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Parenting Influences on Adolescent Sexual Risk-taking: Differences by Child Welfare Placement Status

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Abstract

Positive parenting behaviors and parent-child relationships reduce sexual risk-taking among youth, but these associations may differ for adolescents in the child welfare system. Using two cohorts of a national longitudinal dataset of youth, the authors employed linear probability modeling to investigate associations of caregiver-child closeness, monitoring, and dating communication with youth's sexual initiation, sexual partners, and unprotected intercourse over the subsequent 12 months. Moderation by placement status (non-relative foster care, kinship care, or birth parent care) was then tested. Closeness was negatively associated with risk-taking. Monitoring was positively associated with new sexual partners among youth in birth parent care, but negatively associated with new partners for youth in out-of-home care. Dating communication was positively associated with sexual initiation and additional sexual partners, and with unsafe sex among non-relative foster youth. In sum, caregiver relationships and parenting behaviors may matter differently for maltreated and foster youths' sexual risk-taking.

Keywords

Child Welfare System; adolescents; parenting; sexual risk-taking

Introduction

Sexual activity among adolescents has remained consistently high, at about 42 percent, in recent years (Martinez, Copen, & Abma, 2011) and greater numbers of very young teenagers initiate sex than in the past (James et al., 2009). Early sexual activity, multiple sexual partners, and unprotected sex among adolescents warrant concern for a variety of reasons, including risk of pregnancy and disease (Albert, Brown, & Flanigan, 2003). Youth involved with the child welfare system (CWS), and particularly youth who have been in foster care, experience these events at higher rates than the general population (Coleman-Cowger, Green, & Clark, 2011; Dworsky & Courtney, 2010; Gramkowski et al., 2009; James et al., 2009). Moreover, there is some indication that declines in teen birth rates observed

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nationally are not mirrored among girls in foster care (King et al., 2014), suggesting that CWS youth may face more long-term consequences of their early sexual experiences.

Children involved with CWS live in a variety of settings. CWS involvement typically begins with Child Protective Services, which is responsible for investigating allegations of child abuse and neglect and making a determination about whether children are safe in their familial homes. Following these investigations, the vast majority of children remain with a biological parent, but about 5 percent (approximately 23% of confirmed victims and 2% of unconfirmed victims) enter the formal foster care system (U.S. Department of Health and Human Services 2017). In the foster care system, they may be placed with relatives, non-relative families, or in a group setting. Other children may be placed with relatives informally, outside the purview of the foster care system (Malm and Allen 2016). Those who enter the formal foster care system experience very different social environments than those who remain in home or enter informal placements. The foster care system requires that foster parents complete a home study that assesses financial stability, family stability, and physical and mental health; with the exception of some unlicensed kin placements, foster parents also undergo extensive training and receive financial subsidies (Child Welfare Information Gateway 2014). Approximately 77% of children in the formal foster care system are placed with kin or in non-relative family settings; the remainder are primarily in group settings, pre-adoptive settings, or are under supervised reunification with their birth parents (U.S. Department of Health and Human Services, 2017).

A large body of research indicates that aspects of parenting—including the parent-child relationship, supervision, and communication—influence adolescents' sexual risk-taking (Guilamo-Ramos, Lee, & Jaccard, 2016; Huang, Murphy, & Hser, 2011; James et al., 2009; Khurana & Cooksey, 2012; Madkour, Farhat, Halpern, Gabhainn, & Godeau, 2012; Rogers, 2017). However, CWS youth may experience inconsistent or inappropriate caregivers and parenting (Stott & Gustavsson, 2010) and therefore may not reap the same benefits from parent-child relationships or positive parenting behavior. In this study, we used a national dataset of CWS-involved youth to examine how caregiver-child closeness, caregivers' monitoring of youth, and dating communication were associated with sexual initiation, new sexual partners, and unprotected sexual intercourse over the subsequent year. We also investigated whether associations of closeness, monitoring, and communication with sexual risk behaviors varied by placement setting (e.g., living with at least one birth parent, with other relatives [formal or informal kinship care], or in a non-relative foster home).

Background

More than 1 in 3 children are investigated by child protective services due to allegations of abuse or neglect (Kim, Wildeman, Jonson-Reid, & Drake, 2017) and 6 percent spend time in foster care (Wildeman & Emanuel, 2014) prior to reaching age 18. Both experiences of maltreatment and foster care placement are associated with higher levels of sexual risk behavior and teen pregnancy (Coleman-Cowger, Green, & Clark, 2011; Gramkowski et al., 2009; Helfrich & McWey, 2014; James et al., 2009), though the causal nature of such associations is unclear (Font, Cancian, & Berger, forthcoming). CWS youth have multiple confounding risk factors for high-risk sexual behavior (Coleman-Cowger, Green, & Clark,

2011; Helfrich & McWey, 2014; Price & Hyde, 2009), including mental health problems (Hayek et al., 2014; Steele & Buchi, 2008), poor academic performance (Iversen, Hetland, Havik, & Stormark, 2010; Trout, Hagaman, Casey, Reid, & Epstein, 2008), and delinquent behavior (Mersky, Topitzes, & Reynolds, 2012; Snyder & Smith, 2015). Thus, protective factors for sexual risk behaviors among CWS youth warrant additional attention.

Parenting and Sexual Risk Behavior

Parenting and the family environment are among the most important factors in youth development (Bowers et al., 2014). Parental monitoring, closeness, and communication significantly predict sexual attitudes, sexual activity, and contraceptive use (Guilamo-Ramos, Lee, & Jaccard, 2016; Huang, Murphy, & Hser, 2011; James et al., 2009; Khurana & Cooksey, 2012; Madkour, et al., 2012; Markham et al., 2010; Rogers, 2017), and family processes and protective factors are likely more relevant than family structure (Fomby et al., 2010). The preeminent influence of caregivers on sexual risk-taking is consistent with both sexual socialization theory and social control theory. Sexual socialization theory (Reiss, 1989) posits that youth with greater understanding of sexual risks and their parents' expectations are more likely to make responsible choices about sexual activity. Social control theory (Hirschi, 1969) posits that close relationships with others, especially parents, deter deviant behavior, which may include sexual risk-taking. Through close relationships and communication, parents also transmit their values to children (Roest, Dubas, & Gerris, 2009), though values pertaining to sexual activity may vary across families.

Children who are highly monitored are less likely to be sexually active than their peers, and have comparatively later sexual initiation (Huang, Murphy, & Hser, 2011; James et al., 2009). This may largely reflect opportunity, as youth whose activities are more heavily supervised have less opportunity to engage in sexual activity without their parents' approval. Yet, sexual socialization theory suggests that some autonomy helps youth to learn to evaluate the risks and arrive at a safe decision (Reiss, 1989). Children who are compliant with their parents' rules may nevertheless not internalize their parents' values; thus, rigid monitoring may be ineffective in reducing pregnancy and risk-taking (Kakihara & Tilton-Weaver, 2009; Kincaid, Jones, Cuellar, & Gonzalez, 2011).

There is conflicting evidence on the association between communication about sex or dating and sexual behaviors among youth, with studies finding positive, null, and negative associations (Bersamin et al., 2008; Khurana & Cooksey, 2012; Rogers, 2017; Widman, Choukas-Bradley, Noar, Nesi, & Garrett, 2016). Inconsistencies across studies may reflect differences in the content, frequency, or reception of communication (Khurana & Cooksey, 2012; Rogers, 2017) or difficulties in ascertaining temporal ordering, as parents may initiate conversations once they suspect their children will soon, or have already, engaged in sexual activity (Beckett et al., 2010). In addition, dating communication may reduce some high-risk sexual activity, without affecting the timing or frequency of sexual activity. For example, communication focused on contraception may improve contraception use, but not reduce sexual activity overall (Parkes et al., 2011).

Quality and Effects of Parenting across Placement Settings

CWS involvement is associated with a variety of risk behaviors, including sexual risk behavior (Gramkowski et al., 2009; James et al., 2009). Yet, within this population, it is unclear whether, and in what way, there are differences in risk among adolescents in birth parent, kinship, and non-relative foster care. Some studies have found no differences in sexual behavior or teen pregnancy between youth in foster care and youth living at home (Berzin, 2008), whereas others suggest that foster care increases risk (Gramkowski et al., 2009; James et al., 2009; Doyle, 2007; King, 2017). Yet, many studies focus on whether a youth was ever in foster care, rather than whether the sexual activity or pregnancy occurred in foster care (e.g., Doyle, 2007; King, 2017), which may produce misleading conclusions about the effects of the foster care environment (Font, et al., forthcoming; King et al., 2014). Among those in foster care, studies have found that kinship care youth have higher rates of pregnancy, despite fewer behavioral and mental health problems (Gramkowski et al., 2009; Sakai, Lin, & Flores, 2011). To some extent, the discordant results of prior studies may reflect differences in how studies address selection bias. That is, because foster care is intended as a last resort, children removed from their birth parents' care likely have greater exposure to trauma and adversity than children who remain in the home (Greeson et al., 2011). These experiences may mean that children in foster care would be more likely to engage in sexual risk behaviors, irrespective of their foster care placements. In addition, children placed with relatives tend to have fewer pre-existing disabilities, mental health issues, and behavioral concerns than children placed in non-relative care (Font, 2014).

Moreover, parent-child relationships and parenting behavior may influence sexual risk-taking differently across placement settings. Parent-child relationships, monitoring, and communication—all of which are associated with sexual risk behaviors—are likely to vary in quality and consistency across children's placements. With regard to parent-child relationships, there is likely to be significant variability in relationship quality within and across groups. It is well-established that maltreatment is associated with attachment disturbances (Baer & Martinez, 2006) and undermines children's sense of safety and ability to trust others (Jernbro, Otterman, Lucas, Tindberg, & Janson, 2017). Thus, children who remain in birth parent care following possible maltreatment may have difficulty re-establishing trust and safety with their parents and, therefore, have weak relationships with their parents, and respond less positively to parental efforts at monitoring or communication. Yet, among adolescents removed from the home following maltreatment, qualitative work shows that, despite negative memories of abuse and neglect, many hope for reunification and continue to express love and affection for their birth parents (Whiting & Lee, 2003; Chapman, Wall, & Barth, 2004). Those feelings of love and loyalty to their birth parents, in addition to lack of secure attachments preceding foster care, can inhibit children from building secure relationships with foster families. Complicating these processes for children in out-of-home care is the potential for multiple changes in caregivers, though this is less common for children in kinship care than non-relative care (Koh, 2010). If a placement is expected to be short-term or unstable, both caregivers and children may be less willing to invest in forming an attachment.

Structure and communication may also differ by setting. Birth parents and relative caregivers generally have fewer financial and social resources than non-relative foster parents (Ehrle & Geen, 2002; Sakai et al., 2011), which may reduce their ability to provide adequate monitoring and communication. Non-relative foster parents also receive more training, regulation, and oversight (Child Welfare Information Gateway, 2014) than relative caregivers or birth parents, which may improve their willingness or ability to provide quality supervision and communication of expectations (Piescher, Schmidt, & LaLiberte, 2008).

In addition to potential differences in the levels of closeness, monitoring, and dating communication that birth parent, kinship, and non-relative settings may provide, associations between these characteristics and sexual risk behaviors may differ across family types. The often temporary nature of non-relative foster and kinship care placements (Keller, Cusick, & Courtney, 2007) may undermine any benefits children in out-of-home care would receive from closeness, monitoring, and communication. Youth may resent and press the boundaries of supervision and advice from caregivers who have not yet established themselves as permanent fixtures in the youth's life. Similarly, if the purpose of dating communication is to transmit values and expectations, youth may not internalize the values, or conform to the expectations, of temporary caregivers. Youth in kinship care often (though not always) had a relationship with their relative caregivers prior to entering foster care (Selwyn et al., 2008), and thus may be more receptive to structure and communication imposed by their kinship caregivers (as compared with non-relative foster caregivers).

Current Study

The existing literature demonstrates that parenting behaviors are strongly predictive of youth's sexual risk behaviors, and that adolescents involved with CWS participate in risky behaviors at higher rates. However, little prior research has investigated the associations of parent-child relationships or specific parenting behaviors with sexual risk behaviors among CWS youth, or the ways these associations may vary by placement setting. This study examines how parenting indicators are associated with sexual risk behaviors among youth ages 11 and older, and whether the associations between parenting and sexual risk behavior are moderated by placement setting. We focus our study on youth in birth parent care, kinship care (living with a non-parental relation), and non-relative foster care (living with unrelated foster parents). Based on the existing literature, and our theoretical frame of social control and sexual socialization theories, we hypothesize that caregiver closeness, monitoring, and dating communication will be associated with a lower probability of sexual initiation, fewer sexual partners, and a lower probability of unprotected sexual intercourse. We further hypothesize that associations of parenting with sexual risk behaviors will be weaker among youth in foster and kinship care than youth in birth parent care, and weaker among youth in non-relative foster care than youth in kinship care.

Data and Methods

Data

We used data from the National Surveys of Child and Adolescent Well-Being (NSCAW), which collected information about children investigated by the child welfare system. Our

data include two longitudinal cohorts, NSCAW I and NSCAW II. Both cohorts were interviewed multiple times following investigation, but our analyses focus on the first two waves. Wave 1 (W1) was completed 3–6 months after, and wave 2 (W2) was completed 18 months after, the initial child protective services investigation. The first waves of data collection were between November 1999 and April 2001 for NSCAW I and between April 2008 and December 2009 for NSCAW II.

Both surveys followed a similar sampling framework and study design. The target population included all children in the United States who were subjects of Child Protective Services investigations. Participants included these children, as well as their caretakers and caseworkers. Participants were sampled randomly in two stages. In the first stage, nine sampling strata were used, representing the eight states with the largest CWS caseloads, with the ninth stratum comprising the rest of the country. PSUs were selected within these strata, most defined by the areas served by one Child Protective Services agency. In the second stage, children were selected by age, placement, and required services. Children remained in the sample regardless of whether maltreatment claims were substantiated or their system involvement continued. In a few cases, children with unsubstantiated claims were dropped from the sample due to local confidentiality requirements, and weights were adjusted to account for these exclusions. The weighted samples are nationally representative of children who were the subjects of Child Protective Services investigations in the year of the study. NSCAW data cover a wide variety of information regarding the children involved in investigations, including personal characteristics, relationships, past experiences, and future preparedness. Surveys were administered through computer-assisted personal interviews.

Sample

We created the study sample by combining participants from NSCAW II, NSCAW I, and a subsample of NSCAW I children who had spent at least one continuous year in foster care. Because the NSCAW samples heavily oversample young children, these three samples were combined to maximize statistical power for the analysis (however, we complete supplementary analysis to assess the implications of that choice). Children were excluded from the sample if they were under age eleven at W1 or over age eighteen at W2 ($n=9,682$). Finally, we eliminated adoptees ($n=50$) and group home residents ($n=172$), who were too few in number to draw clear inferences. This resulted in a final sample size of 2,186 youth.

Of our final analytic sample, 43 percent came from NSCAW 2 ($n=950$), 49 percent from the main sample of NSCAW I ($n=1081$), and the remaining 7 percent were drawn from the Long-Term Foster Care Sample of NSCAW I ($n=155$). The sample is 57 percent female and 43 percent male. The largest proportion of the sample is “Non-Hispanic White” (41%), with the remainder being 29 percent “Non-Hispanic Black”, 19 percent “Hispanic”, and 10 percent “Other”.

Measures

Dependent variables.—Our primary outcome of interest was sexual risk-taking, measured with three indicators: sexual initiation, new sexual partners, and unprotected sex. All sexual risk-taking measures were created using Child Instrument data. From the question

“Have you ever had sex or sexual intercourse?” we created a variable for sexual initiation, coded one for individuals who became sexually active at each wave and zero for youth who remained inactive or were already sexually active at a previous wave. A measure of new sexual partners was based on the single item: “How many females/males have you had sex with in your life?” with response categories “0 partners,” “1 partner,” “2 partners,” “3–5 partners,” “6–9 partners,” and “More than 10 partners.” Individuals who reported more partners at W2 than at W1 were coded 1 for new partners. This question was only asked of respondents in NSCAW 2, and so models measuring sexual partners were limited to respondents in that cohort. The measure for unsafe sex was more complex, as identical questions were not asked of all respondents. In NSCAW 1, respondents were asked how often they used a form of contraception when having intercourse, with response options ranging from *never* to *always*. In NSCAW 2, adolescents were asked about use of specific contraception methods the last time that they had sexual intercourse. We created an indicator that was equal to 1 if a respondent in NSCAW 1 reported “often” or “always” using contraception or if a respondent in NSCAW 2 reported yes to any contraception method except for “withdrawal”. All dependent variables were measured at W2, although the measures of sexual initiation and new sexual partners reference the time period between W1 and W2.

Independent variables.—Our primary independent variables were three aspects of parenting behavior: closeness to caregiver, caregiver monitoring, and dating communication. All of the measures were reported by the youth and based on their caregivers at the time of the interview. Closeness was assessed using subscales from the short version of the Relatedness scale from the Research Assessment Package for Schools (Wellborn & Connell, 1987). Caregiver closeness indicates respondents’ emotional security in their attachment to caregivers by measuring whether adolescents feel good, mad, or happy when with primary and secondary caregivers ($\alpha=0.82$). Caregiver monitoring was a scale comprised of 10 items, each measured on a five-point scale from 1 “Almost Never” to 5 “Almost Always,” indicating caregiver knowledge of youth’s whereabouts and behavior ($\alpha=0.78$) (Dishion, Patterson, Stoolmiller, & Skinner, 1991). The caregiver closeness and monitoring measures were standardized to have means of 0 and standard deviations of 1. The third variable, dating communication, was binary and equal to 1 if respondents indicated that either their current primary or secondary caregiver had communicated with them about dating in the last thirty days. Each parenting variable was measured at W1.

Our moderator was placement setting, which was compiled from reports by caregivers, caseworkers, and children, and indicated the type of home in which the child resided at the time of the interview. We created a categorical variable coded as 1 “Birth Parent Home,” 2 “Kinship Care,” and 3 “Non-relative Foster Care.” Placement setting was measured at W1. We also created interaction terms for placement setting and each parenting measure.

Covariates (statistical controls).—All control variables were measured at W1. Demographic controls were child race (non-Hispanic Black, non-Hispanic White, Hispanic, and other race), child age in years (range 11–17), and child gender (female =1, male=0). We also included binary indicators of study cohort. Caregiver education indicated the highest

degree received by the child's W1 primary caregiver, and was equal to 1 if any education beyond high school, and 0 otherwise. Income was an ordinal variable with a range from *under \$5,000* to *over \$50,000* per year. Placement duration indicated the percentage of the child's life which was spent residing with his or her current caregivers. Additionally, we included an indicator which equaled one if respondent's primary caregiver remained the same between W1 and W2. Child trauma symptoms was a continuous measure based on the Trauma Symptoms Inventory (Briere, 1996), which included measures of intrusion, avoidance, and arousal ($\alpha=0.85$). Child delinquent behavior was measured by caregivers' responses to the rule-breaking behavior subscale of the Child Behavior Checklist (CBCL) ($\alpha=0.81$) (Achenbach, 1991). Finally, we included an indicator of alleged sexual abuse experienced by the child.

Analyses

Our analyses focused on estimating the associations between parenting behavior and sexual risk taking, moderated by placement status. We used linear probability models to estimate associations between parenting and sexual risk behaviors, as well as moderation by placement status. Linear probability models are acceptable substitutes for logistic regression models when testing interactions (Mood, 2010). All models included the robust set of W1 covariates described earlier, to adjust for selection into sexual risk-taking and parenting behavior. Missing data were handled using full information maximum likelihood, which provides similar results to multiple imputation (Ferro, 2014). Because the NSCAW probability weights were produced separately by cohort, and calibration weights for cohort comparison limit the samples to youth 14 and under at W1, we do not use weights in our main models. Supplementary models using the sampling weights are described as well.

Results

Sample Description

A description of the sample is presented in Table 1 and Table 2, which provide means or proportions for all included variables by W1 placement status. Table 1 displays descriptive statistics for youth not sexually active at W1 (the analytic sample for the sexual initiation models). The proportion of youth engaging in sexual risk behaviors did not vary significantly across setting, nor did the average report of closeness to current caregiver or dating communication. However, caregiver monitoring was higher among foster youth than among youth in birth parent care. In this sample, youth in out-of-home care were substantially less likely to be White or Hispanic, and more likely to be Black than youth in birth parent care. Non-relative foster youth engaged in more delinquent behavior.

Table 2 describes youth who were sexually active by W2 (the analytic sample for models of new sexual partners and unprotected sexual intercourse). Similar to the sample described in Table 1, sexual risk-taking, caregiver closeness, and dating communication do not differ by placement setting. Again, youth in non-relative foster care had higher levels of caregiver monitoring than youth in other placements. In this sample, youth in kinship care were more likely to be Black and less likely to be White than youth in birth parent care. In both samples, non-relative foster youth disproportionately came from the long-term foster care

sample, and had caregivers with more education than did youth in birth parent care. Additionally, both groups of youth in out-of-home care had higher income and shorter placement durations. Finally, in both samples, youth in birth parent care were least likely to change caregivers between waves, and youth in non-relative foster care the most likely.

Regression Results

In Table 3, we show the results of models predicting sexual initiation by W2 among those who were not sexually active at W1. Youth who reported talking with caregivers about dating at W1 were 10 percentage points (PPs) more likely to become sexually active by W2 ($p=0.000$, $SE=0.028$). Neither caregiver closeness nor monitoring was statistically significantly predictive of sexual initiation. When interactions were added in Model 2, we found no differences in the associations of parenting measures and sexual initiation by placement type.

In Table 4, we show the results of models predicting adolescents' new sexual partners using all respondents in NSCAW 2 (the only cohort which was asked about number of partners) who were sexually active at W2. In this sample, a standard deviation of caregiver closeness predicted a 9 PP decrease in the probability of taking on new sexual partners ($p=0.007$, $SE=0.034$). In contrast, a standard deviation of caregiver monitoring predicted a 12 PP increase in the probability of new partners ($p=0.001$, $SE=0.036$). However, this positive association held only for youth in birth parent care- the interaction of kinship care and caregiver monitoring predicted a 23 PP decrease in the probability of new sexual partners ($p=0.003$, $SE=0.079$), and the interaction of non-relative foster care and monitoring a 26 PP decrease ($p=0.001$, $SE=0.08$). To aid with interpretation, we show the predicted probability of new sexual partners by monitoring and placement status in Figure 1.

Results for unprotected sex models are reported in Table 5. These models included only those who were sexually active by W2. W1 unsafe sex predicted a 13 PP increase in the probability of unsafe sex at W2 ($p=0.006$, $SE=0.046$). Caregiver closeness was negatively associated with unprotected sex: each standard deviation increase in closeness predicted a 6 PP decrease in the probability of unsafe sex ($p=0.005$, $SE=0.022$). Dating communication was not significantly associated with unsafe sex in the full sample, but the interaction of dating communication and kinship care was positive and statistically significant, predicting a 30 PP increase in the probability of unsafe sex ($p=0.001$, $SE=0.089$). The predicted probability of unprotected sex by dating communication and placement status is displayed in Figure 2.

Sensitivity Analyses

In order to test the robustness of our results, we also used placement, caregiver closeness, caregiver monitoring, and caregiver dating communication to predict sexual initiation between the first and third wave of the data, a window of about 36 months, and new sexual partners over the same period. Results for these analyses are displayed in Appendix A and Appendix B. Using this longer window for sexual initiation, dating communication is still positively associated with the probability of initiation, each standard deviation predicting a 13 PP increase ($p=0.000$, $SE=0.031$).

However, results differed somewhat when we examined new sexual partners using a longer window. Caregiver closeness remained negatively associated with new partners, and caregiver monitoring still positively predicted new partners, but neither was statistically significant. Monitoring remained negatively associated with new sexual partners for youth in non-relative foster care, but for youth in kinship care the negative relationship was no longer statistically significant. Finally, in this model, placement in non-relative foster care and caregiver closeness for foster youth were significantly and positively associated with the probability of acquiring new sexual partners.

Additionally, we re-estimated all models using calibration weights that allow for a comparison of NSCAW I and NSCAW II samples, and estimated models separately by cohort using cohort sample weights. To use the calibration weights, the NSCAW II sample was reduced to the PSUs in NSCAW I and to youth ages 14 and younger. We found results to be substantively similar in all cases, although both significance and effect size varied slightly between models. Full results are available from the corresponding author.

Discussion

Prior research has established the role of parenting in predicting sexual risk behaviors. This paper extended those findings to youth involved with the CWS, including those residing out of home, and determined whether three aspects of parenting were equally important for children living in birth parent, kinship, and non-relative foster care settings. Although prior work has examined risk factors for teen pregnancy and sexual risk behaviors among CWS youth, many of these studies were cross-sectional (Coleman-Cowger, Green, & Clark 2011; Gramkowski et al., 2009; Snyder & Smith, 2015), and little research has examined the impact of caregiving behaviors (for exception, see James et al., 2009). We found that, although parenting was associated with sexual risk taking, some of the associations varied in magnitude and direction across placement settings.

We found no differences in communication or child-caregiver relationship by placement setting. However, youth in non-relative foster care reported higher levels of caregiver monitoring than youth in birth parent homes. Although it is possible that youth in non-relative foster care require more monitoring due to higher levels of, for example, delinquent behavior (Snyder & Merritt, 2014), this is unlikely to explain higher levels of monitoring given that we controlled for delinquent behavior and those with the highest levels of delinquent behavior are generally placed in group or congregate care settings. Rather, it may be that non-relative foster parents, due to their higher levels of training, as well as socioeconomic resources above and beyond income and education, such as social support (Sakai et al., 2011), are better equipped to provide regular supervision.

In addition, consistent with social control theory and with prior research on youth in the general population (Markham et al., 2010), caregiver closeness was negatively associated with the probability of youth acquiring new sexual partners and of engaging in unprotected intercourse. However, contrary to expectations, caregiver closeness was not associated with sexual initiation. This may suggest that sexual initiation, which can, particularly for older adolescents, reflect a safe, carefully-considered, and normative decision (Tolman &

McClelland, 2011), is less subject to caregiver influence than are sexual behaviors that may place adolescents at greater risk of pregnancy or disease. Additionally, contrary to our hypothesis, we found no differences in the effects of caregiver closeness by placement setting. This suggests that, despite their experiences of maltreatment and family instability, CWS youth still benefit from close relationships with caregivers and even temporary relationships may be protective for vulnerable youth.

Contrary to expectations, as well as prior literature (Huang, Murphy, & Hser, 2011; James et al., 2009), caregiver monitoring had no statistically significant main or interactive effects on sexual initiation or unsafe sex. Unexpectedly, we found that caregiver monitoring was positively associated with the probability of new sexual partners for youth in birth parent care, but negatively associated with new partners for youth in both kinship and non-relative foster placements. We cannot ascertain why monitoring was not associated with initiation or unprotected sex, and had divergent associations by placement setting with new sexual partners. It is possible that there are unobserved differences in how caregivers monitor youth behavior, as monitoring can be done in a supportive or punitive way. Future research should investigate the parenting styles of birth, kinship, and non-relative foster parents of children involved with CWS and determine whether the types of monitoring that are protective for youth in the general population are effective in this high-risk and vulnerable population.

Lastly, caregiver dating communication was positively associated with initiation of sexual activity in the subsequent year. This may be partly because caregivers are more likely to talk about dating with youth who are in a relationship, or otherwise more likely to engage in sexual activity (Beckett et al., 2010). Dating communication was also positively associated with the probability of unsafe sex, but only for youth in kinship care. These findings are inconsistent with sexual socialization theory, which suggests that communication about sex should enable youth to make safer decisions (Reiss, 1989). Unfortunately, our data do not provide detail about the content or frequency of dating communication, and there may be unobserved differences in communication approaches or content across placement settings. Specifically, it would be relevant whether dating communication included any mention of sex or contraception, whether such conversations emphasized abstinence versus contraception use, and whether the conversation was framed as discussion versus instruction. Given that prior research suggests that parental communication about contraception is most effective when parents are knowledgeable and comfortable (Villarruel, Cherry, Cabriaes, Ronis, & Zhou, 2008), future research would benefit from data on the quality of caregiver-child communications in these complex living arrangements.

Limitations

There are several important limitations of the present study. First, there were small numbers of children in kinship and non-relative foster care, and thus we were unable to detect associations that were small in magnitude. Second, there may be measurement error in the outcome of unprotected sexual intercourse because the variable was not asked in exactly the same way of both cohorts. Additionally, several relationships between parenting behavior and new sexual partners which we identified over a 12 to 15 month period lost statistical significance when new sexual partners were examined over 36 months, which implies that

parenting is relevant only to proximate decisions about sexual partners. Finally, we were unable to measure caregivers' values and behaviors related to youth sexual activity, which is likely important for understanding how caregivers affect youth.

Conclusion and Implications

In sum, whereas we found fairly consistent evidence for the importance of close caregiver-child relationships for deterring sexual risk behavior, there was little evidence that dating communication, as currently used by caregivers of CWS-involved children, was effective in reducing sexual initiation, having multiple sexual partners, or unsafe sex. Given that this population is at high risk for teen pregnancy and early parenthood (King et al., 2014), better understanding of how to best communicate with CWS youth about dating, sex, and contraception is critical. Moreover, our findings that parental monitoring was of limited effectiveness overall, and possibly counterproductive for children in birth parent care, suggest that better information is needed about the monitoring techniques used by caregivers of maltreated children, and whether the techniques effective for adolescents in the general population are similarly effective for CWS youth.

In addition, we highlight a few implications of our findings for child welfare services. First, the salience of caregiver closeness across placement type indicates that interventions focused on building or strengthening familial relationships may reduce sexual risk-taking among youth, in addition to promoting child welfare system goals of child safety, permanence, and well-being. Second, our finding that dating communication was ineffective (or potentially counterproductive) for reducing sexual risk-taking in this population suggests a potential opportunity to improve services and supports for caregivers. Providing effective communication to adolescents about sensitive topics is difficult under normative conditions, but is likely to be especially challenging with adolescents with trauma histories and, sometimes, significant social-emotional problems. Yet, parents of children who remain in home after investigated maltreatment often receive minimal or non-evidence-based services, and services focused largely on child safety, whereas the training provided to foster parents tends to focus on issues directly relevant to child welfare system goals, such as promoting permanency or preventing placement disruptions. Kinship caregivers who are not licensed foster parents may receive no training or services to support their parenting efforts, which may leave them ill-equipped and isolated in their efforts to address risk behavior among adolescents. Thus, renewed focus on effective parenting of adolescents in the CWS, regardless of placement status, may be beneficial for reducing sexual risk behaviors.

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Appendix A

Sexual Initiation Between W1 and W3

	No Interactions	Interactions
Parenting measures (W1)		
Closeness	-.02 (.02)	-.03 (.02)
Monitoring	-.02 (.02)	-.01 (.02)
Dating Communication	.10 (.02) ***	.13 (.03) ***
Placement setting (W1)		
Birth parent (reference)	---	---
Kinship care	-.05 (.05)	-.04 (.06)
Non-relative foster care	-.10 (.06)	-.04(.07)
Parenting X Placement Interactions		
Kin x Closeness	---	.01 (.04)
Foster x Closeness	---	.04 (.04)
Kin x Monitoring	---	-.00 (.04)
Foster x Monitoring	---	-.01 (.04)
Kin x Dating Communication	---	-.02 (.07)
Foster x Dating Communication	---	-.13 (.08)
Covariates		
Non-Hispanic White (reference)	---	---
Hispanic	-.01 (.04)	-.01 (.04)
Non-Hispanic Black	.06 (.03)	.06 (.03)
Other race	.07 (.05)	.07 (.05)
Age	.11 (.01) ***	.11 (.01) ***
Sexual abuse	.02 (.04)	.02 (.04)
Female	-.04 (.03)	-.04 (.03)
NSCAW 1 CPS (reference)	---	---
NSCAW 1 LTFC	.01 (27.94)	-.01 (9.83)
NSCAW 2	.05 (.03)	.04 (.03)
Trauma symptoms	-.01 (.02)	-.01 (.02)
Delinquent behavior	.04 (.02)	.04 (.02)
Income	-.01 (.01)	-.01 (.01)
Placement duration	-.06 (.05)	-.07 (.05)
Caregiver education	-.06 (.03) *	-.06 (.03) *
Constant Placement (W1-W2)	-.06 (.04)	-.06 (.04)
Constant	-.85(0.13) ***	-.86(0.13) ***

Note: Sample of youth not sexually active at W1, $n=1,478$

*
p<.05.

**
p<.01.

p<.001. Standard errors in parentheses.

Appendix B

New Sexual Partners Between W1 and W3 (NSCAW 2 only)

	No Interactions	Interactions
Parenting measures (W1)		
Closeness	-.03 (.03)	-.07 (.04)
Monitoring	.01 (.03)	.06 (.04)
Dating Communication	.09 (.06)	.11 (.08)
Placement setting (W1)		
Birth parent (reference)	---	---
Kinship care	.17 (.09)	.19 (.16)
Non-relative foster care	.26 (.13) *	.32 (.16) *
Parenting X Placement Interactions		
Kin x Closeness	---	.15 (.09)
Foster x Closeness	---	.14 (.07) *
Kin x Monitoring	---	-.07 (.08)
Foster x Monitoring	---	-.21 (.08) *
Kin x Dating Communication	---	-.05 (.17)
Foster x Dating Communication	---	-.04 (.17)
Covariates		
Non-Hispanic White (reference)	---	---
Hispanic	.02 (.07)	.03 (.07)
Non-Hispanic Black	.16 (.07) *	.17 (.07) *
Other race	.10 (.10)	.1 (.10)
Age	-.00 (.02)	.00 (.02)
Sexual abuse	-.04 (.08)	-.08 (.08)
Female	-.07 (.06)	-.06 (.06)
Trauma symptoms	.02 (.03)	.04 (.03)
Delinquent behavior	-.05 (.06)	-.06 (.06)
Income	.01 (.01)	.01 (.01)
Placement duration	.20 (.10) *	.20 (.10) *
Caregiver education	-.12 (.06)	-.13 (.06) *
Constant Placement (W1-W3)	-.03 (.11)	-.01 (.11)
Constant	.20 (0.34)	.08 (0.34)

Note: Sample of youth sexually active at W2 and in NSCAW 2, $n=315$

* $p < .05$.

** $p < .01$.

*** $p < .001$. Standard errors in parentheses.

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- Close caregivers reduce sexual risk-taking for youth in the Child Welfare System
- Monitoring predicts more sexual partners for youth in birth parent care
- Monitoring predicts fewer sexual partners for youth in out-of-home care
- Dating communication is positively associated with sexual initiation and partners
- Dating communication positively predicts unsafe sex among foster youth

Figure 1.
Association Between Monitoring and New Sexual Partners Among Sexually Active Youth,
by Placement

Figure 2.
Association Between Dating Communication and Unprotected Sex Among Sexually Active Youth, by Placement

Table 1.Descriptive Statistics for Youth Not Sexually Active at W1 ($N=1,478$)

Variables	M/Pr	95% Conf. Int.	M/Pr	95% Conf. Int.	M/Pr	95% Conf. Int.
	Birth Parent W1		Kinship Care W1		Non-relative Foster Care W1	
Outcomes (W2)						
Sexual Initiation	.20	[.18, .23]	.26	[.21, .32]	.19	[.13, .25]
New Sexual Partners	.20	[.16, .25]	.31	[.21, .42]	.21	[.10, .31]
Unprotected Sex	.27	[.20, .33]	.25	[.14, .36]	.25	[.10, .40]
Independent Variables (W1)						
Closeness to Caregiver	.10	[.04, .16]	.18	[.08, .29]	-.00	[-.14, .14]
Caregiver Monitoring	.03	[-.02, .09]	.13	[.03, .24]	.19 [*]	[.07, .32]
Dating Communication	.49	[.46, .52]	.44	[.38, .50]	.42	[.35, .49]
Controls (W1)						
Child Age	12.66	[12.57, 12.75]	12.80	[12.63, 12.98]	12.89	[12.67, 13.10]
Child Gender	.57	[.54, .60]	.54	[.48, .60]	.52	[.45, 0.59]
Child Race						
Non-Hispanic White	.45	[.42, .48]	.33 ^{***}	[.27, .39]	.37 ^{***}	[.30, .43]
Non-Hispanic Black	.25	[.22, .27]	.43 ^{***}	[.38, .49]	.37 ^{***}	[.30, .43]
Hispanic	.21	[.18, .23]	.18 ^{***}	[.14, .24]	.14 ^{***}	[.10, .19]
Other	.10	[.08, .19]	.05 ^{***}	[.03, .09]	.13 ^{***}	[.09, .18]
Cohort						
NSCAW 1 CPS	.55	[.52, .58]	.52	[.46, .59]	.37 ^{***}	[.31, .44]
NSCAW 1 LTFC	.00	[.00, .01]	.12	[.09, .17]	.28 ^{***}	[.23, .35]
NSCAW 2	.44	[.41, .47]	.36	[.30, .42]	.34 ^{***}	[.28, .41]
Sexual Abuse	.14	[.12, .17]	.21	[.15, .26]	.18	[.13, .24]
Trauma	-.13	[-.19, -.07]	-.12	[-.22, -.02]	-.00	[-.15, .14]
Delinquent Behavior	-.06	[-.12, .01]	-.01	[-.13, .11]	.28 ^{***}	[.13, .43]
Income (Categories 1–11)	5.32	[5.13, 5.52]	6.34 ^{***}	[5.90, 6.78]	8.27 ^{***}	[7.85, 8.70]
Placement Duration	.91	[.89, .93]	.26 ^{***}	[.22, .30]	.07 ^{***}	[.06, .09]
Caregiver Education	.32	[.29, .35]	.29	[.23, .34]	.40 [*]	[.33, .47]
Constant Placement (W1–W2)	.88	[.86, .90]	.59 ^{***}	[.52, .66]	.36 ^{***}	[.27, .44]
Observations	1003		266		209	

Note:

^{*}
p<.05^{**}
p<.01^{***}
p<.001. Significance obtained using Wald tests.

Table 2.Descriptive Statistics for Youth Sexually Active at W2 ($N=669$)

Variables	M/Pr	95% Conf. Int.	M/Pr	95% Conf. Int.	M/Pr	95% Conf. Int.
	Birth Parent W1		Kinship Care W1		Non-relative Foster Care W1	
Outcomes (W2)						
Sexual Initiation	.39	[.35, .44]	.42	[.34, .50]	.30	[.22, .30]
New Sexual Partners	.59	[.52, .66]	.61	[.48, .74]	.64	[.50, .78]
Unprotected Sex	.27	[.22, .31]	.27	[.20, .35]	.32	[.22, .40]
Independent Variables (W1)						
Closeness to Caregiver	-.06	[-.16, .03]	.02	[-.14, .19]	-.11	[-.32, .11]
Caregiver Monitoring	-.22	[-.33, -.12]	-.10	[-.27, .07]	.17***	[-.01, .37]
Dating Communication	.69	[.65, .74]	.61	[.53, .69]	.59	[.50, .69]
Controls (W1)						
Child Age	14.07	[13.92, 14.21]	13.89	[13.64, 14.14]	14.02	[13.71, 14.33]
Child Gender	.61	[.56, .65]	.52	[.44, .61]	.68	[.59, 0.77]
Child Race						
Non-Hispanic White	.45	[.40, .50]	.30***	[.23, .38]	.37	[.28, .46]
Non-Hispanic Black	.25	[.21, .29]	.45***	[.37, .54]	.34	[.25, .43]
Hispanic	.20	[.17, .24]	.14***	[.09, .21]	.22	[.15, .31]
Other	.10	[.07, .13]	.10***	[.07, .13]	.07	[.04, .15]
Cohort						
NSCAW 1 CPS	.48	[.42, .53]	.45	[.37, .53]	.34**	[.26, .44]
NSCAW 1 LTFC	.02	[.01, .04]	.15	[.10, .22]	.20**	[.13, .29]
NSCAW 2	.50	[.45, .55]	.40	[.32, .48]	.46**	[.36, .55]
Sexual Abuse	.23	[.19, .27]	.21	[.14, .28]	.26	[.17, .34]
Trauma	.06	[-.03, .15]	.12	[-.04, .28]	.20	[-.00, .41]
Delinquent Behavior	.15	[.05, .25]	.07	[-.10, .25]	.19	[-.00, .39]
Income (Categories 1–11)	5.08	[4.79, 5.38]	6.28***	[5.69, 6.86]	8.42***	[7.79, 9.06]
Placement Duration	.90	[.87, .93]	.24***	[.18, .29]	.05***	[.03, .07]
Caregiver Education	.26	[.21, .30]	.29	[.21, .36]	.41**	[.32, .51]
Constant Placement (W1–W2)	.88	[.85, .91]	.55***	[.45, .64]	.18***	[.09, .27]
Observations		421		143		105

Note:

*
p<.05**
p<.01***
p<.001. Significance obtained using Wald tests.

Table 3.**Sexual Initiation Models**

	No Interactions	Interactions
Parenting measures (W1)		
Closeness	-.00 (.01)	-.01 (.02)
Monitoring	-.01 (.01)	-.00 (.02)
Dating Communication	.10 (.02) ***	.10 (.03) ***
Placement setting (W1)		
Birth parent (reference)	---	---
Kinship care	.37 (.42)	.04 (.05)
Non-relative foster care	-.04 (.05)	-.03(.06)
Parenting X Placement Interactions		
Kin x Closeness	---	.01 (.03)
Foster x Closeness	---	.02 (.03)
Kin x Monitoring	---	-.03 (.04)
Foster x Monitoring	---	-.05 (.04)
Kin x Dating Communication	---	-.01 (.06)
Foster x Dating Communication	---	-.03 (.07)
Covariates		
Non-Hispanic White (reference)	---	---
Hispanic	.01 (.03)	.01 (.03)
Non-Hispanic Black	.05 (.03)	.04 (.03)
Other race	.04 (.04)	.04 (.04)
Age	.08 (.01) ***	.08 (.01) ***
Sexual abuse	.00 (.03)	-.00 (.03)
Female	-.04 (.02)	-.03 (.02)
NSCAW 1 CPS (reference)	---	---
NSCAW 1 LTFC	.03 (2.70)	-.00 (7.46)
NSCAW 2	.02 (.03)	.01 (.03)
Trauma symptoms	.01 (.01)	.01 (.01)
Delinquent behavior	.03 (.01)	.02 (.01)
Income	-.01 (.00)	-.01 (.00)
Placement duration	-.01 (.04)	-.01 (.04)
Caregiver education	-.05 (.03)	-.05 (.03)
Constant Placement (W1–W2)	-.03 (.03)	-.03 (.03)
Constant	-.70(0.11) ***	-.70(0.11) ***

Note: Sample of youth not sexually active at W1, $n=1,478$

*
p<.05.

**
p<.01.

p<.001. Standard errors in parentheses.

Table 4.**New Sexual Partners Models (NSCAW 2 only)**

	No Interactions	Interactions
Parenting measures (W1)		
Closeness	-.06 (.03) *	-.09 (.03) **
Monitoring	.03 (.03)	.12 (.04) ***
Dating Communication	-.06 (.06)	-.10 (.07)
Placement setting (W1)		
Birth parent (reference)	---	---
Kinship care	.08 (.09)	.16 (.16)
Non-relative foster care	.13 (.12)	-.03 (.16)
Parenting X Placement Interactions		
Kin x Closeness	---	.11 (.09)
Foster x Closeness	---	.12 (.07)
Kin x Monitoring	---	-.23 (.08) **
Foster x Monitoring	---	-.26 (.08) **
Kin x Dating Communication	---	-.14 (.17)
Foster x Dating Communication	---	.31 (.17)
Covariates		
Non-Hispanic White (reference)	---	---
Hispanic	-.08 (.07)	-.08 (.07)
Non-Hispanic Black	.05 (.07)	.06 (.07)
Other race	.03 (.10)	.05 (.10)
Age	-.04 (.02) *	-.04 (.02) *
Sexual abuse	-.13 (.08)	-.16 (.08) *
Female	-.04 (.06)	-.02 (.06)
Trauma symptoms	-.01 (.03)	.00 (.03)
Delinquent behavior	-.03 (.06)	-.01 (.06)
Income	.01 (.01)	.01 (.01)
Placement duration	.14 (.09)	.11 (.09)
Caregiver education	-.09 (.06)	-.11 (.06)
Constant Placement (W1–W2)	-.08 (.09)	-.07 (.09)
Constant	1.20(0.28) ***	1.17(0.28) ***

Note:

Sample of youth sexually active at W2 and in NSCAW 2, $n=315$ *
p<.05.**
p<.01.***
p<.001. Standard errors in parentheses.

Table 5.**Unsafe Sex Models**

	No Interactions	Interactions
Parenting measures (W1)		
Closeness	-.06 (.02) **	-.06 (.02) **
Monitoring	.02 (.02)	.03 (.02)
Dating Communication	.00 (.04)	-.07 (.05)
Placement setting (W1)		
Birth parent (reference)	---	---
Kinship care	.05 (.06)	-.16 (.09)
Non-relative foster care	.08 (.08)	.03 (.10)
Parenting X Placement Interactions		
Kin x Closeness	---	.05 (.05)
Foster x Closeness	---	-.01 (.05)
Kin x Monitoring	---	-.08 (.04)
Foster x Monitoring	---	.06 (.05)
Kin x Dating Communication	---	.30 (.09) ***
Foster x Dating Communication	---	.01 (.11)
Covariates		
Non-Hispanic White (reference)	---	---
Hispanic	.05 (.05)	.05 (.05)
Non-Hispanic Black	-.01 (.04)	-.00 (.04)
Other race	.09 (.06)	.09 (.06)
Age	.00 (.01)	.01 (.01)
Sexual abuse	.06 (.05)	.06 (.05)
Female	.06 (.04)	.06 (.04)
NSCAW 1 CPS (reference)	---	---
NSCAW 1 LTFC	.01(1.81)	.00(1.02)
NSCAW 2	-.05 (.05)	-.05 (.05)
Trauma symptoms	.03 (.02)	.03 (.02)
Delinquent behavior	-.01 (.02)	-.01 (.02)
Income	.00 (.01)	.00 (.01)
Placement duration	.05 (.06)	.04 (.06)
Caregiver education	.05 (.04)	.05 (.04)
Unsafe Sex 1	.13 (.05) **	.13 (.05) **
Constant Placement (W1–W2)	.05 (.05)	.03 (.05)
Constant	.02 (.18)	.08 (.18)

Note:

Sample of youth sexually active at W2, $n=669$ *
p<.05.

**
p<.01.

p<.001. Standard errors in parentheses.

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