

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Child Abuse & Neglect

journal homepage: www.elsevier.com/locate/chiabuneg

A systematic review of the state of the literature on sexually exploited boys internationally

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ARTICLE INFO

Keywords:

Sexual exploitation
Transactional sex
Trading sex
Exchanging sex
Systematic review
Boys

ABSTRACT

This systematic review assessed the current state of the literature on sexually exploited boys internationally. We aimed to describe what is known about sexual exploitation of boys, identify gaps in the literature, provide implications for practice, and make recommendations for future research. Multiple database searches were conducted using a combination of controlled vocabulary and keywords to capture child and adolescent sexual exploitation. Our search identified 11,099 unique references and excluded studies that did not include male participants less than 18 years old or disaggregate results by relevant age groups and/or by sex. This review identified 42 studies from 23 countries, providing evidence that sexual exploitation of boys is an issue in both high- and low-income countries. Seventeen articles had sexual exploitation as their primary variable of interest, the majority of which sampled boys who accessed services (i.e., shelters, health care, social, and justice services). Boys' experiences of sexual exploitation varied in terms of venue, exploiters, and compensation. Compared to their non-sexually exploited peers, sexually exploited boys more commonly reported experiences of child abuse, substance use, conduct problems, and mental health problems such as anxiety, depression, and self-harm. Despite increasing evidence that boys are sexually exploited around the world, the current literature provides limited data about the antecedents, sequelae, and the specific features of sexual exploitation experiences among boys. Further research is needed to inform, policy, social services and health care delivery specific to the needs of sexually exploited boys.

1. Introduction

Sexual exploitation is a pressing yet largely under-recognized source of physical, mental, and social harm amongst children and adolescents (Institute of Medicine & National Research Council, 2013). Male victims of this type of abuse have increased rates of sexually transmitted infections (Edwards, Iritani, & Hallfors, 2006), poorer overall mental health (Svensson, Fredlund, Svedin, Priebe, & Wadsby, 2013), and higher rates of consuming alcohol (Svedin & Priebe, 2007) as compared to boys who have not been sexually exploited. Despite such negative consequences, this topic has received relatively little attention in research, health care, or social justice initiatives across the world. Attention most often focuses on girls alone, even though similar rates of sexual exploitation have been reported among boys and girls (Homma, Nicholson, & Saewyc, 2012; Pedersen & Hegna, 2003; Saewyc, MacKay, Anderson, & Drozda, 2008; Svedin & Priebe, 2007).

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<https://doi.org/10.1016/j.chiabu.2017.12.003>

Received 27 April 2017; Received in revised form 26 November 2017; Accepted 1 December 2017

Available online 12 December 2017

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The United Nations Convention of the Rights of the Child (CRC), adopted by the United Nations General Assembly in 1989, explicitly protects children under the age of 18 from sexual exploitation (Office of the United Nations High Commissioner for Human Rights, 1989). The CRC includes three optional protocols, with one focused *On the sale of children, child prostitution and child pornography*, which specifically prohibits “the use of a child in sexual activities for remuneration or any other form of consideration” (Office of the United Nations High Commissioner for Human Rights, 2000, Article 2). Since its introduction in 2000, the optional protocol has been adopted by 173 state parties, and is binding in these states (Office of the United Nations High Commissioner for Human Rights, 2016).

We conducted a systematic review to better understand and identify gaps in knowledge related to sexually exploited boys. For the purposes of this review, child and adolescent sexual exploitation was defined as any person under the age of 18 who engaged in trading or exchanging sex or sexual activities (i.e., stripping, exotic dancing, pornographic video-recording), for drugs, food, shelter, protection, other basics of life, and/or for money. Although this definition excludes older adolescents, we acknowledge that sexual exploitation may also affect youth who are over 18 and living in vulnerable and exploitative circumstances.

This systematic review sought to answer the question, “What is the state of the research on sexually exploited boys internationally?” We asked three additional focused questions: 1) What are the antecedents and predictors of child and adolescent sexual exploitation for boys? 2) What are the specific features of the male exploitation experience (i.e., the characteristics of youth and exploiters, settings in which exploitation occurs, nature of the exploitive relationships)? 3) What are the physical health, mental health, and social outcomes, as well as the related health and social service needs of sexually exploited boys?

2. Methods

A detailed description of the original search methods has previously been published (Mitchell et al., 2017); in this paper we provide a brief summary of the methods. In consultation with a health sciences and reference librarian, we conducted comprehensive searches of five medical and social science electronic databases – Medline, PsychInfo, Cumulative Index of Nursing and Allied Health (CINAHL), Sociological Abstracts, and Centre for Agriculture and Bioscience Direct (CAB Abstracts and Global Health). Search strategies were developed for each database, using controlled vocabulary and keywords to capture child and adolescent sexual exploitation (Table 1). Boolean operators “AND” and “OR” were used to combine sexual exploitation, age, and sex search terms. Databases were searched twice. The original search was conducted on April 13 and 14, 2015 and limited to English language results published since January 1, 1990, as this date follows the 1989 signing of the CRC. An updated search of the same databases was conducted using the same search strategies, from January 1, 2015 through July 2017, on July 26 and 27, 2017. Supplementary searches using the phrase “sexually exploited youth” in two online resources, Google Scholar and the National Institute for Health and Care Excellence (NICE), were only performed during the original search, on April 13, 2015, but during the updated review, a further hand search of the literature was conducted.

For inclusion in this review, studies had to: (a) provide information about child and adolescent sexual exploitation as defined by

Table 1
MeSH headings and keyword search terms used in Medline (OVID) database search.

| Category | Sexual Exploitation | Age | Gender |
|---------------|--|--|---------------|
| MeSH terms | Child abuse, sexual Prostitution Human trafficking Sex Worker | Child, preschool Child Adolescent Minors Young Adult | Male |
| Keyword terms | Sex* exploit* Sex* adj10 exploit* Sexual exploitation of children Sex traffic* Human traffic * Commercial sexual exploitation of children Commercial sexual exploitation Trading sex Prostitution Sex work* Selling sex Survival sex Child pornograph* Transactional sex Domestic minor sex work Sex industry | Child* Adolesc* Young adult Young person Youth* Teen* | Boy* Male* |

Note: Controlled vocabulary varied slightly among databases and consequently minor adjustments were made to optimize search strategies; “adj10” is controlled vocabulary that searches for these two words within ten words of each other.

Table originally published in Mitchell et al. (2017) Rethinking research on sexual exploitation of boys: Methodological challenges and recommendations to optimize future knowledge generation. *Child Abuse & Neglect*, <https://doi.org/10.1016/j.chiabu.2017.01.019>, used with permission.

this review; (b) include male participants; (c) have the majority of participants be less than 18 years of age; (d) contain empirical data; (e) be peer reviewed; and (f) published in English after January 1, 1990. In order to focus this review on child and adolescent sexual exploitation, articles that concentrated primarily on populations other than exploited youth (i.e., purchasers, perpetrators, health care providers), and studies about child sexual abuse that did not explicitly involve exchanging or trading sex for money or other consideration, were excluded.

Prior to title and abstract screening, five reviewers conducted two rounds of concordance screening to ensure high consistency among reviewers. Two subsets of titles and abstracts, comprised of 200 and 100 studies, were reviewed with concordance rates of 81% and 87% for the first and second rounds respectively. In July 2017, when an additional investigator joined the team for the updated search, three of the reviewers conducted another concordance screening of 100 articles with 99% agreement. Next, titles and abstracts were screened, and studies that did not obviously meet the inclusion criteria were excluded. If eligibility was unclear in the abstract, the article was retained for method level screening, which was conducted to ensure articles met our definition of child and adolescent sexual exploitation, reported on exploitation of boys, and included participants under 18 years old. Studies that did not disaggregate results by relevant age groups and/or by sex, and did not clearly contain data about child and adolescent sexual exploitation, were eliminated. Next, full-text copies of the remaining studies were retrieved, and three authors assessed their eligibility. In cases where primary reviewers disagreed about study eligibility, the senior reviewer was consulted and made a final decision. We were unable to obtain full-text copies of eight papers with eligible titles and abstracts, so these were excluded from the review. We purposively included five articles of third-year high school students (18 year olds) in Sweden which had mean participant ages of 18.15 and 18.30 years (Fredlund, Svensson, Svedin, Priebe, & Wadsby, 2013; Kastbom, Sydsjö, Bladh, Priebe, & Svedin, 2015; Svedin & Priebe, 2007; Svedin, Åkerman, & Priebe, 2011; Svensson et al., 2013) because they assessed ever having traded sex, and it is likely that some participants exchanged sex before 18 years of age.

Three reviewers then extracted data from the articles using a standardized form to record details about research design, sampling population and strategy, definition and measurement of sexual exploitation, participant characteristics, and findings relevant to the sexual exploitation of boys. Specifically, we extracted data about boys' experiences of sexual exploitation, including information regarding: predictors and antecedents, context and venues, exploiters, what boys received in exchange for sex, associated health compromising behaviors, negative health outcomes, risky sexual practices, risk exposures, social outcomes, perpetuating factors, services accessed, and exiting exploitation.

3. Results

Our systematic search generated 15,371 publications, of which 11,099 unique articles remained following the removal of duplicates and non-peer-reviewed records (books, book chapters, dissertation/theses, and conference proceedings). Title and abstract screening eliminated 8299 articles, and an additional 2404 studies were excluded at method level screening (Fig. 1). After reviewing the full text of the remaining 396 articles, we identified 42 articles that met our inclusion criteria (See Table 2).

The reviewed studies included samples from 23 countries, and presented data from 33 unique data sets. Studies were published between 1991–2017, with over half published in 2010 and later. The majority of studies used cross-sectional quantitative designs. A wide variety of sampling strategies were used, ranging from convenience samples of street youth to complex nationally representative stratified probability samples. Studies sampled from schools, the streets, households, and services (i.e., shelters, health care, social, and justice services) and ranged in size from 9 to 18,341 participants. Characteristics of the identified articles are presented in Table 2.

The studies used various terms, definitions, and measurement methods to define and assess child and adolescent sexual exploitation (refer to Supplementary Table 3). Frequently, articles did not explicitly define exploitation terms or report how exchanging sex was assessed or measured. Only seventeen articles had sexual exploitation as their primary variable of interest (Adjei & Saewyc, 2017; Cockbain & Brayley, 2012; Edinburgh et al., 2015; Edwards et al., 2006; Fredlund et al., 2013; Hallett, 2016; Homma et al., 2012; Hounmenou, 2017; Lavoie, Thibodeau, Gagné, & Hébert, 2010; Mitchell, Finkelhor, & Wolak, 2010; Montgomery, 2007; Pedersen & Hegna, 2003; Reid & Piquero, 2014; Svedin & Priebe, 2007; Svensson et al., 2013; Towe, Hasan, Zafar, & Sherman, 2009; Wells, Mitchell, & Ji, 2012). The main focus of the other articles included: risk behaviors and sexual practices among street-involved youth; child sexual abuse; and AIDS-related knowledge, attitudes, and behaviors. Our aim was to report on antecedents and predictors, as well as health and social outcomes of sexual exploitation for boys. However, most studies in this review were cross-sectional in nature, and thus were not able to establish temporal relationships. Consequently, we were unable to examine antecedents and outcomes of sexual exploitation. As the best alternative, we report on health and social correlates and factors associated with sexual exploitation among boys.

3.1. Prevalence

Among school-based probability samples, the prevalence of sexually exploited boys ranged from 1.7% to 4.8% (Edwards et al., 2006; Fredlund et al., 2013; Svensson et al., 2013). Non-probability studies of street-involved and homeless youth reported higher rates of exploitation; for example, 16% of sexually experienced boys in a Brazilian street-based sample had ever exchanged sex (Raffaelli et al., 1993, 1995). This rate is even higher among more recent studies ranging from 41% of street-involved boys in Lahore, Pakistan (Towe et al., 2009) to 45% of homeless children and adolescents in Ghana (Oppong Asante, 2015; Oppong Asante & Meyer-Weitz, 2017). Due to complex and diverse sampling strategies, estimates of prevalence in many studies are not feasible.

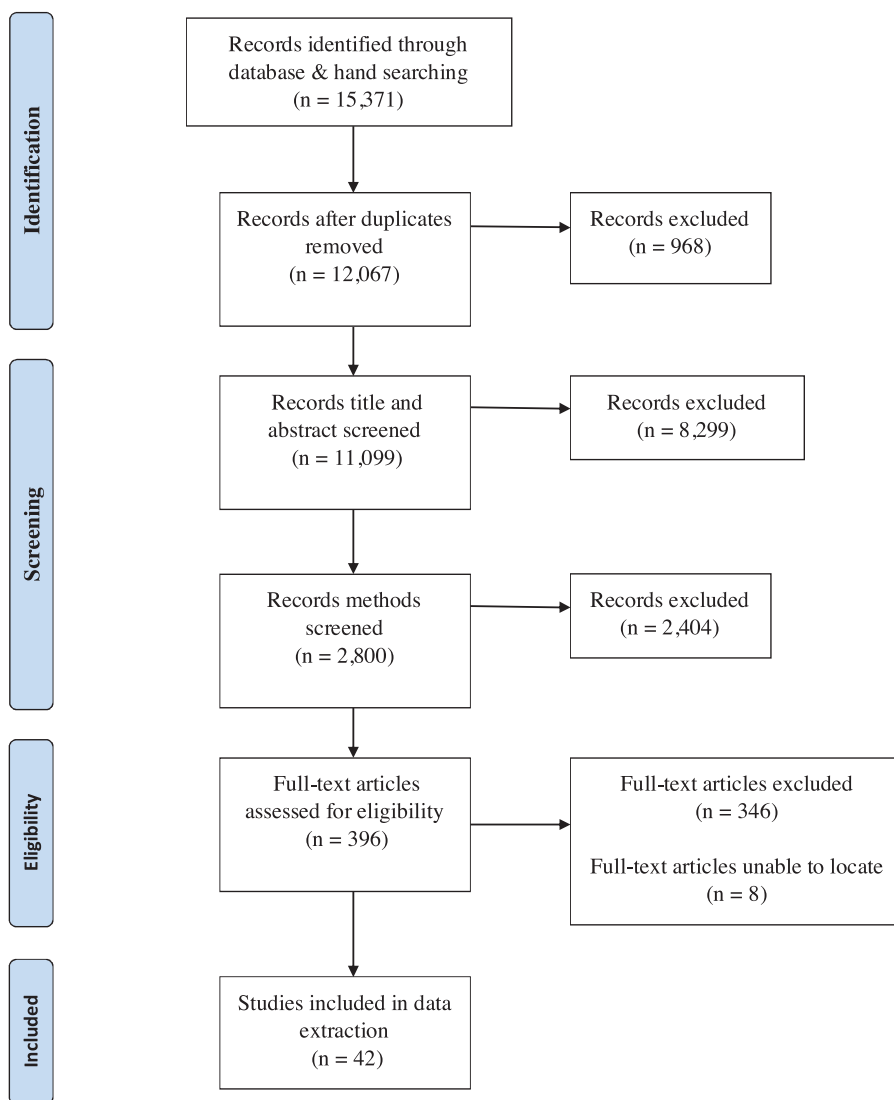


Fig. 1. PRISMA 2009 Flow Diagram.

3.2. Factors associated with exchanging sex

Three school-based studies, one household study, and one service-based study reported associations between exchanging sex and boys’ socio-demographic and family background variables. Two studies of third year Swedish high school students, conducted approximately five years apart, found lower rates of employment among mothers of boys who had sold sex compared to mothers of boys who had not sold sex (Fredlund et al., 2013; Svedin & Priebe, 2007). Additionally, Svedin and Priebe (2007) found more boys who had sold sex were either second-generation immigrants or foreign born. In a Norwegian study, boys with experiences of parental break-up, increased exposure to alcohol, and fewer books at home were more likely to have sold sex (Pedersen & Hegna, 2003). A South African household study found an older age and having a male primary care giver increased boys’ risk of engaging in transactional sex (Cluver et al., 2013). A longitudinal service-based study of adolescent convicted offenders found boys of African American ethnicity and boys reporting mothers with substance use problems had higher odds of early sexual exploitation (≤ 16 years old) in comparison to their non-sexually exploited peers (Reid & Piquero, 2014).

A school-based study in western Canada found a higher proportion of boys who had exchanged sex for alcohol and drugs were not living with family (i.e., living with friends, on their own, homeless, or couch surfing) (Homma et al., 2012). This evidence differs from findings in two studies conducted in developing countries. The first of these, a household study in four African countries, found no relationship between living arrangements (i.e., living with both biological parents, alone, or other arrangements) and sexual exploitation among boys (Adjei & Saewyc, 2017); the second study, among street-involved youth in Pakistan, found no relationship between locations boys slept most of the time (e.g., street, family/friend house) and whether they exchanged sex or not (Towe et al., 2009). However, Towe et al. (2009) found higher rates of exchanging sex among those who reported living on the street for longer

Table 2
Characteristics of articles reviewed.

| First Author, year | Country | Research Design | Sampling Location | Sampling Strategy | Age Range | Total Sample (N) | Male Sample (n/%) |
|--------------------------------------|---------------------------------------|---------------------------|-------------------|---|-----------------|------------------|-------------------|
| Adjei and Saewyc (2017) | Burkino Faso, Ghana, Malawi, & Uganda | Cross-sectional | Households | Nationally representative stratified | 12–17 | 1632 | 983 |
| Atwood et al. (2012) | Liberia | Experimental, RCT | School | Attention-matched, group RCT | 14–18 | 814 | 419 |
| Chan et al. (2013) | China | Cross-sectional | School | Two-stage stratified probability | 15–17 | 18,341 | 9773 |
| Cluver et al. (2013) | South Africa | Prospective, case-control | Households | Cluster probability, propensity score matched | 10–18 | 3401 | 1475 |
| Cockbain and Brayley (2012) | United Kingdom | Chart/case review | Service | Service census | Up to 17 | 211 | 53 |
| Edinburgh et al. (2015) | USA | Mixed methods | Service | Service census | 12–19 | 62 | 7 |
| Edwards et al. (2006) | USA | Cross-sectional | School | Nationally representative probability | NR ^a | 13,294 | 6448 |
| Farmer and Pollock (2003) | United Kingdom | Mixed methods | Service | NR | 10–16 or over | 40 | 18 |
| Fredlund et al. (2013) | Sweden | Cross-sectional | School | Nationally representative stratified | NR ^b | 3498 | 46% |
| Hallett (2016) | United Kingdom | Grounded Theory | Service | NR | 14–17 | 9 | 1 |
| Helweg-Larsen et al. (2012) | Denmark | Cross-sectional | School | Nationally representative stratified random | 14–17 | 3707 | 1875 |
| Hohendorff et al. (2014) | Brazil | Case review | Service | City census of Violence & Accidents Surveillance System | 2–18 | 239 | 239 |
| Homma et al. (2012) | Canada | Cross-sectional | School | Regional census | NR ^a | 2360 | 1154 |
| Houmenou (2017) | Niger | Cross-sectional | Service | Convenience | 14–17 | 13 | 13 |
| Inciardi et al. (1991) | USA | Cross-sectional | Street | Multiple starting point snowball | 12–17 | 611 | 511 |
| Juma et al. (2013) | Kenya | Cross-sectional | Households | Stratified | 14–17 | 546 | 295 |
| Kastbom et al. (2015) | Sweden | Cross-sectional | School | Nationally representative cluster | NR ^b | 3432 | 46.4% |
| Kudrati et al. (2008) | Sudan | Mixed methods | Street | Convenience | < 10–18 | NR ^c | NR |
| Lavoie et al. (2010) | Canada | Cross-sectional | School | Census of grade 11 & 12 | 15–18 | 815 | 349 |
| Mitchell et al. (2010) | USA | Mix method | Service | Nationally representative stratified, probability | < 11–17 | 132 | NR |
| Montgomery (2007) | Thailand | Ethnography | Service | NR | NR | 65 | NR |
| Nada and Suliman (2010) | Egypt | Cross-sectional | Street | Probability, time-location | 12–17 | 857 | 727 |
| Oppong Asante (2015) | Ghana | Cross-sectional | Street | Convenience | 8–19 | 227 | 122 |
| Oppong Asante and Meyer-Weitz (2017) | Ghana | Cross-sectional | Street | Convenience | NR ^d | 227 | 122 |
| Pedersen and Hegna (2003) | Norway | Cross-sectional | School | City census | 14–17 | 10,828 | 50.8% |
| Raffaelli et al. (1993) | Brazil | Mixed methods | Street | Convenience & purposive | 9–18 | 518 | 380 |
| Raffaelli et al. (1995) | Brazil | Cross-sectional | Street | Convenience | 9–18 | 379 | 291 |
| Reid and Piquero (2014) | USA | Longitudinal | Service | NR | NR | 1354 | 1015 |
| Richter and Swart-Kruger (1995) | South Africa | Cross-sectional | Service | NR | 11–18 | 141 | 141 |
| Rotheram-Borus et al. (1992) | USA | Cross-sectional | Service | Prospective census | 11–18 | 206 | 88 |
| Scheidt et al. (2017) | USA | Longitudinal | School | Nationally representative | NR ^a | 11,820 | 5328 |
| Senarathna and Wijewardana (2012) | Sri Lanka | Cross-sectional | Street | Referral | 8– < 18 | 283 | 210 |
| Shakarshvili et al. (2005) | Russia | Cross-sectional | Service | Prospective census | 15–17 | 401 ^e | 201 |
| Sherman et al. (2005) | Pakistan | Cross-sectional | Service | Convenience | NR ^c | 347 | 333 |
| Svedin et al. (2011) | Sweden | Cross-sectional | School | Population proportional cluster | NR ^b | 4339 | 2015 |
| Svedin and Priebe (2007) | Sweden | Cross-sectional | School | Population proportional cluster | NR ^b | 4339 | NR |
| Svensson et al. (2013) | Sweden | Cross-sectional | School | Nationally representative clustered | NR ^b | 3498 | 46% |
| Swart-Kruger and Richter (1997) | South Africa | Cross-sectional | Service | NR | 11–18 | 141 | 141 |
| Tadele (2009) | Ethiopia | Cross-sectional | Street | Convenience & snowball | 9–18 | 186 ^f | 177 |
| Thurman et al. (2006) | South Africa | Cross-sectional | Households | Modified stratified, multi-stage cluster | 14–18 | 1694 | 793 |
| Towe et al. (2009) | Pakistan | Cross-sectional | Service | Convenience sampling | 5–19 | 565 | 565 |

(continued on next page)

Table 2 (continued)

| First Author, year | Country | Research Design | Sampling Location | Sampling Strategy | Age Range | Total Sample (N) | Male Sample (%) |
|---------------------|---------|-----------------|-------------------|---|-----------|------------------|-----------------|
| Wells et al. (2012) | USA | Mixed methods | Service | Nationally representative stratified, probability | < 15–17 | 132 | NR |

RCT = Randomized controlled trial; NR = Not reported.

^a Edwards et al. (2006), Homma et al. (2012), & Scheidell et al. (2017) used high school students in grades 7–12.

^b Fredlund et al. (2013), Kastbom et al. (2015), Svedin and Priebe (2007), Svedin et al. (2011), Svensson et al. (2013) third year high school students.

^c Sherman et al. (2005) median age = 13.

^d Kudrati et al. (2008) exact sample size not reported, study used multiple data collection methods (participant observation, qualitative group & individual interviews, street surveys).

^e Shakarishvili et al. (2005) includes only juvenile sample.

^f Tadele (2009) includes only child and youth participants.

^g Oppang Asante and Meyer-Weitz (2017) 80% of the participants were ages 8–14 and mean age = 12.58.

than 48 months. Two African household survey studies failed to find a relationship between orphan status of boys and their involvement in exchanging sex (Juma, Alaii, Bartholomew, Askew, & Van den Borne, 2013; Thurman, Brown, Richter, Maharaj, & Magnani, 2006).

An association between child abuse and sexual exploitation was identified in two school-based (Svedin & Priebe, 2007; Svensson et al., 2013), one household (Adjei & Saewyc, 2017), and one service-based study (Reid & Piquero, 2014). Svensson et al. (2013) assessed 11 types of physical and emotional abuse (i.e., hitting, kicking, burning, threats, insults etc.) and found all were more common among boys who had been exploited compared to boys who had not. Prevalence of sexual exploitation was six times higher among adolescent boys with only a history of sexual abuse, and eight times higher among those with sexual and physical abuse in a household survey from Burkina Faso, Ghana, Malawi, and Uganda (Adjei & Saewyc, 2017). In a sample of adolescent convicted offenders, Reid and Piquero (2014) found a relationship between experiencing rape or sexual assault and early involvement in sexual exploitation (≤ 16 years of age). In contrast, Scheidell et al. (2017) failed to find an association between history of childhood sexual abuse and trading sex among boys. Additionally, two school-based studies found a larger proportion of boys who had traded sex reported sexually abusive behavior (Edwards et al., 2006; Svedin & Priebe, 2007).

Evidence regarding the relationship between exchanging sex and age at first sexual intercourse among boys is mixed. In Norwegian high school students, younger age at intercourse debut was linked to a higher risk of boys reporting sexual exploitation (Pedersen & Hegna, 2003). Similarly, a study examining the relationship between early sexual debut (< 14 years of age) and sexual experience, health, and other behaviors at age 18, found a greater percentage of boys in the early debut group had exchanged sex and boys who had been exploited were more likely to have had an early sexual debut (Kastbom et al., 2015). Among adolescent convicted offenders, younger age at first sex increased the probability of early involvement in sexual exploitation (≤ 16 years of age) in comparison to no involvement (Reid & Piquero, 2014). Svedin and Priebe (2007) also found sexually exploited high school boys reported a younger age at first intercourse (14.4 years vs. 15.6), but did not report if this difference was statistically significant. Whereas, Edwards et al. (2006) found no association between age at first sex and trading sex among high school boys in the United States (U.S.). Only one study conducted in Sweden asked high school students how old they were when they first exchanged sex and found the mean age for boys to be 15.3 years (SD = 3.54) (Fredlund et al., 2013).

Evidence suggested sexual practices of sexually exploited boys differed from their non-exploited peers. A single study found a higher percentage of boys who exchanged sex reported same-sex or bisexual attraction patterns (Svedin & Priebe, 2007). Additionally, sexually exploited boys reported more sexual partners (Adjei & Saewyc, 2017; Edwards et al., 2006; Svedin & Priebe, 2007) and having more sexual partners increased boys' odds of sexual exploitation (Pedersen & Hegna, 2003). Svedin and colleagues also noted exploited boys reported watching pornography more often than boys who had not traded sex (Svedin et al., 2011). Furthermore, viewing pornography that involved sex with violence, sex between adults and children, and sex with animals were each linked with higher odds of sexual exploitation (Svedin et al., 2011).

3.3. Context

Twenty articles reported specific features of boys' sexual exploitation experiences including: venue, frequency, exploiters, and compensation. Studies of street and service-based populations reported on children and adolescents living in more impoverished contexts, whereas school-based studies were set in high-income countries, including Canada, Sweden, and the U.S.

Five studies discussed sexual exploitation venues and/or means of connecting with exploiters. Boys reported exchanging sex in drainage tunnels (Kudrati, Plummer, & Yousif, 2008), at hotels, and in private residences such as children's homes (Hounmenou, 2017; Montgomery, 2007). A national law enforcement study identified that the internet was used by some youth and third-party exploiters in sexual exploitation cases, which included both girls and boys (Wells et al., 2012). Another U.S. study found boys who did not have pimps reported using Internet sites such as Back Pages, Craigslist, or Facebook, or Live Links (a phone chat line) (Edinburgh et al., 2015) to connect with clients. Whereas, boys in Niger reported leaving their contact information at hotel front desks and used cell phones to connect with sexual exploiters (Hounmenou, 2017).

Three studies examined the number of times boys reported exchanging sex over their lifetime. An American school-based study found a wide range of frequency, with boys reporting they had traded sex between one to 834 times, but both the mode and median number of sexual exchanges for this sample were one (Edwards et al., 2006). Among Swedish high school students who traded sex for money and other considerations, it was most common for boys to have done so two to five times (Fredlund et al., 2013). In a study of drug use and crime among American young offenders, boys reported sexual exploitation on one to 200 occasions (Inciardi, Pottieger, Forney, Chitwood, & McBride, 1991). A service-based study in Niger found sexually exploited boys performed up to 19 sexual acts per day, with an average of three sexual acts per day (Hounmenou, 2017).

Six articles found men and women both sexually exploited boys (Fredlund et al., 2013; Hounmenou, 2017; Raffaelli et al., 1993; Richter & Swart-Kruger, 1995; Rotheram-Borus et al., 1992; Swart-Kruger & Richter, 1997). In Niger, sexually exploited boys reported having both male and female clients, with one participant selling sexual services to women only; the majority of exploiters were 20–40 years old (Hounmenou, 2017). In contrast, three studies only referred to males buying sex from boys (Kudrati et al., 2008; Montgomery, 2007; Tadele, 2009); Sudanese street boys reported regularly selling sex to other street boys (Kudrati et al., 2008). A study conducted in a Thailand slum found sexually exploited children distinguished between 'acceptable' and 'unacceptable' foreign purchasers of sex. Acceptable foreigners who bought sex from children developed reciprocal and beneficial relationships with the children and community, while unacceptable foreign purchasers refused to participate in what the children and community viewed as their social obligations (Montgomery, 2007).

Evidence on what was traded for sex is mixed. Several studies reported boys most frequently exchanged sex for money

(Hounmenou, 2017; Nada & Suliman, 2010; Rotheram-Borus et al., 1992; Senaratna & Wijewardana, 2012; Svedin & Priebe, 2007); and drugs (Homma et al., 2012; Inciardi et al., 1991; Kudrati et al., 2008; Nada & Suliman, 2010; Rotheram-Borus et al., 1992; Swart-Kruger & Richter, 1997; Towe et al., 2009). Boys also reported receiving gifts, food, clothing, and shelter although these other types of compensation were mentioned in only a few studies and were sometimes received in addition to money (Montgomery, 2007; Raffaelli et al., 1993; Richter & Swart-Kruger, 1995; Svedin & Priebe, 2007; Swart-Kruger & Richter, 1997; Tadele, 2009). In contrast, Towe et al. (2009) found a higher proportion of street children in Pakistan exchanged sex for shelter, food, or entertainment (40%), followed by money (16.7%), and drugs (13.5%). While a street-based study in Sudan found sexually exploited boys reported that type of compensation varied depending on the buyer, with adult men paying with money and other street boys being more likely to pay with drugs (Kudrati et al., 2008). In a Thai slum, compensation was also described in the form of in-kind gifts, as opposed to payment, for example, rebuilding or refurbishing a home (Montgomery, 2007). Similarly, sexually exploited boys in Niger were compensated not only with cash but also with in-kind gifts or services (Hounmenou, 2017).

3.4. Risk exposure

Studies of street and homeless youth frequently discussed the inherent risks of living on the streets, but they rarely examined risk exposure specifically within the context of boys' sexual exploitation. Among South African street children and adolescents, boys consistently viewed "prostitution" to be risky, as sexual acts could involve violence and submission (Richter & Swart-Kruger, 1995; Swart-Kruger & Richter, 1997). For example, one boy reported some men were physically violent, and described being hit instead of being paid (Richter & Swart-Kruger, 1995; Swart-Kruger & Richter, 1997). Moreover, sexually exploited boys in Niger identified sources of violence that included clients as well as people in the community and the police (Hounmenou, 2017). Among students in Oslo, boys who had exchanged sex for payment were more often victims of violence than boys who had not exchanged sex (Pedersen & Hegna, 2003). However, the relationship between boys' victimization and sexual exploitation was no longer independently significant in a multivariate logistic regression model (Pedersen & Hegna, 2003).

3.5. Health compromising behaviors

Boys who were exploited used alcohol and drugs at a higher level than counterparts who were not exploited (Pedersen & Hegna, 2003). Among a rural Canadian school-based sample, just over 2% of boys exchanged sex for alcohol or drugs, and these boys were more likely to use substances on a weekly basis (Homma et al., 2012). A Swedish study of high school students found weekly alcohol use, ever use of tobacco, and daily tobacco use were also more common among boys who sold sex (Svedin & Priebe, 2007). Among Norwegian students, heroin use was reported by 32.8% of boys who had been sexually exploited versus only 1.4% of boys who were not (Pedersen & Hegna, 2003). On the contrary, a household study from four sub-Saharan countries did not find a relationship between adolescent boys' sexual exploitation and reports of alcohol abuse over the last 12 months (Adjei & Saewyc, 2017). An ethnographic study of sexually exploited children in a Thai slum found glue sniffing to be a common phenomenon among boys and girls (Montgomery, 2007). A study of mostly male children living on the streets in Pakistan found both former and current drug users were more likely to have ever exchanged sex than those who never used drugs (Sherman, Plitt, Hassan, Cheng, & Zafar, 2005). Also, a higher proportion of Pakistani street boys who exchanged sex had ever used any drugs, in comparison with boys who did not exchange sex (Towe et al., 2009). Moreover, a U.S. service-based study with seven sexually exploited boys showed all boys met Diagnostic and Statistical Manual IV (DSM-IV) criteria for substance use problems (Edinburgh et al., 2015).

Sexual exploitation was also associated with both conduct problems and juvenile offending behaviors among boys. In a large school-based sample of boys who had sold sex in Oslo, Norway, there was a strong association with conduct problems, which were defined based on the DSM-IV criteria of aggression, destruction of property, deceitfulness or theft, and violation of rules (Pedersen & Hegna, 2003). Boys with ten or more conduct problems were 8.51 times more likely to have been sexually exploited than boys with no conduct problems (Pedersen & Hegna, 2003). Similarly in Sweden, boys who were exploited had more conduct problems including committing burglary/theft by breaking and entering and stealing a car or motorbike (Svedin & Priebe, 2007). In a British study focused on the overlap between child sexual exploitation and young offending, over half of the boys referred to a sexual exploitation specialist, a proxy measure of exploitation, had offending histories (Cockbain & Brayley, 2012). Furthermore, boys were more likely to belong to the frequent (5–9 offenses) and prolific (10 or more offenses) offending groups than their female counterparts. Overall, street boys in Pakistan who had ever been arrested reported higher rates of exchanging sex (Towe et al., 2009).

3.6. Physical health associations

Data regarding associations between physical health and selling sex were rarely disaggregated by sex, and consequently, the findings for boys were limited. A single school-based study found boys who had exchanged sex were more likely to report a nurse or doctor had told them they had a sexually transmitted infection (STI), including Human Immunodeficiency Virus (HIV), than their non-exploited peers (Edwards et al., 2006). Two service-based studies reported on rates of STIs and/or HIV among sexually exploited boys. An American study found 29% of boys tested for STIs had Chlamydia, and one had HIV (Edinburgh et al., 2015). A Niger study found about one quarter of sexually exploited boys had experienced STIs at least once in their lifetime, with most of them pursuing 'self-treatment' or 'traditional treatment' due to 'shame and fear of discrimination' (Hounmenou, 2017).

3.7. Mental health associations

Four school-based and three service-based studies investigated mental health variables and sexual exploitation. A Swedish school-based study found boys who reported trading sex had higher levels of mental health problems and self-harm behaviors than peers who had not (Svensson et al., 2013). Among Canadian high school students, hopelessness and impulsivity scores were higher for exploited boys compared to peers who had not traded sex for drugs (Homma et al., 2012). A Norwegian school-based study found an association between loneliness and internalizing mental health symptoms, including higher mean scores for anxiety/depression among sexually exploited boys (Pedersen & Hegna, 2003). Similarly, Svedin and Priebe (2007) found Swedish high school boys who exchanged sex reported higher rates of mental health problems. A service-based study of street boys in Lahore, Pakistan found those who reported engaging in self-harm (i.e., cutting themselves) were more likely to exchange sex (Towe et al., 2009). An American service-based study found 57% of sexually exploited boys had self-harmed, and 71% of them had suicidal ideations and attempted suicide in the past year (Edinburgh et al., 2015). When compared with adolescent convicted offenders who were not sexually exploited, those who reported early sexual exploitation (≤ 16 years old) were more likely to report psychotic symptoms (Reid & Piquero, 2014).

3.8. Social context

Seven studies examined the social context of boys exchanging sex. A household study in sub-Saharan found adolescent boys who had traded sex in the last 12 months were more likely to have dropped out of school, experienced lower levels of parental monitoring, and higher frequency of religious attendance compared to those who had not traded sex (Adjei & Saewyc, 2017). In the multivariate analysis, levels of parental monitoring and religious attendance were not independently related to trading sex (Adjei & Saewyc, 2017). A Swedish school-based study found sexually exploited boys reported poorer parent-child relationships, evidenced by lower parental caring scores and higher scores for overprotection by mothers (Fredlund et al., 2013). Similarly, lower levels of family connectedness was found among Canadian boys who had traded sex for alcohol or drugs (Homma et al., 2012) although that study found no significant relationships between sexual exploitation and friend connectedness, school connectedness, or social involvement. Pedersen and Hegna (2003) found no relationship between trading sex and academic performance as measured by school marks among boys; however, these researchers did find a strong association between more evenings and nights spent in Oslo's city center and sexual exploitation. A qualitative study of British sexually exploited adolescents, which included one male, found that although participants were aware of being taken advantage of in sexually exploitive relationships, they all indicated that their needs were being met in some way by those who took advantage of them; they all felt deprived of 'caring' relationships with their family members particularly their parents (Hallett, 2016). Not all sexually exploited children perceived their experiences negatively. Among a study of sexually exploited boys in Niger, a few sold sexual services as it allowed them to network with men interested in having sex with men (Hounmenou, 2017). Moreover, a mixed-methods study from the U.S. noted six of seven boys traded sex without a pimp, and viewed their experiences as 'beneficial' to them, particularly 'enjoying their earnings' and 'their independence' (Edinburgh et al., 2015).

3.9. Perpetuating factors

Very few studies identified factors that perpetuate the sexual exploitation of boys. A Thai study discussed that children selling sex was seen as both a legitimate occupation and a 'family' business, and that families often depended on boys' earnings (Montgomery, 2007). Boys were often among the second or third generation in their household to sell sex at a young age (Montgomery, 2007). A study in Ethiopia conducted among street children and adolescents suggested extreme poverty, widespread homophobia, and a reluctance of the community to acknowledge the existence of sexual exploitation contributed to the sexual exploitation of boys (Tadele, 2009). A study in Niger found the most common motivations for boys to sell sex were: to buy fashionable electronics and other goods; housing, food, and other basic needs; lack of support from parents; to support parents; and paying for education (Hounmenou, 2017).

3.10. Services accessed

One school-based study examined help-seeking behaviors among youth, comparing those who had been exploited with those who had not. Svensson et al. (2013) found more boys who had been exploited reported seeking help for: problems with parents; questions about sexual identification; exposure to emotional, physical, and sexual abuse; exposing others to sexual abuse; mental health concerns; internet related problems; and other issues. However, slightly less than one third of sexually exploited boys had sought help for the effects of exploitation (Svensson et al., 2013). Among sexually exploited boys in Niger, 85% had received assistance from non-governmental organizations; and 55% of those who self-identified as homosexual were members of support groups (Hounmenou, 2017). Although all of the boys in this study reported a desire to quit selling sexual services, none had communicated this desire to staff of social services agencies, mainly out of 'fear of not being listened to' or 'being misunderstood' (Hounmenou, 2017).

4. Discussion

As far as we are aware, this is the first systematic review of child and adolescent sexual exploitation among boys. The findings of

this systematic review are consistent with other empirical evidence that has suggested boys around the world are being sexually exploited. Despite the growing number of studies that document some indication of the prevalence of sexual exploitation among boys, the current state of the literature provides limited information about the contexts and outcomes of sexual exploitation experiences.

Information about the sexual exploitation of boys is largely hidden within research addressing risky sexual behaviors among adolescents; youth at risk of contracting HIV; sexual abuse and victimization of children and adolescents; and homeless, street-involved, and runaway youth. Unexpectedly, none of the studies with street-based sampling included sexual exploitation as their primary variable of interest, but two service-based studies of street-involved and homeless children did. This is surprising, given that street-involved and homeless youth are considered at high risk of sexual exploitation. The street-based research examined trading sex as one of a variety of risky behaviors that this population engages in and did not provide in-depth information about boys' sexual exploitation experiences, as sexual exploitation was not the main focus. Moreover, some articles included in this review only reported numbers or percentages of boys who had exchanged sex, and did not provide further analyses or discussions of sexual exploitation (Atwood et al., 2012; Chan, Yan, Brownridge, & Ip, 2013; Farmer & Pollock, 2003; Helweg-Larsen, Schütt, & Larsen, 2012; Hohendorff, Costa, Habigzang, & Koller, 2014; Oppong Asante, 2015; Oppong Asante & Meyer-Weitz, 2017; Raffaelli et al., 1995; Shakarishvili et al., 2005). We found 17 studies focused specifically on child and adolescent sexual exploitation, representing data from 15 unique data sets. The majority of this research was service-based and school-based respectively. Of the articles primarily investigating youth trading sex, more than half conducted analyses separately by gender, with one further article only reporting sexual behaviors for both boys and girls. However, just two of these were studies of boys only (Hounmenou, 2017; Towe et al., 2009). Additionally, the great majority of these studies were cross-sectional. In order to develop a more comprehensive understanding of the sexual exploitation of boys, future research requires study designs focused on both school-based and hard-to-reach street-involved boys, and with greater attention to both temporal and qualitative aspects of their experiences.

There is sparse evidence that socio-demographic and background factors are associated with boys' sexual exploitation. Certain markers of childhood adversity, such as poverty, exposure to substance using parents, unstable parental relationships, and experiences of abuse (sexual, physical, emotional) were more common among boys who had been exploited in comparison to their peers who had not. A few studies found a relationship between younger age at first sexual intercourse and sexual exploitation, however, this finding was not consistently reported, and exploitation or abuse might be the reason for the early sexual behavior.

The way in which studies assessed how boys were exploited varied greatly, with a few explicitly inquiring about multiple forms of remuneration in exchange for sex, and others focusing on only one type of compensation (i.e., for money, or for drugs). Most studies reported boys received money and drugs in exchange for sexual activities. Research that allows for a more comprehensive list of possible items exchanged would help to capture a fuller picture of the population of boys being sexually exploited, and potentially provide insight into the forces that influence exploitation. Results for the number of episodes of trading sex varied widely, and while a few studies assessed the frequency of this behavior, further research is warranted to understand patterns of exploitation among different sub-populations of boys. These data are lacking key contextual information such as timeframe, pattern, and repeat partners. Men, women, and other youth were all identified as sexual exploiters of boys. Based on the reviewed research, it is unclear if a particular group of individuals most commonly sexually exploits boys.

Information about associations between sexual exploitation and health compromising behaviors among boys was limited to a discussion of substance use and conduct problems. A majority of studies found rates of substance use were higher among boys who exchanged sex compared to peers who were not exploited. A small number of studies looked at frequency of use, with smoking daily, weekly consumption of alcohol, and weekly binge drinking more common among sexually exploited boys. Evidence related to characteristics of substance use such as age at first use, motivations for use, symptoms of dependence, and consequences of use were limited or missing from the literature. Notably, no studies examined temporal relationships between sexual exploitation and onset or pattern of substance use. This would be important for establishing cause and effect relationships. Several articles found that conduct problems and juvenile offending behaviors were more common among boys who were exploited.

Physical health associations specific to sexually exploited boys were also sparse. Unexpectedly, in the data specific to boys, STIs were the only physical health variable mentioned. Mental health associations were more commonly examined. Sexually exploited boys reported higher rates of mental health problems; poorer states of mental health; higher hopelessness and impulsivity; and higher mean scores for anxiety/depression. Evidence also suggested self-harm and suicide attempts are common among sexually exploited boys. Overall, these results depict a concerning picture of negative mental health associations that need further clarification.

Problematically, information about the antecedents, perpetuating factors, unique health needs, service requests, and the process of exiting sexual exploitation were not addressed. Furthermore, the research inadequately examined boys' perspectives of exploitation experiences and the nature of exploitive relationships.

This systematic review has some limitations which should be considered. First, any studies that reported information regarding boys exchanging sex for something were included in the review; as a result, synthesizing the state of the literature was difficult, due to the wide range of study variables, variety of measurement tools, and diverse research designs used across this group of articles. Despite extensive testing and revision of search strategies, the lack of a specific controlled vocabulary term for "child and adolescent sexual exploitation" required the use of complex keyword searches which may not have captured the entirety of the literature. As a result, we encountered considerable methodological challenges regarding inconsistent definitions of child and adolescent sexual exploitation; distinguishing sexual exploitation as a distinct type of child sexual abuse; and meaningful disaggregation of outcome data; which have been discussed in detail elsewhere (Mitchell et al., 2017). Next, due to financial and human resource constraints, a search of non-refereed or "grey" literature was not performed, increasing the risk that our results may have been influenced by publication bias. Moreover, research published by non-government organizations and other organizations working with vulnerable youth populations are often published in reports rather than peer-reviewed journal articles, and so would have been excluded (e.g.,

Saewyc et al., 2008). As well, given that we only included studies published in English, it is likely that some research on sexually exploited boys published in other languages may have been excluded.

5. Conclusion

Despite these limitations, the existing research reviewed here documents that sexual exploitation of boys is an issue in both high-income and low-income countries, and identifies significant health disparities between boys who are sexually exploited and their non-exploited peers. These suggest a number of implications for interventions and for future research. Services designed to assist sexually exploited youth should include boys as well as other genders, and address the significant substance use, mental health problems, sexual health risks, and justice system issues that appear to be prevalent among boys who have been sexually exploited. Such services may need to be tailored for specific gendered issues.

Evidence shows risk of sexual exploitation extends beyond street-involved and homeless boys. School-based awareness and prevention programs should be clear that boys too can be exploited; such programs may need to define exploitation more clearly, and counter some of the perceptions of boys around its potential benefits or lack of negative consequences. Educational, social, and health services professionals need to be aware of particular factors such as child abuse that place boys at higher risk of sexual exploitation. These professionals should be supported and enabled to screen for and respond to sexual exploitation of boys, its risk factors (e.g., child abuse), and outcomes (e.g., sexual and reproductive health care, mental health screening and counseling services, and substance abuse diagnosis and treatment) in a timely manner. It is beyond the scope of this review to identify whether existing programs and health care for sexually exploited youth are available for boys, and are effective in improving health disparities, but that would be an important next step in program development and evaluation.

Although there is increasing evidence that boys are sexually exploited in countries throughout the world, more research is clearly needed. We recommend using more sophisticated research designs and methods when examining sexual exploitation of boys. Longitudinal research that examines temporal relationships across diverse populations is needed to identify antecedent and sequelae, while, qualitative research is needed to gain further insight into the specific features of sexual exploitation among boys. In addition, comparative studies can shed light on the similarities and differences of boys' experiences of sexual exploitation across countries with different social and economic conditions. More studies of street-involved and homeless children and adolescents who are not accessing services, that specifically investigate exchanging sex as a primary variable, are needed to broaden the current data, which are primarily drawn from service and school-based samples. Experiences of boys who exchange sex need to be assessed separately from other genders, in order to determine in what ways their exploitation experiences and health care needs are unique or similar to those of girls or transgender youth. This information will be essential for informing policy, social services, and health care delivery.

Acknowledgements

This work was supported by Canadian Institutes for Health Research award number TE3-138302. We are grateful for research funding provided by the Centre of Excellence on Children and Youth in Challenging Contexts and the Canadian Institutes of Health Research, Institute of Gender & Health.

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <https://doi.org/10.1016/j.chiabu.2017.12.003>.

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