

THE IMPACT OF SEX AND RELATIONSHIP EDUCATION PROGRAMMING WITH
FOSTER YOUTH

By

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(Under the Direction of Ted Futris)

ABSTRACT

Teen pregnancy is associated with increased risk of school dropout, employment challenges and long-term poverty; these risks are exacerbated for foster youth who are at elevated risk for teen pregnancy. Sex education has been found to reduce risky sexual behavior, although research on sexual education with foster youth is limited. This study examines variations in the experiences and outcomes of non-foster youth versus foster youth who participated in a federally funded teen pregnancy prevention program providing both relationship and sex education. As anticipated, foster youth entered programming with elevated rates of risky sexual behavior. However, contraception use intentions contradicted past literature. A positive but unexpected finding was that both groups reported positive program experiences and safer sexual behavior intentions post-programming. This study provides preliminary evidence that both groups of youth may benefit from receiving both relationship and sex education programming. Implications for future research and programming are shared.

INDEX WORDS: Foster youth, relationship education, sex education, programming

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CHAPTER 1

INTRODUCTION AND LITERATURE REVIEW

Currently, there are more than 400,000 foster youth in the United States (Child Trends, 2015). Foster youth have elevated rates of risky sexual behavior including having multiple partners, inconsistent contraceptive use, and increased rates of victimization and perpetration of intimate partner violence (Szanto, Lyons, and Kisiel, 2012). These risky behaviors begin at a young age, with 40% of foster youth engaging in sexual activity by age 13 (James, Montgomery, Leslie, and Zhang, 2009). And, despite the encouraging decline in pregnancies among adolescents in general, minority and foster youth continue to be overrepresented (National Center for Injury Prevention and Control, 2009). In fact, research suggests that female foster youth are twice as likely as non-foster youth females to ever be pregnant, and nearly half will experience a repeat pregnancy by age 19 (Boonstra, 2011). Also, because a disproportionate number of foster youth are racial minorities (Anyon, 2011), it is unclear whether elevated pregnancy rates among foster youth are associated with race or their foster care experience.

In general, unplanned pregnancy during adolescence is associated with elevated risk for multiple negative outcomes for both the adolescent parent and their offspring (Jeha, Usta, Ghulmiyyah, and Nassar, 2015). For example, adolescent parenting is associated with decreased educational attainment, increased dropout rates, decreased job opportunities, and a greater likelihood of long-term poverty (Perper, Peterson, and Manlove, 2010; The National Campaign to Prevent Teen and Unplanned Pregnancy, 2011). Specific to foster youth, becoming a parent during adolescence further exacerbates their risk for these negative outcomes and reduces their likelihood of successfully aging out of the foster care system (Manlove et al., 2011).

Sex education is thought to play an important role in the recent decline in adolescent pregnancies (CDC, 2015). Sex education programming seeks to provide youth with the resources necessary to alter planned behavior intentions associated with the sexual behaviors leading to unplanned pregnancy. The efficacy of changing intentions as a predictor of safer sex behaviors has been demonstrated in the literature (Pooblan et al., 2009). However, less is known about whether these programs change foster youth's intentions to engage in safer sex behaviors. The limited implementation of evidence-based sex education with this population shows promise (Cronin, Heflin, & Price 2014; Finley, 2013). Notably, foster youth and minorities continue to report elevated risk behaviors including early onset of sexual activity and having multiple partners (CDC, 2006). The current study contributes to the literature by examining the sexual behavior intentions (i.e., contraceptive use, condom use, and intercourse) of foster youth versus non-foster youth who completed a teen pregnancy prevention program. As illustrated in Figure 1, the current study also explores variations between foster youth and non-foster youth on pre-program risky sexual behavior and risky sexual behavioral intentions as well as their program experience, and how these variations are associated with post-program risky sexual behavior intentions.

Foster Youth versus Non Foster Youth

Nation-wide, foster youth, on average, will remain in the system for just under two years with 40% of youth currently in care being adolescents (age 11-20 years of age)¹. Despite a brief decline in the number of children in care between 2005 and 2012, there has since been a steady upward trajectory with an overrepresentation of racial minorities (ACYF, 2013). More than half

¹ Locally, Georgia foster youth stay in care for longer than the national average (70% remain in care for over two years) and a third are adolescents ages 11-20 (**National Kids Count, 2015**). See Appendix X for more statistics about trends nationally and in Georgia.

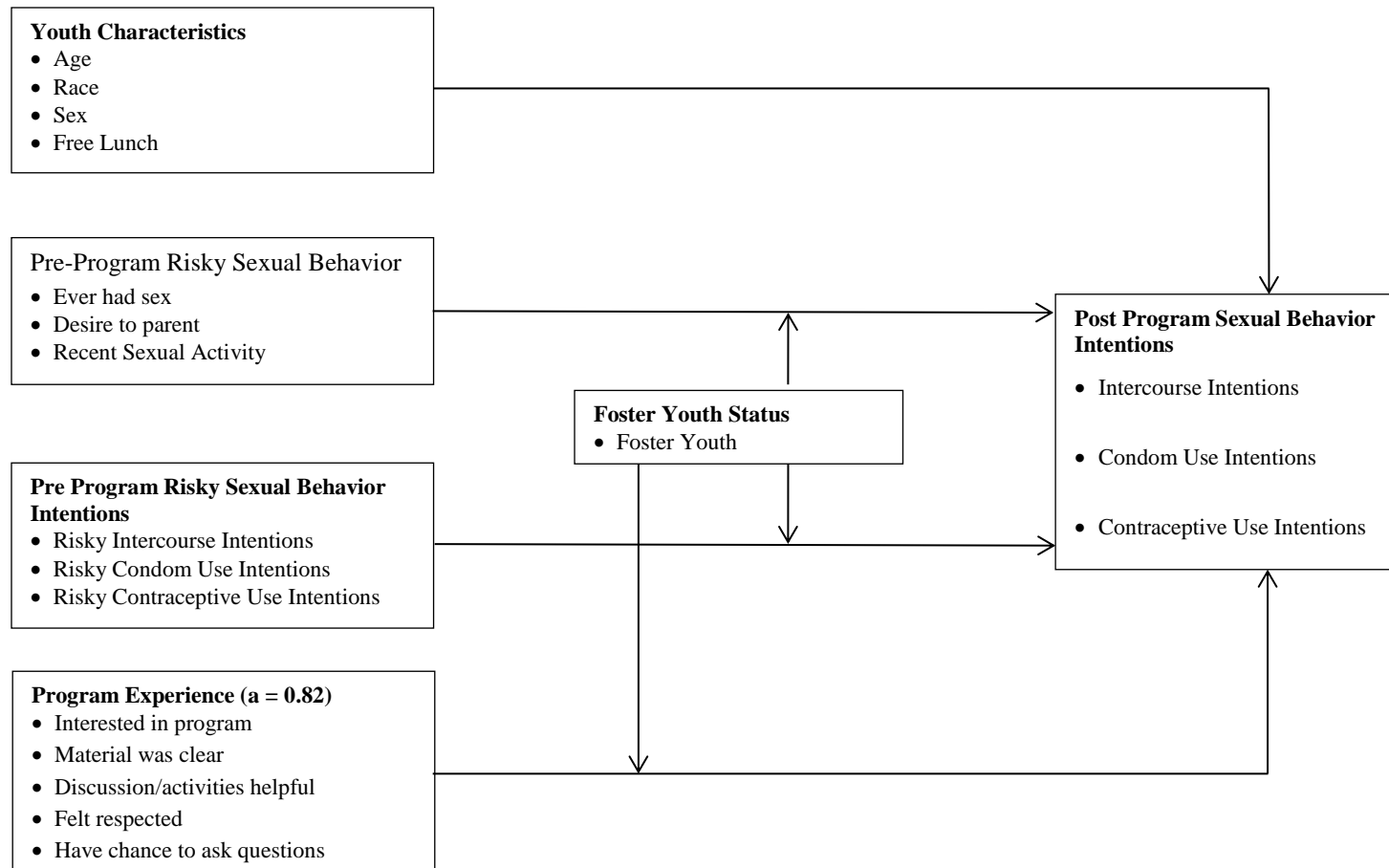


Figure 1. Conceptual Model to examine the relationship between demographic variables, pre-program sexual risk behavior, pre-program risky sexual behavior intentions, program experience, and post-programming sexual behavior intentions by foster youth status.

of these youth are placed in non-relative foster family homes, group homes, or institutions (National Kids Count, 2015). Compared to foster youth under the age of 10, adolescent foster youth are more likely to experience placement disruption leading to isolation from caring stable relationships (Stott, 2012).

According to Risk and Resiliency theory (Werner and Smith, 1982), various domains in the life of a child can create risk for potentially adverse outcomes or facilitate resiliency leading to better outcomes. Domains for buffering, or resiliency, include strong support networks inside and outside of the home in addition to positive self-identity and perceived competency (Kapeleris and Paivio, 2011). However, foster youth who experience strained relationships with family and peers are less likely to experience these buffering effects (Farineau, Stevenson Wojciak, and Mcwey, 2013). Exposure to adverse childhood experiences (ACEs) and reduced buffering mechanisms have long-term implications for mental, physical, and sexual health. Exposure to co-occurring ACEs is associated with decreased social support and elevated risky sexual behavior including early onset, and increased likelihood of unplanned pregnancy (Carpenter et al., 2001; King, Putnam-Hornstein, Cederaum, and Needell, 2014). Additionally ACEs are associated with increased victimization, and perpetration of intimate partner violence in dating relationships (Foshee et al., 2004; Szanto, Lyons, and Kisiel, 2012; Garrido and Taussig, 2002). While less than 10% of the general adult population report four or more ACEs (Hughes, Lowey, Quigg, and Bellis, 2016), 70% of former foster youth report five or more ACEs and 33% report more than eight (Bruskas and Tessin, 2013). By adulthood, former foster youth report elevated mental health challenges, less healthy romantic relationships, challenges with emotion regulation, and elevated risk for STIs (Hillis, 2004; Bernstein, Measelle, Laurent, Musser, and Ablow, 2013; Busby, Walker, & Holman, 2011). For example, female foster youth

have twice the HIV infection rate of the general adolescent female population (Wilson and Widom, 2008). In addition to their unique experiences, foster youth also report increased rates of believing dangerous myths (e.g. All STIs are visible and unplanned pregnancy is inevitable), challenges with emotion regulation during conflicts, and challenges with contraceptive use negotiation (Ahrens et al., 2016). Since this population experiences increased exposure to risk and fewer resources to buffer against trauma, receiving programming designed to encourage safe sex and relationship enhancing behaviors may be an important buffering resource for this population.

Risky Sexual Behavior Intentions

Given the challenges of longitudinally tracking sexual behavior among adolescents, measuring planned behavior intentions is an established means of predicting future behaviors (Espada et al., 2016). According to the Theory of Planned Behavior (Ajzen, 1991), attitudes, subjective norms, and perceived behavior control influence intentions and, in turn, behavior. These intentions arise from the attitudes held by an individual, the subjective norms of those around them, and the perceived ability to control behavior. Thus, altering risky sexual behavior first starts with reducing intentions to engage in risky sexual behavior (e.g. inconsistent contraceptive use) and increasing intentions of engaging in safer behaviors (e.g. abstaining from intercourse or consistent use of contraceptives). Altering intentions and attitudes serves as a critical bridge from knowledge to action and measuring changes can predict future behavior (Ahrens et al., 2016). As noted by Clark et al. (2000), programming developed around altering intentions has been effective in causing adolescents to evaluate potential outcomes of their current behavior leading to behavioral changes.

School-based sex education interventions increase participant knowledge about safe sex, contraceptives, and STIs, and can lead to increased frequency and consistency of condom use (Marcell et al., 2013). Programs are most effective when using evidence-based curricula that integrate information about biological changes, the emotional value of relationships, and use facilitators who receive adequate training (Pooblan et al., 2009). Comprehensive sex education curricula grounded in social cognitive theory and theory of planned behavior have been found to alter knowledge about STDs, HIV/AIDS, and condoms (Morris, Ulmer, and Chimnani, 2003) and intentions to use condoms (Borawski et al., 2009). As well, abstinence-focused sex education programs have been found to extend the duration of abstinence and help youth identify abstinence as a tool for career goal achievement and maintaining health (Jemmott, Jemmott, and Fong, 1998). However, high-risk adolescents may be less likely to engage in sex education programming; thus, in general, limiting knowledge acquisition (Rew, Fouladi, Land, and Wong, 2007). In fact, sex education programs for foster youth have reported difficulties with retention and low attendance due to placement changes, inconsistent transportation, and feeling unwelcomed (Thompson, Auslander, and Alonzo, 2012; Soloranzo and Glassgold, 2010). However, preliminary attempts to alter existing curricula to accommodate foster youth's unique experiences have yielded positive impacts on changes in intentions of reducing risky sexual behavior (Finley, 2013). Since foster youth report challenges with contraceptive negotiation, additional resources for developing conflict resolution or negotiation skills and confidence communicating values may be of assistance.

The majority of adolescent sexual experiences occur within the context of dating relationships (Ryan, Manlove, & Franzetta, 2003). Thus, adolescents entering into these relationships with insufficient resources to make informed decisions may experience negative

unintended consequences. Dating relationships are an important environment for developing communication skills, future relationship expectations, and establishing boundaries. However, more than half of adolescents entering into their first sexual relationship reported engaging in intercourse within three months of dating, and one in five never use contraceptives (Ryan, Manlove, & Franzetta, 2003). Therefore, there may be a limited window for providing education to these individuals with sufficient time to assimilate knowledge prior to the onset of sexual activity. Dating relationships are not only an environment for risky sexual behavior but also physical violence and sexual coercion. For instance, 1 in 10 youth experience violence and 1 in 3 females experience coercion (Ackard, & Neumark-Sztainer, 2002). More so, foster youth experience significantly higher rates of victimization and perpetration (Garrido and Taussig, 2013). Consequently, exposure to intimate partner violence during adolescence is associated with elevated victimization and perpetration later in life (Szanto, Lyons, and Kisiel, 2012).

For adolescents, relationship and marriage education (RME) assists in the formation of realistic relationship beliefs, identification of early signs of an unhealthy relationship, and development of personal relationship goals (Wolfe, Cooks, Chiodo, Hughes, and Ellis, 2011). Exposure to RME also leads to a decline in unrealistic beliefs, increased comfort using adaptive communication and refusal skills, and increased knowledge about healthy expectations, conflict, and communication (Adler-Baeder, Kerpelman, Schramm, Higginbotham, and Paulk, 2007; Kerpelman et al., 2009). Additionally, changes in behavior include increased use of adaptive conflict management skills and decreased unhealthy tactics such as verbal and physical aggression (Gardner, Giese, & Parrott, 2004; Adler-Baeder et al., 2007). At-risk youth appear to experience added benefit, demonstrating a greater increase in their standards for desirable partner traits post programming (Ma, Pittman, Kerpelman, and Adler-Baeder, 2014). After

programming, adolescents who experienced parental abuse, and are thus at elevated risk for intimate partner violence victimization, are less likely to become victims (Wolfe et al., 2003).

To date there are no studies found reviewing the impact of sex education in conjunction with relationship education. However, past work has found that providing sex education in conjunction with motivational enhancement and intrapersonal skills moderates the impact of intervention on altering sexual behavior (Smoak et al., 2006). This may be especially impactful for foster youth due to their experiences with strained adult, peer, and dating relationships (Ahrens et al., 2016). In fact, foster youth express an interest in developing communication skills, having opportunities to practice these skills, and a desire to form healthy relationships (Duppong Hurley et al., 2013; Scott, et al., 2012).

The Influence of Program Experience on Risky Sexual Behavior Intentions

The impact of sex education is influenced by experiences both prior to and during programming (Smoak et al, 2006; Clark et al., 2000). According to Social Cognitive Theory (Bandura, 1977), behaviors change as the result of acquiring knowledge and skills that alter intentions and attitudes regarding future behavior. Therefore, the knowledge and skills learned during sex education programming are expected to lead to lowered planned intentions to engage in sex and greater intentions to engage in safe sex practices (e.g., use condoms and other methods of birth control). Importantly, the social context where learning occurs through observation, instruction, and interaction has a strong influence on altering desirable behavioral outcomes. However, foster youth's prior exposure to unhealthy modeling of adult interactions and challenges with peer interactions may impact their ability to engage with and benefit from sex education programming. Decreased engagement can limit knowledge acquisition and thus changes in sexual behavior intentions (Rew, Fouladi, Land, and Wong, 2007).

Literature on education supports the notion that both teachers and others in the classroom serve as models to facilitate learning and changes in behavior (e.g. Protogerou & Johnson, 2014). A positive learning environment (e.g., engagement, group cohesion, sense of belonging) is associated with positive program outcomes (Owen, Antle, and Barbee, 2013; Soloranzo and Glassgold, 2010). While positive program experiences are impactful for all adolescents, they may be especially influential for foster youth who are more likely to struggle with group cohesion due to common placement instability and transitions (Farineau et al., 2013). Foster youth's increased challenges with group cohesion may reduce the impact of programming as negative peer interactions are associated with decreased program engagement and learning outcomes (Heinze, Jozefowicz, & Toro 2010; Thompson, Auslander, and Alonzo, 2006).

Successful leaders of youth programming occupy multiple roles including friend, parent, and mentor. This multifaceted relationship can allow for a deeper level of trust and more open communication between facilitator and youth (Walker, 2011). Facilitators who assist in creating this environment by demonstrating emotional support, respect, and indicating they value the autonomy of the individual produce better outcomes including increased social skills and decreased peer aggression (Kataoka, 2013; Ahrens et al., 2016). Facilitators working specifically with foster youth report that important strategies for engagement include creating the perception of a safe space, encouraging conversation, and developing a personal connection with participants (Augsberger, 2014). For all youth, the perceived qualifications and knowledge of the facilitator can influence the degree to which individuals engage in programming and program outcomes (Bradford, Adler-Baeder, Ketring, & Smith, 2012). This is especially important with sex and relationship education since youth are likely to perceive facilitators as providing the most accurate information on these topics (Wood et al., 2002). Given their prior negative

experiences with trusted adult figures, the quality of facilitation may be especially impactful on program outcomes for foster youth.

The Current Study

Due to the lack of research on the efficacy of combining sex and relationship education, especially with foster youth, the current study examines whether adolescents indicate significantly different intentions to engage in risky sexual behaviors post programming. The following research questions were explored: (1) Do foster youth differ in pre-program indicators of sexual risk (e.g., ever engaged in intercourse, desire to parent before graduation) and risky sexual behavior intentions (i.e., have sexual intercourse, use a condom, use other form of birth control) compared to non-foster youth? (2) Compared to non-foster youth, do foster youth perceive their program experience more or less positively? (3) After completing the program, do foster youth differ in whether programming altered their likelihood of engaging in risky sexual behaviors compared to non-foster youth? (4) Do pre-program indicators of sexual risk and risky sexual behavior intentions, as well as program experience influence post program risky sexual behavior intentions? (5) Does programming alter youth risky sexual behavior intentions differently for foster and non-foster youth?

Given the theoretical and empirical literature reviewed, it is hypothesized that foster youth will have elevated pre-program indicators of risky sexual behavior (H1). Also, we anticipate foster youth will perceive their program experience less positively than non-foster youth (H2). After programming it is expected that foster youth will be less likely to report changes in likelihood of engaging in safer sexual behavior intentions following programming (H3). Next, because programming is most impactful at altering risky sexual behavior intentions prior to the onset of sexual activity, we hypothesized that youth reporting greater sexual risk and

greater risky sexual behavior intentions prior to programming will be less likely to report changed risky sexual behavior intentions post programming (H4a). Also, youth who report a more positive program experience are expected to report more positive changes in risky sexual behavior intentions post programming (H4b). Last, because risk and resiliency theory posits that risks are often compounded by one another, we hypothesize group differences between foster and non-foster youth whereby foster youth's post-program intentions are less impacted by positive program experiences and more impacted by pre-program risk (H5).

CHAPTER 2

METHODS

Procedure

The data for this study came from a multi-county, federally funded², teen pregnancy prevention program, the Personal Responsibility and Education Program (PREP), that was implemented in Georgia. The federal aim of PREP was to reduce instances of unplanned pregnancy and STIs among at-risk adolescents by combining sex education with adulthood preparation topics. Relationship education was chosen to fulfill the adulthood preparation category in the state of Georgia. Program sites across 10 counties with some of the highest teen pregnancy prevention rates in the state participated in the GA-PREP program³. Programming targeted at-risk adolescent populations ranging in age from 10-19 years old, including ethnic/racial minorities (i.e., African American and Hispanic youth), foster youth, youth involved in the juvenile justice system, LGBTQ youth, and youth living in areas with high teen birth rates. Pregnant and parenting adolescents up to 21 years old were also recruited to participate. Facilitators from each program site received 18 hours of training in the evidence-based sex education curriculum their agency selected, including two comprehensive curricula (i.e., Making Proud Choices, Be Proud Be Responsible) and an abstinence-based curriculum (i.e., Making a Difference). Facilitators implementing more than one curriculum in sex education were required to receive the full training (18 hours) for each curricula taught. As well, facilitators completed 13

² Funding came from the Administration for Children and Families (ACF), and Family and Youth Services Bureau (FYSB).

³ These counties include: Bibb, Chatham, Clayton, Cobb, DeKalb, Dougherty, Fulton, Gwinnett, Muscogee, and Richmond

hours of training in the evidence-based relationship education curriculum, Relationship Smarts Plus (RS+; Adler-Baeder et al., 2007; Pearson, 2007). Facilitators also received ongoing technical assistance as well as annual booster trainings in order to reinforce curriculum fidelity and successful program implementation.

Programming across all sites consisted of 16 total contact hours which included youth receiving the complete 8-hour sex education curriculum and a condensed 8-hour version of RS+. The 13-lesson RS+ program focuses on four core topic areas: (1) building a foundation for understanding healthy relationships (lessons 1-4), (2) knowledge about dating relationship processes (lessons 5-8), (3) developing communication and conflict management skills (lessons 9-10), and (4) marriage and future planning (lessons 11-13)⁴. The condensed 8-hour version provided content in each of the four topics areas across six selected lessons: (a) Lesson one focuses on identity and maturity development (content area 1); (b) Lesson three clarifies what “love” is (content area 1); (c) Lesson six reinforces “smart” dating practices (content area 2) (d) Lesson eight helps youth distinguish between healthy versus unhealthy relationships (content area 2); (e) Lesson nine teaches communication and conflict management skills (content area 3); and (f) Lesson eleven explores future relationship choices including parenting and marriage (content area 4). In year three (2012-2013), a total of 91 program series were taught across 60 program sites, and in year four (2013-2014) 102 program series were taught across 56 sites.

An independent evaluator coordinated data collection. Data were collected through two paper-pencil surveys administered by the facilitator at the initiation (pre-test survey) and conclusion (post-test survey) of each program series. Survey participation was voluntary and no cash incentives were provided to complete the survey. Participants were assigned unique IDs to

⁴ See **Appendix A** for a description of the 13 lessons

maintain anonymity and allow for matching of pre- and post-surveys by the independent evaluator.

Sample

A total of 3,818 youth participated in the PREP program in years three (n = 1,755) and four (n = 2,063) of the five-year project when evaluation data was collected. While all of the youth received RS+, the majority (85.7%) received Making Proud Choices as their sex education curriculum while the remaining youth received Making a Difference (10.5%) or Be Proud! Be Responsible! Be Protective! (2.2%). Of the 3,818 youth, 2,571 graduated programming (i.e., completed 75% or more of the program) and 2,560 returned a pre- and/or post-test survey. Of the 2,560 youth who returned surveys, 1,715 (67.0%) returned both pre- and post-test surveys that could be verified as matching based on race, age and sex of the respondent. For the purposes of this study, the sample was further reduced to respondents missing less than 30% of the data on the primary variables of interest (n = 1,696) and ages 11-20 years (n = 1,600). Of the 1,600 respondents, 191 (11.9%) self-reported or were identified as ever being or currently in foster care. Because a small proportion of the 191 foster youth identified their race as “other” (8.8%; e.g., Multi-racial, American Indian, Pacific Islander, Asian), the final overall sample was further reduced to 1,238 youth (n = 165 foster youth) who also self-identified as either Caucasian (13.6%) or African American (86.4%). As anticipated due to the selection criteria, analyses comparing the reduced sample (n = 1,238) to those youth excluded (n = 477) revealed significant differences across all demographic characteristics⁵.

From the 1,073 adolescents identified as non-foster youth, case control matching was utilized to create a secondary sample of non-foster youth who matched the foster youth (n = 165)

⁵ Appendix B provides a profile of the original sample as well as a comparison between the reduced and excluded sample.

on race, gender, and age (with a tolerance of +/- 1 year on age) using random sampling without replacement and prioritizing exact matches. IBM SPSS case-control matching using the FUZZY extension command allowed for matching on the potentially confounding variables of race, sex, and age creating a quasi-experimental design and reducing selection bias (Rosenbaum and Rubin, 1985). Race, age, and sex were chosen as matching variables because of the established literature showing their strong association with the onset of intercourse and use of contraceptives (Ryan, Manlove, and Franzetta, 2003). The Case Control Matching yielded a sub-sample of 160 non-foster youth with no significant difference on age, race, or sex from the foster youth sample. Table 1 provides a profile of the reduced sample (n = 325) as well as a comparison between the foster youth (n = 165) and matched non-foster youth (n = 160) sample. In general, youth from the final reduced sample ranged in age from 11-20 years (M = 15.9, SD = 1.81) and the majority identified as female (60.6%) and African American (67.1%). Participant's educational attainment ranged from 6th grade to "GED complete" with the majority of respondents (48.1%) either in 9th or 10th grade. Non-foster youth and foster youth significantly differed in ethnicity, residency, and receiving free or reduced lunch (see Table 1). The significant difference in residency was expected since foster youth are more likely to live with "other parent figure or adoptive parent" or "other" than non-foster youth due to their involvement with the child welfare system.

Measures

Pre-program Risky Sexual Behaviors. Five items on the pre-test survey were used to assess youths' history of risky sexual behavior reflecting their engagement in intercourse, desire to parent before graduation, and recent sexual activity (three questions)⁶. First, youth were asked if they had *ever engaged in intercourse* (i.e., "Have you ever had intercourse? By sexual

⁶ Additional items of pre-program risky sexual behavior were evaluated but excluded from this study are included in Appendix C

Table 1. Foster vs. Non-Foster Youth Demographic Characteristics

	Total (n = 325)	Foster youth		X ² or F-value
		No, Match (n = 160)	Yes (n = 165)	
Age				2.40
M (SD)	15.9 (1.81)	15.8 (1.9)	16.0 (1.7)	
11-14	60 (18.5)	34 (21.3)	26 (15.8)	
15-17	202 (62.2)	93 (58.1)	109 (66.1)	
18-20	63 (19.4)	33 (20.6)	30 (18.2)	
Sex (Female), N (Valid %)	197 (62.2)	96 (60.0)	101 (61.2)	0.05
Race, N (Valid %)				0.16
African-American	218 (67.1)	109 (68.1)	109 (66.1)	
Caucasian	107 (32.9)	51 (31.9)	56 (33.9)	
Ethnicity (Hispanic or Latino), N (Valid %)	73 (22.7)	51 (31.9)	22 (13.7)	15.15**
Missing	4	0	4	
Grade, N (Valid %)				7.17
6 th - 8 th Grade	39 (12.3)	19 (12.1)	20 (12.4)	
9 th -10 th Grade	153 (48.1)	82 (52.2)	71 (44.1)	
11 th -12 th Grade or GED in Progress	87 (27.4)	33 (21.0)	54 (33.5)	
GED complete	36 (11.3)	21 (13.4)	15 (9.3)	
Drop out	3 (0.9)	2 (1.3)	1 (0.6)	
Missing/Grade level not assigned	32	3	4	
Residency, N (Valid %)				121.49**
Both Birthparents	62 (19.1)	47 (29.4)	15 (9.1)	
Birthparent & Step-parent/Other adult	53 (16.3)	38 (23.8)	15 (9.1)	
Grandparent(s)	14 (4.3)	6 (3.8)	8 (4.8)	
Single parent	66 (20.3)	52 (32.5)	14 (8.5)	
Other parent figure or adoptive parent	83 (25.5)	7 (4.4)	76 (46.1)	
Other	47 (14.5)	10 (6.3)	37 (22.4)	
Missing	0	0	0	
Ever Received Free/Reduced Lunch (Yes), N (Valid %)	278 (85.5)	123 (76.9)	155 (93.9)	19.83**
Missing	0	0	0	

Note. Valid Percent results are presented above
⁺ p < .05 * p < .01 ** p < .001

intercourse, we mean the act that makes babies.”), with response options of (0) No and (1) Yes. Next, youth were asked about *desire to parent before graduation* (i.e. “Do you want to have a baby or father a baby before finishing high school?”) with response options of (0) No and (1) Yes. Last, youth were asked how often they had engaged in sexual activity in the past 30 days and presented three types of sexual activity (i.e., vaginal, oral, or anal sex) with response options ranging from (1) 0 times to (7) 6 or more times. Responses to these three items were recoded (0) 0 times and (1) 1 or more times, and a final score was computed to reflect *recent sexual activity* as either (0) No or (1) Yes (i.e., engagement in one to three types of sexual activities). A *pre-program risky sexual behavior* sum score was computed with a range of (0) low risk (did not engage in any of the five risk behaviors) to (3) high risk (i.e., ever engaged in intercourse, desire to parent before graduation, and recent vaginal, oral, and/or anal sexual activity).

Pre-Program Risky Sexual Behavior Intentions. Two questions were asked prior to program participation to ascertain youths’ intentions to engage in intercourse and use contraceptives⁷. First, youth were asked about their *pre-program risky intercourse intentions* in the next 6 months (i.e., “If you have the chance, do you intend to have sexual intercourse in the next 6 months?”) with a response range of (1) No, definitely not, (2) No, probably not, (3) Yes, probably, and (4) Yes, definitely. Second, *pre-program risky contraceptive intentions* were assessed by asking youth “If you were to have sex in the next year, which methods of birth control do you intend to use (or have your partner use)?”. Youth were provided with nine response options including a condom and other forms of birth control such as birth control pill, Depo-Provera (the shot), Ortho Evra (the patch), and IUD (Mirena or Paragard). Withdrawal (pull out) and “I do not intend to use any of the above” were also provided as options, but were

⁷ Additional items of pre-program risky sexual behavior intentions were evaluated but excluded from this study are included in Appendix D

excluded in computing contraceptive intention. Each option was coded (0) No (not selected) and (1) Yes (selected). *Pre-program risky condom intentions* reflected their selection of condom as an option, and *pre-program risky contraceptive intentions* reflected their selection of any of the six alternative options, and recoded (0) Intend to use (low risk) and (1) Do not intend to use (high risk).

Program Experience. Post-programming, youth were asked five items regarding their experience during the program: “Did you feel interested in program sessions and classes?”; “Did you feel the material presented was clear?”; “Did discussions or activities help you to learn program lessons?”; “Did you feel respected as a person?”; and “Did you have a chance to ask questions about topics or issues that came up in the program?”. Response options included (1) None of the Time, (2) Some of the Time, (3) Most of the Time, and (4) All of the time. A mean score was computed for these five items with a higher score indicating a more positive learning environment ($\alpha = 0.82$).

Post-Program Sexual Behavior Intentions (SBI). Post-programming, youth were asked “Would you say that being in the program has made you more likely, about the same, or less likely to” engage in the following three behaviors in the six months following programming: *having intercourse, using contraceptives, and using condoms*. Response options included (1) Much less likely, (2) Somewhat less likely, (3) About the same, (4) Somewhat more likely, and (5) Much more likely. A lower score on post-program intercourse intentions indicated decreased likelihood of having intercourse. A higher score on post-program contraceptive or condom use intentions indicated increased likelihood of using a method of contraceptive or condom.

Analyses

First, chi-square and ANOVA tests were employed to determine whether foster youth and non-foster youth differed on demographic characteristics, pre-program indicators of sexual risk (e.g., ever engaged in intercourse, desire to parent before graduation), pre-program risky sexual behavior intentions (i.e., have sexual intercourse, use a condom, use other form of birth control), program experience, and post-program SBIs. Second, univariate analyses were conducted for the combined sample comprised of foster youth and non-foster youth ($n = 325$) and then with foster youth ($n = 165$) and non-foster youth ($n = 160$) separately to evaluate correlations between variables of interest. Next, a path analysis model was fit in AMOS (Arbuckle and Wothke, 1999) to examine the relationship between the exogenous variables (e.g., demographics, pre-program risky sexual behavior) and the three endogenous variables (i.e., post-program intercourse intentions, condom use intentions, and contraceptive use intentions). Foster youth status was examined as a moderator to examine if the model was invariant by foster youth status by conducting multi-group analyses. More specifically, constrained and unconstrained models were tested comparing the two groups (foster youth and non-foster youth). In the unconstrained model, path coefficients, or parameters, were allowed to vary across the groups. In the constrained model, paths were constrained to be equal across the two groups. Because the constrained and unconstrained models are nested, model fit can be compared to determine if the constrained or unconstrained model represents the overall best fitting model based on the chi-square statistic (accounting for differences in overall model fit across all paths simultaneously). Last, chi squares were used to assess individual paths within the model.

Full information maximum likelihood (FIML) was used to account for missing data. FIML is preferable to other methods because it allows all available data to be utilized when

estimating model parameters and standard errors (Enders, 2000). A range of fit indices were used to assess the goodness-of-fit, including the chi-square statistic/degrees of freedom ratio, comparative fit index (CFI), and the root mean square error approximation (RMSEA). CFI values nearing 0.95 and RMSEA values less than .06 are thought to indicate acceptable model fit (Hu & Bentler, 1999). A χ^2/df ratio below 3.0 indicates acceptable model fit (Carmines & McIver, 1981).

CHAPTER 3

RESULTS

Descriptive statistics are presented in Table 2. On average, around half of the youth in the reduced sample ($n = 325$) reported ever having intercourse (51.1%), and of the youth who reported ever having intercourse around a third (29.7%) reported sexual activity in the past 30 days. When asked about intentions to engage in intercourse in the next six months, responses were well distributed ranging from “No, definitely not” (37.7%) to “Yes, definitely” (12.7%). Also, on average, youth reported a positive program experience ($M = 4.48; SD = 0.68$)⁸. Last, on average, youth reported that programming made them less likely to intend to have intercourse and more likely to intend to use contraceptives or condoms if they were to have intercourse in the next 12 months. For example, at the conclusion of programming, 48.3% of youth reported that they were “much less likely” to engage in intercourse, and the majority reported that they were “much more likely” to use or ask a partner to use contraceptives (59.7%) and/or condoms (73.1%)⁹.

Next, chi-square and ANOVA analyses were examined to address research question one, whether foster youth differ in pre-program indicators of sexual risk (e.g., ever engaged in intercourse, desire to parent before graduation) and risky sexual behavior intentions (i.e., have sexual intercourse, use a condom, use other form of birth control) compared to non-foster youth (see Table 2). Prior to programming, and compared to non-foster youth, foster youth were more likely to report having ever engaged in intercourse (62.1% vs. 39.7%; $p < 0.001$) and a desire to

⁸ Questions and response options measuring program experience are included in Appendix E

⁹ Appendix F includes questions asked post-program regarding sexual behavior intentions and response options

Table 2. Foster vs. Non-Foster Pre- and Post-Program Descriptives

	Total (n = 325)	Foster Youth ^a		X ² or F-value
		No, Match (n = 160)	Yes (n = 165)	
Pre-Program Risky Sexual Behavior, M (SD)	0.90 (0.88)	0.70 (0.87)	1.08 (0.84)	16.44**
Missing	0	0	0	
Ever had Intercourse (Yes), N (%)	162 (51.1)	62 (39.7)	100 (62.1)	15.86**
Missing	8	4	4	
Desire to Parent before Graduation (Yes), N (%)	39 (13.1)	8 (5.4)	31 (20.8)	15.44**
Missing	28	12	16	
Recent Sexual Activity (30 days, Yes) ¹ , N (%)	90 (29.7)	42 (28.2)	48 (31.2)	0.32
Missing	22	11	11	
Pre-Program Risky Sexual Behavior Intentions				
Intent to have intercourse, N (%)				10.30 ⁺
No, Definitely Not	122 (37.7)	68 (42.5)	54 (32.9)	
No, Probably Not	84 (25.9)	34 (21.3)	50 (30.5)	
Yes, Probably	77 (23.8)	44 (27.5)	33 (20.1)	
Yes, Definitely	41 (12.7)	14 (8.8)	27 (16.5)	
Missing	1	0	1	
Intent to use contraceptives ² (No), N (%)	50 (23.4)	28 (30.8)	22 (17.9)	4.85 ⁺
Missing	111	69	42	
Intent to use condoms ³ (No), N (%)	131 (40.3)	57 (35.6)	74 (44.8)	2.87
Missing	0	0	0	
Program Experience ⁴ , M (SD)	4.48 (0.68)	4.47 (0.61)	4.48 (0.74)	0.04
Missing	0	0	0	
Post-Program Sexual Behavior Intentions ⁵				
Intercourse Intentions, M (SD)	2.09 (1.27)	2.07 (1.26)	2.11 (1.29)	0.07
Missing	8	1	5	
Contraceptive Use Intentions, M (SD)	4.00 (1.43)	3.96 (1.46)	4.06 (1.40)	0.34
Missing	5	3	2	
Condom Use Intentions, M (SD)	4.41 (1.14)	4.45 (1.13)	4.37 (1.14)	0.35
Missing	2	1	1	

Note. Valid Percent results are presented above

¹ Based on youth who reported engaging in vaginal, anal, or oral intercourse in past 30 days

² Participants who did not indicate intent to use condoms as a method of birth control if they were to have sex in the next year

³ Participants who indicated “I do not intend to use any of the above” or “Withdrawal (pull out)”

⁴ Reference **Appendix F** for information regarding each item.

⁵ Reference **Appendix G** for information regarding each item.

⁺ p < .05 * p < .01 ** p < .001

parent before graduation (20.8% vs. 5.4%; $p < 0.001$). While foster youth were more likely to report ever engaging in intercourse, there was no significant difference between the number of foster youth (31.2%) and non-foster youth (28.2%) who engaged in sexual activity in the past 30 days (vaginal, anal, or oral). With regards to pre-program risky sexual behavior, compared to non-foster youth, foster youth were more likely to report intentions to engage in intercourse in the next 6 months (16.5% vs. 8.8%; $p < .05$). While approaching statistical significance, more foster youth reported they did not intend to use condoms (44.8% vs. 35.6%; $p = 0.06$). In contrast, non-foster youth were more likely to report that they did not intend to use contraceptives (30.8% vs. 17.9%; $p < .05$).

Regarding research question two, ANOVAs revealed that, on average, foster youth and non-foster youth reported a similar positive program experience ($M = 4.80$ vs. $M = 4.48$; see Table 2). ANOVAs also revealed no statistically significant difference between foster youth and non-foster youth regarding the likelihood of whether programming altered their sexual behavior intentions (research question three). In other words, on average, both foster youth and non-foster youth similarly reported that the program changed their likelihood of having intercourse, using contraceptives, and using condoms. Next, zero-order correlations were examined and are reported in Table 3. There was a moderate positive correlation between age and pre-program risky sexual behavior ($r = 0.39$; $p < .01$) and pre-program sexual behavior intentions ($r = 0.28$; $p < .01$) with older youth being more likely to report risky behavior and intentions. Caucasian males reported less risky intercourse intentions pre-program ($r = -0.15$; $p < .01$) and increased post-program contraceptive use intentions ($r = 0.17$; $p < .01$). Also, there were gender differences in pre-program intentions to use contraceptives and condoms such that males were more likely to report intentions to use condoms ($r = -0.18$; $p < .01$) and females were more likely

Table 3. Univariate and bivariate statistics for study variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Race (Caucasian)	1												
2. Age	-.03	1											
3. Sex (Male)	-.24*	-.22*	1										
4. Free or Reduced Lunch	.00	.01	.00	1									
5. P.P. RSB.	-.10	.39*	-.08	-.01	1								
6. Pre-P. Risky Intercourse Intentions	-.15*	.28*	.12⁺	.07	.49*	1							
7. Pre-P. Risky condom use intentions	-.06	-.06	-.18*	-.09	-.03	-.14⁺	1						
8. Pre-P. Risky contraceptive use intentions	-.08	-.17⁺	.28*	-.08	-.15⁺	-.06	.30*	1					
9. Program experience	-.12⁺	.02	-.06	.03	.12⁺	.13⁺	-.05	-.18*	1				
10. Post-p. Intercourse Intentions ^a	-.09	.15*	.09	-.05	.22*	.34*	-.02	-.03	-.10	1			
11. Post-p. Contraceptive use Intentions ^b	.17*	.03	-.11⁺	-.06	.18*	.10	-.10	-.31*	.24*	.03	1		
12. Post-p. Condom use Intentions ^b	.06	.06	-.08	-.04	.06	.02	-.13⁺	-.29*	.29*	.03	.58*	1	
13. Foster youth (Yes)	.02	.04	-.01	.21*	.22*	.08	.09	-.15⁺	.01	0.02	0.03	-0.03	1

Note: Pre-P. RSB. = Pre-Program Risky Sexual Behavior; Pre-P. = Pre-Program; Post-p. – post-program

^a A lower score on post-program intercourse intentions indicated decreased likelihood of having intercourse.

^b A higher score on post-program contraceptive or condom use intentions indicated increased likelihood of using a method of contraceptive or condom.

⁺ $p < .05$ * $p < .01$.

to report intentions to use other forms of contraceptives ($r = 0.28; p < .01$). As anticipated, there were positive correlations between pre-program risky sexual behavior and several variables including pre-program intercourse ($r = 0.49; p < .01$) and pre-program risky contraceptive use intentions ($r = -0.15; p < .05$). Youth with elevated pre-program risky sexual behavior were less likely to report changed intentions to engage in intercourse ($r = 0.22; p < .01$) but were more likely to report intentions to use contraceptives ($r = 0.18; p < .01$). Additionally, and consistent with the ANOVA results, being a foster youth was positively associated with pre-program sexual behavior intentions ($r = 0.22; p < .01$) and negatively associated with risky intentions to not use contraceptives ($r = -0.15; p < .05$). As well, positive program experience was associated with more favorable post-program intentions to use contraceptives ($r = .24; p < .01$) and condoms ($r = .29; p < .01$). Examination of correlations for foster youth versus non-foster youth (not shown), revealed several noteworthy significant differences¹⁰. Older non-foster youth were more likely to report pre-program risky sexual behavior ($r = 0.50; p < .01$) and risky sexual behavior intentions ($r = 0.45; p < .01$). However, for foster youth, age was only associated with risky sexual behavior ($r = .28; p < .01$). Conversely, younger non-foster youth were more likely to report they did not intend to use contraceptives ($r = -0.24; p < .05$), but this association did not hold for foster youth. Regarding race, being an African American non-foster youth was associated with a less positive program experience ($r = -0.27; p < .01$); no statistically significant association was found between race and program experience for foster youth. Post-program, Caucasian foster youth were more likely to report post-program intentions to use contraceptives ($r = .21; p < .01$). Non-foster youth with high intentions to not use contraceptives prior to programming were less likely to report intentions to use contraceptives post-programming ($r = -.32; p < .01$) with a similar relationship for pre-program to post-program for condom use intentions ($r = -.20; p <$

¹⁰ See Appendix F for the results separated by foster youth status.

.05). Finally, all other statistically significant correlations between our primary variables of interest reported above were also found for both foster and non-foster youth.

Next, the results from the path analysis were examined (see Table 4). The main effect model fit the data well (RMSEA = 0.014; $\chi^2/df = 1.06$; CFI = 0.998) and explained reasonable amount of the variation in the outcomes of interest (R^2 for intercourse intentions, contraceptive use intentions, and condom use intentions was .124, .210, and .159 respectively). The main effect model examining the influence of demographics, pre-program sexual risk (i.e., ever engaged in intercourse, desire to parent before graduation), risky sexual behavior intentions (i.e., have sexual intercourse, use a condom, use other form of birth control), and program experience on post-program sexual behavior intentions (SBI) revealed several statistically significant pathways to address research question four. Overall, demographic characteristics did not impact post program SBI, albeit one notable exception: race was associated with post-program contraceptive intentions, with African Americans reporting increased intentions to use contraceptives. With regards to the influence of pre-program risky sexual behavior and intentions on post-program SBI, youth who reported more risk pre-program still reported higher risky SBI post-program. For example, youth at pre-program who reported intentions to have intercourse in the next six months were more likely to still report intentions to engage in intercourse following programming ($\beta = 0.255$; $p < .001$). As well, youth who reported they did not intend to use contraceptives prior to programming were less likely than other youth to report intentions to use contraceptives ($\beta = -0.227$; $p < .001$) and condoms ($\beta = -0.179$; $p = .003$) following programming. Last, regarding the influence of program experience on post program SBI (research question 4b), a positive program experience was associated with decreased intentions

Table 4. Path Analysis Model Examining Main Effects on Post-Program Sexual Behavior Intentions

	Intercourse Intentions			Contraceptive Intention			Condom Intention		
	β	SE	<i>p</i>	β	SE	<i>p</i>	β	SE	<i>p</i>
Race	-0.93	0.214	0.238	0.202	0.219	0.007	0.075	0.190	0.328
Sex	0.003	0.228	0.973	-0.028	0.235	0.729	0.012	0.202	0.889
Free or Reduced Lunch	-0.134	0.260	0.078	-0.059	0.266	0.412	-0.028	0.230	0.701
Age	0.007	0.059	0.930	-0.107	0.060	0.151	-0.022	0.052	0.774
Pre-P. Risky Sexual Behavior	0.061	0.096	0.323	0.131	0.104	0.036	0.009	0.086	0.887
Pre-P. Risky Intercourse Intentions	0.255	0.165	< .001	0.050	0.178	0.415	-0.002	0.148	0.974
Pre-P. Risky Condom Use Intentions	0.011	0.151	0.854	-0.023	0.166	0.700	-0.052	0.135	0.367
Pre-P. Risky Contraceptive Use Intentions	-0.039	0.213	0.541	-0.227	0.229	< .001	-0.179	0.187	0.003
Program Experience	-0.151	0.104	0.011	0.219	0.112	< .001	0.304	0.092	< .001

Note: Significant paths are bolded. Pre-P. = Pre-Program; Post-P. = Post-Program

Fit indices for constrained model: $\chi^2/df = 1.06$; RMSEA = 0.014; CFI = 0.998.

to engage in intercourse ($\beta = -0.151$; $p < .01$) and increased intentions to use contraceptives ($\beta = 0.219$; $p < .001$) and condoms ($\beta = 0.304$; $p < .001$).

Finally, we examined the moderating role of foster youth status to determine if the model was invariant across foster youth status (research question five). In comparing the difference in chi-square relative to the difference in degrees of freedom, the null hypothesis, which assumes that the constrained model with no group differences was the best fitting model, was not rejected ($p = 0.389$). However, it is common to examine pairwise differences (i.e., individual path differences) between groups even if the chi-square comparison does not indicate overall model variance. Thus, although the chi-square results indicated the model fit similar for foster youth and non-foster youth, the final step of our analyses was to examine the pairwise comparisons to identify potential *individual paths* that differ depending on group membership (i.e., model variance or moderation). These results are displayed in Figure 2¹¹. While several paths were significant for both foster youth and non-foster youth (e.g., pre-program risk intercourse intentions to post-program intercourse intentions) the difference between foster youth and non-foster youth on these paths was not significant. Thus, foster youth status did not moderate these relationships. There was a single statistically significant pairwise comparison (i.e., individual path difference) from pre-program risky condom use intentions to post-program intercourse intentions ($t = -2.359$). However, after implementing a Bonferroni correction to account for the number of individual paths in the model (27 paths), the adjusted t value (3.019, $p = .002$) was such that this difference was no longer statistically significant.

¹¹ See **Appendix H** for a more detailed summary of these results.

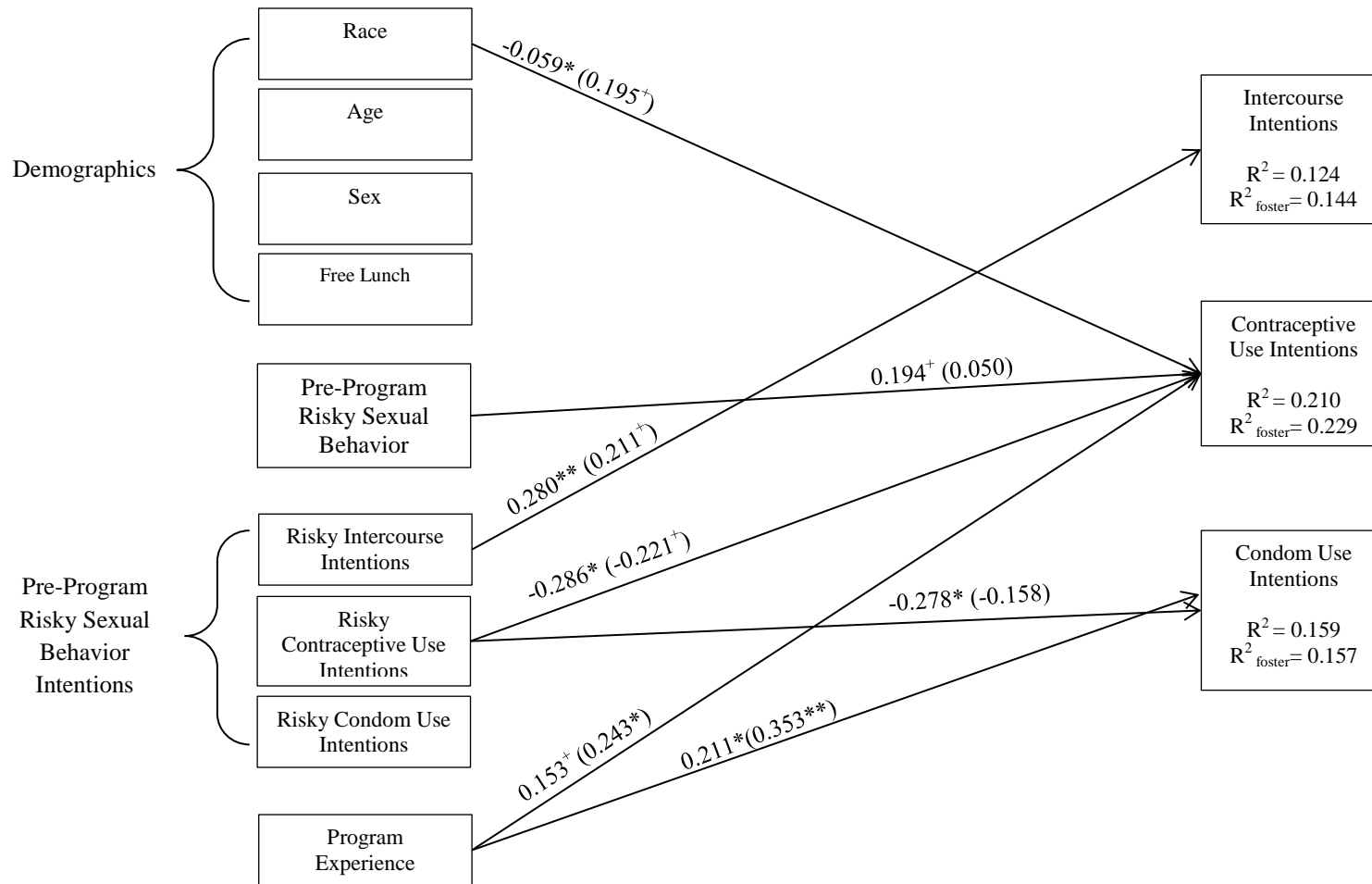


Figure 2. Results from an unconstrained path analysis model allowing paths to vary depending for foster and non-foster youth.

Notes: Foster youth (Non-Foster youth) Unstandardized coefficients are shown. Only statistically significant pathways are shown.

⁺ $p < .05$ * $p < .01$ ** $p < .001$

CHAPTER 4

DISCUSSION

Through the lens of risk and resiliency theory this study sought to examine the experiences and programmatic outcomes of foster youth versus non-foster youth who completed both evidence-based relationship and sex education. This is a unique study in that foster youth remain an under studied population and there is limited research about the efficacy of providing sex education in conjunction with another evidence-based adulthood preparation curriculum. The findings of this study show that foster youth enter programming with elevated rates of risky sexual behavior and are more likely to report they intend to have intercourse in the near future. However, following programming foster youth display similar rates of changed intentions to engage in safe sex behaviors. The ability of sex education to change both risky sexual behavior intentions and behaviors among adolescents is well established in the literature (Marcell et al., 2013). However, the impact of relationship education on changing risky SBIs is less studied (Ma, Pittman, Kerpelman, and Adler-Baeder, 2014) making these findings of significance because they add to the limited body of literature on this topic. This study demonstrates early evidence that youth may benefit from receiving sex education combined with relationship education; however, this study cannot disentangle whether receiving both curricula provided added value over just relationship or sex education alone. The similar changes in post-program intentions among foster youth is of particular interest given their elevated risk for early onset of sexual activity, failure to use contraceptives, and high rates of unplanned pregnancy (CDC, 2006). By analyzing the experience and outcomes of foster youth, a historically at-risk population, this

study provides insight into how providing relationship and sex education together may impact at-risk youth. Below we discuss these findings and their implications.

First, we examined youth's pre-program risky sexual behaviors and intentions. Our findings partially supported hypothesis one, that foster youth would display elevated rates of pre-program risky sexual behavior, and hypothesis two, that foster youth would have elevated intentions to engage in risky sexual behavior. On two of the three measures of pre-program risky sexual behavior, foster youth displayed statistically significant elevated risk (i.e., ever had intercourse and desire to parent), which is consistent with the literature (CDC, 2006, Ramseyer Winter, Brandon-Friedman, & Ely, 2016). In keeping with past literature, foster youth displayed elevated intentions of engaging in intercourse, yet unexpectedly were more likely to report intentions to use contraceptives.

The intersection of elevated intercourse intentions, desire to parent, but intentions to use contraceptives is of note. Foster youth were nearly four times more likely to report a desire to parent prior to finishing high school, demonstrating a unique value system that may not be addressed with conventional sex education curricula. Past literature suggests that this desire to parent during adolescence is multi-faceted (e.g., the desire to create a family, trying to mask a sense of loss, ensure partner commitment, and perception of parenting as a signal of adulthood) and is viewed as a planned transition among foster youth (Ramseyer Winter, Brandon-Friedman, & Ely, 2016). Much of the resources provided for youth about contraceptives focuses on avoiding unintended pregnancy through the absence or misuse of contraceptives (Cronin, Heflin, Price, 2014). In contrast, the relationship education curriculum, RS+, focuses on intentionally delaying sexual activity and potential parenting until an individual has the resources necessary (e.g., education; healthy and committed relationship) to make a planned transition into

parenthood. These lessons may be of added benefit for foster youth who may not connect with lessons that present parenting as an undesired outcome of risky sexual behavior. Post hoc analysis (not shown) revealed that older foster youth (ages 16-20) were statistically significantly ($p < .001$) more likely than older non-foster youth to report a desire to parent prior to graduation (25.8% vs. 6.4%, respectively). Additionally, prior to age 16, 13.3% of foster youth reported a desire to parent before graduation compared to only 4.3% of non-foster youth, a difference that approached significance ($p = 0.06$). The consistently elevated desire to parent among foster youth starting at an early age reinforces the narrow window for intervention, and indicates that this population may need additional support. Since foster youth enter the system at different ages and are often transient, early and repetitive exposure to curriculum on relationship education may be of benefit.

While non-foster youth were more likely to report they did not intend to use contraceptives, both groups reported high rates of risky intentions regarding condom use. The proportion of foster youth (44.8%) and non-foster youth (35.6%) who did not intend to use condoms represented a substantial number of youth coming into programming. Although the difference between foster youth and non-foster youth approached, but did not reach, statistical significance ($p = 0.57$), the disproportionate number of foster youth not intending to use condoms is concerning given their elevated risk of adolescent pregnancy and STI transmission (Wilson and Widom, 2008). Unlike other methods of birth control, condoms are low-cost and accessible for both males and females, and most importantly, are the only form of birth control that can successfully reduce STI transmission since it creates a physical barrier between partners limiting fluid transfer. Despite the pregnancy prevention and STI prevention benefits associated with condom use, youth continue to report low intentions to use barrier methods and elevated

rates of STI transmission. Among adolescents, communication skills and communication about topics related to condom use moderate condom use (Widman, Noar, Choukas-Bradley, & Francis, 2014). Although some sex education curricula include content related to communication, the focus tends to be more oriented around communicating about sexual intentions, consent, and healthy practices, which may not be adequate to promote positive changes in intentions and behaviors. In contrast, relationship education provides youth with added skills and practice opportunities to work on communication skills needed to not only navigate questions regarding sexual health and intimacy but broader relationship needs (e.g., expectations, managing conflict, breaking-up) that may influence sexual expectations and behaviors. Future research examining what elements of communication lead to the greatest changes in knowledge and intentions is warranted.

Next, we examined the program experience of foster youth versus non-foster youth. Existing literature indicates that foster youth struggle to maintain relationships and prosocial support over time (Farineau et al., 2013; Leve, Fisher, and DeGarmo, 2007). Consequently, we hypothesized that foster youth would have a less positive program experience. Analysis revealed both groups had positive perceptions of the program, content, and facilitators. On average, youth reported that the content presented was clear, the discussion or activities provided facilitated learning, and they felt respected and had the opportunity to ask questions. Past research exploring barriers to foster youth remaining in programming included challenges with feeling safe, respected, and heard (Augsberger, 2014). In contrast, according to the youth in the current study, the PREP agencies provided an open environment that facilitated engagement and learning. Within the list of state-approved curricula, agencies were permitted to select the sex education curricula best suited for the youth they served. The vast majority of agencies chose a

comprehensive sex education curriculum, while approximately one in ten youth received the abstinence-based curriculum (i.e., Making a Difference). Because of the small number of youth who received the abstinence-based curricula we are unable to examine whether there are variations in our outcome among youth who received the comprehensive versus abstinence-based sex education. Future research should examine variations among foster youth and non-foster youth who experience relationship education in conjunction with comprehensive versus abstinence-based sex education to further disentangle the role of relationship education in supporting and furthering the content covered in sex education. Although youth experienced one of three sex education curricula, all youth received the relationship education curriculum, RS+, which provided a number of opportunities to modify content to the group at hand without compromising fidelity. Providing relevant content addressing areas of interest for foster youth may explain their high rates of positive program experience, especially since foster youth, in general, tend to report a strong desire to develop healthy relationship skills (Duppong Hurley et al., 2013; Scott, et al., 2012). Future research comparing the outcomes of relationship education versus relationship education combined with sex education will further our understanding about the unique role played by relationship education.

Next, with regards to research question three, it was hypothesized that foster youth would be less likely than non-foster youth to report that programming altered their intentions to engage in safe sex behaviors. Unexpectedly, both foster and non-foster youth demonstrated similar positive improvements in altered intentions to engage in safe sex behaviors following programming (i.e., increased likelihood of using contraceptive, increased likelihood of using condoms, and decreased likelihood of having intercourse). Still, some within-group variations were found among both foster youth and non-foster youth. For example, African American foster

and non-foster youth were more likely than Caucasian youth to indicate that they intended to use contraceptives post programming. Given elevated rates of unplanned pregnancy and STI transmission among minority populations (CDC, 2006), this is an encouraging finding that suggests the potential added benefit of providing relationship education in conjunction with sex education.

In exploring variation in outcomes explained by pre-program risky sexual behaviors and intentions, it was hypothesized that youth with elevated risk pre-program would be less likely to demonstrate a change in intentions (hypothesis 4a). This hypothesis was partially supported as youth with elevated rates of risky sexual behaviors pre-program were less likely to report altered intentions to use contraceptives, supporting past research reinforcing the benefits of programming prior to the onset of sexual activity (Rew, Fouladi, Land, and Wong, 2007). However, youth with greater pre-program reports of risky sexual behavior were just as likely to report changes in intentions to have intercourse and use condoms post-programming, indicating that some high-risk youth demonstrated a change from high risk to lower risk intentions. As well, analyses showed that a positive program experience was associated with decreased intentions to engage in intercourse and increased intentions to use contraceptives and condoms (hypothesis 4b). From a youth's perspective, program facilitators delivering content on sex education may be perceived as a trusted source for information about sexual health. Hence, positive interactions and perceptions of the facilitator may create a more trusting and open environment with all youth, leading to improved program outcomes.

Last, we examined the moderating role of foster youth status to determine if the model was invariant across foster youth status. In contrast to the final hypothesis, the constrained model provided the best fit, indicating that, overall, the path analysis model fit similarly for

foster and non-foster youth and, therefore, foster youth status did not moderate the proposed model. Examination of the pairwise comparisons (i.e., individual path differences) after Bonferroni corrections also revealed that none of the individual paths varied significantly across foster youth status. Thus, the influence of pre-program sexual behavior and intentions as well as program experience on post-program sexual behavior intentions were similar for both foster and non-foster youth. This finding has important implications when considering the delivery of such programming and variations in potential program impact. On the one-hand, since foster youth have a non-normative experience in the home and with their peers, some researchers have hypothesized that receiving programming in an all-foster-youth group versus mixed foster and non-foster youth group may be more beneficial (Finley, 2013). For instance, programming with only foster youth allows for facilitators to provide examples that are more relevant to foster youth and address concerns that are more likely unique to this population (e.g., removal from family of origin, adverse childhood experiences). In contrast, the findings of the current study suggest that engaging both foster and non-foster youth in a mixed environment may yield similar benefits. Programming with foster youth outside of school often leads to challenges with retention and high attrition (Thompson, Auslander, and Alonzo, 2012; Soloranzo and Glassgold, 2010) so reaching foster youth in a mixed classroom environment may reduce rates of attrition. Unfortunately, the data and sample size available prohibited the examination of the influence of class composition. Future research is needed that more directly explores the impact of class composition on program experience and outcomes in order to further this discussion and clarify whether there is added benefit from serving foster youth together or if the diversity of experience is critical to the learning process.

Implications

Foster youth entered this study with statistically significant elevated rates of pre-program risky sexual behavior reinforcing the existing literature about the elevated risks this population faces. Not only are these youth more likely to enter programming at elevated risk, they are also more likely to engage in these behaviors at an early age. Given the benefits associated with delaying parenting until adulthood, early intervention is paramount for this population to allow youth adequate time to develop the skills and resources needed to make a planned transition into parenthood. While past sex and relationship-education programming has been shown to change behavioral intentions and in turn the behaviors associated with risky sexual behavior, this study is the first to evaluate the impact of both relationship and sex education provided together. Overall, youth demonstrated positive changes including decreased intentions to engage in intercourse and increased intentions to use condoms and contraceptives. Although it was hypothesized that foster youth may benefit less from programming due to prior adverse childhood experiences and subsequent challenges interacting with adults and peers, this did not hold. Foster youth derived similar positive benefit from programming. However, youth (both foster and non-foster) who were already engaging in risky behaviors or had risky behavior intentions were less likely to report the desired change. This is in keeping with past research, as altering intentions among the highest risk youth (i.e., sexually active, desire to parent, and recent sexual activity) is more challenging. However, this study did demonstrate a positive change from high risk to lower risk regarding condom nonuse. However, the maintenance of undesired intentions regarding intercourse and contraceptive nonuse among the high-risk youth who completed programming reinforces the importance of early intervention before youth become sexually active.

Unlike many curricula, RS+ provides a number of adaptations that do not impact fidelity. The ability to tailor activities, language, and examples to meet the needs and experiences of a specific group of youth may promote program engagement and facilitate learning. This is a strength of RS+ and may have influenced the ability of foster youth to engage and benefit from programming despite elevated risk and prior adverse childhood experiences. To ensure that content matches the needs of a specific group, pre-program focus groups or surveys may be of benefit for determining unique areas of interest or sensitivity to certain topics. Furthermore, pre-program knowledge gathering facilitates opportunities for increased cultural competence and awareness of the difference minority populations within a group (e.g., foster youth, LGBTQ youth, parenting adolescents). However, while facilitators may receive notice of a youth's foster care status, reasons for intervention vary dramatically and may include substantiated physical abuse, neglect, sexual coercion, verbal abuse, or exposure to multiple forms of maltreatment (Garrido and Taussig, 2013). The multiple layers of trauma and adverse experiences can lead to feelings of isolation and increased behavioral challenges (Canton-Cortes, Cortes, and Canton, 2012), making youth reticent to share experiences or open up in a group setting. Additional training and support may be of added benefit for facilitators to assist in developing the skills and resources to effectively engage these youth. For example, facilitators from the participating PREP agencies who worked with the youth in the current sample received intensive curriculum training along with booster trainings to process challenges facilitating the curricula and effectively engaging youth, ongoing technical assistance, as well as supplemental trainings focused on addressing the needs of unique populations, including foster youth. The positive findings from this study indicate that going beyond conversations about safe sex practices and

discussing foundational topics including respect, communication, and honesty, may especially resonate with this population.

Despite the positive experience of the foster youth in this study, it is important to note the challenge with providing relevant and timely programming for this population. Youth entering care may be well into adolescence and miss programming opportunities or enter care during late childhood and exit just before receiving sex education. For high-risk youth, one-time programming may be insufficient for reaching those at greatest risk. Consequently, early and frequent age-appropriate intervention increases the likelihood that transient foster youth will receive access to programming and evidence-based education on topics of sex and relationships. Starting conversations about sex, healthy relationship skills, and parenting at an early age may be of benefit to reinforce the significance of parenting and benefits derived from delaying onset until adulthood.

Limitations and Future Directions

Though the current study contributes new insight into the benefits of sex and relationship education on youth, in general, and foster youth in particular, a few limitations are worth noting. For instance, the attrition among youth in this study raises concerns regarding the representativeness of the sample and hence generalizability of our findings to all foster and non-foster youth. In total, 3,818 youth completed programming but only 45% met the parameters of providing complete and linkable data. Due to the breadth of programming and number of agencies involved, we were unable to determine what proportion of incomplete/un-linkable data was due to agency challenges with matching pre- and post-data versus participant attrition through elective non-participation, relocation, or other barriers. This is especially pertinent given the challenges of attrition noted in past studies evaluating the experience of foster youth

(Thompson, Auslander, and Alonzo, 2012; Soloranzo and Glassgold, 2010). Consequently, from the 3,818 youth who completed programming (i.e., completing at least 75% of the 16 hour programming) the study at hand only looked at the experience of 325 youth. However, the case control matching implemented had the strength of removing several significant differences in demographics (i.e., race, age, and sex) present in the original sample. As a result of the significant reduction in sample size, the analysis experienced a reduction in statistical power, which may have impacted our ability to determine moderation, as several relationships that approached significance with the reduced sample may have been statistically significant by using a larger sample.

Another limitation of this study was the lack of a control group limiting analysis to within-treatment variations impacting our ability to separate out the impact of relationship education or sex education alone. Future research using a four group approach (sex education only vs. relationship education only vs. sex education + relationship education vs. control group) will provide insight into whether teaching both relationship education and sex education has an additive benefit in altering sexual behavior intentions with adolescents. The study at hand used available data already collected and cleaned from years three and four of a five-year project. However, information regarding dosage and specific curriculum content was only documented in year four. This inhibited post hoc analysis looking at whether dosage and certain lessons influenced program impact. Still, they did offer at minimum one lesson from each of the first three core content areas focused on understanding healthy relationships (lessons 1-4), dating relationship processes (lessons 5-8), and communication/conflict management skills (lesson 9-10). Future data that captures not only dosage but the specific lessons each youth received will

provide opportunities to better understand whether there is an association between specific lessons and altered sexual behavior intentions post-programming.

Additionally, the type of data available for analysis limited the questions that could be asked in this study. Data for this study came from a federally funded statewide teen pregnancy prevention project and an external evaluation team collected data. The survey questions asked were a combination of federally mandated and state chosen questions. Altered language between pre and post survey questions prevented measuring change in intentions (e.g., altered intentions to engage in sexual intercourse)¹². Consequently, change in intentions was instead evaluated through the three questions asked at post-test regarding perceived change in likelihood of engaging in sexual behaviors. Another limitation that arose out of the survey questions asked was our ability to look at multiple facets of program experience. The program experience questions chosen focused on the content and facilitator with little emphasis on peer interactions. Given foster youth's elevated challenges establishing and maintaining peer relationships (Farineau, Stevenson Wojciak, and Mcwey, 2013), future research exploring the impact of peer interactions on program outcomes is needed.

Conclusion

In close, providing youth with both evidence-based relationship and sex education can positively impact intentions to engage in safe sex behaviors. Although there is an established body of literature on the efficacy of sex education programming with youth, and a growing body of literature showing the benefits of relationship education programming with youth, research examining the effects of combining both sex and relationship education is limited. The current study offers promising insight into the potential benefits for youth who receive both sex and

¹² E.g., Pre-test: "Do you intend to have sexual intercourse in the next twelve month?"; Post-test: "If you have never had intercourse, do you intend to have intercourse in the next six months?"

relationship education. However, there is much work left to do in order to better understand to what degree these programs influence changes in knowledge and behavioral intentions when jointly offered. For foster youth specifically, the positive program experience and similar changes in intentions challenges existing literature, which questions the ability of foster youth to receive similar benefits from programming. However, it does reinforce the critical need for early and ongoing intervention for this population. As prior literature supports, foster youth experience an early onset of sexual activity characterized by an increased desire to parent. The transient nature of this vulnerable population requires greater consideration for the likelihood that many youth may miss out on part or all of school-based programming. Consequently, providing programming at multiple time points may be critical for creating population-wide changes in risky sexual behavior.

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APPENDICES

Appendix A. CURRICULUM OVERVIEW

Lesson 1: *Who am I and Where am I Going?* Adolescents get in touch with their sense of identity and possible selves. Emphasis is placed on who the adolescent is within their family, friendship, and dating relationship contexts. Adolescents explore their future self-goals, ways to attain them and how to stay true to themselves when faced with peer pressure.

Lesson 2*: *Maturity Issues and What I Value.* Adolescents learn to identify four aspects of maturity—physical, emotional, mental and social—and learn how the latter three don't happen on their own, but take conscious effort. Adolescents then participate in a “values auction” that helps participants identify the values that are important to them.

Lesson 3*: *Attractions and Infatuation.* Adolescents explore the building blocks of a good relationship, including common interests, talking to each other, and developing a real friendship. The chemistry of attraction and the nature of infatuation are also explored.

Lesson 4: *Love and Intimacy.* Adolescents learn about the differences and connections between love and lust by analyzing magazine pictures, and examine three important aspects of mature love: passion, intimacy, and commitment are examined. Adolescents also learn how intimacy develops over time.

Lesson 5: *Principles of Smart Relationships.* Adolescent examine seven principles for “smart” dating and process relationship decision-making strategies.

Lesson 6*: *The Low-risk Relationship Strategy: Decide, Don't Slide!* Adolescents explore why people easily get swept up and involved with poor relationship choices when they slide into situations instead of making clear decisions. They learn how to take the go-slow approach to dating while avoiding the high-risks of sliding.

Lesson 7: *Is It a Healthy Relationship?* Adolescents learn to distinguish between a healthy and unhealthy relationship through a series of questions and a sculpting activity that aids in visualizing negative and positive relationship qualities.

Lesson 8*: *Breaking up and Dating Abuse.* Using a thought provoking game and viewing an educational video, adolescents learn about the various forms of abuse and explore ways to avoid or get out of abusive relationships. In addition, adolescents are provided guidelines for knowing when it's time to break up, better and worse ways to break up, and steps for moving on.

Appendix A. CURRICULUM OVERVIEW CONTINUED

Lesson 9*: *A Foundation for Good Communication.* Adolescents consider the positive and negative communication patterns learned within their families, and then explore the basic elements of listening openly and speaking clearly, taking time outs, and giving appreciations in relationships.

Lesson 10: *Communication Challenges and More Skills.* Adolescents look more extensively at challenges to good communication and are introduced to patterns of troubled communication that damage relationships. Ways to address negative communication patterns in a relationship are practiced.

Lesson 11*: *Through the Eyes of a Child.* Adolescents build an awareness of how and why a healthy marriage matters by exploring the needs and wants of children and the importance of fathers.

Lesson 12: *Looking Toward the Future – Healthy Relationships and Healthy Marriages.* Adolescents learn about wise mate selection and reasons why some marriages succeed and others fail. Through activities, they learn why the choices they make in the present can take them down paths that will either lead them towards or away from a successful marriage.

Lesson 13: *Follow Your North Star.* Adolescents work together to produce a mural summarizing the key insights and information they have learned from the program, and then work individually on their own “success plans.”

*These lessons are considered “core” lessons of the curriculum.

Appendix B. ORIGINAL SAMPLE VERSUS REDUCED SAMPLE

Youth Demographics Comparing Study Sample to Those Excluded

Youth Characteristics	Total (N = 1715)	Study Sample ¹		X ² or F-value
		No (n =477)	Yes (n =1238)	
Foster Care, N (Valid %)	210 (12.3)	45 (9.7)	165 (13.3)	4.06 ⁺
Missing	14	14	0	
Age ^a				35.01**
Range	10-21	10-21	11-20	
M (SD)	15.4 (2.12)	14.9 (1.94)	15.6 (2.16)	
Sex (Female), N (Valid %)	994 (58.0)	237 (49.7)	757 (61.1)	18.56**
Missing	0	0	0	
Race, N (Valid %)				1010.89**
African-American	1134 (74.9)	64 (23.2)	1070 (86.4)	
Caucasian	184 (12.2)	16 (5.8)	168 (13.6)	
Other	196 (12.9)	196 (71.0)	0	
Missing	201	201	0	
Ethnicity (Hispanic or Latino), N (Valid %)	502 (29.6)	306 (64.8)	196 (16.0)	390.01**
Missing	18	5	13	
Grade, N (Valid %)				124.10**
6 th - 8 th Grade	288 (17.3)	60 (13.2)	228 (18.9)	
9 th -10 th Grade	815 (49.1)	320 (70.3)	495 (41.0)	
11 th -12 th Grade or GED in Progress	278 (16.7)	49 (10.8)	229 (19.0)	
GED complete	263 (15.8)	23 (5.1)	240 (19.9)	
Drop out	17 (1.0)	3 (0.7)	14 (1.2)	
Missing/Grade level not assigned	54	22	32	
Residency, N (Valid %)				66.95**
Both Birthparents	473 (27.8)	189 (40.6)	284 (23.0)	
Birthparent & Step-parent/Other adult	442 (26.0)	125 (26.8)	317 (25.6)	
Grandparent(s)	52 (3.1)	10 (2.1)	42 (3.4)	
Single parent	498 (29.3)	88 (18.9)	410 (33.2)	
Other parent figure or adoptive parent	131 (7.7)	26 (5.6)	105 (8.5)	
Other	106 (6.2)	28 (6.0)	78 (6.3)	
Missing	13	11	2	
Free/Reduced Lunch (Yes), N (Valid %)	1338 (78.5)	381(81.8)	957 (77.3)	13.13**
Missing	11	11	0	

Note. Valid Percent results are presented above

¹ Original sample of linked pre to post surveys (n = 1715) was reduced to respondents ages 11-20 years, missing less than 30% of the data on the primary variables of interest, who also self-identified as either Caucasian or African American (n = 1242).

^a For the study sample age was constrained in range from 11-20 years

⁺ p < .05 * p < .01 ** p < .001

Appendix C. PRELIMIARY PRE-PROGRAM RISKY SEXUAL BEHAVIOR VARIABLES

Risky Sexual Behavior Comparing Foster Youth to Non-Foster Youth¹

	Total (N =325)	Foster Youth ^a		X ²
		No, Match (N = 160)	Yes (n =165)	
Intercourse (past 3 months) ² , N (%)				7.80*
0, Did not have sex	55 (34.2)	13 (32.2)	42 (43.4)	
1 or more partners	106 (65.8)	40 (67.8)	57 (57.6)	
Missing	164	98	66	
Birth Control Frequency (past 3 Months) ³ , N (%)				3.09
All of the time	48 (45.7)	25 (51.0)	23 (41.1)	
Most of the time	10 (9.5)	6 (12.2)	4 (7.1)	
Some of the time	16 (15.2)	5 (10.2)	11 (19.6)	
None of the time	31 (29.5)	13 (26.5)	18 (32.1)	
Missing	220	111	109	
Condom Frequency (past 3 Months) ³ , N (%)				5.84
All of the time	42 (40.4)	23 (46.9)	19 (34.5)	
Most of the time	14 (13.5)	6 (12.2)	8 (14.5)	
Some of the time	16 (15.4)	10 (20.4)	6 (10.9)	
None of the time	32 (30.8)	10 (20.4)	22 (40.0)	
Missing	221	111	110	
Prior Pregnancy (Yes) ⁴ , N(%)	67 (20.6)	15 (9.4)	52 (31.5)	13.00**
Missing	10	4	6	

Note. Valid Percent results are presented above

¹ Based on youth who reported ever having intercourse

² “In the past 3 months, with how many people did you have sexual intercourse, even if only one time?” with response options ranging from 0 (I did not have sexual intercourse in the past 3 months) to 4 or more people.

³ Those who indicated being sexually active in the prior three months were then asked about *frequency of contraceptive use* and *frequency of condom use*. For both questions, response options included (1) None of the time (2) Some of the time (3) Most of the time (4) All of the time.

⁴ Among youth who indicated ever having intercourse, *prior pregnancy experience* was assessed (i.e., “To the best of your knowledge, have you ever been pregnant or gotten someone pregnant?”) with response options of (0) No and (1) Yes.

+ p < .05 * p < .01 ** p < .001

Appendix D. RISKY SEXUAL BEHAVIOR INTENTIONS

Foster vs. Non-Foster Youth Pre-Program Risky Sexual Behavior Intentions

	Total (n = 325)	Foster Youth		X ²
		No, Match (n = 160)	Yes (n = 165)	
Intercourse Intentions next 6 months, N (%)				10.30+
Pre Programming				
No, Definitely Not	122 (37.7)	68 (42.5)	54 (32.9)	
No, Probably Not	84 (25.9)	34 (21.3)	50 (30.5)	
Yes, Probably	77 (23.8)	44 (27.5)	33 (20.1)	
Yes, Definitely	41 (12.7)	14 (8.8)	27 (16.5)	
Missing	1	0	1	
Intentions to use contraceptives				
Birth Control, (Yes) (%)				
Pre Programming				
Condom (rubber) /female condom	194 (59.7)	103 (64.4)	91 (55.2)	2.87
Birth control pill	102 (31.4)	47 (29.4)	55 (33.3)	0.59
Depo-Provera	60 (18.5)	19 (11.9)	41 (24.8)	9.08*
Ortho Evra	6 (1.8)	1 (0.6)	5 (3.0)	2.60
Nuva Ring	8 (2.5)	0 (0.0)	8 (4.8)	7.95*
IUD	6 (1.8)	1 (0.6)	5 (3.0)	2.59
Implants	15 (4.6)	3 (1.9)	12 (7.3)	5.38+
Withdrawal (pull out)	44 (13.5)	21 (13.1)	23 (13.9)	0.05
I do not intend to use any of the above	39 (12.0)	20 (12.5)	19 (11.5)	0.08
Post Programming				
Condom (rubber) /female condom	267 (82.2)	145 (90.6)	122 (73.9)	15.43**
Birth control pill	143 (44.0)	76 (47.5)	67 (40.6)	1.57
Depo-Provera	69 (21.2)	22 (13.8)	47 (28.3)	10.55**
Ortho Evra	24 (7.4)	13 (8.1)	11 (6.7)	0.25
Nuva Ring	20 (6.2)	11 (6.9)	9 (5.5)	0.28
IUD	23 (7.1)	10 (6.3)	13 (7.9)	0.33
Implants	26 (8.0)	9 (5.6)	17 (10.3)	2.42
Withdrawal (pull out)	52 (16.0)	30 (18.8)	22 (13.3)	1.77
I do not intend to use any of the above	19 (5.8)	8 (5.0)	11 (6.7)	0.41

Note. Valid Percent results are presented above

+ p < .05 * p < .01 ** p < .001

Appendix E. PROGRAM EXPERIENCES

The Program experience of foster youth versus non-foster youth

	Total (n =325)	Foster Youth		F-value
		No, Match (n = 160)	Yes (n = 165)	
How often in this program...				
Felt Interested in Program, N (%)				0.216
1. None of the time	4 (1.2)	0 (0)	4 (2.5)	
2. A little of the time	5 (1.5)	2 (1.3)	3 (1.8)	
3. Some of the time	41 (12.7)	23 (14.4)	18 (11.0)	
4. Most of the time	84 (26.0)	42 (26.3)	42 (25.8)	
5. All of the time	189 (58.5)	93 (58.1)	96 (58.9)	
Felt the Material was Clear, N (%)				0.001
1. None of the time	3 (0.9)	1 (0.6)	2 (1.2)	
2. A little of the time	1 (0.3)	0 (0)	1 (0.6)	
3. Some of the time	31 (9.7)	14 (8.9)	17 (10.4)	
4. Most of the time	75 (23.4)	43 (27.2)	32 (19.6)	
5. All of the time	221 (65.7)	100 (63.3)	111 (68.1)	
Discussion or Activities Helped You Learn, N (%)				0.023
1. None of the time	4 (1.2)	2 (1.3)	2 (1.2)	
2. A little of the time	4 (1.2)	0 (0)	4 (2.4)	
3. Some of the time	27 (8.4)	16 (10.2)	11 (6.7)	
4. Most of the time	72 (22.4)	34 (21.7)	38 (23.0)	
5. All of the time	215 (66.8)	105 (66.9)	110 (66.7)	
Did you feel respected as a person				0.430
1. None of the time	6 (1.9)	2 (1.3)	4 (2.5)	
2. A little of the time	7 (2.2)	1 (0.6)	6 (3.7)	
3. Some of the time	21 (6.6)	11 (6.9)	10 (6.2)	
4. Most of the time	60 (18.8)	35 (22.0)	25 (15.5)	
5. All of the time	226 (70.6)	110 (69.2)	116 (72.0)	
Had a Chance to Ask Questions, N (%)				5.22 ⁺
1. None of the time	5 (1.6)	3 (1.9)	2 (1.3)	
2. A little of the time	11 (3.4)	5 (3.1)	6 (3.8)	
3. Some of the time	42 (13.2)	27 (17.0)	15 (9.4)	
4. Most of the time	45 (14.1)	29 (18.2)	16 (10.0)	
5. All of the time	216 (67.7)	95 (59.7)	121 (75.6)	

Note. Valid Percent results are presented above

⁺ p < .05 * p < .01 ** p < .001

Appendix F. POST-PROGRAMMING SEXUAL BEHAVIOR INTENTIONS

Sexual Behavior Intentions Following Programming

	Total (n = 325)	Foster Youth	
		No, Match (n = 160)	Yes (n = 165)
Programming altered intentions to...			
Have sexual intercourse, N (%)			
1. Much Less Likely	154 (48.3)	77 (48.4)	77 (48.1)
2. Somewhat less likely	49 (15.4)	26 (16.4)	23 (14.4)
3. About the Same	75 (23.5)	35 (22.0)	40 (25.0)
4. Somewhat more Likely	16 (5.0)	10 (6.3)	6 (3.8)
5. Much more Likely	25 (7.8)	11 (6.9)	14 (8.8)
Use or ask Partner to use Contraceptives, N (%)			
1. Much Less Likely	42 (13.1)	22 (14.0)	20 (12.3)
2. Somewhat less likely	10 (3.1)	5 (3.2)	5 (3.1)
3. About the Same	42 (13.1)	23 (14.6)	19 (11.7)
4. Somewhat more Likely	35 (10.9)	14 (8.9)	21 (12.9)
5. Much more Likely	191 (59.7)	93 (59.2)	98 (60.1)
Use or Ask Partner to use Condoms, N (%)			
1. Much Less Likely	20 (6.2)	11 (6.9)	9 (5.5)
2. Somewhat less likely	5 (1.5)	0 (0.0)	5 (3.0)
3. About the Same	34 (10.5)	16 (10.1)	18 (11.0)
4. Somewhat more Likely	28 (8.7)	12 (7.5)	16 (9.8)
5. Much more Likely	236 (73.1)	120 (75.5)	116 (70.7)

Note. Valid Percent results are presented above

Mean scores and ANOVA are reported in Table 2

Appendix G. BIVARIATE STATISTICS FOR STUDY VARIABLE: FOSTER YOUTH STATUS

	1	2	3	4	5	6	7	8	9	10	11	12
1. Race (Caucasian)	1	-.13	-.23**	-.05	-.09	-.15⁺	.08	-.03	-.27**	-.04	.12	.03
2. Age	.06	1	-.20*	-.02	.50**	.45**	-.15⁺	-.24*	.21**	.24**	.11	.14
3. Sex (Male)	-.26**	-.24**	1	.03	-.01	.07	-.16⁺	.19	.02	.12	-.05	-.07
4. Free or reduced lunch	.07	.04	-.04	1	.00	.00	-.08	-.03	.01	.00	-.09	-.06
5. P.P. RSB.	-.12	.28**	-.16*	-.13⁺	1	.71**	-.13⁺	-.16	.13⁺	.32**	.15⁺	.03
6. Pre-Program Risky Intercourse Intentions	-.16⁺	.12	.17*	.14⁺	.27**	1	-.21**	-.08	.16*	.40**	.15⁺	.09
7. Pre-Program Risky condom use intentions	-.18**	.02	-.19*	-.17*	.03	-.09	1	.29**	-.11	-.21**	-.14⁺	-.20*
8. Pre-Program Risky contraceptive use intentions	-.11	-.08	.35**	-.06	-.08	-.03	.33**	1	-.17	-.11	-.32**	-.31*
9. Program experience	.00	-.15⁺	-.13	.05	.12	.10	-.01	-.19*	1	-.07	.24**	.36**
10. Post-p. Intercourse Intentions (No)	-.14⁺	.06	.07	-.13⁺	.12	.29**	.15⁺	.07	-.12	1	.03	.09
11. Post-p. Contraceptive use intentions (Yes)	.21**	-.06	-.18*	-.04	.20*	.05	-.06	-.31**	.25**	.00	1	.56**
12. Post-p. Condom use intentions (Yes)	.09	-.03	-.08	.01	.11	-.03	-.06	-.28**	.24**	-.03	.60**	1

Note: Foster youth below the diagonal and non-foster youth above the diagonal. Pre-P. RSB. = Pre-Program Risky Sexual Behavior; Pre-P. = Pre-Program; Post-p. – Post-Program

^a A lower score on post-program intercourse intentions indicated decreased likelihood of having intercourse.

^b A higher score on post-program contraceptive or condom use intentions indicated increased likelihood of using a method of contraceptive or condom.

⁺ $p < .10$ * $p < .05$ ** $p < .01$.

Appendix H. PATH ANALYISS MODEL EXAMINING THE MODERATING EFFECTS OF FOSTER YOUTH STATUS ON POST-PROGRAM SEXUAL BEHAVIOR INTENTIONS

	Moderating Effects						t - values
	Foster youth			Non Foster Youth			
	β	SE	<i>p</i>	β	SE	<i>p</i>	
Intercourse Intentions							
Race	-0.059	0.217	0.458	0.014	0.208	0.858	0.659
Sex	0.027	0.246	0.771	0.134	0.204	0.094	0.847
Free or Reduced Lunch	-0.118	0.262	0.125	-0.007	0.150	0.928	1.288
Age	0.017	0.060	0.838	0.111	0.060	0.212	0.737
Pre-P. Risky Sexual Behavior	0.036	0.128	0.663	0.113	0.149	0.275	0.545
Pre-P. Risky Intercourse Intentions	0.280	0.214	< .001	0.211	0.266	0.038	-0.579
Pre-P. Risky Condom Use Intentions	0.151	0.221	0.078	-0.122	0.205	0.117	-2.359¹
Pre-P. Risky Contraceptive Use Intentions	-0.020	0.327	0.841	-0.069	0.276	0.488	-0.294
Program Experience	-0.133	0.136	0.087	-0.145	0.158	0.057	-0.318
Contraceptive Intention							
Race	0.223	0.223	0.003	0.195	0.249	0.015	-0.141
Sex	0.005	0.251	0.958	0.016	0.244	0.842	0.101
Free or Reduced Lunch	-0.037	0.268	0.610	-0.084	0.179	0.261	-0.201
Age	-0.135	0.061	0.078	-0.031	0.072	0.733	0.889
Pre-P. Risky Sexual Behavior	0.194	0.131	0.014	0.050	0.179	0.640	-1.079
Pre-P. Risky Intercourse Intentions	0.041	0.219	0.591	0.090	0.318	0.391	0.401
Pre-P. Risky Condom Use Intentions	0.042	0.266	0.601	-0.057	0.244	0.478	-0.876
Pre-P. Risky Contraceptive Use Intentions	-0.286	0.326	0.001	-0.221	0.321	0.027	0.722
Program Experience	0.153	0.140	0.038	0.243	0.189	0.002	1.242
Condom Intention							
Race	0.108	0.191	0.173	0.118	0.187	0.125	0.097
Sex	0.073	0.216	0.429	-0.033	0.183	0.681	-0.869
Free or Reduced Lunch	0.009	0.231	0.910	-0.064	0.135	0.370	-0.549
Age	-0.061	0.053	0.445	0.047	0.054	0.597	0.913
Pre-P. Risky Sexual Behavior	0.110	0.113	0.179	-0.121	0.134	0.243	-1.757
Pre-P. Risky Intercourse Intentions	-0.032	0.189	0.684	0.077	0.239	0.448	0.847
Pre-P. Risky Condom Use Intentions	0.055	0.194	0.512	-0.134	0.184	0.086	-1.656
Pre-P. Risky Contraceptive Use Intentions	-0.278	0.282	0.003	-0.158	0.245	0.110	1.180
Program Experience	0.211	0.120	0.006	0.353	0.142	<.001	1.758

Note: Pre-P. = Pre-Program
n = 325

¹Post Bonferroni correction to account for the individual paths (27) the adjusted t value (3.019, *p* = .002) was such that this difference was no longer statistically significant.