex trafficking. Agreeability between raters is shown in Table 16 using weighted Cohen's Kappa coefficients. Agreement between content experts and the original screener ranged from .168 to .364 indicating a poor level of agreement. Kappa coefficients were slighter greater among content experts ranging from .367 to .431 indicating a fair level of agreement. Although some level of agreement is observed, inter-rater reliability coefficients were far below the threshold of an acceptable Kappa coefficient (i.e., 0.81 or greater; McHugh, 2012).

Table 16. Inter-rater Reliability: Weighted Cohen's Kappa Scores

	Weighted Kappa	95% CI	Agreement Interpretation
Agreement with Screener			
Screener and Content Expert 1	.364 ***	(.19, .54)	Poor
Screener and Content Expert 2	.326 ***	(.15, .50)	Poor
Screener and Content Expert 3	.168 *	(.04, .30)	Poor
Agreement among Content Experts			
Content Expert 1 and 2	.431 **	(.19, .67)	Fair
Content Expert 2 and 3	.422 **	(.20, .65)	Fair
Content Expert 1 and 3	.367 **	(.14, .59)	Poor

* $p > .05$; ** $p > .01$; *** $p > .001$

Discussion

The HTST has been used throughout Florida since 2016. Each year, thousands of children are screened as possible victims of trafficking. However, there is little to no evidence of the validity and reliability of the tool. This study sought to comprehensively assess evidence of content validity, construct validity, criterion-related validity, internal consistency, and inter-rater reliability. Taken together, findings suggest limited evidence that the HTST is a valid and reliable assessment. Experts concurred the tool includes necessary content to identify victims of sex trafficking but also noted several poorly developed elements. There was also insufficient evidence of construct validity as demonstrated by weak to moderate intercorrelations among screening indicators and between sex trafficking subscales. The relationship between likelihood of trafficking victimization and risk factors known to be associated with sex trafficking also failed to provide adequate results of bivariate relationships that would attest to the criterion-related validity of the HTST. Internal consistency was adequate only for the overall sex trafficking scale score, and inter-rater reliability indicated poor agreeability among raters.

The finding that inter-rater agreement among content experts was greater than agreement between screeners and content experts might also imply the need for more extensive training for HTST screeners. Content experts recruited for this study had decades of combined direct service work with victims of trafficking. One expert had lived experiences of being trafficked and has served on workgroups and task forces related to the prevention and intervention of trafficking. It can be argued that the content experts may be in a better position to more accurately assess the likelihood of trafficking victimization. Some level of disagreement between screeners and content experts is expected. Content experts do not have access to background information known about the youth from other intake assessments or from youth's case file as the screener might. The screener can also rely on non-verbal cues from youth on how truthful responses may be. Other information learned through the interview not captured in the HTST might also inform a screeners determination; content experts would not have access

to this information to inform their decision on how likely it is that youth were victims of sex trafficking. Additionally, whereas screeners have several hours' worth of trafficking-related training, content experts work with trafficked youth on a daily basis. Screeners are not necessarily content experts. For those same reasons, it is expected that greater levels of agreement are observed between content experts who are each exposed to the same information about youth.

To date, only one other study on the validity and reliability of Florida's HTST has been conducted (Woods et al., 2019). Although evidence of validity and reliability are limited according to this study, findings from Woods et al. (2019) suggested the HTST demonstrated predictive validity. A major limitation of this study was the inability to incorporate outcomes from child protection investigations confirming whether youth were actual victims of CSE. Even though this study was unable to provide further evidence of predictive validity, given that an assessment cannot be valid if it is found not to be reliable, there remains no evidence of the validity of the HTST (Moss, 1994).

Some inconsistencies in the data may infer the need for more targeted training for screeners. For instance, screeners were unable to make a determination on the likelihood that youth were victims of trafficking following HTST interviews with 16.7% of youth. Further, when screeners were unsure of trafficking victimization and reported uncertainty to the abuse hotline, the call was accepted for CSE 50% of the time. Findings from bivariate analyses showed scale scores compiled from screening indicators related to sex trafficking were only moderately correlated with the likelihood of sex trafficking victimization. In addition to possible training needs, this might also suggest that screeners need more time to develop rapport with youth before discussing sensitive topics included in the HTST. Magruder et al. (2018) reported concerns from DCF personnel that youth were not forthcoming with information needed to complete the screening tool and that youth were generally not cooperative with the interview. Feedback from screeners stated youth lie during the interview or are in denial. This might

especially be the case when the HTST is administered during intake processes through DJJ. It is plausible that this would have a negative effect on the reliability and validity of the tool and may have resulted in the misidentification of trafficked youth.

Inconsistency of scores (i.e., measurement error) can also stem from administrative error (Murnane & Willett, 2010). Screeners are expected to use professional judgement to determine evidence of trafficking victimization after a day of training on human trafficking. Even though refresher trainings are offered annually, one might wonder if the trainings are sufficient to make accurate statements on victimization. Further, a report on Florida's HTST stated the average time to complete the tool was over one hour (Magruder et al., 2018). In addition to other intake assessments and processes, this can be time-consuming and may not allow intake staff to devote the necessary attention to the screening interview. Youth may also be upset about their engagement with the juvenile justice system and, as a result, may be unwilling to provide accurate information to best assess CSE victimization. It may be more effective to complete the HTST at a later date when time permits and after sufficient time allows rapport to be built between youth and screeners.

Florida's HTST and administration guide was adapted from validated screening tools such as the Intervene Intake Tool, the Trafficking Victim Identification Tool (TVIT), and the Human Trafficking Interview and Assessment Measure (Bigelsen, & Vuotto, 2013; Shared Hope International, 2010; Simich, et al., 2014). However, differences between those validated tools and Florida's screening tool are not comparable enough to expect similar evidence of validity and reliability. The Child Victims of Human Trafficking (CVHT) Assessment Tool, used by the Department of Human Services in Pennsylvania, is very similar to Florida's HTST (Pennsylvania Department of Human Services, 2019). Administration of the CVHT tool began in 2019 and no evidence currently exists on the validity or reliability of that assessment.

The validity assessment may also have been impacted by contamination. If the screener has knowledge that the person being screened has been sexually exploited, it may

influence their ratings for that youth. Triggers that signal screeners to administer the tool such as “suspected trafficking has been reported to the Florida Child Abuse Hotline,” “parent/guardian reports behaviors or circumstances indicative of youth being trafficked,” or child serving agencies reporting behaviors or circumstances indicative of youth being trafficked” might unduly influence the screener’s ratings. Similarly, if there is no indication in a youth case file that suggests trafficking victimization, the screener may complete the tool with the preconceived notion that the youth have not been victimized, ignoring cues and information disclosed during the interview. This can lead to underreporting of sex trafficking victimization.

Findings of this study highlight the need to improve validity and reliability of the tool. Given the large degree of disagreement resulting from the assessment of inter-rater reliability, targeted efforts to understand points of disagreement would help inform possible revision of the tool. The HTST should be revised to address confusing questions, ambiguous phrasing, or outdated references (i.e., use of Backpage and Craigslist). Assessment of the tool’s content validity offered several suggestions from content experts on ways to improve the wording of the questions. A workgroup of content experts, DJJ and DCF personnel, and measurement experts should convene to revise the tool.

It should be noted that data used to examine the validity and reliability of the HTST was collected between 2017 and 2019. Although this is not necessarily a limitation of the study, future research should re-examine evidence of validity and reliability using data from more recent years. Perhaps, as screeners became more knowledgeable of trafficking measurement error and inconsistency of scores improved.

Given concerns with the lengthiness of the HTST, future studies should also focus on developing a shortened version of the screening tool. Once sufficient evidence of predictive validity and reliability has been demonstrated, construction of an abridged HTST that maintains adequate predictive power and still incorporates the necessary dimensions of sex trafficking should ensue. Future research of the predictive validity of the HTST should also assess

measurement equivalence across demographic subgroups to determine the extent to which the tool predicts sex trafficking across age, sex, race, and ethnic subgroups.

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Chapter 4: Manuscript 3

Risk Factors for Commercial Sexual Exploitation among Justice–Involved Youth

Abstract

Commercial sexual exploitation (CSE) describes sex-related exploitation of minors in the United States (Institute of Medicine and National Research Council [IOM & NRC], 2013). Through an ideological or anecdotal lens, extant literature commonly cites risk behaviors such as substance use and delinquency as well as behavioral problems such as oppositional behavior, aggression, and behavior problems at school in association with youth who have been sexually exploited (Edwards et al., 2006; Inciardi et al., 1991; Landers et al., 2017; Loeber & Farrington 1998; Widom & Kuhns 1996). However, little empirical data exists to verify risk factors for sex trafficking. This is particularly the case when examining correlates of sex trafficking involving children and youth. The current study contributes an empirical analysis of the relationship between CSE and commonly stated risk factors in a sample of justice-involved youth in an effort to better understand youth and family characteristics associated with sex trafficking. Further, to understand the unique vulnerabilities of youth, separate logistic regression models were estimated based on sex, race/ethnicity, and age. Findings showed runaway history was associated with sex trafficking victimization for all demographic subgroups. However, factors related to youth mental health, depression/anxiety, substance use also predicted trafficking varied among subgroups. In a model including the full sample, risk factors such as history of sexual abuse, history of trauma, and out-of-home (OOH) placements did not predict sex trafficking. Interestingly, being charged with a sex-related offense—sexual perpetration—was found to decrease the odds of being trafficked for males, Black and White youth, and younger and older youth. Given the inconsistencies with

previous research, several possible explanations are offered. Despite limitations, this study adds to a limited body of empirical research predicting sex trafficking victimization among youth.

Introduction

Human Trafficking is a term used to describe a range of offenses wherein persons are recruited, transported, transferred, or harbored under the control of another person for the purpose of exploitation (United Nations, 2000). CSE is a more general term for the sex trafficking of children in the United States and abroad (Institute of Medicine and National Research Council, 2013). Although estimates of the prevalence of CSE vary greatly (Bryan, 2014; Estes & Weiner, 2001; Greenbaum, 2014; Tueller et al., 2021), it is clear that the hidden nature of these offenses contributes to challenges in estimating youth affected by sex trafficking. Some estimates suggest that 100,000 to more than 200,000 children and youth in the United States are victims of sex trafficking and upwards of 325,000 children and youth are at risk of sexual exploitation in the United States each year (Bryan, 2014; Estes & Weiner, 2001). Tueller et al. (2021) estimated the prevalence of sex trafficking among children engaged in child welfare is 3 to 15 times the observed rate. Obtaining reliable estimates is further complicated due to the youth's lack of awareness that they have been exploited, their reluctance to disclose the abuse, and provider's discomfort labeling youth as victims of trafficking (Basson et al., 2012; Landers et al., 2017).

Although there is substantial literature on risk factors associated with sex trafficking, little evidence exists that empirically examines the extent to which these vulnerabilities predict CSE (Weitzer, 2014). Further, the empirical evidence that does exist fails to show that many commonly cited risk factors predict sex trafficking victimization (McCoy, 2017). This suggests a significant gap in what is known about CSE. Despite recommendations to build the evidence-base of relationships between risk factors and CSE, this research is still lacking (Franchino-Olsen, 2021; Le et al., 2018). Therefore, the goal of this study is to add to the limited body of

research examining the relationship between risk factors and sex trafficking among a sample of justice-involved youth. Sex trafficking and CSE are used interchangeably throughout this study.

Background

Through the combined efforts of the United States government, federal agencies, the National Center for Missing and Exploited Children, and public health organizations, there has been considerable attention on human trafficking (Fong & Cardoso, 2010). Efforts to identify CSE victims, determine the service needs of victims, prevent sex trafficking, and understand sex trafficking generally has been a major focus since 1995 (Fong & Cardoso, 2010).

Adverse Effects of CSE

The trauma of sexual exploitation impacts children's well-being, as well as their socio-emotional, physical, and psychological development (Clarkson-Freeman, 2014). Research has identified a number of adverse effects of CSE including substance use, chronic medical conditions, sexually transmitted diseases, depression, post-traumatic stress disorder, anxiety, self-injurious behaviors, oppositional behavior, aggression, criminal activity, and behavior problems at school (Cole et al., 2016; Countryman-Roswurm & Bolin, 2014; Greene et al., 1999; Hossain et al., 2010; Warf et al., 2013; Zimmerman et al., 2008). A range of injuries resulting from physical and sexual assault have also been identified (Clawson & Goldblatt-Grace, 2007; Gozdziaik & Bump, 2008; Greenbaum, 2014). In a study of characteristics of dependent youth who have also been victims of CSE, Landers et al., (2017) found 35% of their sample exhibited severe and disruptive behavioral problems at school, 30% presented with a medical condition warranting medical attention, 18% had a confirmed, present sexually transmitted disease (STDs) and another 19% had a history of STDs or were suspected of having an undiagnosed STD. Further, many youth presented with severe levels of emotional and behavioral problems.

CSE Risk Factors and Vulnerabilities

A number of risk factors have been identified that increase the likelihood that a child will be sexually exploited (see Greenbaum, 2014 for a comprehensive review). Involvement in the

child welfare system is one such factor that puts youth at risk of being exploited. Traffickers prey on youth in the child welfare system who have histories of abuse and neglect and provide the illusion of affection, security, stability, and love that attract youth making it easier to sexually exploit them (Curtis et al., 2008; Reid, 2011). Children and youth affected by family dysfunction, who are homeless, run away from home, or have placement history in foster care or other out-of-home treatment placements are targets for traffickers (Cole et al., 2016; Estes & Weiner, 2001; Fong & Cardoso, 2010; IOM & NRC, 2013; Gragg et al., 2007; Sewell, 2012; Smith et al., 2011; Walker, 2013). Youth with a history of sexual abuse are also at risk for CSE (Albanese, 2007; Wilson & Widom, 2010). These youth are at an increased likelihood of being recruited into “child prostitution” and often cope with the abuse by running away, engaging in substance use at an early age, and denigrating themselves sexually (Choi, 2015; Haney et al., 2020; Reid, 2011). Parental substance abuse, poverty, and poor school achievement have also been identified as risk factors for CSE (Estes & Weiner, 2001; Haney et al., 2020; Fong & Cardoso, 2007). At the societal level, a lack of awareness of CSE and a dearth of resources to prevent and intervene with CSE is also cited as risk factors for youth becoming victims (Clawson & Goldblatt-Grace, 2007; Greenbaum, 2014; IOM & NRC, 2013).

Throughout the United States, efforts to increase knowledge and awareness related to CSE as well as identify victims and prevent further exploitation are underway (Miller-Perrin & Wurtele, 2017). Literature on sex trafficking involving minors largely describes risk factors associated with trafficking and adverse outcomes for children and youth who have been victimized. For example, risk behaviors such as substance use and delinquency, as well as behavioral problems such as oppositional behavior, aggression, and problems at school are common among youth who have been sexually exploited (Chohaney et al., 2016; Edwards et al., 2006; Inciardi et al., 1991; Kaestle, 2012; Loeber & Farrington, 1998; Reid, 2012; Widom & Kuhns, 1996). In a study on the characteristics of dependent youth who were sexually exploited, Landers et al. (2017) found youth presented with severe levels of emotional and

behavioral problems. Youth were formally involved in the juvenile justice system and had severe problems with anger control, conduct problems, intentional misbehavior, and oppositional and defiant behaviors. Anxious moods, aggression, depression, and impulsivity were also characteristic of many youth. Risk factors are summarized in Table 17.

Table 17. Commonly Cited Risk Factors Associated with CSE

Behavioral Characteristics	<ul style="list-style-type: none"> • High risk sexual behavior • Involved with relationships with older men • Changes in school participation, attendance, poorer grades • Aggression/ violence • Juvenile justice involvement • Sexually explicit online activity and profiles • History or running away or homelessness
Interpersonal Indicators	<ul style="list-style-type: none"> • Gang affiliation • Antisocial peer group • Friends involved in sex trafficking
Family Functioning Indicators	<ul style="list-style-type: none"> • Child welfare involvement / out-of-home placements • Parent involvement in sex trafficking or prostitution • Parent mental health problems • Parent substance misuse • Abuse and neglect (physical, sexual, emotional) • Abandonment • Poverty and economic strain • Family Violence

Note. The following literature was used to compile this table: Albanese, 2007; Chohaney, 2016; Cole et al., 2016; Countryman-Roswurm & Bolin, 2014; Curtis et al., 2008; Estes & Weiner, 2001; Fedina et al., 2019; Fong & Cardoso, 2010; Frey et al., 2019; Grace et al., 2012; Gragg et al., 2007; Kaestle, 2012; Roe-Sepowitz, 2012; Sewell, 2012; Smith & Coloma, 2011; Middleton et al., 2018; O'Brien et al., 2017; Panlilio et al., 2019; Reid, 2011; Reid et al., 2019; Walker, 2013; Widom & Kuhns, 1996; Wilson & Widom, 2010).

Given the amount of public and political attention to trafficking in the past two decades, it is alarming that reliable prevalence estimates still elude researchers, no validated screening tool is widely used, and a structure and process for centralized data reporting of confirmed sex trafficking does not exist. Although there is no shortage of peer-reviewed literature on sex trafficking, very little empirical data exists verifying risk factors for sex trafficking. This is

particularly the case when examining correlates of sex trafficking involving children and youth. Weitzer (2014) stated the literature related to human trafficking, generally, was of low-quality and mostly relied on ideology, anecdotal accounts, and scoping reviews of literature that lacked empirical analysis. Weitzer (2013) also noted that studies often lack a theoretical base or are framed on theories that poorly fit the complex problem of trafficking. When the problem of sex trafficking of minors is poorly understood, interventions to support victims are negatively impacted and efforts to prevent trafficking or identify victims are futile.

In a systematic review conducted by Twis and Shelton (2018), fewer than 20 empirical studies were published between 2000 and 2017 that included data on minor victims of sex trafficking. Further, McCoy (2017) found that many commonly cited risk factors have not successfully predicted sex trafficking in validation studies. This suggests a significant gap in what is known about CSE.

Limited empirical literature provides some evidence of risk factors that predict sex trafficking. Some studies found survival sex, difficulties in school, familial conflict, and time spent in a juvenile justice system predicted sex trafficking among minors (Chohaney, 2016, Fedina et al., 2019, Frey et al., 2019, Middleton et al., 2018). In contrast with commonly cited risk factors, running away from home did not predict trafficking (Chohaney, 2016). Reid et al. (2019) found a significantly greater proportion of youth who were victims of trafficking experience abuse and neglect compared to a matched sample of non-trafficking victims. Out-of-home (OOH) placements, aggression, and drug and alcohol use was also significantly more prevalent among trafficked youth (O'Brien et al., 2017; Panlilio et al., 2019; Reid et al., 2019). Researchers have also found significantly greater externalizing behaviors among sex trafficking victims (O'Brien, 2017).

Current Study

The current study provides an empirical analysis of the relationship between commercial sexual exploitation and commonly stated risk factors in a sample of justice-involved youth. The

goal of this research is to examine the extent to which risk and behavioral factors predict sex trafficking. Given the lack of empirical evidence, it is not expected that sex trafficking is related to all risk factors examined in this study. However, in an effort to better understand the relationship between risk factors and trafficking, youth risk behaviors, mental health, substance use, family dynamics, and parent risks are examined.

Methods

This study uses data from a Human Trafficking Screening Tool (HTST) used throughout Florida by the Department of Juvenile Justice (DJJ) to identify victims of sex trafficking. To better understand youth and family characteristics associated with sex trafficking, data from a risk assessment tool also administered by the DJJ are examined. Study procedures and protocols were reviewed and approved by the University of South Florida Institutional Review Board (IRB) as well as the IRBs of Florida's DJJ and DCF. Data were securely transferred via Box—a HIPAA compliant platform—and stored on password protected computers accessible by only the Human Trafficking Prevention Director, researcher, and major professors. Protected health information including date of birth, social security number, city residence, and information such as the school the youth attends were redacted from the dataset prior to data transfer.

Sample

Youth who become formally engaged with the DJJ are pre-screened during the intake process for triggers that would lead intake personnel to complete the HTST with youth. If there is any indication of a history of running away or getting kicked out of his or her living situation four or more times, a history of sexual abuse, a history or current incident of a sexual offense or prostitution charge, the HTST is completed. Annually, the DJJ screens between 3,000 to 4,000 youth who meet the above criteria eligibility. Although the tool is purported to identify victims of trafficking regardless of the type of trafficking, criteria that trigger use of the tool are more

specific to sex trafficking. As such, the large majority—about 90%—of verified trafficking cases identified through this tool typify sex trafficking.

A de-identified dataset of screening tools completed between 2015 and 2019 was compiled by the Human Trafficking Prevention Director with Florida's DJJ. After reviewing the data, the large majority of data was omitted. Screening tools completed prior to 2017 were omitted since human trafficking allegations did not differentiate CSE from labor trafficking before 2017. This left about 9,000 screening tools. When the HTST was completed on a youth more than once between 2017 and 2019, the initial tool was retained and subsequent tools were omitted. Lastly, cases that did not include a response to the variable indicating the likelihood of trafficking victimization were also deleted leaving about 4,800 screening tools. The final sample used for this study is detailed in the Measures section below.

The sample of youth included in this study were screened for possible sex trafficking victimization between 2017 and 2019. Justice-involved youth through age 17 of any sex, race, and ethnicity were included in the analysis. Although the large majority of youth are from the United States, foreign-born youth were not excluded. Characteristics of the sample are detailed in the Results section.

Measures

HTST. Florida's HTST is designed as a structured interview completed following extensive discussion with the child and in collaboration with the youth's parents or guardians. It is made up of 52-items including fill-in-the blank questions, yes/no questions, and multiple choice questions. The HTST is divided into eight sections (Sections A - H) and a post-assessment section (Section I) completed by the screener made up of open-ended questions summarizing the assessment. Throughout the screening tool, screeners indicate whether there is evidence of various factors related to trafficking. The screener responds "Yes" or "No" to the following questions as informed by statements made by youth and observations of the youth during the interview. The 14 screening indicators are as follows:

1. Evidence of Unsafe Online Activity
2. Evidence of Suspicious/ Trafficking-Related Tattooing/Branding
3. Evidence of Unsafe Living Environment
4. Evidence of Deceptive Payment Practices
5. Evidence of Forced Labor
6. Evidence of Excessive Running Away
7. Evidence of Questionable Financial Support While Away
8. Evidence of Coercion to Stay on the Run
9. Evidence of Sexual Activities for Money, Support, or Gifts
10. Evidence of Inability to Leave
11. Evidence of Forced Identity Deception
12. Evidence of Sexual Exploitation
13. Evidence of Compensation for Sexual Activity
14. Evidence of Potential Trafficking (from Parent/Guardian report)

Data for this study are a subset of data used to examine the reliability and validity of Florida's Human Trafficking Screening Tool. Results of an exploratory factor analysis (EFA) identified 11 of the 14 screening indicators related to sex trafficking (see Chapter 3). EFA was conducted to assess the factor structure of the HTST and determine which of the 14 screening indicators fit into subscales. Given that the screening indicators are dichotomous and it expected that screening indicators and, subsequently, factors are correlated, the unweighted least squares extraction method was applied, and the factor solution resulting from the direct oblimin rotation was examined. The eigenvalues, scree plot, and factor loadings informed the number and nature of possible factors to retain, and a three-factor model was suggested. Results of a parallel analysis also suggested a three-factor solution. Two factors related to sex trafficking consisting of 11 screening indicators—Evidence of Compensation for Sexual Activity, Evidence of Sexual Activities for Money, Support, or Gifts, Evidence of Sexual Exploitation, Evidence of Coercion to Stay on the Run, Evidence of Inability to Leave, Evidence of Questionable Financial Support While Away, Evidence of Potential Trafficking (from

Parent/Guardian report), Evidence of Excessive Running Away, Evidence of Unsafe Living Environment, Evidence of Unsafe Online Activity, and Evidence of Suspicious/ Trafficking-Related Tattooing/Branding. The third factor resulting from the EFA pertained to labor trafficking and was not included in the analysis.

A weighted factor score of the 11 screening indicators were summarized resulting in a sex trafficking total scale score for each youth ($\alpha = .745$). Greater scale scores indicated a greater number of factors associated with sex trafficking victimization. Data on whether screened youth were victims of sex trafficking according to outcomes of an investigation was not available for this research. In the absence of this data, youth with sex trafficking scores among the top 20% of scores were categorically classified as being victims of sex trafficking. These youth scored as having the greatest number of sex trafficking indicators. The top 20% were selected to ensure a sufficient sample size for subsequent analysis. A total of 991 youth scored in the top 20%. For comparison, a random sample of 991 youth who scored in the lower 20% of sex trafficking scale scores were included. Because lower scores are associated with little to no factors associated with sex trafficking, these youth were categorized as not being victims of sex trafficking.

Positive Achievement Change Tool (PACT). The PACT is a risk assessment tool administered during intake processes when youth are formally engaged with the DJJ. Development of the PACT began 2005 to serve as a tool to provide ongoing risk screening, assess youth's needs, determine level of care needed, and inform case management planning. The PACT was heavily adapted from the Washington State Juvenile Court Assessment (WSJCA) also designed to determine youth's risk to reoffend.

Although the main outcome informed by the PACT assessment is risk to reoffend, the PACT includes rich information on static and dynamic factors, and identifies risk and protective factors designed to be used for comprehensive case planning (Baglivio, 2009). Research has

shown the PACT is a valid assessment in predicting recidivism among justice-involved youth (McKenzie, 2018; Winokur-Early, et al., 2012).

A limited number of variables from the PACT were available for this dissertation. Based on risk factors commonly cited in literature on CSE, the following variables were modeled for this study: school information, child welfare involvement, history of abuse and neglect, runaway history, family functioning, youth substance use, mental health, and risk behaviors are modeled. Risk factors included in the PACT were not measured in a standardized way. Possible responses to risk factors were either nominal or ordinal and had different response options. For instance, the variable on school attendance originally included five response options: “1”= good attendance with few absences, “2”= no unexcused absences; “3”= some partial-day unexcused absences, “4”= some full-day unexcused absences, and “5”= habitual truancy. For most risk factors, higher scores indicate greater problem severity. To standardize responses, variables were recoded to indicate no problem (“1”), some indication of a problem or problem history (“2”), or current and severe problem (“3”). Risk factors recoded in this way included school attendance, anti-social peer relationships, OOH placements, runaway history, youth mental health, anger, depression / anxiety, problems related to drug use, and history of traumatic experiences. Although PACT assessment data are available on all youth included in the study, some variables, particularly those related to school, include non-applicable data. This will impact the sample size for some analyses.

Other variables had either a “yes” or “no” response. The PACT includes a variable on “history of violence or physical abuse” which includes very rich information on victimization within the child’s home by family members and non-family members, victimization in other settings such as group homes or foster care homes, and use of weapons when victimized. This variable was used to compute two new variables indicating whether youth were victims of physical abuse (victimization within the home by family members) and whether youth were violently victimized (victimization outside the home by non-family members). Both of these

variables were dichotomous. Another variable on the PACT included extensive information on “problem history of parents in the household.” Responses to this variable compiled information on problems related to drug and alcohol use, mental health problems, physical health problems, and problems related to employment. This variable was recoded into three new variables indicating whether parents had problems related to substance use, mental health, or comorbid substance use and mental health problems. Lastly, the PACT includes a question on the number of misdemeanor offenses for sexual misconduct and a question on the number of felony sex offenses. These variables were aggregated to compute a sex offense variable indicating whether youth had any sex offenses. All binary responses were coded as follows: “no” = 1, “yes” = 2.

In May 2019, the DJJ replaced the PACT with the Community Assessment Tool (CAT). Similar to the PACT, the CAT is a comprehensive assessment used to understand youth’s needs and strengths with the primary goal of informing risk to reoffend. At the time of this research, the CAT was still undergoing validation studies. Therefore, assessment data from the PACT alone was used in for this study.

Analytic Plan

Analysis began with summarizing characteristics of youth included in the study. Demographic characteristics of trafficked youth were compared to characteristics of non-trafficking victims. Bivariate analyses were then conducted to examine relationships between risk factors and sex trafficking. The phi correlation was used when relationships included two dichotomous variables. Significant risk factors were included in binary logistic regression models to predict sex trafficking. Several logistic regression models were estimated to examine variations in risk factors that predict trafficking for various subgroups. Models for females, males, Black youth, White youth, Hispanic youth, older youth, and younger youth were estimated. The Hosmer & Lemeshow p-value was used to assess model fit and classification

accuracy is also reported. Odds ratios are reported, and findings are presented as a percentage change in the likelihood of sex trafficking victimization [i.e., $(\text{Exp}(B) - 1) \times 100$].

Results

Demographics of youth deemed not to be victims of sex trafficking (i.e., those with sex trafficking scale scores in the lower 20% of scores) are compared to youth with the highest scores for sex trafficking (i.e., top 20%) in Table 18. Although confirmation of victimization was not available, it is expected that the scale score differentiates trafficked youth from non-trafficked youth. The remainder of this study will refer to youth as being trafficked or not.

Table 18. Characteristics of Trafficked and Non-Trafficked Youth

	Not Trafficked * (Low Scores) (n=991)	Trafficked Youth ** (High Scores) (n=991)	Total (n=1982)	χ^2
Sex				$\chi^2_{(1)} = 159.66$; $p < .05$
Female	44.7% (n=443)	72.7% (n=720)	58.7% (n=1163)	
Male	55.3% (n=548)	27.3% (n=271)	41.3% (n=819)	
Race/ Ethnicity				$\chi^2_{(3)} = 8.04$; $p < .05$
Black	41.7% (n=413)	41.8% (n=414)	41.7% (n=827)	
White	44.2% (n=438)	40.8% (n=404)	42.5% (n=842)	
Hispanic	13.8% (n=137)	16.3% (n=162)	15.1% (n=299)	
Other	0.3% (n=3)	1.1% (n=11)	0.7% (n=14)	
Age				$\chi^2_{(1)} = 3.97$; $p < .05$
Younger (9-14)	26.5% (n=259)	22.6% (n=218)	24.6% (n=477)	
Older (15-17)	73.5% (n=717)	77.4% (n=745)	75.4% (n=1462)	

A greater portion of females were represented among trafficked youth compared to youth deemed not to be victims of trafficking (72.7% and 44.7%, respectively). A greater proportion of males were represented among non-trafficking victims (55%). Black and White youth were similarly represented across groups. Further, similar proportions of Hispanic youth made up trafficked (16.3%) and non-trafficked youth (13.8%). Overall, youth age ranged from 9

to 17 years of age and averaged 15.4 years (SD=1.41). There was not a significant difference in the average age of trafficked youth (M= 15.5 years, SD= 1.36) compared to non-trafficked youth (M= 15.3 years, SD= 1.46). Youth age 14 and younger were aggregated to form a group consisting of younger youth, and those age 15 and older were compiled to form an older group for comparison. In the case of trafficked and non-trafficked youth, about 75% of youth were in the older category.

Correlation analyses were run to assess for relationships between risk factors and sex trafficking (see Table 19). Overall, correlation coefficients suggest significant but weak relationships for many risk factors.

Table 19. Bivariate Relationship between Risk Factors and CSE

	Pearson's Correlation (<i>r</i>)	Phi Correlation
School Attendance (n=1,398)	.105 ***	---
Peer Relationships (n=1,938)	.156 ***	---
OOH Placement History (n=1,938)	.109 ***	---
Runaway history (n=1,938)	.330 ***	---
Mental Health (n=1,937)	.056 *	---
Anger (n=1,938)	.084 ***	---
Depression / Anxiety (n=1,938)	.131 ***	---
Sexual Abuse / Rape History (n=1,938)	.038	---
History of Neglect (n=1,938)	---	.089 ***
Physical Abuse (n=1,925)	---	.079 ***
Trauma History (n=1,938)	.087 ***	---
Violent Victimization (n=1,925)	---	.087 ***
Sexual Offense (n=1,938)	---	-.273 ***
Drug Problems (n=1,887)	.170 ***	---
Academic Progress (n=1,398)	.043	---
Conduct in School (n=1,398)	.031	---
Parent Substance Abuse (n=1,917)	---	.034
Parent Mental Health (n=1,917)	---	-.011
Parent Comorbidity (n=1,917)	---	.027

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

Academic progress, conduct in school, parental drug and alcohol use, parental mental health problems, nor parental co-occurring substance use and mental health disorders were

associated with sex trafficking. Interestingly, sexual abuse / rape was also not significant. The strongest relationships were observed between sex trafficking and runaway history ($r = .330$), sexual offenses ($\phi = -.273$), drug problems ($r = .170$), and peer relationships ($r = .156$). The relationship between sex trafficking and sex-related offenses was the only significant negative correlation.

Significant bivariate relationships were used in a series of logistic regression models to predict sex trafficking. Although sexual abuse was not found to be significantly related to sex trafficking, this variable was included in subsequent analysis due to the large amount of literature attesting to the relationship between these variables. Over 30% of data on school variables such as attendance are not applicable due to youth not currently being in school. To optimize data available in subsequent analyses, this variable was omitted from logistic regression models. This decision was also supported statistically. Including attendance in the models did not significantly improve models. In most cases, the Nagelkerke R^2 and classification accuracy slightly improved when attendance was not included. Frequencies for each variable assessed are detailed in Appendix B.

Odds ratios were used to estimate sex trafficking victimization based on various risk and behavior factors. Prior to exploring differing risk factors based on sex, race/ethnicity, and age, an initial model for the full sample was estimated (see Table 20). Antisocial peer relationships, runaway history, and depression/anxiety were associated with an increase in the likelihood of sex trafficking victimization by 30%, 86, and 22%, respectively. Being charged with a sexual offense was associated with a 75% decrease in the likelihood of trafficking. However, controlling for other risk factors, sexual abuse history, nor OOH placements predicted sex trafficking. Although classification accuracy of this model improved over the base rate of trafficking (i.e., from 0% to 70.1%), this model correctly identified just 70.1% of trafficked youth.

Table 21 shows results from logistic regression models using risk factors to predict sex trafficking for females and males. Among females, antisocial peer relationships, runaway history, sexual abuse / rape, violent victimization, and drug problems significantly

Table 20. Predicting Sex Trafficking (Full Sample)

	All Youth (n=1,874) OR (95% CI)
Antisocial Peer Relationships	1.30 (1.11, 1.53) **
OOH Placement History	1.09 (.93, 1.28)
Runaway history	1.86 (1.63, 2.13) ***
Mental Health	0.98 (.86, 1.12)
Anger	0.88 (.76, 1.01)
Depression / Anxiety	1.22 (1.06, 1.41) *
Sexual Abuse / Rape History	0.95 (.84, 1.07)
History of Neglect	1.02 (.79, 1.31)
Physical Abuse	1.20 (.93, 1.55)
History of Trauma	1.02 (.88, 1.17)
Violent Victimization	1.55 (1.10, 2.18)
Sexual Offense	0.25 (.16, .37) ***
Drug Problems	1.14 (1.00, 1.30)
-2LL	2,277.123
	$\chi^2_{(13)} = 320.774, p < .001$
Nagelkerke R ²	.210
Hosmer & Lemeshow	$p = .226; ns$
Classification Accuracy	65.3%

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

predicted sex trafficking. Higher scores for these variables indicate greater problem severity. Therefore, having anti-social peers and frequency of running away were associated with an increase in the odds of being a victim of sex trafficking by 36% and 83%, respectively. A greater incidence of violent victimization increased the odds of being a victim of sex trafficking by 99% and problems stemming from drug use increased the odds of victimization by 34%. Among males, runaway history increased the odds of being trafficked by 93% and depression / anxiety was associated with a 31% increase in the odds of being trafficked. However, being

charged with a sex-related offense was associated with a decrease in the odds of being trafficked by 69%. Classification accuracy findings showed 84.1 % of female trafficked youth were correctly identified; however, just 41.2% of male victims were correctly identified.

Table 21. Predicting Sex Trafficking for Females and Males

	Female Youth (n=1,102) OR (95% CI)	Male Youth (n=772) OR (95% CI)
Antisocial Peer Relationships	1.36 (1.10, 1.68) **	1.16 (.90, 1.50)
OOH Placement History	1.19 (.97, 1.47)	0.96 (.74, 1.26)
Runaway history	1.83 (1.54, 2.18) ***	1.93 (1.53, 2.44) ***
Mental Health	0.97 (.82, 1.15)	0.95 (.76, 1.19)
Anger	0.91 (.75, 1.09)	0.83 (.65, 1.07)
Depression / Anxiety	1.07 (.89, 1.28)	1.31 (1.02, 1.69) *
Sexual Abuse / Rape History	0.81 (.70, .94) **	0.82 (.64, 1.07)
History of Neglect	1.11 (.79, 1.55)	0.98 (.64, 1.50)
Physical Abuse	1.17 (.85, 1.63)	1.24 (.80, 1.91)
History of Trauma	0.97 (.80, 1.16)	1.20 (.93, 1.55)
Violent Victimization	1.99 (1.29, 3.06) **	0.96 (.51, 1.81)
Sexual Offense	0.73 (.28, 1.89)	0.31 (.18, .52) ***
Drug Problems	1.34 (1.13, 1.59) ***	1.02 (.82, 1.28)
-2LL	1,337.844	841.078
	$\chi^2_{(13)} = 129.835, p < .001$	$\chi^2_{(13)} = 138.433, p < .001$
Nagelkerke R ²	.151	.228
Hosmer & Lemeshow	<i>p</i> = .306; <i>ns</i>	<i>p</i> = .209; <i>ns</i>
Classification Accuracy	68.2%	69.6%

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

Logistic regression models using risk factors to predict sex trafficking by race and ethnicity are detailed in Table 22. Across racial and ethnic groups, runaway history was associated with an increase in the odds of being trafficked, whereas having a sex-related offense was associated with a decrease in the odds of being trafficked. Higher levels of depression / anxiety and problems related to drug use uniquely predicted sex trafficking victimization among Black youth (43% and 24%, respectively). For White youth, antisocial peer relationships increased the odds of being trafficked by 58%. Although classification accuracy of this model improved over the base rate of trafficking for these models, about 70% of trafficked

youth were correctly identified (i.e., 71.5% for Black youth, 69.6% for White youth, and 76.5% for Hispanic youth).

Table 22. Predicting Sex Trafficking among Black, White, and Hispanic Youth

	Black Youth (n=779) OR (95% CI)	White Youth (n=798) OR (95% CI)	Hispanic Youth (n=283) OR (95% CI)
Antisocial Peer Relationships	1.06 (.82, 1.37)	1.58 (1.24, 2.01) ***	1.33 (.87, 2.04)
OOH Placement History	0.96 (.75, 1.24)	1.26 (.99, 1.59)	0.94 (.62, 1.41)
Runaway history	1.79 (1.44, 2.21) ***	1.97 (1.61, 2.41) ***	1.81 (1.26, 2.59) **
Mental Health	1.05 (.86, 1.29)	1.00 (.82, 1.23)	0.88 (.62, 1.26)
Anger	0.88 (.71, 1.10)	0.91 (.72, 1.15)	0.82 (.57, 1.17)
Depression / Anxiety	1.43 (1.14, 1.79) **	1.05 (.83, 1.33)	1.14 (.80, 1.63)
Sexual Abuse / Rape History	0.92 (.76, 1.12)	0.95 (.79, 1.14)	1.14 (.83, 1.57)
History of Neglect	1.08 (.73, 1.61)	0.82 (.55, 1.22)	1.15 (.77, 3.02)
Physical Abuse	1.34 (.88, 2.03)	1.21 (.83, 1.78)	0.87 (.44, 1.72)
History of Trauma	0.99 (.79, 1.24)	1.08 (.87, 1.35)	0.84 (.59, 1.23)
Violent Victimization	1.60 (.89, 2.88)	1.28 (.78, 2.11)	2.28 (.92, 5.65)
Sexual Offense	0.23 (.12, .43) ***	0.27 (.15, .51) ***	0.17 (.04, .79) *
Drug Problems	1.24 (1.01, 1.52) *	1.10 (.90, 1.36)	1.10 (.78, 1.55)
-2LL	942.649	944.871	347.368
	$\chi^2_{(13)} = 137.273,$ p<.001	$\chi^2_{(13)} = 159.767,$ p<.001	$\chi^2_{(13)} = 43.082,$ p<.001
Nagelkerke R ²	.215	.242	.189
Hosmer & Lemeshow	p=.408; ns	p=.278; ns	p=.064; ns
Classification Accuracy	65.5%	67.7%	65.4%

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

Youth aged 9 to 14 years (younger youth) were examined alongside youth aged 15 to 17 years (older youth) in the last set of logistic regression models predicting sex trafficking (see Table 23). As with other groups assessed, runaway history was associated with an increase in the odds of being trafficked. For younger youth, the increase was by 125% and, for older youth, the increase was by 77%. Sexual offenses also decreased the odds of being trafficked for older and younger youth. Physical abuse increased the odds of being trafficked by 95% uniquely for younger youth. Among older youth, antisocial peer relationships, depression and anxiety

symptoms, and violent victimization were significant predictors of sex trafficking (i.e., increase of 37%, 22%, and 57%, respectively). Anger was associated with a decrease in the odds of being trafficked by 15% for older youth. Classification accuracy results showed a false positive rate of 71% for younger youth, whereas only 67.5% of trafficked youth were correctly identified. About 72% of older youth were correctly identified as trafficking victims.

Table 23. Predicting Sex Trafficking among Younger and Older Youth

	Younger Youth (n=459) OR (95% CI)	Older Youth (n=1,415) OR (95% CI)
Antisocial Peer Relationships	1.04 (.75, 1.45)	1.37 (1.14, 1.65) ***
OOH Placement History	0.97 (.70, 1.35)	1.13 (.94, 1.35)
Runaway history	2.25 (1.69, 3.00) ***	1.77 (1.52, 2.07) ***
Mental Health	1.05 (.80, 1.37)	0.95 (.82, 1.10)
Anger	0.99 (.74, 1.33)	0.85 (.72, 1.00) *
Depression / Anxiety	1.27 (.95, 1.70)	1.22 (1.04, 1.45) *
Sexual Abuse / Rape History	0.91 (.70, 1.18)	0.96 (.84, 1.11)
History of Neglect	1.03 (.61, 1.74)	1.02 (.77, 1.37)
Physical Abuse	1.95 (1.15, 3.28) *	1.04 (.77, 1.39)
History of Trauma	0.91 (.67, 1.23)	1.05 (.89, 1.23)
Violent Victimization	1.21 (.58, 2.53)	1.57 (1.06, 2.32) *
Sexual Offense	0.33 (.16, .65) **	0.21 (.12, .36) ***
Drug Problems	1.04 (.77, 1.41)	1.16 (1.00, 1.34)
-2LL	529.184	1,734.112
	$\chi^2_{(14)} = 103.458; p < .001$	$\chi^2_{(14)} = 226.629; p < .001$
Nagelkerke R ²	.270	.197
Hosmer & Lemeshow	$p = .67; ns$	$p = .590; ns$
Classification Accuracy	69.7%	64.9%

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

Discussion

This study sought to better understand youth and family characteristics associated with sex trafficking and contribute to the empirical literature on the relationship between commonly cited risk factors and CSE. Understanding the risk factors that uniquely predict CSE for various demographic subgroups was also an objective of this research. Taken together, many findings supported extant literature. For instance, consistent with extant literature, runaway history was

associated with sex trafficking victimization for all subgroups (Panlilio et al., 2019; Reid, 2019). Factors related to youth mental health, depression/anxiety, substance use also predicted trafficking among different demographic subgroups (O'Brien et al., 2017; Panlilio et al., 2019; Reid, 2019). Abuse and neglect are often cited as risk factors. However, in this study, physical abuse was only found to predict CSE among youth aged 9 to 14 years old.

Contradictions with previous literature were also observed. For instance, the relationship between risk factors and sex trafficking were much lower than expected when compared to results of previous research (Chohaney, 2016, Fedina et al., 2019, Frey et al., 2019, Middleton et al., 2018; O'Brien et al., 2017; Panlilio et al., 2019; Reid, 2019). Further, risk factors such as history of sexual abuse, history of trauma, and OOH placements did not predict sex trafficking for any demographic subgroup assessed. These risk factors are commonly known to be associated with sex trafficking. Further, controlling for other risk factors, sexual abuse or rape did not predict trafficking for most groups assessed. A significant finding was only observed with the model predicting sex trafficking among female youth. This inconsistency may reflect the tendency for research on CSE among children to focus on female victims. It cannot be expected that risk factors in a body of literature with this bias is representative of sex trafficking risk factors for other groups. When controlling for other risk factors, OOH placement history, neglect, nor trauma experiences predicted sex trafficking for any subgroup. Although this contradicts ideological-based literature on sex trafficking risk factors, perhaps more importantly, these findings do not align with that of empirical studies that did find a relationship between OOH placements and child abuse and neglect (O'Brien et al., 2017; Reid et al., 2019). Although previous literature also suggests that parent characteristics such as substance use and co-morbid mental health and substance use problems are associated with CSE, this was not supported in this study (Chohaney, 2016, Fedina et al., 2019, Frey et al., 2019, Middleton et al., 2018). Lastly, with the exception of the female only model, having a sex-related offense decreased the odds of sex trafficking victimization. Being charged with a sex-related offense—

sexual perpetration—was found to decrease the odds of being trafficked for males, Black and White youth, and younger and older youth. This is an unexpected finding especially given the fact that sexual perpetration is one of the reasons DJJ intake staff will complete the screening tool with youth.

There are a few reasons why the findings of this study may only be supported in part by previous literature. First, a scale score was used to distinguish victims of sex trafficking from youth who were not likely victims of trafficking. Without the outcome of an investigation to confirm victimization, it was assumed that youth who scored high on the sex trafficking scale were categorically different than youth who scored at the lowest end of the scale. The inability to confirm victimization leaves an unknown as to how well this method accurately classified youth as trafficking victims. Use of the scale score might account for the poor classification accuracy results. For instance, in the case of male youth and younger youth, the false positive rate was 84% and 71%, respectively.

Another reason these findings only loosely align with previous research may be due to lack of reliability and validity of the HTST. Woods et al. (2019), who also examined the reliability and validity of Florida's HTST, found the tool demonstrated predictive validity but provided evidence of low reliability. The author of the current study also examined the psychometric properties of Florida's HTST and found limited evidence of construct validity and criterion-validity. Reliability estimates were also low. Since, reliability is a necessary, though insufficient, condition for measurement validity, it cannot be surmised that the HTST accurately identifies victims of CSE (Moss, 1994). Use of a tool that is not valid limits interpretation of research findings.

Findings, in some ways, may contradict previous literature due to reluctance of youth to disclose abuse and victimization. This may particularly be the case with youth included in this sample who are engaged in the juvenile justice system. Department of Children and Families (DCF) personnel who also use Florida's HTST expressed concerns with how forthcoming youth

were with information discussed to complete the screening tool (Magruder et al., 2018). When asked their perceptions on how often youth were forthcoming with screening tool topics, almost a third of DCF personnel perceived youth were forthcoming 0-25% of the time. Less than 15% of DCF personnel perceived youth were forthcoming 76-100% of the time. Concerns that youth do not cooperate with the screening interview was also noted (Magruder et al., 2018). This can have a negative effect on the reliability and validity of the tool and may have resulting in the misidentification of trafficked youth.

A final possibility for why findings of this study may only be supported in part by previous literature is due to subjectivity and over-reliance on the screener's knowledge of trafficking. Rather than identifying victims of trafficking, data collected from the HTST thus far may actually reflect the extent to which the screener understands CSE. Understanding that the tool is meant to identify victims of trafficking, screeners may respond to indicators in an effort to distinguish trafficking victims from youth who experienced sexual assault or sexual abuse. Screeners may also attempt to differentiate youth who are victims of sex trafficking from youth who have been charged with sex-related offenses. At the same time, possible overlap is ignored. The subjective nature of the screening tool calls into question the validity of responses. In the absence of a scoring metric, screeners use their professional judgement and information learned during the interview to determine the likelihood of victimization.

Limitations and Contributions

A strength of this study is the sample size and representation of various subgroups of youth across the state of Florida. However, a Nagelkerke R^2 showed between 15% and 27% of variance was explained by models. Further, classification accuracy, a determination of sensitivity and specificity was low for each model. Accuracy ranged from 65% to 70% indicating models correctly identified trafficked youth 65% to 70% of the time. In fact, classification accuracy findings suggest these models performed poorly and results should be interpreted with caution. Although goodness of fit statistics suggest the data fit the model well,

the amount of unexplained variance and the inadequate classification accuracy present limitations for this study. Stated previously, confirmation of whether youth were involved in sex trafficking was not able to be modeled as a predictor. Future research should incorporate outcomes of CSE investigations as the dependent variable when possible.

Another limitation of this data is the inability to determine temporal order. When youth are screened with the HTST, there is no information collected on when trafficking-related indicators occurred. There is no indication that the risk factors assessed occurred prior to suspected trafficking. Some of the risk factors associated with sex trafficking may be a response to victimization rather than a precursor. For instance, Frey et al. (2018) found sex trafficking victimization increased the likelihood of experiencing homelessness and suicidal ideation. Without information on when these incidences occurred, the relationships observed in this study cannot be interpreted as predictors of sex trafficking victimization. Rather, it can only be stated that risk factors are associated with CSE. This might explain the findings related to sexual perpetration. No literature supports sexual offenses as a precursor to sex trafficking victimization; however, youth victimized by sex trafficking may later exploit other youth. It is unknown what impact the inability to determine temporal order might have had on the findings of this study.

Although a large body of literature exists that discusses risk factors related to sex trafficking, a smaller body of literature centers on youth victims. Even fewer peer-reviewed resources offer an empirical assessment of the relationship between various risk factors and sex trafficking using a comparison group to better inform possible differences. This study contributes to the body of literature on youth sex trafficking victims by using a number of risk and behavioral factors to predict whether youth are victims of trafficking.

Future Direction

CSE is multi-faceted and complex problem. Modeling sex trafficking as a unidimensional concept may impede our understanding of the intricacies and nuances of CSE.

Future studies should conduct latent class analyses among sample of trafficked youth to determine varying risk profiles (Reid, 2019; Woods et al., 2019). Future research should also continue to examine the unique vulnerabilities of subgroups of youth. In addition to assessing demographic differences, research should include estimate varied risk of US versus foreign-born youth and examine unique vulnerabilities of transgender youth.

Specific to Florida's HTST, future research should incorporate findings from the child protection investigation to determine the extent to which the sex trafficking scale score correlates with confirmed trafficking victimization. Low correlation would provide further evidence of the lack of validity of the tool. Lastly, although this research failed to identify family dynamics associated with sex trafficking, extant literature suggests a relationship exists. Modeling family functioning variables would contribute to providing empirical evidence on whether they are related to sex trafficking.

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Chapter 5: Discussion

This dissertation comprised three manuscripts related to identifying victims of sex trafficking and understanding risk factors associated with trafficking victimization. The studies included in these manuscripts sought to 1) survey screening tools used throughout the United States, 2) examining evidence of validity and reliability of a human trafficking screening tool used in Florida, and 3) empirically verify the relationship between commonly cited risk factors and sex trafficking.

The first manuscript, presented in Chapter 2, provided a systematic review of existing screening tools used to identify youth victims of human trafficking. Most tools were designed to identify victims of both sex and labor trafficking; however, many other tools were specific to sex trafficking. Screening tools were adapted for various child-serving agencies such as school settings or child welfare agencies, and many others were designed for use in healthcare settings.

An important aspect of screening youth for possible victimization is the way in which the tools are administered. Many tools incorporated an interview approach to gathering information, rather than youth filling out a self-report survey of his or her experiences. Many of the screening tools were supplemented with a training, manual, or instructions for administration that provided tips and strategies for completing the tool in a trauma-informed way. Concern for youth's safety and acknowledgement of the trauma youth might have experienced is incorporated in training to complete these tools. Taking time to build rapport with youth prior to gathering information for screening tools was recommended to encourage youth to be more forthcoming with information.

Walker (2013) raised concern regarding the use of trafficking screening tools that are not evidence based. Validation studies were reported for 46% of screening tools identified and there

appears to be a recent effort to examine the evidence-base of these tools (Basson, 2017; Chang et al., 2015; Dank et al., 2017; Greenbaum et al., 2018; Kaltiso et al., 2018; Simich et al., 2014). Regardless of the number of screening tools available, use of valid and reliable tools are necessary to ensure youth are being appropriately identified.

Chapter 3 examined the evidence base of a screening tool used in Florida since 2016. The HTST is completed with thousands of youth annually; yet, there is limited information of the validity and reliability of the tool. Woods et al. (2019) found the HTST demonstrated predictive validity; however, their evidence of reliability was limited. Taken together, it cannot be said that Florida's HTST is a valid instrument to identify victims of trafficking because without evidence reliability, a measure cannot be valid (Moss, 1994). In line with findings reported by Woods et al. (2019), this dissertation also found insufficient evidence of reliability. Further, the HTST demonstrated limited construct and criterion-related validity. Experts in the field of human trafficking, including survivors, trainers, researchers, and practitioners, appraised the content validity of the tool. Although necessary content to identify victims of sex trafficking was incorporated; experts noted several poorly developed elements such as unsafe online activity. Experts also agreed the tool was very extensive and offered suggestions to improve the tool.

Several findings supported limited evidence of reliability. Not only was inconsistency of scores observed, inter-rater agreement was generally poor. Interestingly, greater agreement was observed among content experts than agreement between screeners and content experts. The background of screeners was not known; however, content experts had decades of combined direct service work with victims of trafficking and lived experience of being trafficked. It can be presumed that content experts were more knowledgeable of the complexities of sex trafficking than the DJJ intake personnel trained to complete the tool with youth. The need for extensive training for HTST screeners was recommended to improve inter-rater agreement. Data on the screener's determination of the likelihood that youth were trafficking victims also suggest the need for more training. For instance, screeners were unable to make a

determination on the likelihood that youth were victims of trafficking for 16.7% of youth. Further, when screeners were unsure of trafficking victimization and reported uncertainty to the abuse hotline, the call was accepted for CSE 50% of the time. Correlation analyses showed a moderate relationship between CSE scale scores computed from the EFA and the likelihood of sex trafficking victimization. However, if the HTST were valid and reliable, a strong positive correlation would be expected. The inconsistency of HTST scores may also suggest the need for screeners to take more time developing a rapport with youth. The screening tool is administered when youth are being formally engaged with the juvenile justice system. This may not be the best time to discuss sensitive topics included in the HTST. Magruder et al. (2018) reported concerns from DCF personnel that youth were not forthcoming with information needed to complete the screening tool and that youth were generally not cooperative with the HTST interview. Although this can be expected to some extent, attention to the way information is gathered and developing rapport with youth may improve cooperation. Incorporating methods used to interview victims of domestic violence or other groups with extensive trauma histories may improve the validity of information gathered for the HTST.

The final manuscript presented in Chapter 4 built on analyses included in Chapter 3 to better understand youth and family characteristics associated with sex trafficking. A sex trafficking scale score was computed from the results of the EFA. Screening indicators related to sex trafficking were used to create a weighted factor score. Because outcomes of child welfare investigations were unavailable to confirm trafficking victimization, youth who scored at the high end of the sex trafficking scale were categorized as trafficking victims. Youth who scored at the lowest end of the scale—youth with no indicators related to sex trafficking—were categorized as not being victims of sex trafficking.

Risk factors included in the PACT were modeled to assess which risk factors predicted CSE for various demographic subgroups. Findings were somewhat aligned with previous literature. For instance, consistent with extant literature, runaway history was associated with

sex trafficking victimization for all subgroups (Panlilio et al., 2019; Reid, 2019). Factors related to youth mental health, depression/anxiety, substance use also predicted trafficking among different demographic subgroups (O'Brien et al., 2017; Panlilio et al., 2019; Reid, 2019). However, many other findings were inconsistent with previous research. Abuse and neglect are commonly cited risk factors for CSE; however, physical abuse was only found to predict CSE among youth aged 9 to 14 years old. Further, risk factors such as history of sexual abuse, history of trauma, and OOH placements did not predict sex trafficking for any demographic subgroup assessed. Overall, the relationship between risk factors and sex trafficking were much lower than expected when compared to results of previous research (Chohaney, 2016, Fedina et al., 2019, Frey et al., 2019, Middleton et al., 2018; O'Brien et al., 2017; Panlilio et al., 2019; Reid, 2019). This adds to the lack of evidence of validity and reliability. Given limited evidence reported in Chapter 3, it cannot be expected that a non-valid instrument confirms the relationship between risk factors and trafficking victimization.

Limitations

A major limitation of this dissertation was the lack of available information confirming trafficking victimization. This made assessment of evidence of predictive validity impossible. With the available data, a scale score was computed and used to assume trafficking victimization. However, there is no evidence that the computed scale score aligns with the outcome of child welfare investigations on trafficking victimization.

Another major limitation pertains to the subjectivity of the HTST. The subjective nature of the screening tool calls into question the validity of responses. In the absence of a scoring metric, screeners use their professional judgement and information learned during the interview to determine the likelihood of victimization. This dissertation was unable to examine the extent to which the screener's determination coincided with the outcome of the child welfare investigation. Magruder et al. (2018) noted concerns with how forthcoming youth were with information discussed to complete the screening tool. When asked their perceptions on how

often youth were forthcoming with screening tool topics, almost a third of DCF personnel perceived youth were forthcoming 0-25% of the time, and less than 15% of DCF personnel perceived youth were forthcoming 76-100% of the time. This can have a negative effect on the reliability and validity of the tool and may have resulting in the misidentification of trafficked youth.

Although this dissertation was designed to assess validity and reliability of Florida's HTST, the assessment examined only the measure itself and did not include an analysis on how the screening tool was administered. Little evidence of validity and reliability were observed. However, implementation of the HTST has the potential to greatly impact reliability of scores. For instance, if the tool is administered by personnel with a limited understanding of trafficking, their professional judgement as to victimization likelihood may not be very informed. Conducting HTST interviews at the same time that other intake assessments are being administered may not be the best time to expect cooperation from youth. Given how time-consuming the interview can be, it may be more beneficial to collect screening tool information at a later time when time permits for rapport to be established. When trafficking is suspected, having dedicated staff to interview youth may improve reliability.

Implications for Policy, Practice, and Research

Development of Florida's HTST was fueled by legislative requirements. Although DJJ, DCF, and other stakeholder collaborated to develop the tool, policies should support efforts to ensure a valid and reliable tool is used to screen youth for possible victimization. Evidence presented in this dissertation and confirmed by Woods et al. suggest the HTST is not an effective tool (2019). However, several strategies for improving validity and reliability of Florida's HTST were offered in Chapter 3. For instance, targeted efforts to understand points of disagreement are expected to improve inter-rater reliability. Content experts recommended revisions of the HTST to address confusing questions, ambiguous phrasing, and outdated references (i.e., use of Backpage and Craigslist). A workgroup of content experts, DJJ and DCF

personnel, and measurement experts should regularly convene to address issues impacting reliability and validity and revise the tool as needed.

Future research should build on the systematic review of screening tools to examine validation studies. Although the reliability and/or validity was stated to be assessed for many tools identified in the review, compiling evidence of validity was beyond the scope of this dissertation. Compiling evidence of validated screening tools will progress research and practice. Not only can those validated screening tools be used to examine evidence of validity of other screening tools, practitioners and child-serving agencies can make informed decisions on appropriate screening tools to use in practice.

Specific to future assessment of validity and reliability of Florida's HTST, future research should incorporate findings from the child protection investigation to evaluate evidence of predictive validity. Further, this dissertation analyzed HTST and PACT data collected between 2017 and 2019. Once CAT has shown evidence of validity, examination of the validity and reliability of the HTST should incorporate more recent and complete data. Much of the data used for these studies was compiled during early implementation of the screening tool. It is plausible that, as screeners have become more accustomed to the tool and, perhaps, more knowledgeable following years of in-service trainings, reliability of scores have improved. Re-examining evidence of validity and reliability using data from more recent years may provide more favorable results. However, information learned in this dissertation can still be used to improve training and develop metric for quality improvement. Lastly, content experts and screeners agree that the HTST is an unnecessarily lengthy tool. Once sufficient evidence of predictive validity and reliability has been demonstrated, construction of an abridged HTST that maintains adequate predictive power and still incorporates the necessary dimensions of sex trafficking should ensue.

Modeling sex trafficking as a unidimensional concept may impede our understanding of the intricacies and nuances of CSE. Future studies should conduct latent class analyses

among sample of trafficked youth to determine varying risk profiles (Reid, 2019; Woods et al., 2019). This information can be used in practice to tailor services and supports for identified victims and at-risk youth.

Conclusion

CSE is multi-faceted and complex problem. Despite decades of research and direct service case management with trafficked youth and youth at risk of trafficking, there is still much to be understood about CSE. Not only is the prevalence of victimization unclear, there does not exist a model trafficking screening tool, nor a uniform system to report incidences of trafficking involving minors. The under- or over-reporting of trafficking victimization may lead to misappropriated funds needed to provide for the service and support needs of youth. The adverse effects of trafficking outlined in this dissertation greatly impact the well-being of youth. Accurately identify CSE victims is a necessary first step in addressing the needs of trafficked youth.

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Appendices

Appendix A: Florida's HTST Questions and Response Format

	Question	Response
Section A	Background Information	Text
1	Date of screening	Text
2	Location of screening	Text
3	Screeener name	Text
4	Reason for screening	S/A/A
5	Mode of Screening (with or without interpreter)	M/C
Section B	Demographic Information	
6	Youth's name	Text
7	FSFN Child ID	Text
8	Intake #	Text
9	DCF FSFN case ID	Text
10	SSN	Text
11	Sex	Text
12	Race/Ethnicity	Text
13	Preferred Language	Text
Section C	Youth Personal Background	
14	What is your date of birth?	Text
14a	Approximately how old are you?	Text
15	What country were you born in?	Text
16	What city do you live in?	Text
16a	Was youth arrested outside the city in which he/she resides?	No/Yes/Refused (N/Y/R)
17	Do you go to school?	N/Y/R
17a	Where do you go to school?	Text
17b	How many days have you attended school in the last two weeks?	Multiple Choice (M/C)
18	Do you get on the internet, Wi-Fi, or use phone or tablet apps?	N/Y/R
18a	What kind of sites or apps do you use?	Select all that apply (S/A/A)
19	Have you ever agreed to meet someone you met online or through the internet, or through a phone app?	N/Y/R
	Evidence of Unsafe Online Activity	Y/N
20	Do you currently have a boyfriend or girlfriend?	N/Y/R
20a	How old is he/she?	M/C
20b	How did you meet?	M/C
21	Do you have any tattoos?	N/Y/R
21a	What is the tattoo?	S/A/A
21b	What does your tattoo(s) mean?	S/A/A
21c	Who was with you when you got you tattoo(s)?	S/A/A

22	Do you have any scars or brand that were made intentionally, not from an accident or injury?	N/Y/R/O
22a	Who was with you when you got your brand(s) or when you received the scar?	S/A/A
	Evidence of Suspicious/ Trafficking-related Tattooing/Branding	Y/N
Section D	Living Conditions	
23	Tell me about your current living situation. What type of place do you live in?	S/A/A
24	Who lives with you?	S/A/A
25	Do you pay for where you live?	N/Y
25a	How do you pay for where you live?	S/A/A
26	Have you ever had any contacts or visits from the Department of Children and Families?	N/Y/R
	Evidence of Unsafe Living Environment	Y/N
Section E	Work Information	
27	Do you have a job or did you have one before coming here?	N/Y/R
28	What type of work do you do?	S/A/A
29	How much money do you make an hour?	M/C
30	Does your boss or supervisor owe you money?	N/Y/R
31	Do any of your family members owe your boss money?	N/Y/R
32	Have you ever worked or done something for your boss without the payment that you thought you would get?	N/Y/R
32a	What kind of work was it?	Text
32b	What payment did you expect?	Text
32c	What did you receive?	Text
	Evidence of Deceptive Payment Practices	Y/N
33	Do you live and work at the same place?	N/Y/R
34	Can you quit or could you have quit your job at any time without permission from your boss or supervisor?	N/Y/R
	Evidence of Forced Labor	Y/N
35	When you think about the future, what do you want to do when you get older?	Text
Section F	Leaving or Running Away from Home (previous 12 months)	
36	Have you run away, stayed away, or left your home without permission in the past year?	N/Y/R
36a	How many times have you run away or left without permission?	M/C
36b	How long were you gone the last time you left home	M/C
	Evidence of Excessive Running Away	
36c	Where did you go when you left?	S/A/A
36d	While you were away, how did you support yourself?	S/A/A
36e	While you were away, were you in control of your own money?	N/Y/R
36f	Who were you with while you were away?	S/A/A

36g	Did that person(s) ever give you things like money, drugs, or clothes?	N/Y/R
	<i>Evidence of Questionable Support While Away</i>	Y/N
36h	Did you leave town while you were away from home?	N/Y/R
36i	While you were away, did anyone you were with not allow you to go back home?	N/Y/R
	<i>Evidence of Coercion to Stay on the Run</i>	Y/N
36j	While you were away, did you experience anything that made you uncomfortable?	N/Y/R
36k	Sometimes, young people who are away from home can be taken advantage of and asked to do sexual activities in exchange for something of value. These activities can include dancing, stripping, posing for photos, or sex of any kind. While you were away, did anyone ever ask you to do something like that?	N/Y/R
	<i>Evidence of Sexual Activities for Money, Support, Gifts</i>	Y/N
Section G	Sexual Exploitation/ Coercion/Control	
37	In thinking about your past experiences, has anyone ever locked doors or windows or anything else to stop you from leaving work or home?	N/Y/R
	<i>Evidence of Inability to Leave</i>	Y/N
38	Has anyone ever forced you to get or use false identification, like a fake ID or fake greencard?	N/Y/R
	<i>Evidence of Forced Identity Deception</i>	Y/N
39	Has anyone ever pressured you to touch someone physically or sexually when you didn't want to?	N/Y/R
40	Has anyone ever asked/made you do anything sexually that you didn't want to do?	N/Y/R
41	Has anyone in your home ever done anything sexually to you that you didn't want?	N/Y/R
	<i>Evidence of Sexual Exploitation</i>	Y/N
42	Have you or someone else received something of value like money, a place to stay, food, clothes, gifts, favors, or drugs in exchange for your performing a sexual activity?	N/Y/R
	<i>Evidence of Compensation for Sexual Activity</i>	Y/N
Section H	Parent/Guardian Information	
43	Did you speak with the child's parent(s) or guardian?	N/Y
44	Does the parent/guardian report that youth has a cell phone that a third party/trafficker pays for or might be paying for?	N/Y
45	Does the parent/guardian report that youth returns home from running away with hair/nails done, new clothing or money that were not provided by the parent guardian?	N/Y
46	Does parent/guardian report that youth has internet postings or text/cell phone messages that indicate youth may be exchanging sex for something of value to him/her?	N/Y

47	If youth has a tattoo or someone else's name, does guardian verify this person is who youth says the person is	N/Y
	<i>Evidence of Potential Trafficking</i>	Y/N
Section I	Post-Screening Assessment	
48	Did you observe any nonverbal indicators of past victimization? If so, explain.	Text
49	Did you observe any indicators that the youth's responses may have been false? If so, explain.	Text
50	Indicate the likelihood that the youth is a victim of trafficking <input type="checkbox"/> Definitely not <input type="checkbox"/> Likely not <input type="checkbox"/> Not sure <input type="checkbox"/> Likely is <input type="checkbox"/> Definitely is	M/C
51	Provide at least 3 reasons for your answer in Item 50	Text
52	What kind of service referrals, if any, will you make for the youth?	Text

Appendix B: Frequencies of Risk Factor Variables

Table B1. Attendance

Variable Label	Descriptor	% (n)
No Problems	Good attendance; little to no absences	47.2% (n=660)
Some Problems / History	Some partial day unexcused absences	8.0% (n=112)
Current and Problematic	Some full day unexcused absences; habitual truancy	44.8% (n=626)

Table B2. Peers

Variable Label	Descriptor	% (n)
No Problems	Has prosocial friends	29.6% (n=573)
Some Problems / History	No consistent friends; some prosocial and antisocial friends	55.5% (n=1075)
Current and Problematic	Has antisocial friends; gang associates or gang member	15.0% (n=290)

Table B3. OOH Placement History

Variable Label	Descriptor	% (n)
No Problems	No OOH placements exceeding 30 days	68.0% (n=1317)
Some Problems / History	1 OOH placement	19.6% (n=379)
Current and Problematic	2 or more OOH placements	12.5% (n=242)

Table B4. Runaway History

Variable Label	Descriptor	% (n)
No Problems	No runaway history or getting kicked out	30.9% (n=598)
Some Problems / History	1 – 2 instances of running away or getting kicked out	28.4% (n=550)
Current and Problematic	4+ instances of running away or getting kicked out	40.8% (n=790)

Table B5. Youth Mental Health

Variable Label	Descriptor	% (n)
No Problems	No history of MH problems	51.9% (n=1006)
Some Problems / History	Prior diagnosis > 6 months ago	27.4% (n=531)
Current and Problematic	Current diagnosis with treatment prescribed	20.7% (n=400)

Table B6. Anger

Variable Label	Descriptor	% (n)
No Problems	No history of anger or irritability	23.2% (n=450)
Some Problems / History	History of occasional anger or irritability	34.3% (n=665)
Current and Problematic	Consistent anger or irritability; aggressive reaction to frustration	42.5% (n=823)

Table B7. Depression / Anxiety

Variable Label	Descriptor	% (n)
No Problems	No history of depression/anxiety	36.9% (n=715)
Some Problems / History	History of occasional depression/anxiety	30.4% (n=590)
Current and Problematic	Consistent depression/anxiety; impairment from depression/anxiety	32.7% (n=633)

Table B8. Sexual Abuse / Rape

Variable Label	% (n)
Not a victim of sexual abuse / rape	56.2% (n=1090)
Sexual abuse / rape by a family member	15.6% (n=303)
Sexual abuse / rape by a non-family member	24.7% (n=478)
Sexual abuse / rape by a family member and non-family member	3.5% (n=67)

Table B9. Neglect

Variable Label	% (n)
Not a victim of neglect	75.4% (n=1461)
Victim of neglect	24.6% (n=477)

Table B10. Physical Abuse

Variable Label	% (n)
No history of physical abuse	76.2% (n=1466)
History of physical abuse (victim of family violence)	23.8% (n=459)

Table B11. History of Traumatic Experiences

Variable Label	Descriptor	% (n)
No Problems	No traumatic event	42.8% (n=985)
Some Problems / History	History of traumatic event	30.9% (n=549)
Current and Problematic	Flashbacks to a traumatic event	26.2% (n=404)

Table B12. Violent Victimization (Physical Injury)

Variable Label	% (n)
No history of violent victimization (by non-family member)	88.7% (n=1708)
History of violent victimization	11.3% (n=217)

Table B13. Sex Offense

Variable Label	% (n)
No sexual misconduct or sexual offenses	87.6% (n=1698)
Sexual misconduct or Sexual Offense	12.4% (n=240)

Table B14. Drug problems

Variable Label	Descriptor	% (n)
No Problems	No use of drugs	42.8% (n=808)
Some Problems / History	Past drug use	30.9% (n=584)
Current and Problematic	Drug use causes problems, disruption, and/or conflict	26.2% (n=495)