

# Predictors of Caregiver Communication About Reproductive and Sexual Health and Sensitive Sex Topics

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## Abstract

Numerous studies examining parent–teen communication about sex (PTCS) have focused on reproductive and sexual health information (i.e., pregnancy, physical development, contraception), with significantly fewer addressing communication about sensitive sex topics (i.e., sexual pleasure, masturbation). This study compares predictors of communication about reproductive and sexual health to those of sensitive sex topics with early adolescents. Participants were 465 rural caregivers and their African American youth. Positive attitudes and self-efficacy for PTCS, open communication style, and older youth age predicted caregiver reports of communication about reproductive and sexual health topics. Open communication style and self-efficacy for PTCS predicted caregiver reports of communication about sensitive sex topics. For youth, only older age and being female predicted communication about reproductive and sexual health, while only being

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female predicted communication about sensitive sex topics. This study may inform interventions that seek to increase PTCS by highlighting strategies for improving communication about both reproductive and sensitive sex topics.

### **Keywords**

parent–teen communication, sexual behavior, sensitive sex, African Americans

Rural African American youth report an early age of sex initiation and are at high risk for unplanned pregnancy and sexually transmitted infections (STIs; Centers for Disease Control and Prevention, 2011, 2015; Epstein et al., 2014; Farmer et al., 2004). Parent–teen communication about sex (PTCS) is an important, well-documented strategy that has been associated with safer sexual practices among youth, including increased contraception and condom use (Akers, Holland, & Bost, 2011; Sutton, Lasswell, Lanier, & Miller, 2014; Widman, Choukas-Bradley, Noar, Nesi, & Garrett, 2016). PTCS plays an important role in the sexual socialization of youth, with parents acting as change agents uniquely positioned to communicate their beliefs and values regarding sexual behavior to their adolescents prior to sex initiation (Jaccard, Dodge, & Dittus, 2002; Miller et al., 2009). However, little is known about the diversity of topics covered in PTCS during early adolescence, the frequency of such discussions, or whether the predictors of PTCS differ by the type of topics discussed. Therefore, the current study aims to develop a greater understanding of the types of sexual topics covered during PTCS between rural African American youth and their caregivers.

Parent-led sexuality education allows parents to provide sexual health information to their youth in a manner that is consistent with their values and beliefs. Moreover, unlike school-based programs, parents are able to tailor this information with respect to their early adolescents' life experiences and social and community context (Jaccard et al., 2002). They are also able to exert an influence throughout their adolescents' development, enabling them to affect youths' behaviors and beliefs in various contexts. Caregivers, for example, have an extended reach and influence that enables them to direct their early adolescents toward age-appropriate activities and provide them with regular opportunities to discuss sexual health topics. Moreover, caregivers have the opportunity to tailor parental monitoring and supervision according to their youths' temperaments and characteristics (Jaccard et al., 2002). Previous research has shown that youth, in fact, prefer that their caregivers engage them conversations about sex (e.g., O'Donnell et al., 2007).

PTCS may be protective against unsafe sexual practices among early African American youth if timed appropriately (Brody et al., 2005). Previous research, for example, has linked PTCS with early adolescents to delayed sex initiation and greater subsequent condom use (Bradley, Leichter, & Gift, 2013; Guilamo-Ramos et al., 2012). Moreover, PTCS has been linked to increased communication between adolescents and their partners about sex and condom use (Widman, Choukas-Bradley, Helms, Golin, & Prinstein, 2014). These findings are consistent with the structural ecosystems perspective, which posits that repetitive and frequent patterns of interaction among people within a social system has an effect on the beliefs and behaviors of those within and external to the system (Szapocznik & Coatsworth, 1999). Applied to PTCS, this perspective suggests that frequent and effective communication between parents and youth about sexual health topics could serve as a model for the way in which youth communicate with their future sexual partners about sex. Taken together, these findings highlight the importance of PTCS to adolescent sexual outcomes.

An integrated behavioral framework is particularly useful in identifying and understanding predictors of PTCS (Fishbein, 2000). According to this framework, motivation and behavioral intentions affect knowledge, beliefs, attitudes, and self-efficacy, which are key drivers of behavioral outcomes. As such, it is critical that we determine which factors serve as strong enough motivators to lead caregivers to develop intentions to engage their youth in PTCS. Intentions to act, however, are not enough to cause actual behavior. Instead, whether she actually engages her youth in PTCS depends on her knowledge, attitudes, beliefs, and self-efficacy regarding PTCS. Consistent with this framework, several factors have been linked to PTCS among older adolescents, including (a) perceived knowledge to answer questions and provide clear explanations, (b) beliefs that such conversations would not cause embarrassment to either the adolescent or themselves, (c) beliefs that the outcomes of such conversations would be positive, (d) reports of high self-efficacy to have such conversations, (e) beliefs that having such conversations made them responsible parents, (f) the absence of fear of encouraging sexual activity, and (g) demographic characteristics, such as parent age or gender (Guilamo-Ramos, Jaccard, Dittus, & Collins, 2008; Jerman & Constantine, 2010; Williams, Pichon, & Campbell, 2015; Wyckoff et al., 2008). These findings are also consistent with social cognitive theory (SCT; Bandura, 1989), which posits that knowledge, skill, and self-efficacy for PTCS increases the chances that a parent will engage in PTCS. Moreover, SCT supports the notion that parents seek environmental cues (e.g., age, physical development, expressed curiosity, and actual sexual behavior) to indicate their youths' readiness for PTCS. Previous research, however, has shown that

parents often underestimate their youths' interest in sex and readiness for sexual communication, with one study showing that youth between ages 9 and 12 years report readiness for sex or sexual communication (Miller et al., 2012). Additionally, parents are more likely to talk to their children about sex if they have a close relationship in which they generally communicate well with their child, often viewed as a proxy for relationship quality (Lammers, Ireland, Resnick, & Blum, 2000; Regnerus & Luchies, 2006). A closer parent-teen relationship and a more open communication style could help youth better understand their parents' attitudes and beliefs about early sexual activity. This is particularly important given the previous research linking maternal sexual attitudes to their youths' sexual attitudes and behaviors (e.g., Dittus, Miller, Kotchick, & Forehand, 2004). However, less is known about the factors that predict PTCS among caregivers of rural African American, early adolescents. Such factors may differ from those that influence PTCS with older adolescents, as most early adolescents have not yet initiated sex and may not have embarked on a romantic relationship, which are both behaviors that caregivers may use as cues that their youth are ready for PTCS (Beckett et al., 2010). By neglecting to intervene on factors that affect PTCS among early adolescents, interventions may inadvertently miss an opportunity to increase safe sexual behaviors of these youth as they develop and initiate sexual behavior.

Studies investigating the significance of PTCS often inquire about a limited range of topics (Dyson & Smith, 2012). In fact, the majority of studies on PTCS have focused on the provision of reproductive and sexual health information, which includes topics emphasizing sexual development (i.e., menstruation, physical development) and the risk prevention due to the consequences of adolescent sexual activity (i.e., pregnancy, condom use, STI, contraception, abortion; Aspy et al., 2007; Donaldson, Lindberg, Ellen, & Marcell, 2013; Eisenberg, Sieving, Bearinger, Swain, & Resnick, 2006; Miller et al., 2011; Robert & Sonenstein, 2010). While discussions of reproductive and sexual health are important, discussions of sensitive sex topics, or those that emphasize the positive aspects of sexuality (e.g., sexual desire and pleasure, types of sex, masturbation, and nocturnal emission) might also be important for youths' subsequent sexual relationships, particularly as it relates to efficacy in one's ability to communicate with one's partner prior to and at sex initiation (Harden, 2014). To date, few studies have compared the frequency of PTCS on sensitive sex topics with the frequency of PTCS on reproductive and sexual health topics among early adolescents (DiIorio, McCarty, & Pluhar, 2011). This may be particularly relevant for parents of African American descent, as the vast majority identify as Christian and thus, may hold religious beliefs that are in direct contrast to messages emphasizing

the normality of sexual thoughts and behaviors during adolescence outside the context of marriage (O'Sullivan, Jaramillo, Moreau, & Meyer-Bahlburg, 1999; Williams et al., 2015).

Parent–teen communication about sensitive sex topics may be critical to youths' sexual development, as few school or community-based sexual education programs aimed at youth cover such topics (Lightfoot, Taboada, Taggart, Tran, & Burtaine, 2015; Widman et al., 2016). Failure to discuss sensitive sex topics could lead youth to believe that certain topics are off-limits and should not be discussed thereby affecting future sexual relationships. Research conflating parent–teen communication about reproductive and sexual health information with communication about sensitive sex topics could mask differences in prevalence of such conversations, leading to interventions that fail to address critical topics in promoting safer sex practices among vulnerable youth. This may be particularly problematic for young, rural African American youth who have an increased risk of experiencing adverse sexual health outcomes (Centers for Disease Control and Prevention, 2011, 2015; Epstein et al., 2014; Farmer et al., 2004). Therefore, the primary goals of the current study were to (a) identify topics discussed during PTCS; (b) determine whether there were differences in the frequency of conversations about reproductive and sexual health and sensitive sex topics based on both caregiver and youth reports; (c) determine which factors are associated with communication about each type of PTCS (i.e., reproductive and sexual health and sensitive sex topics); and (d) determine whether these factors differ as a function of who reports on PTCS (caregiver vs. youth).

## **Method**

### ***Sample and Procedure***

This study was approved by the institutional review board at a large public university in the Southeastern part of the United States. It focuses on baseline data from a community-based HIV prevention program developed for African American youth aged 10 to 14 years and their caregivers called Teach One, Reach One. While the target age was between 10 and 14 years, 9-year-olds who had birthdays prior to August 30 and 15-year-olds whose birthdays were after June 1 were also allowed to participate in the study. Project GRACE, an established community-based participatory research partnership created to address ethnic minority health disparities in rural communities, developed the intervention to delay sex initiation, increase safer sex practices, and to promote healthy dating relationships among early adolescents. The details regarding partnership and intervention development

have been described elsewhere (Corbie-Smith et al., 2010, 2011; Ritchwood et al., 2015). In sum, we used intervention mapping to collectively develop an intervention guided by a composite conceptual framework that acknowledged multilevel factors in influencing HIV/STI risk among African American youth in rural communities. This integrated behavioral framework was composed of constructs from the theory of planned behavior (Ajzen, 1985), which addressed individual-level factors, and SCT (Bandura, 1989), which addressed factors related to the social environment.

We recruited participants from five rural counties in Eastern North Carolina between December 2008 and May 2012. Residents of these counties shared comparable population characteristics, including poverty rates and ethnic compositions (State Center for Health Statistics, Office of Healthy Carolinians/Health Education, 2012). Youth were eligible if they self-identified as African American, were residents in the target counties, and were between the ages of 10 and 14 years. A small proportion of youth who identified as mixed race were also included in the current study, as community partners decided that youth and their caregivers should not be turned away if all other criteria were met. Caregivers were eligible if they were 18 years of age or older and responded affirmatively to the following question: “Are you a parent or caregiver to the participating African American youth?” This was critical, as caregivers and youth were required to enroll in the study as dyads. We recruited participants from local churches, schools, and other community organizations by distributing fliers and brochures, and through announcements on the radio and in newspapers.

Recruitment fliers stated that participants were sought for a “research study about dating, relationships, and communication.” Along with the study description, eligibility criteria were included on fliers, which included whether they met residential and age requirements, there was interest from both the caregiver and youth, and they were able to commit necessary time to complete the study. Caregiver–youth dyads also completed an initial, 10-item screener for eligibility to verify that participants met study criteria. During the screening, potential participants were informed that they were being recruited for an HIV-prevention study and provided with additional detail regarding the study. Questions focused on residence in a target community, youth’s age, and survey scheduling. Adult participants were asked, “Are you a parent or caregiver to an African American youth?” For the purposes of this study, we use the term *caregiver* when referring to adult study participants to acknowledge the diversity of relations between adults with caregiving responsibilities and youth in African American communities, with *caregivers* including biological parents, other relatives, legal guardians, or other adults with direct caregiving responsibilities for the youth. If interested and determined eligible, we asked caregivers to sign

a consent form for themselves and their youth, while youth signed an assent form. In cases where the caregiver was not the legal guardian, parental permission was obtained. Prior to survey administration, the study team conducted cognitive interviews to ensure comprehension and adapted the language, where necessary, to ensure readability within our study population.

Both caregivers and youth completed a 1-hour self-administered baseline survey at a local community site (e.g., meeting room, library, etc.) that inquired about one's own attitudes and behaviors, as well as those of their participating youth (for caregivers) or caregiver (for youth). To address potential issues regarding confidentiality and low literacy, we used audio computer-assisted self-interview. Trained facilitators were available to assist participants when necessary. We piloted all measures for comprehension in our study populations and adapted the language, where necessary, to ensure readability within our population. Both caregivers and youth were initially offered \$10 each for completing the survey; however, this amount was increased to \$30 over the baseline time period to address recruitment challenges experienced in certain counties. Additional details regarding recruitment and training for the intervention study have been reported elsewhere, as the current article focuses only on baseline data (Corbie-Smith et al., 2010; Corbie-Smith et al., 2011; Dave et al., 2016; Ritchwood et al., 2017).

## Measures

*Sociodemographics.* We assessed caregiver age, race, gender, and relationship to participating adolescent (e.g., biological parent, legal guardian), education level, and yearly income. We also assessed youth age and gender.

## Outcome Measure

*Parent–Teen Communication About Sex.* An adapted version of the *Parent–Adolescent Communication Scale* (Sales et al., 2008) assessed the extent to which both caregivers and youth reported PTCS and sexuality. The research team conducted confirmatory factor analyses on the original scale, which indicated that there were two independent factors: Parent–teen communication about reproductive and sexual health (caregiver  $\alpha = .91$ ; youth  $\alpha = .90$ ) and Parent–teen communication about sensitive sex topics (caregiver and youth  $\alpha = .91$ ), with high convergent validity ( $r = .84, p < .001$ ). The reproductive and sexual health subscale consisted of 10 items that inquired about the frequency with which caregivers had discussed various topics with their youth, including discussions about HIV/AIDS, menstruation, physical development, pregnancy, abortion, condom use, STIs, contraception, sex before

marriage, and sexuality. The sensitive sex topics subscale consisted of seven items that inquired about the frequency with which caregivers had discussed more topics related to the pleasurable aspects of sex and sexuality including sexual desire and satisfaction, type of sex (i.e., vaginal, oral, or anal sex), masturbation, and nocturnal emission. Responses for both subscales range from 0 (*never*) to 3 (*very often*), with higher scores indicating more frequent communication.

### *Independent Variables*

*Permissive Attitude Toward Sex Initiation.* This scale, which was adapted from a measure developed by Basen-Engquist et al. (1998), assessed attitudes toward delay in sex initiation. The four-item scale ( $\alpha = .74$ ) included statements such as, “I believe 10- to 11-year-olds should wait until they are older before they have sex.” Responses ranged from 0 (*definitely yes*) to 3 (*definitely no*), with higher scores indicating more permissive attitudes toward sex initiation.

*Attitude Toward Parent–Teen Communication About Sex and Dating.* *Attitude toward parent–teen communication* assessed caregivers’ beliefs regarding talking to early adolescents about dating and sex. The six-item scale ( $\alpha = .89$ ), developed *de novo*, included items such as, “It is important to talk to my child about abstinence.” Responses range from 0 (*strongly disagree*) to 3 (*strongly agree*), with higher scores indicating positive attitudes regarding talking with the participating early adolescent about sex and dating.

*Outcome Expectations Regarding Parent–Teen Communication About Sex.* We used items from the *Outcome Expectations of Parent–Teen Communication Scale* (Barnes & Olson, 1985) to assess caregivers’ perceptions of what might happen as a result of talking with the participating early adolescent about dating and sex. This 10-item scale ( $\alpha = .84$ ) included items such as, “If I talk with him or her about sex topics, I will be embarrassed,” and, “If I talk with him or her about sex topics, he or she will be less likely to have sexual intercourse as a young teen.” Responses range from 0 (*strongly disagree*) to 3 (*strongly agree*), with higher scores indicating more positive expectations regarding outcomes of PTCS.

*Self-Efficacy for Parent–Teen Communication About Sex.* The *Self-Efficacy for Parental–Teen Communication Scale* (DiIorio et al., 2001) assessed caregivers’ belief in their own ability to talk with the participating youth about topics of a sexual nature such as, “How to put a condom on.” The 16-item scale ( $\alpha$



= .92) included items such as, “You can always explain to the child in the program with you how to use birth control pills.” Responses range from 0 (*not sure at all*) to 3 (*completely sure*). Higher scores indicate greater self-efficacy.

*Open Parent–Teen Communication.* The *Open Family Communication* subscale of the *Parent–Adolescent Communication Scale* (Barnes & Olson, 1985) assessed caregivers’ overall evaluation of communication with the participating youth. This 10-item subscale ( $\alpha = .85$ ) measures the degree of openness and positive experiences in communicating with one’s child. Responses range from 0 (*strongly disagree*) to 3 (*strongly agree*), with higher scores indicating more open communication.

For each scale, individual items were summed to create composite scores.

## Data Analysis

Data were analyzed using SPSS, version 23. We used descriptive statistics (i.e., frequencies, means, standard deviations) to describe participant characteristics and used correlation coefficients to identify those variables that were significantly related to either of the outcome variables for inclusion in the final models. We conducted a paired samples *t* test to examine differences in the frequency with which caregivers reported discussions about reproductive and sexual health topics when contrasted to their reports of discussions about sensitive sex topics with their youth. Next, we conducted two independent means *t* tests to determine whether caregivers and youth differed in their perceptions of the frequency with which there was parent–teen communication about reproductive and sexual health topics and sensitive sex topics, separately. Last, four linear regression models were conducted to examine the effects of youth age and gender, caregiver permissive attitude toward sex initiation, attitude toward PTCS and dating, open parent–teen communication, and self-efficacy for PTCS on caregiver reports of parent–teen communication about reproductive and sexual health topics (Model 1) and sensitive sex topics (Model 2), as well as the frequency of youth reports of parent–teen communication about reproductive and sexual health topics (Model 3) and sensitive sex topics (Model 4). Caregiver sex, relation to youth, income, and education were included as covariates in all models. If individual covariates were not significantly related to the outcome variable once included in the model, they were later removed to generate a more parsimonious model. Statistical significance for the regression analyses was defined as  $p < .05$ .

## Results

Table 1 provides a summary of baseline demographic characteristics of the 465 caregiver–youth dyads. Caregivers and youth primarily identified as African American and were on average 36.18 years (biological:  $M = 37.0$ ,  $SD = 7.5$ ; other relative:  $M = 37.6$ ,  $SD = 16.6$ ; nonrelative:  $M = 32.8$ ,  $SD = 13.5$ ) and 12.55 years of age, respectively, and female. Most caregivers were the biological parent of the participating youth, reported some college/technical school education and had an average annual income of less than \$20,000. Overall, caregivers reported positive attitudes toward PTCS ( $M = 15.49$ ,  $SD = 3.18$ ), high self-efficacy regarding communicating with their youth about sex ( $M = 39.0$ ,  $SD = 8.80$ ), and less permissive attitudes toward sex initiation ( $M = 0.44$ ,  $SD = 1.40$ ; Table 2). Caregivers also reported moderate levels of positive outcome expectations regarding PTCS ( $M = 21.70$ ,  $SD = 4.33$ ) and open parent–teen communication ( $M = 21.61$ ,  $SD = 4.57$ ). However, they reported relatively low levels of actual parent–teen communication about reproductive and sexual health ( $M = 17.50$ ,  $SD = 8.53$ ) and sensitive sex topics ( $M = 6.13$ ,  $SD = 6.37$ ).

Sexual health topics were grouped into the two communication subscales: reproductive and sexual health topics and sensitive sex topics. Table 3 summarizes frequency of reports of parent–teen communication about each sexual health topic. Most caregivers reportedly discussed the following reproductive and sexual health topics with their youth at least a few times: physical development, HIV/AIDS, premarital sex, STIs, condom use, homosexuality, pregnancy, contraception, and menstruation. On the other hand, caregivers reported discussing the following sensitive sex topics with their youth at least a few times: sexual desire, vaginal sex, sexual satisfaction, oral sex, masturbation, anal sex, and nocturnal emission.

A large percentage of youth reported discussions of the following reproductive and sexual health topics with their caregivers at least a few times: physical development, menstruation, HIV/AIDS, pregnancy, STIs, premarital sex, condom use, contraception, and homosexuality. Few youth reported that they discussed the following sensitive sex topics with their caregiver at least a few times: sexual desire, sexual satisfaction, oral sex, vaginal sex, masturbation, anal sex, and nocturnal emission.

Caregivers reported more frequent discussions about reproductive and sexual health topics ( $M = 1.75$ ,  $SD = 0.85$ ) than sensitive sex topics ( $M = 0.85$ ,  $SD = 0.90$ );  $t(428) = 23.13$ ,  $p < .001$ . Caregivers and youth differed in their assessments of how frequently reproductive and sexual health topics and sensitive sex topics were discussed. Caregivers, for instance, reported more frequent discussions about both reproductive and sexual health,

**Table 1.** Demographic Characteristics of Youth and Caregivers.

|  | Youth                  | Caregivers           |
|--|------------------------|----------------------|
| Age (years), <i>M</i> ( <i>SD</i> , range) | 12.55 (1.42, 9.6-15.4) | 36.18 (11.84, 18-80) |
| Gender, % ( <i>n</i> )                     |                        |                      |
| Male                                       | 44.5 (207)             | 19.1 (83)            |
| Female                                     | 55.5 (258)             | 80.9 (352)           |
| Race, % ( <i>n</i> )                       |                        |                      |
| African American                           | 89.8 (422)             | 90.7 (451)           |
| Unspecified                                | 6.3 (30)               | 0.6 (3)              |
| Ethnicity, % ( <i>n</i> )                  |                        |                      |
| Hispanic/Latino                            | 8.1 (33)               | 2.7 (13)             |
| Non-Hispanic/Latino                        | 91.9 (374)             | 97.3 (472)           |
| Relation to the youth, % ( <i>n</i> )      |                        |                      |
| Parent                                     | —                      | 54.7 (285)           |
| Relative                                   | —                      | 19.5 (96)            |
| Nonrelative                                | —                      | 25.7 (127)           |
| Education, % ( <i>n</i> )                  |                        |                      |
| 5th Grade or less                          | 22.2 (103)             | —                    |
| 6th-8th Grade                              | 57 (265)               | —                    |
| 9th-12th Grade                             | 20.8 (97)              | —                    |
| Some high school or less                   | —                      | 21.7 (108)           |
| High school                                | —                      | 33.9 (168)           |
| Some college/technical school              | —                      | 26.2 (130)           |
| College/higher                             | —                      | 18.1 (90)            |
| Yearly income, % ( <i>n</i> )              |                        |                      |
| <\$5,000                                   | —                      | 22.5 (112)           |
| \$5,000-\$19,999                           | —                      | 30.8 (153)           |
| \$20,000-\$39,999                          | —                      | 21.9 (109)           |
| \$40,000-\$59,999                          | —                      | 9.7 (48)             |
| \$60,000-\$79,999                          | —                      | 3.8 (19)             |
| \$80,000 or more                           | —                      | 2.4 (12)             |

Note. Totals do not sum to the sample size because of missing data and rounding.

caregiver  $M = 1.75$ ,  $SD = .85$ ; youth  $M = 1.22$ ,  $SD = 0.87$ ;  $t(458) = 9.26$ ,  $p < .001$ ; Cohen's  $d = .62$ , and sensitive sex topics, caregiver  $M = 0.90$ ,  $SD = 0.92$ ; youth  $M = 0.55$ ,  $SD = 0.78$ ;  $t(438) = 6.05$ ,  $p < .001$ ; Cohen's  $d = .41$ , than their youth.

In our adjusted analyses focused on caregiver reports, we found that the overall model was significant,  $F(8, 427) = 15.19$ ;  $p \leq .001$ ;  $R^2 = .23$ , such that higher levels of parent-teen communication about reproductive and sexual

**Table 2.** Descriptive Statistics for Baseline PTCS-Related Measures.

| Construct            | Measure name                               | <i>M</i> ( <i>SD</i> ) | Number of items | Actual response range |
|----------------------|--|------------------------|-----------------|-----------------------|
| Caregiver outcomes   | PTC about sensitive sexual topics          | 6.13 (6.37)            | 7               | 0-21                  |
|                      | PTC about reproductive and sexual health   | 17.50 (8.53)           | 10              | 0-30                  |
| Youth outcomes       | PTC about sensitive sexual topics          | 3.41 (4.74)            | 7               | 0-18                  |
|                      | PTC reproductive and sexual health         | 12.84 (8.80)           | 10              | 0-30                  |
| Attitudes            | PTCS                                       | 15.49 (3.18)           | 6               | 0-18                  |
|                      | Permissive attitudes toward sex initiation | 0.44 (1.40)            | 4               | 0-9                   |
| Outcome expectations | PTCS                                       | 21.70 (4.33)           | 10              | 0-30                  |
| Self-efficacy        | PTCS                                       | 39.00 (8.80)           | 16              | 0-48                  |
| Relationship quality | Open PTC                                   | 21.61 (4.57)           | 10              | 0-30                  |

Note. PTCS = parent–teen communication about sex.

health topics was associated with older youth age more positive attitudes toward PTCS, greater self-efficacy for PTCS, and open communication style (Table 4). Regarding communication about sensitive sex topics, the overall model was significant,  $F(11, 419) = 7.40$ ;  $p \leq .001$ ;  $R^2 = .14$ . In this model, only open communication style and greater self-efficacy for PTCS were associated with greater communication about sensitive sex topics (Table 4). In our unadjusted model focused on youth reports, we found that the overall model was significant,  $F(7, 359) = 7.58$ ;  $p < .001$ ;  $R^2 = .13$ , such that higher levels of parent–teen communication about reproductive and sexual health topics was associated with older youth age and being female (see Table 5). Regarding communication about sensitive sex topics, the overall model was significant,  $F(7, 348) = 2.85$ ;  $p = .007$ ;  $R^2 = .06$ . In this model, only older age was associated with greater communication about sensitive sex topics (Table 5).

## Discussion

Caregivers of rural, African American early adolescents reported more frequent discussions about reproductive and sexual health topics than sensitive

**Table 3.** Frequency of Parent–Teen Conversations About Sex Regarding Sexual Health and Sensitive Sex Topics.

|  | Caregiver           |                         |                           |                     | Youth               |                         |                           |                     |
|--|---------------------|-------------------------|---------------------------|---------------------|---------------------|-------------------------|---------------------------|---------------------|
|  | Never, <i>n</i> (%) | Only once, <i>n</i> (%) | A few times, <i>n</i> (%) | Often, <i>n</i> (%) | Never, <i>n</i> (%) | Only once, <i>n</i> (%) | A few times, <i>n</i> (%) | Often, <i>n</i> (%) |
| <b>Reproductive and sexual health topics</b> |                     |                         |                           |                     |                     |                         |                           |                     |
| Menstruation                                 | 132 (27.9)          | 38 (8)                  | 122 (38.3)                | 181 (38.3)          | 137 (31.6)          | 51 (11.8)               | 127 (29.3)                | 119 (27.4)          |
| Physical development                         | 48 (9.9)            | 23 (4.7)                | 189 (38.9)                | 226 (45.5)          | 67 (15.1)           | 46 (10.4)               | 167 (37.6)                | 164 (36.9)          |
| Abortion                                     | 293 (6.1)           | 40 (8.3)                | 97 (20.2)                 | 50 (10.4)           | 278 (63)            | 47 (10.7)               | 83 (18.8)                 | 33 (7.5)            |
| Pregnancy                                    | 134 (27.6)          | 36 (7.4)                | 144 (29.7)                | 171 (34.4)          | 206 (46)            | 45 (10)                 | 101 (22.5)                | 96 (21.4)           |
| Homosexuality                                | 126 (26.3)          | 30 (6.3)                | 172 (35.9)                | 151 (31.5)          | 242 (54.6)          | 55 (12.4)               | 77 (17.4)                 | 69 (15.6)           |
| Sex before marriage                          | 112 (22.9)          | 26 (5.3)                | 184 (37.6)                | 168 (34.3)          | 212 (47.7)          | 47 (10.6)               | 94 (21.2)                 | 91 (20.5)           |
| Condom use                                   | 123 (25.2)          | 31 (6.4)                | 125 (25.6)                | 209 (42.8)          | 210 (49)            | 39 (9.1)                | 70 (16.3)                 | 110 (25.6)          |
| Sexually transmitted infections              | 117 (24.1)          | 30 (6.2)                | 125 (25.8)                | 213 (43.9)          | 195 (45.6)          | 39 (9.1)                | 77 (18)                   | 117 (27.3)          |
| HIV/AIDS                                     | 103 (21.7)          | 30 (6.1)                | 131 (26.8)                | 224 (45.9)          | 182 (41.5)          | 43 (9.8)                | 90 (20.5)                 | 124 (28.2)          |
| Contraception                                | 136 (28.2)          | 37 (7.7)                | 158 (32.7)                | 152 (31.5)          | 205 (47.8)          | 48 (11.2)               | 93 (21.7)                 | 83 (19.3)           |
| <b>Sensitive sex topics</b>                  |                     |                         |                           |                     |                     |                         |                           |                     |
| Sexual desire                                | 199 (41.5)          | 33 (6.9)                | 152 (31.7)                | 95 (19.8)           | 260 (61.2)          | 48 (11.3)               | 68 (16)                   | 49 (11.5)           |
| Sexual satisfaction                          | 266 (56.1)          | 34 (7.2)                | 101 (21.3)                | 73 (15.4)           | 283 (68.4)          | 38 (9.2)                | 52 (12.6)                 | 41 (9.9)            |
| Vaginal sex                                  | 240 (50.8)          | 35 (7.4)                | 120 (25.4)                | 77 (16.3)           | 301 (74.3)          | 29 (7.2)                | 40 (9.9)                  | 35 (8.6)            |
| Oral sex                                     | 289 (60.5)          | 37 (7.7)                | 89 (18.6)                 | 63 (13.2)           | 295 (71.4)          | 40 (9.7)                | 43 (10.4)                 | 35 (8.5)            |
| Anal sex                                     | 352 (73)            | 31 (6.4)                | 60 (12.4)                 | 39 (8.1)            | 323 (78.6)          | 26 (6.3)                | 34 (8.3)                  | 28 (6.8)            |
| Masturbation                                 | 300 (62.9)          | 39 (8.2)                | 78 (16.4)                 | 60 (12.6)           | 318 (75)            | 33 (7.8)                | 37 (8.7)                  | 36 (8.5)            |
| Nocturnal emission                           | 329 (69)            | 38 (8.0)                | 69 (14.5)                 | 41 (8.6)            | 336 (79.4)          | 34 (8.0)                | 32 (7.6)                  | 21 (5)              |

Note. Percentages exclude missing data.

**Table 4.** Factors Associated With Caregivers' Reports of Parent–Teen Communication About Reproductive and Sexual Health and Sensitive Sex Topics.

| Variable  | Caregiver report                      |          |                      |          |
|---|---------------------------------------|----------|----------------------|----------|
|   | Reproductive and sexual health topics |          | Sensitive sex topics |          |
|   | $\beta$ (SE)                          | <i>p</i> | $\beta$ (SE)         | <i>p</i> |
| Youth age   | 0.27 (0.25)                           | .27      | 0.05 (0.20)          | .80      |
| Youth gender  | −0.14 (0.72)                          | .85      | 0.34 (0.59)          | .58      |
| Caregiver permissive attitudes toward sex initiation            | 0.52 (0.27)                           | .06      | 0.73 (0.22)          | <.01**   |
| Caregiver attitude toward parent–teen communication about sex   | 0.35 (0.13)                           | <.01**   | 0.01 (0.11)          | .90      |
| Caregiver outcome expectations                                  | 0.12 (0.10)                           | .23      | 0.11 (0.09)          | .21      |
| Caregiver self-efficacy for parent–teen communication about sex | 0.27 (0.05)                           | <.001*** | 0.16 (0.04)          | <.01**   |
| Caregiver open parent–teen communication                        | 0.26 (0.10)                           | <.01**   | 0.16 (0.08)          | .04*     |

Note. SE = standard error; Covariates: RSH model = parent gender; Sensitive sex model = relation to youth and parent gender.

\* $p < .05$ . \*\* $p \leq .01$ . \*\*\* =  $p \leq .001$ .

sex topics and overall, reported more frequent PTCS than their youth reported. We also found that the predictors of caregiver communication about reproductive and sexual health topics differed from the predictors of communication about sensitive sex topics. Older youth age, positive attitudes toward PTCS, self-efficacy for PTCS, and open communication style were associated with more frequent communication about reproductive and sexual health topics. Only self-efficacy for PTCS and open communication style were predictors of frequent parent–teen communication about sensitive sex topics. For youth, however, only older age and being females was associated with more frequent discussions about reproductive and sexual health topics and for discussions about sensitive sex topics, only older age was a significant predictor. Taken together, our findings are partially consistent with the integrated behavioral framework employed in this study.

**Table 5.** Factors Associated With Youths' Reports of Parent–Teen Communication About Reproductive and Sexual Health and Sensitive Sex Topics.

| Variable  | Youth report                          |          |                      |          |
|---|---------------------------------------|----------|----------------------|----------|
|   | Reproductive and sexual health topics |          | Sensitive sex topics |          |
|   | $\beta$ (SE)                          | <i>p</i> | $\beta$ (SE)         | <i>p</i> |
| Youth age   | 2.13 (0.31)                           | <.001*** | 0.68 (0.18)          | <.001*** |
| Youth gender  | 2.24 (0.90)                           | .01**    | -0.69 (0.52)         | .18      |
| Caregiver permissive attitudes toward sex initiation            | 0.82 (0.33)                           | .80      | -0.16 (0.19)         | .40      |
| Caregiver attitude toward parent–teen communication about sex   | 0.07 (0.15)                           | .65      | -0.12 (0.09)         | .18      |
| Caregiver outcome expectations                                  | -0.01 (0.13)                          | .96      | 0.01 (0.07)          | .88      |
| Caregiver self-efficacy for parent–teen communication about sex | 0.05 (0.06)                           | .40      | 0.06 (0.03)          | .09      |
| Caregiver open parent–teen Communication                        | -0.09 (0.12)                          | .48      | 0.003 (0.07)         | .96      |

Note. SE = standard error. Caregiver covariates were not included in these models due to no significant relationship between individual variables and the outcome variable.

\**p* < .05. \*\**p* ≤ .01. \*\*\**p* ≤ .001.

Our findings regarding discordance in caregiver–youth reports of communication on health topics are consistent with prior research (Grills & Ollendick, 2002; Hadley et al., 2009; Miller, Kotchick, Dorsey, Forehand, & Ham, 1998; Xiao, Li, & Stanton, 2011). One study examining the concordance in reports of mother–teen sexual communication reported low correlations, ranging from .07 to .28 (Jaccard., 1998). Other studies found low rates of concordance between ethnic minority caregivers and youth regarding the frequency with which various sexual health topics were discussed (O’Sullivan et al., 1999; Ritchwood, Penn, Peasant, Albritton, & Corbie-Smith, 2017). Discordant responses may be due to the way in which information is communicated with youth, such that caregivers with lower self-efficacy, poorer communication skills, and greater discomfort with PTCS may use language that is less clear and descriptive, expecting youth to pick up on conversational cues (Ritchwood, Penn, et al., 2017; Wilson, Dalberth, Koo, & Gard, 2010). From an adolescent perspective, vague and nonexplicit communications may not be perceived as sexual communication, and could lead youth to be less attentive during such

discussions (Ritchwood, Powell, et al., 2017). These discrepancies are important, considering that previous work with early adolescents has shown that significant discordancy between mother child sexual attitudes, along with youths' tendency to misperceive their mothers' attitudes about sex, could be connected to greater sexual risk among early adolescents and is likely the result of ineffective or lack of PTCS (Gound et al., 2007).

The fact that the majority of caregivers reported more frequent communication with their youth about reproductive and sexual health topics and significantly fewer reported communicating with their youth about sensitive sex topics is important. There are several potential explanations for these findings. First, discussing sensitive sex topics may require caregivers to acknowledge that their youth are sexual beings and thus, normalize their youths' sexual nature, which may be inconsistent with caregivers' beliefs and attitudes (Ritchwood, Powell, et al., 2017). Second, it is possible that caregivers in our study did not believe that such information was relevant or appropriate for early adolescents, as a significant proportion of caregivers in this study also reported low to moderate levels of PTCS about reproductive and sexual health topics. As such, we could expect that these caregivers would also report little or no communication about sensitive sex topics. Low communication regarding both topics could be related to caregiver discomfort, as well as their attitudes and religious beliefs, which may be inconsistent with providing certain information about sex with youth of a certain age (e.g., Ritchwood, Powell, et al., 2017). Caregivers might also underestimate their youths' interest or participation in sexual activities (O'Donnell et al., 2008; Pariera, 2016). Specifically, caregivers were more likely to emphasize topics that were more strongly associated with prevention of adverse sexual outcomes (e.g., abortion, pregnancy, STIs) or that required more practical and specific instructions (e.g., menstruation, physical development). However, failure to discuss sensitive topics could be an important omission on the part of caregivers of rural African American youth, as they tend to report earlier ages of sex initiation than other youth though the reasons for this are complex (Biello et al., 2012). Providing youth with age and culturally appropriate information about sensitive sex topics and continuing such discussions over the course of adolescence could facilitate a comprehensive understanding of sex and sexuality and delay sex initiation. Such efforts could lead early adolescents to: develop greater knowledge about their sexual development; have greater self-efficacy related to navigating their sexual desires and satisfaction; and be less likely to engage in risky sexual behavior (DiIorio, Pluhar, & Belcher, 2003; Ritchwood, Powell, et al., 2017).

Our findings regarding predictors of parent-teen communication about reproductive and sexual health topics were expected and supportive of



previous research on this topic. The significance of youth age to PTCS, for example, was consistent with previous research (Eisenberg et al., 2006; Swain, Ackerman, & Ackerman, 2006). It is possible that caregivers make judgments regarding the appropriateness of certain types of sexual information with their youth considering their youth's age, as well as perceived readiness for such discussions (Beckett et al., 2010). This assertion is consistent with previous findings that parents tended to delay PTCS until they became aware that their youth had a romantic partner (Eisenberg et al., 2006; Wilson et al., 2010).

In addition, our study illustrates the importance of self-efficacy for PTCS to both parent–teen communication about reproductive and sexual health topics and sensitive sex topics, such that caregivers who reported more confidence in their ability to talk to their children about sex were more likely to communicate about both topics. Collectively, our findings highlight the need to broaden caregivers' definition of PTCS to include sensitive sex topics; to promote the initiation of ongoing discussions about sex early and often; to facilitate self-efficacy for PTCS for both reproductive and sensitive sex topics; and to improve relationship quality between caregivers and rural African American early adolescents by means of providing caregivers with the skills to engage in an open communication style with their youth.

### *Implications*

Despite the cross-sectional nature of this study, our findings have important implications for future research and intervention studies. First, the results of this study suggest that the frequency of parental communication about both reproductive and sexual health topics and sensitive sex topics may be a function of communication skills and efficacy. Should longitudinal studies support the current findings, there would be several suggestions for future interventions. First, future studies should consider building in intervention components that enable trained study confederates to provide caregivers with feedback regarding the way in which the sexual health information was communicated and how caregivers might improve. Interventions could also provide youth with opportunities to provide their caregivers with feedback, such that they are able to share with their caregiver regarding how information was received and interpreted. This could potentially address issues regarding high discordance rates in reports of PTCS between caregivers and youth. Moreover, interventions aimed at fostering caregivers' efficacy to communicate about a variety of sex topics among rural, African American caregivers and their youth should include skill-building activities that provide practical methods

for caregivers to overcome challenges of talking with youth about sensitive sex topics (Guilamo-Ramos et al., 2008).

### *Limitations*

These findings should be considered in the context of the study limitations. The caregivers in this study were predominantly rural African Americans and data were cross-sectional, thus limiting generalizability of these findings. However, these findings are extremely relevant to this high-risk population and additional longitudinal research on this topic could inform the development of future interventions. Similarly, the majority of participating caregivers were female. Though reflective of a significant proportion of rural African American households, the predominance of maternal caregivers could further limit the generalizability of findings, as we are unable to determine whether predictors might differ significantly for male caregivers. Third, questions regarding whether caregivers discussed specific topics do not provide insight into what was communicated. Previous qualitative research, however, has suggested that African American caregivers tended to focus on avoiding the consequences of sexual behavior rather than teaching their youth about sexual concepts (Akers, Schwarz, Borrero, & Corbie-Smith, 2010). Fourth, it is possible that our findings are influenced by self-selection bias, as individuals willing to participate in a survey on adolescent sexual health may differ from their peers. This, however, is a common concern with survey-based research. Last, a large proportion of the caregivers in the sample were not related to the participating youth. Given the significance of extended kinship networks within African American communities and our desire to acknowledge unique and diverse caregiving relationships in this community, we believed that it was critical that we allow nonrelated caregivers and youth to participate in the study. We did, however, control for the potential effects of such diverse relationships in our analyses.

### **Conclusion**

Limitations notwithstanding, these findings are consistent with previous research and emphasize the importance of attitudes and self-efficacy in predicting PTCS (Wilson et al., 2010). Moreover, our findings extend the literature on this topic by illustrating the importance of open communication style, which was used as a proxy for relationship quality, for PTCS among rural African American families. Our findings support the differential examination

of parent–teen communication about reproductive and sexual health topics versus sensitive topics, as this study demonstrated significant differences in topics covered, as well as predictors of the frequency of such discussions.

PTCS is most effective when it occurs before sex initiation and is content specific (DiIorio et al., 2003). Sex initiation occurs at an earlier age among rural youth compared with the general adolescent population (Milhausen et al., 2003) and these youth are at significant risk for STIs due to dense sexual networks among other factors (Adimora, Schoenbach, & Doherty, 2006). Therefore, PTCS should occur early and often with these youth. There are a number of interventions aimed at improving PTCS and recent reviews have suggested that those that include caregivers are more effective than those that included either caregivers or youth only (see Akers et al., 2011; Sutton et al., 2014, for review). The Teach One, Reach One intervention, for example, contains both group sessions for caregivers and youth separately, as well as collectively to reinforce training and learning (Dave et al., 2016). More research, however, is needed to determine whether safe sex interventions for rural African American youth that employ caregivers should place emphasis on fostering positive attitudes and building self-efficacy related to PTCS, especially as it relates to sensitive sex topics. It is possible that tailored safe sex interventions that emphasize attitudes and self-efficacy for parent–teen communication about both reproductive and sexual health topics and sensitive sex topics could empower rural, African American caregivers to initiate and maintain an open dialogue about sex with their youth, leading to reduced sexual risk and STIs. In addition to interventions that target individual families, it is also critical that efforts are made at the community level to encourage more acceptance and participation. While previous research has identified the challenges involved in community-based sexual education, there are many opportunities, including greater flexibility in the types of sexual topics that may be discussed given the limitations by select school districts in many rural counties, as well as cross-organizational collaboration and context-specific innovation and adaptation (e.g., Ott, Rouse, Resseguie, Smith, & Woodcox, 2011).

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