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The Role of Social Capital, Sex Communication, and Sex Refusal Self-Efficacy in Sexual Risk Behaviors and HIV Testing among a Diverse Sample of Youth

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Abstract: Social capital, namely civic engagement, adult support, and community support, shapes behaviors in meaningful ways, yet the literature examining the relationship between social capital and sexual risk behaviors and HIV testing among youth remains limited. This study examined the influence of social capital on sexual risk behaviors (i.e., unprotected sex, multiple sex partners, and being drunk or high prior to sex) and HIV testing among youth. A total of 200 primarily ethnic minority youth (mean age of 17.4 years) in Denver, Colorado were included in the study. Structural equation modeling findings indicate that higher levels of social capital were associated with unprotected sex and less HIV testing. Additionally, the association between social capital and sex with multiple partners was mediated by sex refusal self-efficacy. Youth may benefit from social capital, but it may not have the same protective or health-promotive value for youth as for adults.

Keywords: adolescents; social capital; STI/HIV; HIV testing; prevention; sexual risk



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1. Introduction

Youth in the United States continue to be highly vulnerable to sexually transmitted infections (STIs), including the human immunodeficiency virus (HIV). Youth aged 15–24 account for approximately one-quarter of the sexually active population, yet account for half of the 26 million new STIs reported in the United States each year [1]. In addition, those 13–24 years of age accounted for 21% of new HIV diagnoses in 2018 [2]. Youth vulnerability to STI/HIV infection can be partially explained by the disproportionately high prevalence of sexual risk behaviors, namely unprotected sex, multiple sex partners, and alcohol or drug use prior to sex [3–5]. For example, findings from the Youth Risk Behavior Surveillance survey indicate that 22.9% of sexually active 12th grade students reported alcohol or drug use before their last sexual intercourse [3]. Because alcohol or drug use prior to sex has been shown to increase the vulnerability of engaging in sexual risk behaviors, unprotected sex among youth is prominent. In fact, 49.7% of 12th grade students reported unprotected sex at their last sexual intercourse [3] and 16.0% of 12th grade students reported four or more sexual partners in their lifetime [3].

Due to the high rates of sexual risk behaviors and STI/HIV infection among youth, both the Centers for Disease Control and Prevention (CDC) and the United States Preventive Services Task Force recommend prevention and reduction of sexual risk behaviors and improved HIV testing [6,7]. HIV testing has important prevention implications. For youth

infected with HIV, testing can lead to early treatment and care and prevent transmission of HIV to uninfected partners. For youth who do not have HIV, testing is equally important, because this knowledge creates awareness and may link youth to timely and critical prevention services [8]. HIV testing is critical for both prevention and treatment; therefore, the CDC recommends that everyone 13–64 years of age get tested for HIV at least once as part of their routine health care [9]. However, it remains highly underutilized as only 12.9% of 12th grade students report having ever been tested for HIV in their lifetime [3]. Although the low rates of HIV testing are of concern, what is even more disconcerting is the CDC's estimate that 44.9% of youth aged 13–24 who are infected with HIV are unaware of their status [10].

Social capital, namely the networks, norms, and social trust among individuals, has the potential to reduce sexual risk behaviors among youth [11]. Individuals are embedded in social organizations that facilitate coordination and cooperation for mutual benefit [12,13]. From a developmental perspective, adult support may reduce sexual risk behaviors and improve HIV testing among youth by fostering social ties and trust. Civic engagement of youth in social organizations such as clubs or strong community ties may also reduce sexual risk behaviors. Although evidence suggests that higher levels of social capital have been found to be associated with positive physical and mental health outcomes among adolescents and adults [14,15], research focused on the role that social capital plays in influencing sexual risk behaviors and HIV testing among youth is limited [16,17]. In this study, we examine how social capital influences sexual risk behaviors and HIV testing among a diverse sample of youth.

Researchers have shown that social capital plays an important role in sexual risk behaviors and HIV testing among youth. Among the limited yet growing literature, the evidence with respect to positive or negative outcomes linked to social capital among youth has been mixed. Some findings suggest that higher levels of social capital may serve as a promotive factor that reduces sexual risk behaviors [17–21], while other findings do not demonstrate an association between social capital and sexual risk behaviors among youth [22,23]. Other studies have found that social capital may increase sexual risk behaviors among youth [24–27]. For example, researchers have shown that higher levels of social support, such as adult support [28], community support [28,29], and romantic partners [21] are associated with decreased sexual risk behaviors among youth. Conversely, Mendez Rojas and colleagues [25] found that higher levels of social capital were associated with an earlier age of sexual debut. To summarize, research findings on the role of social capital in sexual risk behaviors and HIV testing have been mixed, with some research showing that social capital is linked to enhanced risk and other research demonstrating decreased risk. Therefore, to advance our understanding of how social capital shapes sexual risk behaviors and HIV testing among youth, there remains a need to address the limitations of previous research.

A systemic review of 13 studies identified 3 important limitations to advance understanding of the direct association between social capital and health outcomes [17]. First, the review identified the need for multilevel approaches to examine both community-level social capital and individual-level characteristics associated with health outcomes. For example, research focused on community support, in conjunction with self-efficacy and how these factors shape sexual risk behaviors and HIV testing among youth, may strengthen the available evidence. Second, the review underscored the need to examine mediators, namely psychological processes (e.g., self-efficacy), of social capital and its associations with behavioral outcomes [17]. Finally, the systematic review affirmed that although the evidence suggests that social capital may have a positive effect on behavioral outcomes, the robustness of these findings are questionable given the limited research in this area [17]. For instance, social capital may benefit one community while disadvantaging another [17]. A parallel review that examined family and community social capital and risky behaviors among children and adolescents concluded that community social capital plays an important role in behavioral outcomes [19]. Specifically, children and adolescents

reported fewer behavioral problems when they possessed a wider network of community social support that included peers and non-familial adults [19]. However, this review also identified important research limitations, namely a lack of evidence linking civic engagement aspects of social capital to behavioral outcomes, and the need for future research focused on different relationships (e.g., peers and adults) [19].

Taken together, these systematic reviews suggest that multilevel research focused on identifying the dimensions of social capital (e.g., civic engagement, community support, and adult support) that positively or negatively affect behavioral outcomes, as well as pathways through which social capital is associated with sexual risk behaviors and HIV testing, is urgently needed. This area of research has the potential to advance scientific knowledge on social capital and its effects on sexual risk behaviors and HIV testing among youth.

Self-efficacy may be one such pathway. Self-efficacy is considered to be the capacity or skill to perform a specific behavior, combined with the confidence to do so given even challenging circumstances [30]. In the context of sexual risk behaviors, self-efficacy is defined as having behavioral skills and confidence in effective sex communication and the ability to refuse unwanted sex [31]. Sex communication and sex refusal self-efficacy have been shown to prevent and reduce sexual risk behaviors [32]. For instance, researchers have shown that higher levels of sex refusal self-efficacy are associated with a decrease in multiple sex partners [21]. Malcolm and colleagues [18] demonstrated that higher levels of sex communication self-efficacy were associated with a decreased risk of unprotected sex. However, relatively few studies have examined the pathways through which social capital impacts behavioral outcomes. In one study, researchers found that the association of social capital on developmental outcomes, including identity achievement, academic achievement, and mental health were mediated by self-efficacy [33]. Other researchers found that the association between social capital and sexual risk behaviors was not mediated by sex communication and sex refusal self-efficacy [34]. Despite important advances in scientific knowledge, these studies are limited in that their samples included adults [34,35] or university students [33], were conducted outside of the United States [33–35], or did not focus on sexual risk behaviors or HIV testing [33,35]. To summarize, researchers have shown the association between social capital and youth outcomes, the association between social capital and self-efficacy, and the association between self-efficacy and youth outcomes. However, relatively little research has examined how self-efficacy mediates the effects of social capital on sexual risk behaviors and HIV testing among youth. Figure 1 shows the conceptual framework guiding the present study.

The present study examined the association of social capital with sexual risk behaviors and HIV testing in a diverse sample of youth residing in the Denver Metropolitan Area in Colorado. First, we examined the direct association of social capital with sexual risk behaviors, namely unprotected sex, multiple sex partners, being drunk or high prior to sex, as well as HIV testing. Second, we examined the indirect association of social capital with sexual risk behaviors and HIV testing through sex communication and sex refusal self-efficacy. The present study offers three unique contributions to the existing literature. Primarily, we collected data from a diverse sample of youth, whereas relatively few researchers have examined social capital among this vulnerable population [15]. Second, we examined the influence of social capital on sexual risk behaviors and HIV testing among youth, a contribution of note given the dearth of research on the role of social capital in sexual risk behaviors and HIV testing. Finally, we tested the mediating effects of sex communication and sex refusal self-efficacy, as the scientific knowledge with regard to how self-efficacy mediates the association of social capital on sexual risk behaviors and HIV testing among youth is limited.

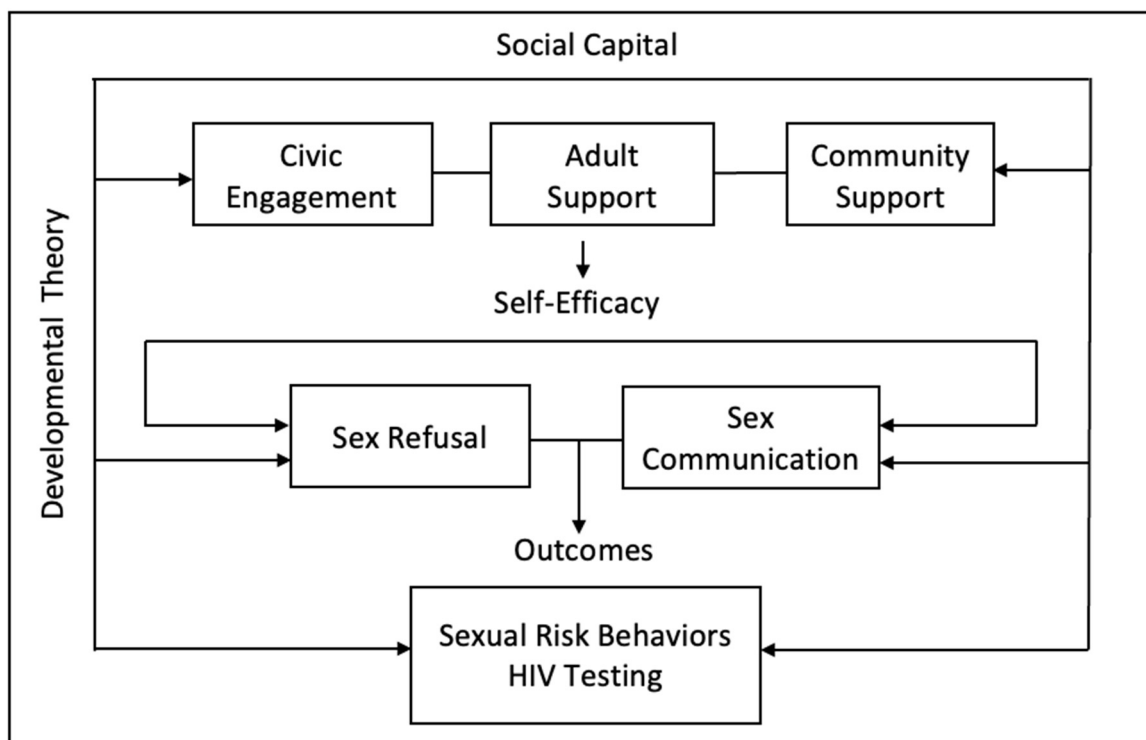


Figure 1. Conceptual framework guiding the present study.

2. Methods

2.1. Procedures

In 2014, we administered a cross-sectional survey on sexual and reproductive health, attitudes, and behaviors to a diverse sample of 200 participants who resided in the Denver Metropolitan Area. Upon receiving approval from the Colorado Multiple Institutional Review Board, we recruited potential participants from community-based agencies and educational institutions that were identified as serving a large number of youths from low-income communities. We also used a snowball sampling method; participants identified through these agencies were then asked to refer others in their social networks to complete the survey at another time. All data collection occurred via in-person administration of the survey.

In the present study, eligible participants included youth who were: (a) 14 to 21 years of age, and (b) able to read and write in English. Based on Colorado law, which allows youth 17 years of age and younger to access sexual and reproductive health services, we obtained a waiver of parental consent for all participants under 18 years of age. A total of 412 potential participants were approached and invited to participate following a description of the study. Of these, 298 were screened for study eligibility. A total of 204 participants completed the informed consent process and 201 assented to participate and were enrolled in the study. The 200 participants who completed the survey were included in the analysis.

Once enrolled, participants were asked to complete a self-administered computer-based survey using a tablet provided to them or a paper copy. Participants completed the survey in approximately 20–30 min and received a \$15 cash incentive for their time.

2.2. Measures

We assessed participants on each of the following measures using self-report questionnaires. We provide a summary of each measure below.

Demographics. Participants completed a demographics survey to capture age, gender, race, ethnicity, and highest grade completed.

Social capital. Social capital was assessed using three indicators: civic engagement, adult support, and community support. Civic engagement (5 items, $\alpha = 0.56$), community support (1 item), and adult support (6 items, $\alpha = 0.83$) were assessed using items from the corresponding subscales from the Brief Social Capital for Youth Sexual and Reproductive Health (BSC-Youth) Scale [36]. The civic engagement subscale measures participation in developmentally appropriate programs such as clubs or other groups, as well as volunteer activities in the community. An example question is, “How often do you take part in clubs or groups in school or out-of-school?” Response choices ranged from “1 = never” to “5 = all of the time”. The community support subscale measures whether and to what extent participants perceive their community to be supportive. Participants were asked, “Do you feel like your neighborhood and community are supportive places?” Response choices ranged from “1 = not at all” to “5 = very supportive”. The adult support subscale measures experiences with supportive adults, including perceived love and support, interest in the well-being of the youth, and clarity regarding behavioral expectations of the youth. An example question is, “How often do the adults in your life provide you with love and support?” Response choices ranged from “1 = never” to “5 = all of the time”.

Self-efficacy. Self-efficacy was measured using two variables. Sex communication self-efficacy was measured using an index of 3 items (3 items, $\alpha = 0.66$). An example question is, “With sex partners, how confident are you in discussing using condoms and contraception (birth control) to prevent pregnancy and condoms to prevent STIs?” Response choices ranged from “1 = not confident at all” to “4 = very confident”.

Sex refusal self-efficacy was measured using 2 items (2 items, $\alpha = 0.55$). An example question is, “How confident are you that you could refuse to have sex if you were pressured to do so?” Response choices ranged from “1 = not confident at all” to “4 = very confident”.

Sexual risk behavior outcomes. We created binary variables to assess each sexual risk behavior. The variables were coded as 0 if the participant did not report having engaged in the behavior and 1 if they did. Participants’ past 90-day unprotected sex was measured using one item that asked, “In the past 3 months, have you had sexual intercourse without you or your partner using a condom, even once?” Participants’ past 90-day multiple sex partners were assessed using one item that asked, “Sometimes people have more than one sex partner at a time—they might consider that they have a main or primary partner and then casual sex partners. Have you had more than one sex partner at a time in the past 3 months?” Participants’ past 90-day alcohol or drug use prior to sex was measured using one item that asked, “How often have you been drunk or high when you’ve had sex in the past three months?” The response was coded as “0” (i.e., no risk) if the participant did not engage in this risk behavior, and “1” (i.e., risk) if the participant reported the risk behavior at least once in the past three months prior to the assessment. We assessed whether the participant had received an HIV test in their lifetime using one item that asked, “Have you ever been tested for HIV?”

2.3. Analytic Approach

We provide a detailed description of the analytic approach below; namely, we computed descriptive statistics, a confirmatory factor analysis, and a structural equation model.

A descriptive statistics analysis was conducted on the demographic, predictor, and outcome variables. The analytic approach included three steps. First, we estimated a measurement model to ascertain the feasibility of collapsing multiple indicators of social capital (i.e., civic engagement, adult support, and community support) into a single latent variable (all other variables were measured using observed variables). This was accomplished by conducting a confirmatory factor analysis. The fit of the model was evaluated utilizing a three-index approach [37,38]: (a) comparative fit index (CFI), (b) the standardized root mean square residual (SRMR), and (c) the root mean square error of approximation (RMSEA). The CFI compares the hypothesized model, relative to a null model with no paths or latent variables. The SRMR compares the standardized difference between the observed correlation and the predicted correlation and is the most sensitive to misspecified

structural model parameters. The RMSEA estimates the extent to which the covariance matrix specified in the model deviates from the covariance matrix observed in the data and is most sensitive to misspecified measurement model parameters. CFI values of 0.95 or greater, SRMR values of 0.08 or less, and RMSEA values of 0.06 or less are indicative of good model fit [37,38]. The confirmed social capital latent variable was used in subsequent structural equation modeling (SEM) analyses.

Next, we used SEM with the social capital latent variable and the sex communication and sex refusal self-efficacy predictors to examine the relationships between these factors and the four outcome variables (past 90-day unprotected sex, multiple sex partners, being drunk or high prior to sex, and lifetime HIV testing). Finally, using the MODEL INDIRECT command in Mplus, we examined the indirect effects of social capital on the four outcome variables through sex communication and sex refusal self-efficacy. We controlled for age and sex in all the models, and all analyses were conducted using Mplus version 7 [39].

3. Results

We provide the empirical findings of our analysis below. In the Discussion section, we provide our interpretation of the study findings.

3.1. Descriptive Findings

Approximately 57.2% of participants identified as female with a mean age of 17.4 (SD = 1.7, range = 14–21). With respect to race–ethnicity, 43.2% of participants identified as Hispanic/Latino, followed by 21.1% non-Hispanic White, 16% Asian/Pacific Islander, 10.1% non-Hispanic Black, 5.5% who identified as more than one race group, and 1.5% each for Native American and Other, respectively. No significant differences in the distribution of participants by gender across different racial–ethnic groups were found, $\chi^2(4) = 8.35$ ($p = 0.08$).

As shown in Table 1, approximately 23% ($n = 46$) of participants reported unprotected sex, 5% ($n = 10$) reported multiple sex partners, and 12.5% ($n = 25$) reported being high or drunk prior to sex in the past 90-days prior to the assessment. Additionally, 15.5% ($n = 31$) of participants reported having received an HIV test in their lifetime.

Table 1. Predictor and outcome variables descriptive statistics.

Scale	N (%)	Scale Range	Mean	SD	Min.	Max.	Alpha
Predictors							
Civic Engagement	-	0–4	1.65	1.37	0	4	0.56
Community Support	-	0–4	2.29	1.08	0	4	-
Adult Support	-	0–4	3.34	0.74	0	4	0.91
Sex Communication							
Self-Efficacy	-	0–3	2.55	0.75	0	3	0.66
Sex Refusal	-	0–3	2.68	0.67	0	3	0.55
Outcomes							
Unprotected Sex	46 (23)	-	-	-	-	-	-
Multiple Sex Partners	10 (5)	-	-	-	-	-	-
Being High/Drunk Prior To Sex	25 (12.5)	-	-	-	-	-	-
HIV Test	31 (15.5)	-	-	-	-	-	-

3.2. Measurement Model

A confirmatory factor analysis indicated that all three indicators of social capital loaded significantly onto a single latent construct. The standardized factor loadings were 0.46, 0.83, and 0.38 for civic engagement, adult support, and community support, respectively. The model fit indices also suggested a good fit [38] (SRMR = 0.04, CFI = 0.98, and RMSEA = 0.04).

3.3. Structural Equation Modelling

Both the CFI (0.80) and RMSEA (.069) indicated that the hypothesized model provided an adequate fit for the data. The χ^2 , with 163 degrees of freedom (df) and a value of 316.585 ($p < 0.001$), also suggested that the model was a good fit.

Direct associations. As shown in Figure 2, higher levels of social capital were directly associated with higher levels of sex communication ($\beta = 0.698, p < 0.001$) and with higher levels of sex refusal self-efficacy ($\beta = 0.485, p < 0.001$). Higher levels of social capital were directly and positively associated with past 90-day unprotected sex ($\beta = 0.83, p = 0.02$) and negatively associated with lifetime HIV testing ($\beta = -0.725, p = 0.014$). Higher levels of sex communication self-efficacy were directly and negatively related to past 90-day unprotected sex ($\beta = -0.682, p = 0.042$) and past 90-day drunk or high prior to sex ($\beta = -0.63, p = 0.023$), and positively related to past 90-day multiple sex partners ($\beta = 0.62, p = 0.032$). Higher levels of sex refusal self-efficacy were also directly and negatively associated with past 90-day drunk or high prior to sex ($\beta = -0.33, p = 0.01$) and past 90-day multiple sex partners ($\beta = -0.54, p < 0.001$).

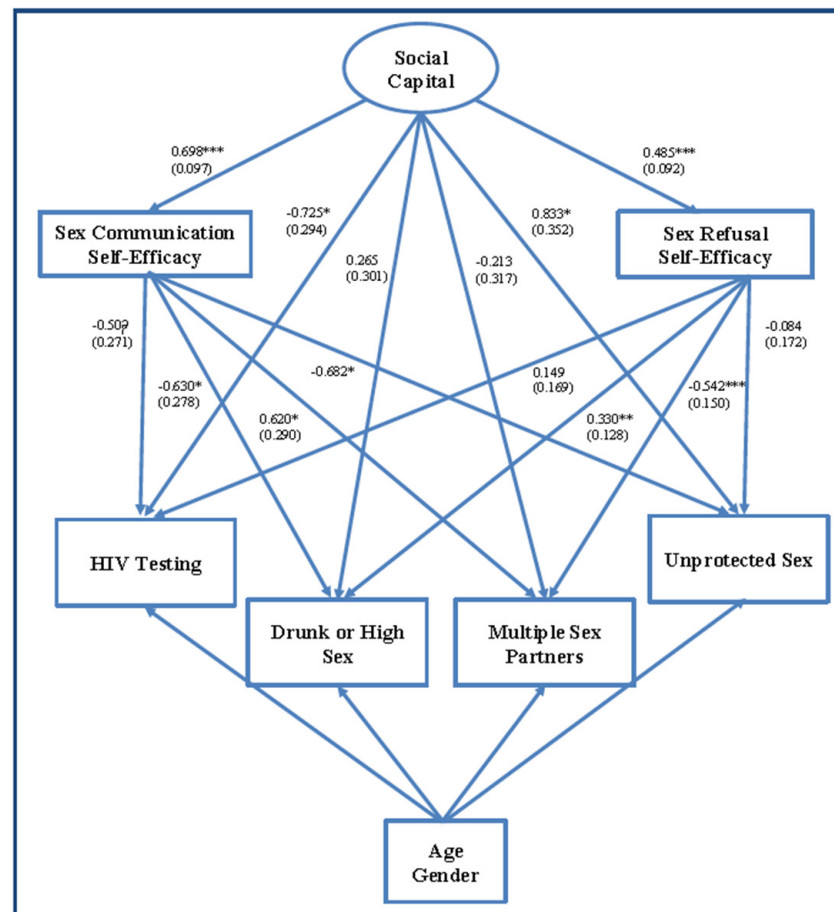


Figure 2. Results of hypothesized model linking social capital to STI/HIV risk behaviors and HIV testing through communication and sex refusal self-efficacy. Note: standardized path coefficients are presented above, below (standard error); * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Indirect associations. The association between social capital and past 90-day multiple sex partners was mediated by sex refusal self-efficacy ($\beta = -0.25, p = 0.037$) and marginally significant by sex communication self-efficacy ($\beta = 0.45, p = 0.076$). The association between social capital and past 90-day drunk or high prior to sex was partially mediated by sex refusal self-efficacy ($\beta = -0.15, p = 0.09$) and sex communication self-efficacy ($\beta = -0.45, p = 0.07$). Finally, the effect of social capital on lifetime HIV testing was partially mediated by sex communication self-efficacy ($\beta = -0.36, p = 0.09$).

4. Discussion

This study is among the few that have explored how social capital is associated with sexual risk behaviors and HIV testing among a diverse sample of youth (14–21 years old), as most studies have focused on adult populations. We found that sex communication and sex refusal self-efficacy partially mediated the association of social capital with sexual risk behaviors and on HIV testing. We found that higher levels of social capital were associated with an increased likelihood of engaging in some sexual risk behaviors and with less HIV testing, including when partially mediated by sex communication and sex refusal self-efficacy.

4.1. Related Work

Study findings with regard to unprotected sex and HIV testing outcomes are inconsistent with some research that suggests that social capital is protective of sexual risk behaviors [17–21,40]. Rather, these findings are akin to a few studies that have also found an opposite effect [41,42]. With regard to the drunk or high sex and multiple sex partners outcomes, however, study findings align with research that suggests no association with social capital [22,23]. Below, we offer potential explanations of our findings, and study implications that may help to advance the state of the science with respect to social capital and sexual risk behaviors and HIV testing among youth.

4.2. Implications

In light of the dearth of research on the role of social capital in sexual risk behaviors and HIV testing among youth, our findings are meaningful, and we offer some potential explanations. An important consideration could be that the construct of social capital for youth has not been well understood and measured. We previously found that the factor loadings for measures of civic engagement and community support derived from other literature on social capital were not as high in our sample as the factor loading for adult support derived from studies with adults [36]. This suggests that elements of social capital, as conceptualized and considered in other health research with adults, may not be as salient for youth and calls into question the utility of focusing on social capital as the best predictor of youth behavior. It may be that youth can benefit from engagement in the community and from volunteering and civic participation, but perhaps these activities do not have the same protective or health-promotive value for youth as they do for adults. It is also possible that youth consider sexual risk behaviors as more acceptable and have enhanced opportunities to experience them through network ties consisting of youth already engaging in those behaviors [19]. In fact, research with young gay, bisexual, and other men who have sex with men has shown that high levels of social capital, namely the quantity and quality of relationships with individuals and organizations, may increase an earlier age of exposure to sexual networks and enhance vulnerability to sexual risk behaviors [27]. Given our finding that adult social support was meaningful for youth, it could also be that emphasis on factors other than civic engagement that facilitate youth development, such as future orientation and adult connectedness, may be more salient and relevant for youth and should be considered in future research [43]. For example, some research in Latin American contexts has shown that religion may be a promotive factor for preventing unprotected sex at sexual debut [44], and future research could incorporate religion-related factors in a social capital framework.

In reviewing how social capital has been measured in other research on youth and behavioral outcomes, it is clear that there is not a consistent accepted approach to this measure. For youth, before we move into more assessments of social capital and behavioral outcomes, we may need to first improve the measures of social capital. Although Novak and Kawachi [45] identified several studies where higher levels of social capital among youth were associated with improved behavioral outcomes, the studies they cite to support this observation do not seem to be measuring social capital per se, but rather a combination of factors such as higher collective family income [43] or the interaction

of geographic resources with family and neighborhood support [46]. Thus, a crucial first step in understanding a relationship between social capital and behavioral outcomes for youth is to better and more consistently define and apply measures of social capital for this population. We call for more studies that validate measures of social capital for youth. We have shared our own efforts to develop the BSC-Youth Scale [36] and encourage others to refine these measures and work toward consistent and psychometrically sound instruments to assess social capital.

A second consideration is the conflicting message derived from the SEM model presented in this study. Findings suggest that greater social capital and self-efficacy were associated with increased sexual risk behavior. While social capital was associated with higher sex communication and sex refusal self-efficacy, it was also directly associated with sexual risk behaviors, namely unprotected sex, multiple sex partners, as well as less HIV testing. These findings align with previous research suggesting higher levels of social capital (i.e., family support) are linked to decreased uptake of HIV testing among emerging adults [42], but contradict findings suggesting higher levels of social capital (i.e., peer support) are linked to increased uptake of HIV testing among adult female sex workers [47]. Again, the present findings are potentially indicative that social capital might influence youth differently than adults or that the construct itself needs to be better defined across studies focused on youth. It may also be that in this sample, our measure is imprecise and therefore not optimally useful to elucidate relationships between social capital and sexual risk behaviors. If this is the case, the aforementioned research to improve measurement remains critical. It is also possible that increased social capital, conceptualized as having greater civic engagement and adult and community support, translates into more opportunities to engage in sexual risk behaviors. With more opportunities come more chances to have unprotected sex and more sex partners. If this is the case, then we need to develop a framework to identify potential moderators and mediators of the effects of social capital on sexual risk behaviors [48,49]. For example, researchers have shown that pursuit of pleasure is a driving factor in sex initiation among youth [50], and may be important to consider in future research. Because youth who have not yet engaged in sexual activity were included in our sample, it is possible that social capital has a differential association with HIV testing among those who have not yet engaged in sex. Given that (a) the CDC recommends that everyone 13–64 years of age get tested for HIV at least once as part of routine health care [9], and (b) the HIV testing outcome was assessed over a lifetime, we included the entire sample. Future research powered to conduct multigroup analysis should examine how these findings hold over time. It is also important to note that the vast majority of youth in the present study identified as heterosexual. Given that researchers have shown that the association of social capital with sexual risk behaviors and HIV testing varies across heterosexual and men who have sex with men social networks among adults [51], research on adolescent LGBTQ+ populations who experience additional challenges is needed.

The present study provides some evidence that self-efficacy may be a meaningful individual-level characteristic through which social capital has an effect on sexual risk behaviors and HIV testing among youth. Direct effects of self-efficacy were protective and contributed to reduced risk for this sample. This is consistent with other research on self-efficacy, which suggests that building skills and confidence in sex communication and sex refusal self-efficacy can be beneficial [52–54]. In most cases, the direct and deleterious relationships between social capital and sexual risk behavior were mediated by increased self-efficacy, further bolstering that emphasizing skill- and confidence-building for youth may be a useful approach in preventive interventions for youth. Given that researchers have shown the ways in which gender differs in how youth give meaning to the use of condoms in sexual relationships [55]—a potentially important process in skill- and confidence building—future research should examine whether and to what extent potential mediators of social capital on sexual risk behaviors vary as a function of gender.

Ultimately, we believe it is worth considering whether and how social capital can benefit youth and if modifications to social capital theory are needed when applying it

to youth. For example, the emphasis on the community and civic engagement elements of social capital among adults is posited to support the idea of reciprocity—that is, if one engages and is a productive community member, they can expect to receive support and help when needed. For youth, it remains unclear if their social capital operates in a similar fashion and under what conditions. With a mean age of 17, perhaps securing social support from adults is critical, and a transition to understanding concepts of reciprocity in community and civic engagement is more likely in emerging adulthood. For adolescents in particular, there may be a need to first fully bolster the sense of adult support before setting up expectations of engagement and reciprocity. The findings from this study suggest that a sense of adult support—derived from measures of social support rather than social capital—appear meaningful for this sample. This notion of emphasizing strong positive relationships with adults is supported in other research on social capital with youth. In an assessment of mental health among youth, Kim [56] found that effective integration into family has a positive influence on mental health, whereas another important factor in social capital, having a high level of community engagement—in this case manifested as having a large number of ties to peers—may have an iatrogenic effect if those peers are not a positive and supportive influence. Novak and Kowachi [45] used measures of social capital that documented levels of trust in neighborhood and school settings as well as family support and found that they were all associated with lower psychological stress among students.

Findings should be interpreted in light of several study limitations. First, we caution that our findings were drawn from a small community sample and therefore cannot be generalized beyond this sample. Second, although we controlled for age in the analysis, the sample size limited the ability to conduct multigroup analysis by age group (i.e., only 3.5% of participants were 14–15 years of age). Future research could employ a stratified sampling design to conduct subgroup analysis. Third, the use of self-report measures is a limitation and is susceptible to participant under or overreporting of sexual risk behaviors. Finally, the cross-sectional design precludes us from determining causal or directional ordering of the associations found in the present study.

5. Conclusions

The present study offers important insight into the importance of social capital, sex communication, and sex refusal self-efficacy for youth when making decisions about sexual risk and protective behaviors. The study findings also strengthen the argument that we need tailored and more consistently applied measures of social capital for youth so that we can then be better positioned to understand how social capital may influence sexual risk behaviors and HIV testing within this vulnerable population. From the data presented, we believe that until this research is further developed, it remains prudent to emphasize self-efficacy in the form of skills and confidence-building for specific sexual risk behavior prevention and risk reduction strategies, and to enhance adult social support to help youth navigate their transition to healthy sexuality in adulthood.

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