Review Article

Risk Factors for Domestic Minor Sex Trafficking in the United States: A Literature Review

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ABSTRACT

Background: Domestic minor sex trafficking (DMST) is an important social and public health problem, but it has received little attention from healthcare professionals in research, practice, and policy. Prevention and early victim identification efforts for this population are severely limited or entirely absent. **Purpose:** The aim of this study was to integrate evidence on risk factors for DMST and critically appraise the quality and quantity of nursing literature on DMST. **Methods:** This literature review was reported using PRISMA criteria. Three databases (CINAHL, PsychInfo, and PubMed) were searched using various terms for (a) human trafficking, (b) risk factors, and (c) children. **Discussion:** Demographic factors were not important predictors of DMST. Childhood maltreatment trauma and running away from home were the most important risk factors for trafficking victimization. There was little nursing literature on the topic of DMST. **Conclusion:** Nurses and other healthcare professionals must engage in confronting DMST by improving early identification of victims and conducting high-quality research to inform practice.

KEY WORDS:

commercial sexual exploitation; domestic minor sex trafficking; nursing; risk factor; systematic review

In recent years, much attention has been given to the issue of commercial sexual exploitation of children in the United States (Institute of Medicine, 2013). As researchers and the public have come to understand more about the prevalence, characteristics, and adverse outcomes for children who have been commercially sexually exploited, they have begun to use terms like "slavery" and "human trafficking" to more appropriately characterize a phenomenon in which children are sold as sexual objects for commercial gain (Countryman-Roswurm & Bolin, 2014). Domestic minor sex trafficking (DMST) is a term used across social work, trauma and violence, and legal literature to describe the commercial sexual exploitation of children under the age of 18 years in the United States (Countryman-Roswurm & Bolin, 2014; Kotrla, 2010; Victims of Trafficking and Violence Prevention Act, 2000; Williamson & Prior, 2009). DMST is often conflated with prostitution and other commercial sexual enterprises, and victims do not necessarily view themselves as victims of a crime (Musto, 2009; Weizter, 2010). However, legally, DMST is a form of child sexual abuse. Under the assumptions of current federal policy regarding human trafficking, children under the age of 18 years cannot legally consent to commercial sex trading and are victims of sexual maltreatment (Trafficking Victims Protection Reauthorization Act, 2005; Victims of Trafficking and Violence Prevention Act, 2000).

DMST is an important social problem and is increasingly recognized as an important public health problem, although much of the literature published to date has focused on adult victims or adult survivors. A recent systematic review found high rates of mental health disorders, violence, and HIV diagnoses among international victims of sex trafficking (some of the studies cited included adult victims; Oram, Stöckl, Busza, Howard, & Zimmerman, 2012). Posttraumatic stress disorder, depression, suicidality, and anxiety are common among victims, and these and other mental health disorders have been associated with the physical and sexual violence victims experience (Hossain, Zimmerman, Abas, Light, & Watts, 2010; Zimmerman et al., 2008). One study found that two thirds of trafficked women

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reported at least 10 concurrent physical health symptoms, including headaches, fatigue, dizziness, back pain, memory problems, stomach pain, pelvic pain, and gynecologic infections (Zimmerman et al., 2008). Victims of DMST also have high rates of risk behaviors (e.g., illicit substance use, tobacco and alcohol use, unsafe sexual behavior) and socioeconomic risk factors that put them at risk for poor health outcomes (Reid, 2012). These symptoms and behaviors are consistent with complex psychological trauma psychopathology (Herman, 1992), but etiologic factors remain poorly understood.

DMST research has been present in the legal, mental health, and trauma and violence literature for several years, and it is now beginning to appear more frequently in nursing, medical, public health, and other health science literature (Betz, 2012; Diaz, Clayton, & Simon, 2014). This issue is of particular concern for nurses. Nurses are well positioned within the U.S. health system infrastructure to play a key role in identification, treatment, and prevention of DMST. As the largest group of healthcare workers in the United States, nurses are present in many health and social service delivery settings, affording them opportunity to detect trafficking early and intervene with at-risk youth for prevention (American Association of Colleges of Nursing, 2011). In the forensic nursing specialty, nurses are trained to perform postassault forensic examinations, collect evidence, and testify as expert witnesses in a legal context (International Association of Forensic Nurses, 2009). Forensic nursing services are particularly germane to DMST victims, who are often victims of chronic sexual violence, are involved with the juvenile justice system, and may be seen in emergency rooms for acute trauma care (Kotrla, 2010).

Although nurses have an important role in DMST prevention and victim treatment, researchers and clinicians of all disciplines face a myriad of challenges when attempting to study or deliver services to this population. Measuring DMST and its prevalence within the United States is challenging because of the hidden nature of trafficking, and commonly cited prevalence studies have been criticized for methodological weaknesses that limit the usefulness of their results, including exaggeration of the magnitude of the problem (Fedina, 2015; Weitzer, 2010). The population is transient, and individuals who meet definitions of "victim" or "survivor" do not necessarily wish to identify that way or seek victim services because of feelings of shame, guilt, pride, and fear of stigma (Brunovskis & Surtees, 2013; Kandemir et al., 2012; Miller, Canales, Amacker, Backstrom, & Gidycz, 2011). Furthermore, DMST victims may have complex posttraumatic stress sequelae (Herman, 1992) and distorted perceptions of traffickers, making it difficult for service providers to identify victims and intervene. Public policies and allocation of public funds around DMST are far from evidence based and have done little to bring about meaningful change (Rieger, 2007; Sonderland, 2005). In 2013, the Institute of Medicine issued a report concluding that efforts directed toward prevention of DMST and early identification of victims are severely absent, uncoordinated, and underevaluated. Much more attention to DMST is needed in research, practice, and policy, particularly in prevention and early identification efforts.

Researchers and clinicians working with DMST victims have a responsibility to improve the quality of evidence available for policy, practice, and public awareness. Although DMST victims interface with healthcare providers, social and legal services, school teachers and school nurses, and other professionals, they are often not detected as trafficking victims (Cole, Sprang, Lee, & Cohen, 2014; Kotrla, 2010). Understanding risk factors for DMST is an important way for nurses and nurse scientists to play a role in preventing and detecting victimization. Thus, the purpose of this literature review was to integrate evidence on risk factors for DMST and critically appraise the quality and quantity of nursing literature on DMST. The research question guiding the review was, "What are the risk factors for domestic minor sex trafficking of children in the United States?"

Methods

This review was reported using the evidence-based Preferred Reporting Items for Systematic Reviews and Meta-Analyses criteria (Moher, Liberati, Tetzlaff, & Altman, 2009). Eligibility criteria for inclusion in the review were quantitative or qualitative research reports from the United States (including dissertations, case studies, and reviews) and published in English between 1980 and 2014. The population of interest was children (under the age of 18 years) in the United States. The phenomenon of interest was DMST, although other search terms were included to reflect changes in professional discourse around this topic over time (e.g., individuals meeting the definition of trafficking victims were referred to as "juvenile prostitutes"; Mitchell, Finkelhor, & Wolak, 2010), and the outcome variable of interest was risk factors for DMST. A broad range of study methodologies was allowed because of the paucity of high-quality evidence on the topic. The time frame for inclusion began at 1980 to reflect the earliest appearances of this topic in the literature, and the single-country location was chosen to identify social, cultural, and political risk factors unique to the United States. The information sources for this review were three electronic databases: CINAHL, PsychInfo, and Medline. Searches began on September 9, 2014, and ended on November 11, 2014. Search terms included human trafficking, domestic minor sex trafficking, prostitution, sexual exploitation, risk factor, at-risk populations, antecedent, causality, juvenile, child, and minor.

To determine which studies were suitable for inclusion in the review, the titles and abstracts of all resulting articles (n = 356) were screened for inclusion of the phenomenon,

population, and variable of interest in the studies (i.e., DMST, children in the United States, and risk factors, respectively). Sixty articles remained after the initial screening and removal of duplicate articles. These 60 articles were then evaluated for meeting the inclusion criteria. In the end, 30 articles qualified for integration in this review (see Table 1). During the initial and in-depth screenings, articles were excluded if they were published before 1980, cellular or molecular trafficking reports, studies with HIV/AIDS and sexually transmitted infections as the outcome variable, studies conducted outside of the United States, reports on noncommercial sexual exploitation, or reports on trafficking of non-U.S. citizens into the United States. A four-phase flow diagram depicting the quantities of reports identified, included, and excluded is shown in Figure 1 (Moher et al., 2009).

Data Extraction

Data extraction and critical appraisal of the studies were completed independently by the author, and a second reviewer was consulted for some studies. The reports that met inclusion criteria were examined for study design, categories of risk factors studied, and language used to describe DMST. A literature table was used to organize these components, and they were organized in chronological order to reflect changes in language over time (see Table 1). To determine the key categories of risk factors, variables used in the studies were identified and grouped according to thematic similarity using a constant comparative approach (Whittemore & Knafl, 2005). Then, using the same approach, a detailed evaluation of the results of the studies was conducted to identify significant risk factors for DMST within each category of risk. An evidence grading system was used to evaluate the quality of studies reviewed (Oxford Centre for Evidence-Based Medicine, 2009). Studies were given a grade of A (Level 1), the highest level of evidence, followed by B (Levels 2 or 3), C (Level 4), or D (Level 5), the lowest level of evidence, according to their design (the search did not return any Level 1 studies).

Results

Integration of Evidence on Risk Factors for DMST

Four categories of risk factors were identified: (a) demographic factors, (b) environmental factors, (c) trauma factors, and (d) behavioral health factors.

Demographic Factors

Although most DMST victims are women, the studies reviewed suggested that women and men of all sexual orientations were at risk for DMST (Abramovich, 2005; Edwards et al., 2006; Greene et al., 1999; Kaestle, 2012; Reid, 2012; Reid & Piquero, 2014; Rotheram-Borus et al., 1996; Savin-Williams, 1994; Seng, 1989; Tyler, 2008; Walls & Bell, 2011; Warf et al., 2013; Widom & Kuhns, 1996; Yates et al., 1991). Where differences in risk were noted by gender, it is likely that those differences were related to the composition of the sample, because many studies used case control or case series designs and did not offer strong evidence in support of gender risk factors. Lesbian, gay, bisexual, transgender, and queer (LGBTQ) youth were a particularly at-risk group in some studies (Abramovich, 2005; Tyler, 2008; Walls & Bell, 2011; Warf et al., 2013). For those studies that included male participants, those who identified as gay or bisexual appeared to be most at risk (Abramovich, 2005; Tyler, 2008; Walls & Bell, 2011; Warf et al., 2013). However, studies representing higher levels of evidence (Reid & Piquero, 2014; Warf et al., 2013) found no difference in victimization by gender and sexual orientation. Although women are victims of sexual violence more frequently than men, in general, and comprise a greater proportion of DMST victims, gender and sexual orientation may not be the strongest predictors of risk for DMST because victims appear in every group.

Similar to gender risk factors, the evidence on risk factors related to race was conflicting at times, reflecting the limitations and characteristics of the samples of the studies reviewed. Four studies found White race to be correlated with DMST victimization (Greene et al.,1999; Kramer & Berg, 2003; Yates et al., 1991), but others found African American or other minority race to be correlated more strongly to victimization (Kaestle, 2012; Reid & Piquero, 2014; Walls & Bell, 2011). Others comparing two or more races found little difference in risk across racial groups (Warf et al., 2013). Considering the designs of these studies, minority race was supported as a risk factor by the studies representing higher levels of evidence, but no definitive conclusions can be drawn from these studies. It is likely that all races are at risk for DMST and that race, like gender and sexual orientation, is a less important risk factor than other nondemographic risk factors.

Some evidence suggested that level of educational attainment and learning difficulties conferred risk for DMST victimization (Grace et al., 2012; Twill et al., 2010; Yates et al., 1991). Dropping out of school and low educational attainment were correlated with victimization (Yates et al., 1991), and some studies found lower intelligence quotient and learning disabilities to be predictive of victimization (Grace et al., 2012; Twill et al., 2010). However, another case control study found no difference in victimization by level of education (Warf et al., 2013). The studies suggesting risk associated with educational attainment or difficulties were Evidence level 4 (i.e., case series, poor quality cohort, and case control studies) or level 5 (i.e. expert

TABLE 1. Characteristics of Studies Reviewed in Chronological Order (*N* = 30)

Reference	Location	Purpose	Level of evidence	Sample	Terminology	Framework for risk factors
Silbert & Pines, 1981	San Francisco, CA	To study the antecedents to prostitution and the long-term effect of sexual child abuse	4 (case series)	200 female juveniles and adult street prostitutes	Juvenile prostitution	Sexual abuse factors
Silbert & Pines, 1983	San Francisco, CA	To determine whether street prostitutes were sexually exploited during their childhood	4 (case series)	200 female juveniles and adult street prostitutes	Juvenile prostitution	Sexual abuse and exploitation factors
Seng, 1989	Chicago, IL	To explore the relationship between sexual abuse and adolescent prostitution	4 (case control without sensitivity analysis)	105 children with a history of child sexual abuse or prostitution	Adolescent prostitution	Gender, demographic, environmental factors
Simons & Whitbeck, 1991	Des Moines, IA	To examine the extent to which early sexual abuse is associated with prostitution	3b (case control)	40 runaway adolescents and 95 homeless adults involved in prostitution	Prostitution	Sexual and physical abuse factors, risk behavior factors
Yates, Mackenzie, Pennbridge, & Swofford, 1991	Los Angeles, CA	To look at the overall health status of homeless youth involved in prostitution compared with youth not involved with prostitution	4 (case control without sensitivity analysis)	620 runaway/ homeless youth	Prostitution	Behavior and mental health factors, trauma factors
Savin-Williams, 1994	N/A	To review the verbal and physical abuse that threatens the well-being and physical survival of lesbian, gay men, and bisexual youths	3a (systematic review with case control homogeneity)	N/A	Prostitution	Abuse factors, risk behavior factors
Widom & Ames, 1994	Midwest United States	To assess the long-term criminal consequences of child sexual abuse	2b (individual cohort)	908 abused children, 667 nonabused matched controls	Prostitution	Abuse and neglect factors
Foti, 1995	Chicago, IL	To answer the question of whether a history of child sexual abuse facilitates a woman's subsequent entry into prostitution	4 (case series)	1240 female jail detainees	Prostitution	Sexual abuse factors, runaway behavior factors
Rotheram-Borus, Mahler, Koopman, & Langabeer, 1996	New York, NY	To examine the relationship of early sexual abuse to the high-risk sexual behavior of runaways	4 (case series)	190 male and female adolescent runaways	Sex work	Sexual abuse factors, demographic factors, risk behavior factors
Widom & Kuhns, 1996	Midwest United States	To examine the extent to which being abused or neglect in childhood increases a person's risk for promiscuity, prostitution, or teenage pregnancy	2b (individual cohort)	676 abused children, 520 nonabused controls	Prostitution, promiscuity	Child abuse factors
Greene, Ennett, & Ringwalt, 1999	United States	To examine the prevalence and correlates of survival sex among runaway and homeless youth	3b (case control)	631 adolescents aged 12–21 years in shelters	Survival Sex	Demographic factors, mental health factors, criminal and runaway behavior factors
McClanahan, McClelland, Abram, & Teplin, 1999	Chicago, IL	To examine the effects of sexual victimization, running away, and drug use on entry into prostitution and the differential effects of these risk factors over the life course	4 (case series)	1142 female jail detainees	Prostitution	Sexual abuse factors, runway and risk behavior factors
Tyler, Hoyt, & Whitbeck, 2000	Missouri, Iowa, Nebraska, Kansas	To investigate the effects of early sexual abuse on later sexual victimization	4 (case series)	361 female homeless and runaway adolescents	Survival sex	Sexual abuse factors, risk behavior factors

(continues)

TABLE 1. Characteristics of Studies Reviewed in Chronological Order (*N* = 30), Continued

Reference	Location	Purpose	Level of evidence	Sample	Terminology	Framework for risk factors
Kramer & Berg, 2003	Phoenix, AZ	To examine the influence of minority status, educational level, and risk factors on the hazard rate for age of entry into prostitution	4 (case series)	309 women working in prostitution	Prostitution, sex trade	Abuse factors, demographic factors, parental factors
Abramovich, 2005	N/A	To examine and review the existing literature on CSA and sex work	3a (systematic review with case control homogeneity)	15 articles	Prostitution, sex work	Gender factors, family environment factors
Edwards, Iritani, & Hallfors, 2006	United States	To examine the prevalence and correlates of exchanging sex for drugs or money among a nationally representative sample of adolescents in the United States	2b (individual cohort)	13,294 adolescents (National Longitudinal Study of Adolescent Health, Waves I and II)	Exchanging sex	Risk behavior factors, mental health factors, demographic factors
Tyler & Johnson, 2006	Missouri, Iowa Nebraska, Kansas	To address the circumstances surrounding trading sex and the extent to which the decision to do so is voluntary	Qualitative analysis	40 male and female homeless youths	Trading sex	Abuse factors, family environment factors, coercion factors
Tyler, 2008	Midwest United States	To examine associations between early sexual abuse, neglect, depressive symptoms, risky sexual behavior, and friend trading sex with sexual victimization among homeless heterosexual and LGBTQ young adults	4 (case series)	172 homeless young adults	Sexual victimization, trading sex, risky sexual behavior	Abuse and neglect factors, mental health factors, sexual orientation factors, peer influence factors
Martin, Hearst, & Widome, 2010	Minneapolis, MN	To improve the understanding of sex trading and prostitution prevention by identifying and delineating precursors and experiences of women who trade sex, either first as a juvenile or first as an adult	3b (case control)	117 adult women who had traded sex	Juvenile sex trading, prostitution	Environmental factors, risk behavior factors
Twill, Green, & Traylor, 2010	Southeastern United States	To describe the participants of a 90-day treatment program for youth who engaged in prostitution	4 (case series)	22 African American women participating in the treatment program	Prostitution	Educational factors, mental health factors
Cobbina & Oselin, 2011	Los Angeles, CA; Chicago, IL; Minneapolis, MN; and Hartford, CT	To analyze entry pathways into prostitution, accounting for age categories	Qualitative analysis	40 women involved in prostitution	Prostitution, survival sex	Demographic factors, abuse factors
Walls & Bell, 2011	United States	To examine correlates of having engaged in survival sex	4 (case series)	1625 homeless youth and young adults	Survival sex	Demographicfactors, mental health factors, risk behavior factors
Grace, Starck, Potenza, Kenney, & Sheetz, 2012	N/A	To increase awareness and education about sexual exploitation of children by school nurses	5 (case study, expert opinion)	N/A	Commercial sexual exploitation of children	Trauma and abuse factors, parent factors, educational factors, service usage factors
Kaestle, 2012	United States	To longitudinally examine how early risk factors and positive social connections during adolescence influence future participation in sex trading	2b (individual cohort)	Waves I and III, National Longitudinal Study of Adolescent Health (*n* = 12,240)	Adolescent sex trading	Gender and race factors, sexual abuse factors, risk behavior factors

(continues)

TABLE 1. Characteristics of Studies Reviewed in Chronological Order (*N* = 30), Continued

Reference	Location	Purpose	Level of evidence	Sample	Terminology	Framework for risk factors
Reid, 2012	North America	To examine prior research regarding victim vulnerabilities through the theoretical lens of life course theory endeavoring to expose varied life course dynamics resulting in exploitation in sex trafficking distinguishable by victim type	3a (systematic review with case control homogeneity)	N/A	Sex trafficking, victim	Community risk factors, individual risk factors, gender risk factors, age risk factors
Roe-Sepowitz, 2012	Phoenix, AZ	To assess the nature and extent of childhood emotional abuse among adult women in a residential prostitution-exiting program	3b (individual case control)	71 women in a residential prostitution-exiting program	Survival-based sex exchange, commercial sexual exploitation	Emotional abuse factors, risk behavior factors
Hom & Woods, 2013	Midwest United States	To describe the experiences of trauma and its aftermath for women who have experienced commercial sexual exploitation as told by frontline service providers	Qualitative analysis	Six service providers	Commercial sexual exploitation	Pimp enculturation factors, trauma and abuse factors, risk behavior factors
Warf et al., 2013	Los Angeles, CA	To characterize the early experiences of a cohort of homeless young women with a history of involvement in survival sex and compare them with the experiences of homeless women who had not been involved	3b (case control)	60 homeless young women	Survival sex	Demographic factors, sexual orientation factors, service encounter factors, mental health factors, risk behavior factors
Countryman-Roswurm & Bolin, 2014	Midwest United States	To examine possible risk factors and the commonalities between risk factors	4 (case series)	23 adolescents aged 14-21 years in psychoeducation treatment program	Domestic minor sex trafficking, victim	Parent factors, service encounter factors, abuse factors, mental health factors, risk behavior factors
Reid & Piquero, 2014	Philadelphia, PA; Phoenix, AZ	To investigate whether risk factors associated with age of onset for girls and young women were operating in a similar manner among boys and young men	2b (individual cohort)	1354 serious youthful offenders	Commercial sexual exploitation	Race and gender factors, parent factors, mental health factors, risk behavior factors, sexual assault factors

opinion); as such, no definitive conclusions regarding risk associated with education can be made.

In summary, it appeared that most demographic factors (gender, race, sexual orientation, education) were not important predictors of DMST risk. In studies where demographic factors were significant correlates of victimization, it was likely that those factors were related to the demographic composition of the study sample, because most studies were case control or case series studies. Youth who identified as LGBTQ, especially men, did appear to be a particularly at-risk group, but no demographic risk factors were consistently strong correlates of DMST victimization in the studies reviewed, and none of the studies used designs strong enough to quantify conclusions about demographic risk.

Environmental Factors

Dysfunctional family environments were associated with increased risk for trafficking victimization, and this risk factor was supported by several literature reviews (Abramovich, 2005; Countryman-Roswurm & Bolin, 2014; Grace et al., 2012; Greene et al., 1999; Reid & Piquero, 2014; Silbert & Pines, 1981). Examples of family environment factors included domestic violence, intimate partner violence, family conflict, parental substance abuse of drugs or alcohol, single-parent or divorced-parent homes, death of a parent, and abuse or neglect. Caregiver or parent substance abuse appeared most frequently in the studies reviewed (Abramovich, 2005; Grace et al., 2012; Greene et al., 1999; Reid & Piquero, 2014). In addition, interpersonal relations with peers and family members who traded sex had associations with increased

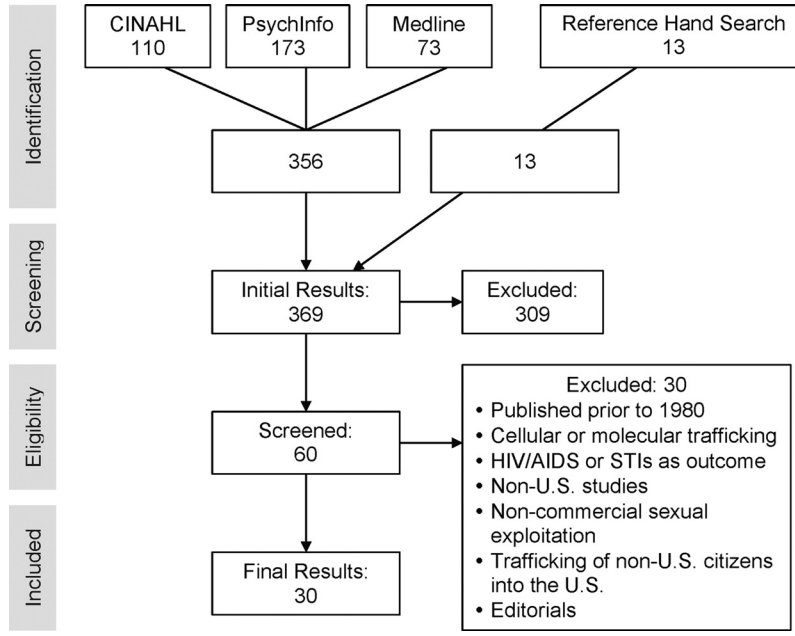

FIGURE 1. Literature review flow program.

risk for trafficking, although this risk factor was only supported by case control or case series studies (Tyler et al., 2000; Warf et al., 2013).

More encounters with child welfare services and the juvenile justice system were associated with increased risk for DMST (Countryman-Roswurm & Bolin, 2014; Seng, 1989; Widom & Ames, 1994). This association is likely a reflection of the complex service needs of DMST victims and their concurrent mental health, physical health, and social service needs. Poverty and homelessness were important risk factors for DMST in that they increased the risk that a child would trade sex out of desperation to meet basic needs, such as money, shelter, food, or drugs (Tyler et al., 2000; Warf et al., 2013). Several qualitative reports corroborated this relationship (Silbert & Pines, 1981; Tyler & Johnson, 2006; Warf et al., 2013). However, victims came from all socioeconomic backgrounds (Simons & Whitbeck, 1991), and the levels of evidence of the studies examining service usage and economic risk factors were not high enough to draw conclusions quantifying risk.

In summary, dysfunctional or unsafe family environments, as well as interpersonal relations that promote or normalize trading sex for money, were risk factors for DMST. Poverty, homelessness, and frequent encounters with child welfare services and the juvenile justice system were associated with DMST as well but were more likely manifestations of other root causes of DMST victimization.

Trauma Factors

Childhood sexual abuse (CSA) was the most commonly studied risk factor for trafficking, and evidence strongly suggested that this type of interpersonal trauma had close associations with DMST (Countryman-Roswurm & Bolin, 2014; Foti, 1995; Grace et al., 2012; Hom & Woods, 2013; Kaestle, 2012; Reid, 2012; Reid & Piquero, 2014; Rotheram-Borus et al., 1996; Seng, 1989; Silbert & Pines, 1981, 1983; Simons & Whitbeck, 1991; Tyler, 2008; Warf et al., 2013; Widom & Ames, 1994; Widom & Kuhns, 1996; Yates et al., 1991). Many of the studies examining CSA and DMST did not offer strong evidence based on the study designs, but several literature reviews and large, nationally representative studies supported CSA as a key risk factor. It appeared that increased severity of CSA conferred greater risk for trafficking victimization. Characteristics indicating increased CSA severity included longer duration of abuse, increased frequency of abuse events, abuse involving penetration, abuse involving physical or emotional force, and abuse by fathers or father figures. In one study, CSA predicted trafficking victimization independent of running away (Foti, 1995), but others found running away to be the mediating variable between CSA and DMST (Simons & Whitbeck, 1991; Widom & Ames, 1994). This relationship needs further examination, but the strongest study, a large multistate cohort study, supported these relationships among CSA, running away, and DMST. CSA associated with trafficking was frequently coupled with physical abuse, emotional abuse, and neglect, and in some studies, these other types of child maltreatment were predictive of trafficking victimization on their own (Countryman-Roswurm & Bolin, 2014; Grace et al., 2012; Roe-Sepowitz, 2012; Warf et al., 2013; Widom & Kuhns, 1996).

Trauma was the most widely studied risk factor for DMST. CSA was the strongest correlate of DMST in the studies reviewed, suggesting that trauma type and severity

are important risk factors for DMST. Like previous categories of risk factors, many of the studies reviewed were case control or case series studies, limiting the number of conclusions that can be drawn, but several larger cohort studies and literature reviews identified maltreatment trauma as a strong risk factor for DMST.

Behavioral Health Factors

Overall, conclusions about behavioral health risk factors were limited because many studies used cross-sectional methodology, including case series and case control designs. Many studies found mental health disorders to be highly prevalent among DMST victims, including posttraumatic stress disorder, depression, anxiety, psychoticism, and suicidality (Edwards et al., 2006; Greene et al., 1999; Reid & Piquero, 2014; Seng, 1989; Twill et al., 2010; Walls & Bell, 2011; Warf et al., 2013; Yates et al., 1991). However, it is not clear whether behavioral health risk factors were antecedents to or outcomes of trafficking, as antecedents to or outcomes of experiencing or being exposed to violence and trauma before trafficking, even in large cohort studies.

Runaway behavior was the most commonly studied risk factor for trafficking after CSA. Multiple studies showed running away from home as the key mediating variable between CSA and DMST victimization or as an independently predictive risk factor (Abramovich, 2005; Countryman-Roswurm & Bolin, 2014; Edwards et al., 2006; Hom & Woods, 2013; Kaestle, 2012; Martin et al., 2010; McClanahan et al., 1999; Reid, 2012; Seng, 1989; Silbert & Pines, 1981; Simons & Whitbeck, 1991; Warf et al., 2013). Qualitative evidence supports this relationship as well. Victims and former victims endorsed that fleeing danger at home was a key reason for running away and subsequently falling into sexual exploitation (Cobbina & Oselin, 2011; Savin-Williams, 1994).

There was high prevalence of substance use among DMST victims, including illicit substances, tobacco, and alcohol (Countryman-Roswurm & Bolin, 2014; Edwards et al., 2006; Greene et al., 1999; Reid, 2012; Seng, 1989; Tyler et al., 2000; Walls & Bell, 2011; Yates et al., 1991). More evidence appears to support substance use as an outcome of CSA and an outcome of trafficking, but not a mediating variable between the two, although there are exceptions (e.g., girls involved in trafficking exchanging sex for drugs; Hom & Woods, 2013; Warf et al., 2013). Although several studies used large, nationally representative samples from cohort studies, their analyses in this area were cross-sectional.

There is a preliminary evidence base for the relationships among trauma, running away, and DMST, as the risk factors were supported by the highest levels of evidence in this review, but the relationships are only tentative and require further testing. No conclusions could be drawn describing or quantifying the roles of other behavioral health factors (mental illness, substance abuse) in regard to risk because of the limitations of the study designs.

Discussion

DMST is a complex phenomenon, and no single risk factor or set of risk factors can conclusively determine a child's vulnerability. Nevertheless, it appears that there are some common risk factors and pathways that precede trafficking victimization. Childhood maltreatment trauma (sexual abuse, physical abuse, emotional abuse, neglect) and running away from home were the most prominent risk factors for DMST identified in this review. Quantitative and qualitative research reports supported the relationship between childhood maltreatment trauma and trafficking victimization, moderated by running away from home. Other risk factors were LGBTQ sexual identity, dysfunctional home environment, parental substance abuse, having peers or family members who trade sex, mental health disorders, and substance use, but no definitive conclusions about these factors can be drawn because of the limitations of the study methodologies.

Of the 30 articles reviewed, only two were written by nurses or published in nursing journals (Grace et al., 2012; Hom & Woods, 2013). One study was Level 5 evidence, and the other was a qualitative report. The generalizability of these nursing studies was limited by the study methods, and it appears that there is a significant gap in the nursing literature with regard to studies of DMST. Nurses have not made substantial contributions to the literature on DMST or taken an active role in early identification and prevention interventions through examination of risk factors. Although recognition of DMST as a public health and human rights issue is growing, there remains a lack of consensus in policy, social and cultural norms, and scientific literature about the nature of the problem and the most appropriate response by healthcare professionals, and this lack of consensus is reflected in the nursing literature. However, in examining the terminology used in the studies reviewed to describe commercial exploitation of children over time, there has been a clear shift toward decriminalization of adolescents who have traded sex commercially and orientation toward viewing this population as victims rather than criminals (Figure 2). As researchers, policymakers, and the public continue to reorient their perspectives on commercial sex trading by adolescents and recognize the complex social, political, and cultural dimensions of risk, nurses should lead research and clinical practice in service of this vulnerable population.

Although the topic of DMST and other general information about trafficking of adults and minors has appeared in the nursing literature in manuscripts that did not qualify for inclusion in this review (Betz, 2012; Dovydaitis, 2010; Newby & McGuinness, 2012; Sabella, 2011), these articles

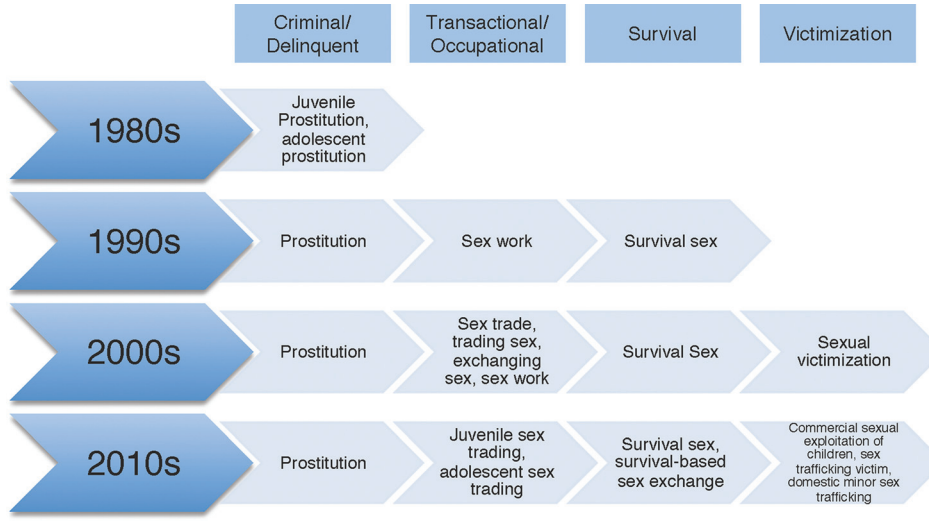

FIGURE 2. DMST language evolution timeline.

may cite empirical research reports without acknowledging their limitations, particularly with regard to the prevalence of trafficking. They may also include content that does not accurately represent the issue, such as atypically severe case studies or imagery without clear justification. Much of the nursing literature on DMST also appears to be low-level evidence (e.g., case reports, expert opinion). It is important for nurses to engage with DMST with objective, evidenced-based professional discourse and thorough understanding of the current state of knowledge, including acknowledgement of the limitations of current evidence and avoidance of making generalizations that are not supported by evidence (Musto, 2009). In addition, nurses should begin to design and conduct studies with regard to DMST reflecting higher levels of evidence.

This review has some limitations, and problems with quality of evidence on risk factors were expected given the limited amount of research and methodological limitations of previous reports on trafficking. Many of the studies examined only one type of risk factor, and other important correlates of DMST may not have been measured. Most studies used cross-sectional designs (case control or case series), making it difficult to identify risk trajectories. Some studies included adults in their samples or used retrospective methods with adult samples, making it difficult to avoid conflation of trafficking with legal sex work. Finally, varying terminology and definitions of prostitution, sexual exploitation, and human trafficking were used in each study.

The review has strengths as well. A systematic approach was used to review the literature, and the studies included covered many regions on the United States. A variety of study designs were included, and qualitative studies corroborated major themes from quantitative studies. This review highlights both quantity and quality gaps in the nursing literature regarding DMST and has important implications for nursing practice and research.

Implications and Future Directions for Nursing Practice and Research

There is great opportunity for nurses to engage in confronting DMST in practice and research. In practice, nurses must be cognizant of known risk factors for trafficking, the foremost of which is childhood maltreatment trauma. Because many DMST victims experience trauma both before and during trafficking in the form of child abuse and physical or sexual violence, competency in identifying the clinical picture of trauma is an important skill for all nurses who work with children and adolescents. Nurses need continuing education and support for how to identify and interact with trafficking victims and at-risk youth in a trauma-informed way as well as how to navigate decisions about reporting child abuse or trafficking. Education and training should focus on what is known about trafficking based on empirical evidence, including risk factors for trafficking, how to assess for current victimization if a nurse suspects a patient has been trafficked, and best practices for meeting the health and social service needs of victims. Nurses should also be involved in the implementation of trauma-informed interventions to address risk factors and prevent trafficking before it happens, including parenting support and education, reduction of risky behaviors, mental health interventions, and child abuse detection.

In research, understanding risk factors for DMST can inform the development of measures and interventions for use in nursing service delivery to detect trafficking and intervene with victims. Much more attention to trafficking is needed in nursing research, including critical appraisal of current evidence and continued discussion about the

philosophical, theoretical, and methodological strengths and limitations of existing literature. Future nursing research related to trafficking should include rigorous and innovative methods and high standards for reporting. Nurse researchers should be cautious about conflating DMST with legal sex work, reporting atypically severe case studies without appropriate acknowledgments, and citing empirical research reports without acknowledging their limitations.

Finally, for nurses interested in learning more about this topic, Herman's (1992) *Trauma and Recovery* provides a discussion of the social, political, and neurobiological dimensions of complex trauma that is an important foundation for nurses who wish to learn more about risk for trafficking. Moreover, although other published resources on trafficking exist, Fedina's (2015) discussion of use and misuse of research, data, and stories in regard to trafficking is highly recommended before seeking out other resources. Fedina systematically examines published books on trafficking, identifies their strengths and limitations, and provides an appendix that includes a comprehensive list of books on trafficking.

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