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Predictors of condom use among system-involved youth: The importance of Sex Ed

Nadine M. Finigan-Carr [a,*], Jaih B. Craddock [a], Tonya Johnson [b]

[a] University of Maryland, Baltimore: School of Social Work, Baltimore, MD, USA
[b] Baltimore City Health Department, Baltimore, MD, USA

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ABSTRACT

Sexual health education has been proven effective in improving adolescent sexual reproductive health outcomes. System-involved youth, including those in child welfare or juvenile justice systems, experience disproportionately poor outcomes as compared to youth in the general population, especially concerning STIs and early or unplanned pregnancies. Using logistic regression, this cross-sectional study examined the odds of condom use in a sample (n = 318; 61.3% males; 79.9% African American) of system-involved youth with multiple high-risk sexual behaviors. Specifically, it examined the impact of sexual health education, attitudes and beliefs about condoms, and the moderating effect of gender. The logistic regression models showed that youth were more likely to use a condom when exposed to comprehensive sexual health education ($p < .05$). Beliefs about condom effectiveness increased the odds of condom use in the second model ($p < .01$). Gender was not found to have a moderating effect. This study examined whether receiving comprehensive sexual health education and adolescent attitudes and beliefs towards condoms were associated with non-condom use using logistic regression in a sample of system-involved youth. Results suggest that comprehensive sexual health education could improve condom use in this vulnerable population.

1. Introduction

Evidence has shown that comprehensive sexual health education (e.g., instruction about healthy relationships, waiting to have sex, and methods of birth control) is associated with healthier sexual behaviors and outcomes among youth (Lindberg & Maddow-Zimet, 2012; Tremblay & Ling, 2005). The CDC's Division of Adolescent and School Health (2020) has established evidence-based sexual health education, which addresses issues related to reproductive health, including use of contraception such as condoms (Lindberg & Maddow-Zimet, 2012; Manlove et al., 2008; Tremblay & Ling, 2005), to help prevent unintended pregnancies, STIs and HIV among youth. Evidence have shown that youth who participate in sexual health education increase their use of condoms, among other positive outcomes (e.g., fewer sexual partners, delayed initiation of sexual intercourse, and improvements in academic performance (Centers for Disease Control, 2020)). Research has also indicated that the earlier youth are exposed to sexual health education, the longer sexual health education has an impact on their lives. For example, studies by Markham and colleagues have found that middle school sexual health education programs had an impact on health behaviors during youths' high school years (Markham et al., 2014; Markham et al., 2012).

While it is clear that providing comprehensive sexual health education is beneficial for the general youth population, greater attention must be paid to providing access to sexual health education for potential higher risk subgroups of youth that experience greater disparities in sexual health, such as system-involved youth, (e.g., those in child welfare and juvenile justice systems; (Finigan-Carr et al., 2018). Studies of system involved youth, and youth not connected to school or employment, show that these youth could benefit tremendously from comprehensive sexual health education (Marcell et al., 2013); however, there are limited studies focused specifically on system-involved youth and sexual health education.

1.1. System-involved youth and sexual risk behaviors

The term system-involved youth refers to those youth involved in child protective services (CPS; e.g., in foster care), or the juvenile justice system. These youth are more likely to have experienced abuse (physical, sexual, or mental) and neglect compared to youth in the general

* Corresponding author at: UMB: School of Social Work, 525 West Redwood Street, Baltimore, MD 21201, USA.
E-mail address: nfinigan-carr@ssw.umaryland.edu (N.M. Finigan-Carr).

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population ((Connections, xxxx) *with youth in the child welfare system*). System-involved youth face different barriers to sexual reproductive health care compared to youth in the general population. Those barriers include child welfare policies, access to services, limited information on their sexual health and development (Robertson, 2013), and instability in their living placements (Hudson, 2012; Sedlak & Bruce, 2016). Instability in living placements may result in youth missing the sexual health education offered in school and/or being unable to complete sessions offered in community settings (Finigan-Carr et al., 2018; Hudson, 2012; Oman et al., 2018). In addition, for system-involved youth who may have had an earlier sexual debut or experiences with abuse or neglect, sexual health education that is offered may be too late to have an impact and may not be reflective of their needs and experiences (Moser, 2011; Rowland, 2011). Due to these challenges, system-involved youth tend to have higher rates of risky sexual behaviors and negative sexual health outcomes than youth in the general population (Oman et al., 2018; Courtney, Okpych, & Park, 2018).

1.1.1. Youth involved in the juvenile justice system

Youth involved in the juvenile justice system, particularly, experience higher rates of risky sexual behaviors compared to their non-system involved peers. Data has indicated that these youth report not only higher rates of sexual activity than their non-system involved peers, but also four or more lifetime sexual partners (Committee on Adolescence, 2011). Likewise, youth involved in the United States juvenile justice system have among the highest rates of sexually transmitted infections (STIs) compared to their non-system involved peers (Kann et al., 2018). Recent studies of STI rates among youth aged 12–18 in United States detention centers found that: 15.6% of girls and 5.9% of boys tested positive for chlamydia compared to 3% of girls and 1% of boys 15–19 years old in the general population (Centers for Disease Control, 2019); and, 5.1% of girls and 1.3% of boys tested positive for gonorrhea (Moser, 2011), compared to 1% of girls and 0.3% of boys 15–19 years old in the general population (Centers for Disease Control, 2019).

Youth in the juvenile justice system are, also, at higher risk for being pregnant and parenting (Oman et al., 2018; Sedlak & Bruce, 2016). Juvenile justice system youth who are incarcerated report much lower contraception use and condom use at last sex (Committee on Adolescence, 2011; Moser, 2011); and according to the Survey of Youth in Residential Placement, 14% of incarcerated youth are parents and 12% are expecting a child (Sedlak & Bruce, 2016). Incarcerated boys were more likely to have fathered a child compared to incarcerated girls who report being mothers (15% and 9% respectively; Sedlak & Bruce, 2016).

1.1.2. Youth involved in the foster care system

In a like manner, youth in foster care (CPS involved youth) tend to experience earlier sexual initiation and more sexual partners (Boustani et al., 2017; Finigan-Carr et al., 2018). Researchers from the California Youth Transitions to Adulthood (CalYOUTH) Study (a longitudinal study of youth transitioning out of foster care) compared their findings to those of the Add Health study (a longitudinal study of a nationally representative sample of over 20,000 youth), and found that CalYOUTH youth were more likely (92%) than Add Health youth (89%) to report ever having had sexual intercourse ($F = 3.9$, $p < .05$). CalYOUTH youth were also more likely (11%) than Add Health youth (4%) to report first having sexual intercourse between the ages of 10 and 12 years old ($F = 14.6$, $p < .001$) or at the age of 13 years old (11.0% vs. 6.1%, $F = 6.4$, $p < .05$; Courtney, Okpych, & Park, 2018).

Youth in foster care are also at higher risk for being pregnant and parenting (Dworsky et al., 2014; Finigan-Carr et al., 2015; Finigan-Carr et al., 2018; Oman et al., 2018). While teen pregnancy rates nationally are decreasing, pregnancy rates among girls in foster care remain high at almost two and a half times that of their peers (Dworsky & Courtney, 2010; Oshima et al., 2013), with rapid repeat pregnancies also being a problem (Finigan-Carr et al., 2015; Putnam-Hornstein & King, 2014). Boys in foster care are also more likely to father a child compared to their non-system-involved peers (Finigan-Carr et al., 2018; Svoboda et al., 2012). Results from the CalYOUTH Study found that about 60% of girls transitioning from foster care reported ever being pregnant and about 40% reported having ever given birth (Courtney et al., 2018). These high pregnancy rates may have to do with youth in foster care reporting limited knowledge and access to condoms resulting in limited use of condoms for sex (Boustani et al., 2017). CalYOUTH participants were more likely to report "none" regarding frequency of using condoms in the past year than Add Health participants (Courtney et al., 2018).

1.2. Adolescent condom use

Consistent condom use is the primary prevention method for minimizing the risks of many negative consequences from unprotected sex, especially the risks of STIs and HIV/AIDS (Centers for Disease Control, n. d.). Condom availability programs in schools have been supported for decades. Studies of impact and effectiveness conducted over the years have shown that condom availability promotes safer sex behaviors among youth who plan to be or are already sexually active (Singer, 1994; Tremblay & Ling, 2005). However, despite all of this, adolescents fail to use condoms as recommended. In fact, the most recent National Youth Risk Behavior Survey (Kann et al., 2018) reports a decrease in condom use among sexually active high school students (62% in 2007 to 54% in 2017), which puts more youth at risk for STIs and HIV.

Differences in condom use at last sex have been found between male (61.3%) and female (46.9%) adolescents (Kann et al., 2018). For girls, the extant literature has posited that they may use condoms less as they have less power in the decision-making about the use of condoms during heterosexual sexual encounters (Davis et al., 2014; Peasant et al., 2018). This may be due to gender and age disparities. Girls are less likely to discuss condom use with older male partners in heterosexual relationships (Morrison-Beedy et al., 2013), and report feeling coerced to not use condoms by partners no matter the partner's age (Peasant et al., 2018). Some youth also believe that asking a partner to use a condom may have a negative impact on their reputation (Abel & Fitzgerald, 2006). Counter to this, male partners have been found to improve couple-level sexual health (e.g., the sexual health of themselves and their sexual partners) when using condoms consistently (Manlove et al., 2008) regardless of partner gender.

For system-involved youth, even when condoms are used at first sex, their use decreases over time. In a sample of youth from both the child welfare and juvenile justice systems, the results suggested that, although more than half used condoms at first sex, the majority of the youth (98.1%) did not use condoms at least one time in the prior three months (Finigan-Carr et al., 2018). Male and female youth in the juvenile justice system specifically have been found to have high rates of condom non-use in the month immediately preceding their detainment, with girls (68.1%) having a higher percentage of condomless sex than boys (31.9%; (Moser, 2011).

Nationally, 9.7% of sexually active high school students report having sex with four or more lifetime partners (Kann et al., 2018), and 7.9% of female adolescents and 11.6% of male adolescents report having multiple sexual partners (Font et al., 2018). Girls with multiple lifetime sexual partners are 3 times more likely to contract STIs or HIV infections than those who have only one lifetime sexual partner due to the non-use of condoms (Forhan et al., 2009). Similarly, girls report significantly lower condom use during last sex when they have multiple partners compared to those with a single partner (Santelli et al., 2001).

System-involved youth living in out-of-home care have been found to have attitudes in support of contraception methods, including condom use, (Oman et al., 2018). The extant research has shown that knowledge, attitudes, and beliefs about contraception, including condoms, are associated with actual contraceptive behavior (Finigan-Carr et al., 2018; Guzzo & Hayford, 2018). Specifically, research has shown that birth control use has been associated with lower condom use, as most youth see condoms as a way to prevent pregnancy with lower concerns

regarding preventing "treatable" STIs (Coyle et al., 2001; Smith et al., 2011). In a sample of 121 African American and Puerto Rican females and males aged 18–25, Hock-Long et al. (2013) found that 58% of these young adults reported that the primary motivation for condom use was pregnancy prevention only, while only 31% reported dual pregnancy and STI prevention. Additionally, 75% of the young adults who reported using condoms only, were more than 2 times like to cite pregnancy prevention as their main motivation for using condoms at last sex than young adults who used condoms and another contraceptive method (30%).

Sexual health education programs, such as those provided by opportunity youth programs to youth, of which many are system-involved, increased condom use among those in this vulnerable population (Marcell et al., 2013). However, there are only two sexual health education curricula developed specifically for system-involved youth: Power Through Choices (Oman et al., 2018 Supplement 1; Oman et al., 2016) and Making Proud Choices for Youth in Out-Of-Home Care (Jemmott et al., 1998; Jemmott et al., 2016). Trainings for these curricula for child welfare workers, foster parents, caregivers, and juvenile justice professionals who work with these youth are limited, (Dworsky & Dasgupta, 2014; Harmon-Darrow et al., 2020), thus system-involved youth continue to receive unclear and inconsistent messages about sexual and reproductive health, and have limited access to reproductive health services and programs.

1.3. Aim

As comprehensive sexual health education has been found to raise the likelihood of condom use (Tremblay & Ling, 2005), this study posits whether exposure to sexual health education would be associated with condom use for system-involved youth who engage in multiple high-risk sexual behaviors. The aim was to examine the association between comprehensive sexual health education and condom use among system-involved youth, as well as key attitudes and beliefs about condom use. Based on previous literature, we hypothesize that participating in comprehensive sexual health education would increase condom use among system involved youth and that gender will be a possible moderator, as the research shows a differential in condom use by gender. The knowledge gained from this research can be used to improve sexual health outcomes and overall well-being of this vulnerable population.

2. Methods

2.1. Participants and procedures

Youth were originally assessed as a part of an ongoing evaluation of the implementation of a sexual reproductive health education curriculum designed specifically for system-involved youth (n = 318) with a predominately African American (n = 254) sample of youth involved in both the foster care and juvenile justice systems in a mid-Atlantic state. Youth were a convenience sample from both the child welfare and juvenile justice agencies with out-of-home placements in traditional foster care homes, group homes, therapeutic treatment centers, independent and transitional living homes, and detention centers. As this is a state where youth can remain in the care of child welfare until age 21, the potential age range for participants was broad. Details about recruitment of the sample and survey administration have been published elsewhere (Finigan-Carr et al., 2018). The current study is a cross-sectional analysis of youth characteristics at baseline conducted to establish exposure to other sexual reproductive health curricula prior to the intervention's implementation. Results from the intervention evaluation will be published separately. The current study limits the analyses to only those youth who were sexually active (n = 228) at baseline.

2.2. Measures

Youth completed a self-report survey using paper and pencil administered by intervention and evaluation staff (Finigan-Carr et al., 2018). All measures were adapted from the Prevention Minimum Evaluation Data Set (PMEDS) for use with this project. PMEDS is a survey designed specifically for evaluating programs aimed at preventing adolescent pregnancy and STI/HIV/AIDS (Card et al., 1999; Card et al., 1998). The majority of items in PMEDS were based on the National Youth Risk Behavior Survey (Centers for Disease Control, 2018) and the National Longitudinal Study of Adolescent to Adult Health (Harris et al., 2009). Key demographic questions included age, race/ethnicity, gender, preferred sexual partner gender, number of sexual partners, and age at first sex. The term first sex was used rather than sexual debut as this was a population of system-involved youth whose first sexual experience may have been a result of sexual abuse and not by choice.

The dependent variable was sex without a condom in the past three months (0 = no; 1 = yes). Comprehensive sexual health education was measured with an index comprised of eight binary items resulting in a score from 0 (no exposure) to 8 (comprehensive sexual health education). Items in the index included receiving any information or attending any workshops in the 12 months prior to baseline on topics such as abstinence, birth control methods, condom use, STIs, and healthy romantic relationships.

Beliefs about condom effectiveness were measured with a three-item scale ($\alpha = 0.70$) which asked youth, "If a condom is used correctly, how much can it decrease the risk of 1) pregnancy; 2) HIV; 3) chlamydia and other STIs?" Responses were: Not at All, A little, A lot, or I don't know. Attitudes about condoms were measured with a seven-item Likert scale ($\alpha = 0.68$) with responses ranging from Strongly Agree to Strongly Disagree. Among the items were attitudes like, Condoms are: A hassle to use; important to make sex safer; and, decrease sexual pleasure.

2.3. Analysis

Descriptive statistics summarizing the dependent variable, sex without a condom in the past 3 months, and independent and control variables were run first. Pairwise correlations between all independent variables and the dependent variable, sex without a condom, were run. The variables were all found to be highly correlated. Specifically, age of sexual debut, condom use at first sex, and number of sexual partners were positively correlated (1.00). No additional variables were found to be significantly associated with the dependent variable in this sample. As such, subsequent analyses were run based on the variables selected a priori for our hypotheses.

The logistic regression was conducted in three steps. The first model tested the likelihood of condom use and comprehensive sexual health education. The second model added condom beliefs and attitudes about condoms to the model. The final model tested gender as a moderator. All models were run with and without controlling for age, race, and ethnicity. As there was no significant difference between the unadjusted and adjusted odds ratios with controls, the unadjusted ones are presented as this provides a better estimate of the relative risk. Analyses were conducted using STATA 14 (StataCorp, 2015). The University of Maryland, Baltimore's Institutional Review Board approved of the study.

3. Results

The characteristics of the sample (system-involved youth who reported ever having sex) are detailed in Table 1, with the distribution of the dependent and key independent variables in Table 2. As Table 1 shows, most participants were boys aged 13–21 with a mean age of 17.9. Roughly a third (31.6%) of the sample had been pregnant or had gotten someone pregnant. Just under a third (28.1%) self-reported that their preferred sexual partner was of the same sex. The majority of the youth

Table 1
. Key Demographics.

Characteristic	n	Percentages/Means
Age (mean, range)		17.9 [13–21]
Race – African American	184	79.9%
Gender – Male	144	63.2%
Ever/Get Someone Pregnant	72	31.6%
Heterosexual	191	71.9%
Number of Lifetime Sex Partners (mean, range)		9.8 [2–21]
Age at First Sex[1]		
• Under 11 years old	35	15.4%
• Early Adolescence (12–14)	102	44.7%
• Late Adolescence (15 <)	58	25.4%

[1] Missingness for age at first sex = 13.2%; Overall sample missingness = 5.4%.

Table 2
. Means and distributions of dependent variable and key independent variables.

Variables	n	Percentages/Means
Sex Without a Condom in the past 3 months	133	58.3%
• Male	86	59.8%
• Female	47	55.9%
Comprehensive Sexuality Education		
0	26	11.5%
1	13	5.9%
2	11	4.9%
3	20	8.7%
4	16	6.9%
5	25	10.8%
6	25	10.8%
7	25	10.8%
8	67	29.4%
Beliefs about Condom Effectiveness (mean, S.D.)		22.4 (9.6)
Attitudes about Condoms (mean, S.D.)		87.9 (49.1)

in the sample exhibited high-risk sexual behaviors. Three-fourths (75%) report having sex for the first time under the age of 14 (15.4% under age 11). The mean number of lifetime sexual partners was 9.8.

The majority of the youth in the sample (58.3%) reported having sex without a condom in the past three months (Table 2). No significant differences were found between boys and girls. For comprehensive sexual health education, 29.4% reported receiving all items; 11.5% reported receiving nothing in the past twelve months. The majority believed that condoms when used correctly can decrease the risk for pregnancy, HIV, and other STIs. Attitudes about condoms were favorable as well.

3.1. Logistic regression – nested models

Model 1: The first model examined the odds of condom use in the past three months in relation to the key independent variable, comprehensive sexual health education (Table 3). This model was found to be significant at the $p < 0.05$ level. For each one level increase in sexual health education (i.e. each additional characteristic of comprehensive sexual health education), there is a 0.338 level change in the odds ratio of condom use in the past three months.

Model 2: This model added the participants' beliefs about condom effectiveness and attitudes about condoms (Table 4). The overall model was significant at the $p < 0.01$ level. The odds of condom use increasing with each level of sexual health education continued to be significant (O.R. 0.341; $p < 0.05$). However, neither attitudes about condoms nor condom beliefs had a significant effect.

Table 3
. Logistic Regression Model 1.

Variable	*O.R.*	*S.E.*	*Wald* χ^2	*p*	*95% C.I. O.R.*
Comprehensive Sexuality Education	0.338	0.16	−2.28	0.022	0.133, 0.857

Table 4
. Logistic Regression Model 2.

Variable	*O.R.*	*S.E.*	*Wald* χ^2	*p*	*95% C.I. O.R.*
Comprehensive Sexuality Education	0.341	0.17	−2.18	0.029	0.129, 0.897
Attitudes About Condoms	1.350	0.29	1.41	0.159	0.889, 2.051
Condom Beliefs	0.992	0.01	−1.27	0.202	0.981, 1.004

Model 3: The model tested the potential moderating effect of gender based on a priori hypotheses (Table 5). No significant differences were found when gender was added to the model.

4. Discussion

System-involved youth are a vulnerable population with unique challenges to address concerning their sexual and reproductive health. In this sample, many were pregnant and parenting, had high numbers of lifetime sexual partners, and reported low rates of condom use. All of these factors put these youth at risk for negative long-term sexual reproductive health outcomes.

Prior research has shown that comprehensive sexual health education can facilitate the development of attitudes, skills, and behaviors that reduce the risk of negative sexual reproductive health outcomes (Futris et al., 2019). When exposed to a comprehensive sexual health education intervention, foster youth and non-foster youth report similar likelihoods of having intercourse, using contraception, and using condoms (Futris et al., 2019). System-involved youth are limited in their access to comprehensive sexual health education and access to reproductive health services and programs, especially if they live in residential group homes (Crottogini et al., 2009; Freundlich & Gerstenzang, 2003). What sexual health education they do attain tends to be provided after they become sexually active (Love et al., 2005) or does not include all of the components which make it comprehensive (Finigan-Carr et al., 2018). The results of this study demonstrate that even if these youth do not receive all of these components, there is a positive effect on their sexual reproductive health behaviors.

System-involved youth have been found to not only demonstrate low- or non-use of condoms, but also to have limited beliefs about the effectiveness of condoms (Finigan-Carr et al., 2018). Recent research has shown that when comprehensive sexual health education programs that address the unique vulnerabilities of these youth are implemented, condom use increases, especially in residential group placements (Oman et al., 2018). This study demonstrated that there is a significant association between comprehensive sexual health education and condom use as a method of reducing sexual health risks.

The extant literature has suggested that sexual health education should address different characteristics based on gender in order to improve condom use (Zhao et al., 2017). One of the a priori hypotheses

Table 5
. Logistic Regression Model 3.

Variable	*O.R.*	*S.E.*	*Wald* χ^2	*p*	*95% C.I. O.R.*
Comprehensive Sexuality Education	0.327	0.17	−2.14	0.033	0.117. 0.911
Attitudes About Condoms	1.354	0.29	1.41	0.158	0.889, 2.062
Condom Beliefs	0.992	0.01	−1.28	0.201	0.981, 1.004
Gender	1.105	0.36	0.30	0.763	0.578, 2.109

was that there may be gender differences to explain both the use of condoms and, as a result, the logistic regression model. This was not found to be the case. One reason for this may be that the youth in this sample have all experienced abuse (physical or sexual) or neglect, leading to their involvement with the various systems of care. The impact of a history of physical and sexual violence and/or abuse on condom-less sex has been documented (Zhao et al., 2017), including a lack of agency when negotiating condom use. It is possible that this impact is stronger than that typically expected due to gender differences with condom use negotiation. In addition, the majority of the prior research was conducted with heterosexual youth. A large percentage (28.1%) of the youth in this sample report attraction to the same or both sexes. The heteronormative gender differences expected may not be relevant to youth who do not adhere to those norms.

The protective influence of sexual health education is not limited to having sex, but also includes issues of contraception, condom use, and other reproductive health outcomes (Lindberg & Maddow-Zimet, 2012). Although there are only two comprehensive sexual education curricula for system-involved youth, other training curricula have also improved youth sexual health knowledge, attitudes, and beliefs about condom use when implemented across juvenile justice and foster care settings and modified specifically for this population (Combs et al., 2019). Non-modified evidence-based sexual health education programs, coupled with relationship education, have also improved outcomes for foster youth and non-foster youth (Futris et al., 2019). Our findings did not find associations between attitudes about condoms or condom beliefs on having sex without a condom. This speaks to the specific need for sexual health education aimed at this vulnerable population to include discussion of not only safe sex practices in general, but also discuss the effectiveness of condoms in preventing STIs and pregnancy.

4.1. Strengths, Limitations, and Future directions

This is a unique study. System-involved youth are an understudied population when it comes to research on the efficacy of sexual reproductive health education. The current study is a cross-sectional snapshot of a sample of high-risk system-involved youth in an urban environment. A strength of this study is that it does not focus on heterosexual behaviors and includes an understanding that issues related to condom use in this population should consider those who are attracted to the same and/or both sexes. The inclusion of a significant percentage of these youth in the sample adds to the literature related to the sexual reproductive health needs of system-involved youth. However, not having a clear measure of sexual orientation is a limitation of this study. Future research should directly measure and test the role of sexual orientation in condom use among this already vulnerable population.

One of the limitations of this being a cross-sectional study is in interpreting the associations among variables due to lack of knowledge of the temporal relationship. As a result, while the logistic regression does show increased condom use in the presence of the key variables (i.e., comprehensive sexual health education and condom beliefs) it cannot be said definitively that these variables are predictive. Issues with multicollinearity of the variables may also be a limitation. Although multicollinearity does not reduce the reliability of the resulting models, it would be helpful to have a larger dataset which would provide more precise estimates. Future research should examine longitudinal associations among these variables with a larger sample.

It is important to note that this sample is predominantly African American; however, this is representative of most system involved youth in urban environments due to disproportionate representation of youth of color within the systems themselves. In addition, this sample has a large proportion of boys, which is important as most prior discussions of sexual reproductive health in this population are limited to girls and pregnancy-related outcomes. Future research should examine the needs of system-involved male youth, especially as they are disproportionately involved in the juvenile justice system, where their sexual reproductive health needs are not being fully addressed.

Policies designed to support youth's sexual reproductive health tend to be from a white, middle-class, heteronormative frame. The sample utilized in this study shows that system-involved youth do not always fit this frame. We were limited in how we could ask about sexual orientation and gender identity by our funding source. Future research should include the consideration of more than a binary choice for gender and a question about sexual orientation. As this vulnerable population is more at risk for negative sexual reproductive health outcomes, it is important to consider their unique needs when developing policies, especially those about comprehensive sexual health education.

5. Conclusions

System-involved youth are in need of accurate and frequently offered information that addresses their specific sexual health needs and circumstances. This study examined whether receiving comprehensive sexual health education and adolescent attitudes and beliefs towards condoms were associated with non-condom use using logistic regression in a sample of system-involved youth. Results suggest that comprehensive sexual health education could improve condom use in this vulnerable population. An improved understanding of this mechanism is needed to inform policies and programs to improve sexual health outcomes for this unique, vulnerable youth population. Creating effective interventions that address these youth's individual risks and assets and institutional challenges will be necessary for the prevention of additional social and behavioral health issues that may influence long-term well-being.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary material

Supplementary data to this article can be found online at https://doi.org/10.1016/j.childyouth.2021.106130.

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