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Preventing Revictimization in Teen Dating Relationships

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DRAFT  
TECHNICAL REPORT

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## Abstract

Revictimization refers to the occurrence of two or more instances of violence and poses an enormous criminal justice problem. Adolescent girls in the child welfare system are at high risk of revictimization in adolescence. Most interventions with teens have focused on *primary* prevention (that is, prevention in teens not previously exposed to violence) of physical (usually *not* sexual) violence. In addition, interventions have frequently targeted youth in school settings, though youth in the child welfare system experience frequent transitions in housing/care that disrupt regular attendance at a single school. Thus, child welfare youth at high risk of revictimization may not receive prevention programming as consistently as their peers. Thus, the current study compared two active interventions designed to decrease revictimization in a diverse sample of adolescent girls in the child welfare system. The interventions targeted theoretically distinct risk factors for revictimization. The social learning/feminist (SL/F) intervention focused on concepts derived from social learning and feminist models of risk, such as sexism and beliefs about relationships. The risk detection/executive function (RD/EF) intervention focused on potential disruptions in the ability to detect and respond to risky situations/people due to problems in executive function.

We enrolled 180 adolescent girls involved in the child welfare system. Participants were assessed four times: pre-, immediately post-, 2-months, and 6-months after the intervention ended. Assessment procedures included a comprehensive battery of self-report and behavioral tasks designed to assess the processes implicated by the two revictimization intervention approaches. We examined revictimization (the presence/absences of sexual or physical assault in any relationship) as well as a range of aggressive conflict tactics in current dating relationships. Participants were randomized to complete the RD/EF (n=67) or SL/F intervention (n=67). A group of youth (n=42) emerged who engaged in the research assessments and not the interventions. This offered an opportunity for a post-hoc, non-randomized comparison group. Teens in the three conditions (RD/EF, SL/F, assessment only) were comparable in terms of demographic variables examined.

Adolescent girls in the RD/EF condition were nearly *5 times* more likely to *not* report sexual revictimization over the course of the study period compared to girls in the assessment-only group. A trend suggested that girls who participated in the SL/F intervention were 2.5 times more likely to *not* report sexual revictimization relative to the comparison group. For physical revictimization, the odds of *not* being physically revictimized were 3 times greater in the SL/F condition and 2 times greater in the RD/EF condition compared to the assessment-only group. The active interventions did not differ from one another in rates of revictimization, suggesting that practitioners have at least two viable options for curricula to engage youth around revictimization prevention. Further, the groups did not differ in attendance. Adolescents attended an average of nearly 70% of sessions, suggesting both interventions were acceptable to youth. We also examined adolescent girls' ratings of physical, emotional, and sexual conflict tactics in dating relationships using a continuous measure of aggression. Across time, adolescents reported significant decreases in their own and their partners' aggressive conflict tactics; the groups did not differ from one another.

As part of demonstrating that high-risk youth can be successfully engaged outside of school-based programs, we also examined participants' responses to taking part in violence-focused interviews. Drawing on systematic assessments of participants' responses to the research interviews, adolescents reported that the benefits of violence-focused interviews outweighed the costs. As evidence increasingly points to the need to screen for and address trauma as part of providing effective mental and physical

healthcare, this study has implications for thinking about assessing violence exposure as a routine part of practice.

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## Executive Summary

Problem Addressed: Revictimization (RV) refers to the occurrence of two or more instances of violence and poses an enormous criminal justice problem. Adolescent girls who were previously abused (particularly those who have come to the attention of the child welfare system) are at high risk of RV in teen dating relationships. In turn, RV in adolescence places girls at high risk for additional intimate partner violence in adulthood. In adulthood, the criminal justice costs resulting from intimate violence are staggering. Therefore, preventing RV in the teen years is one of the best ways to decrease long-term criminal justice (and public health) costs. Though RV is a major criminal justice issue, most interventions with teens have focused on *primary* prevention (that is, prevention in teens not previously exposed to violence) of physical (usually *not* sexual) dating violence. In addition, interventions have frequently targeted youth in school settings, though youth in the child welfare system experience frequent transitions in housing/care that disrupt regular attendance at a single school. Thus, child welfare youth at high risk of RV may not receive prevention programming as consistently as their peers. Further, researchers and practitioners still understand relatively little about the specific processes that underlie RV risk, particularly in high risk groups. Therefore, this study addressed the urgent need to target interventions to high risk groups, such as teen girls who have come to the attention of the child welfare system; rigorously test interventions grounded in empirical research on RV; and examine processes implied by RV theories. In particular, adolescent girls recruited from the child welfare system were randomized to one of two revictimization prevention conditions: social learning/feminist (SL/F) and risk detection/executive function (RD/EF).

Method Overview: To address these research needs, we tested two intervention programs designed to decrease RV in teen dating relationships in a sample of adolescent girls from the child welfare system. The interventions arose from two different theoretical approaches to the problem of RV: 1) social learning and feminist theory (from the teen dating violence literature); and 2) risk detection (from the adult sexual RV literature). Incorporating recent cognitive neuroscience research, we expanded the risk detection intervention to focus on improving teens' executive function skills (EFs). EFs include a range of cognitive abilities that are critical to detecting danger cues (e.g., noticing danger, planning and initiating responses) and often impaired in youth and adults previously exposed to violence. Both the SL/F and RD/EF interventions were modified from existing, empirically-supported interventions.

We enrolled 180 adolescent girls involved in the child welfare system. Participants were assessed four times: pre-, immediately post-, 2-months, and 6-months after the intervention ended. Assessment procedures included a comprehensive battery of self-report and behavioral tasks designed to assess the processes implicated by the two RV intervention approaches. We examined revictimization (that is, the presence/absence of sexual or physical assault in any relationship) as well as a range of aggressive conflict tactics in current dating relationships.

Four teens were excluded from the study after Time 1 due to exclusion criteria (e.g., presence of psychotic symptoms). One hundred and thirty-four participants were randomized to complete the RD/EF (n=67) or SL/F intervention (n=67). Given concerns from potential referral sources about randomizing youth to any sort of waitlist control or no-intervention conditions, we did not randomize to such a control condition; however, a group of youth (n=42) emerged who engaged in the research assessments and not the interventions. This offered an opportunity for a post-hoc, non-randomized comparison group. Teens in the three conditions (RD/EF, SL/F, assessment only) were comparable in terms of all

demographic variables examined (e.g., age, race, ethnicity, sexual orientation, school status, current placement, or past experience of attending groups related to healthy relationships).

Summary of Findings: The current study compared two active interventions designed to decrease revictimization in a diverse sample of adolescent girls in the child welfare system. The interventions targeted theoretically distinct risk factors for revictimization. The SL/F intervention focused on concepts derived from social learning and feminist models of risk, such as sexism and beliefs about relationships. The RD/EF intervention focused on potential disruptions in the ability to detect and respond to risky situations/people due to problems in executive function. A subgroup of youth never attended the intervention or only attended one session, enabling us to compare the active interventions to an assessment-only comparison condition.

Adolescent girls who participated in the RD/EF condition were nearly *5 times* more likely to *not* report sexual revictimization over the course of the study period compared to girls in the assessment-only group, a statistically significant difference. A trend suggested that girls who participated in the SL/F intervention were 2.5 times more likely to *not* report sexual revictimization relative to the comparison group. For physical revictimization, the odds of *not* being physically revictimized were 3 times greater in the SL/F condition and 2 times greater in the RD/EF condition compared to the assessment-only group. The active interventions did not differ from one another in rates of physical or sexual revictimization across the study period, suggesting that practitioners have at least two viable options for curricula to engage youth around revictimization prevention in that both interventions were linked with lower revictimization than the assessment-only comparison group. Further, the groups did not differ in attendance. Adolescents attended an average of nearly 70% of sessions, suggesting both interventions were acceptable to youth.

While the primary goal of the current study was to look at revictimization, we also examined adolescent girls' ratings of physical, emotion, and sexual conflict tactics in dating relationships using a well-validated, continuous measure of aggression. Participants reported on their partners' as well as their own aggression at each interview. Across time, adolescents reported significant decreases in all aggressive conflict tactics, with the exception of females' own sexual aggression (though this is likely an artifact of very low endorsement of such tactics); the groups did not differ from one another. Together, these findings point to at least two important issues. First, how researchers operationalize and assess victimization experiences matters. When examining the occurrence of physical and sexual revictimization, both interventions were linked with protective benefits for adolescent girls relative to the comparison group. Compared to girls in the assessment-only condition, girls in the intervention conditions were 3-5 times less likely to report sexual or physical revictimization. However, when we considered a range of aggressive tactics in current dating relationships, including much lower level conflict tactics, girls in the intervention condition and in the comparison condition both reported similar experiences of aggression directed at them by dating partners. This suggests that interventions might affect some forms of aggression (in this case, more severe occurrences of physical or sexual revictimization, such as being hit or forced to have sex) and not others.

These data demonstrate that diverse youth who have experienced significant adversity can be successfully engaged outside school settings. Youth in this sample were diverse with regard to ethnicity as well as sexual orientation, with nearly one quarter of the sample identifying with a group other than heterosexual. Youth in the sample also experienced complex maltreatment histories prior to study start as well as significant economic challenges. The fact that we could successfully engage youth in the intervention is particularly important given that many of these youth would not otherwise be reached

by traditional school-based dating violence programming. Nearly two-thirds of the adolescent girls in this sample reported having attended school in a setting outside of the traditional public school system, where some of the hallmark dating violence prevention programs has been tested.

As part of demonstrating that high-risk youth can be successfully engaged outside of school-based programs, we also examined participants' responses to violence-focused interviews. Thus, this study has implications for thinking about assessing violence exposure as a routine part of practice. As evidence increasingly points to the need to screen for and address trauma as part of providing effective mental and physical healthcare, service providers in diverse settings are likely to be asked to screen for and explicitly discuss trauma as a routine part of practice. Before integrating trauma screening and discussions into practice, service providers may have questions about the potential for negative impact asking about trauma as part of routine care appointments where patients may not be expecting trauma to be discussed. Drawing on systematic assessments of participants' responses to the research interviews, this study demonstrates that the benefits of interviews that assess violence and trauma can outweigh the costs when engaging diverse teens exposed to complex traumatic events.

Policy Implications: In sum, we tested two approaches to decreasing revictimization with adolescent girls in the child welfare system. Both approaches were linked with lower likelihood of reporting revictimization from post-intervention to six-month follow-up relative to an assessment-only comparison group. Girls who participated in the interventions attended an average of nearly 70% of sessions. Given the severity of the adversity that these adolescents faced (e.g., in terms of changes in school and care placements, teen parenthood), this level of participation in the groups is quite impressive. Further, these interventions were able to reach adolescents outside of traditional school settings, demonstrating the feasibility of engaging high-risk youth in alternative settings particularly when they are not consistently attending traditional schools. In addition, we were able to retain participants across four interviews, with a rate of 83.0% retention at Time 4. When their responses to the interview procedures were systematically assessed at each time point, adolescents reported significantly greater benefits of participating in these trauma-focused interviews than costs. As evidence increasingly points to the need to screen for and address trauma as part of providing effective mental and physical healthcare for youth and adults, these data may be reassuring to service providers insofar as youth can be asked explicit questions about violence over time without a negative impact on their engagement; however, practitioners will have to consider unintended consequences of collecting this information, such as mandated reporting requirements, while developing protocols for routine violence assessment.

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## Overview

Revictimization (RV), the occurrence of two or more instances of violence by different perpetrators, poses an enormous criminal justice problem. Adolescent girls who were previously abused (particularly those who are now in foster care) face high risk of RV in dating and other relationships (Arata, 2002; Classen, Palesh, & Aggarwal, 2005; Jonson-Reid & Bivens, 1999; Jonson-Reid, Scott, McMillen, & Edmond, 2007). In turn, RV in adolescence places girls at risk for additional intimate partner violence in adulthood (e.g., Arata, 2002). In adulthood, the criminal justice costs resulting from intimate partner violence (IPV) are staggering (e.g., Tennessee Economic Council on Women, 2006). Therefore, preventing RV in the teen years is one of the best ways to decrease long-term criminal justice (and public health) costs. In spite of the enormous criminal justice problem posed by RV, most interventions with teens have focused on *primary* prevention (that is, prevention in teens not previously exposed to violence) of physical (usually *not* sexual) dating violence (see Cornelius & Resseguie, 2007). Further, little is known about the specific mechanisms that underlie RV risk (Classen et al., 2005) and intervention. Therefore, research is urgently needed to 1) target interventions to high risk groups, including adolescent girls in the child welfare system; 2) rigorously test interventions grounded in empirical research on RV; and 3) specify the mechanisms that underlie RV interventions.

To address these research needs, we tested two intervention programs designed to decrease RV in a sample of adolescent girls recruited from the child welfare system. We focused on females because we targeted reduction of RV in adolescence that is predictive of additional RV in adulthood. Women, and not men, appear to be at elevated risk of RV by intimate partners in adulthood (Desai, Arias, Thompson, & Basile, 2002). The interventions that we tested were derived from different empirical and theoretical approaches to the problem of RV: 1) social learning and feminist theory (from the teen dating violence literature); and 2) risk detection (from the adult sexual RV literature) and executive function (from the neuroscience literature) research. These two approaches implicate different mechanisms underlying RV; therefore, the interventions targeted different problems and provide an important test of the specific mechanisms underlying RV risk.

This project addressed two major goals in a sample of adolescent girls who have come to the attention of the child welfare system in the Denver Metro Area (CO). First, we compared the effectiveness of two interventions for RV among adolescent girls the child welfare system using a randomized, longitudinal design. Second, we examined process variables targeted by the respective interventions longitudinally.

## Review of Relevant Literature

### Teen Dating Violence as RV

Definitions of teen dating violence have historically focused on physical violence, such as “the use or threat of physical force or restraint carried out with the intent of causing pain or injury to another (Sugarman & Hotaling, 1989, p. 5). In more recent years, definitions have expanded to include behaviors designed to “control or dominate another person physically, sexually, or psychologically causing some level of harm” (Wekerle & Wolfe, 1999, p. 436). The current study adopts the broader definition of dating violence, recognizing that successful interventions targeting teen dating violence must consider physical, sexual, and emotional forms of aggression.

Whereas previous research has largely focused on primary prevention of teen dating violence

(that is, prevention of the first experience of violence), the current proposal focuses on the enormously pressing criminal justice problem of RV in adolescence. RV was first documented with regard to sexual abuse/assault. For example, women exposed to childhood sexual abuse are 2.5-3 times more likely than their peers to be sexually assaulted in adulthood, with a meta-analysis showing an overall effect size of 0.59 (e.g., Cloitre, Tardiff, Marzuk, Leon, & Potera, 1996; Roodman & Clum, 2001; Urquiza & Goodlin-Jones, 1994; Wyatt, Guthrie, & Notgrass, 1992). More recently, researchers have documented RV for physical and emotional aggression as well. In a previous NIJ-funded project (NIJ 2007-WG-BX-0002), DePrince and colleagues found that women who reported an incident of intimate partner violence (IPV) to the police also reported previous emotional, sexual, or physical aggression by an average of *two additional perpetrators*. Further, six months later, 20% of women who had left the perpetrator from the target incident reported new instances of aggression by a different man. These data are consistent with others showing exponential lifetime criminal justice costs for women exposed to violence early in childhood. The United States National Youth Survey found that 5% of youth victims accounted for 63% of assault victimizations (Lauritsen & Quinet, 1995). The 2008 National Crime Victimization Survey also found that half of all rape/sexual assault victims were aged 12 – 24 years (USDJ, 2008).

Compounding these costs are public health costs: IPV in adolescent romantic relationships is linked to a range of serious negative health consequences, particularly maladaptive mental health outcomes (e.g., Teten, Ball, Valle, Noonan, & Rosenbluth, 2009; Banyard & Cross, 2008). RV is also associated with more severe physical, psychiatric, and social problems than single victimizations (e.g., Classen et al., 2005; DePrince, 2005; Marx, Heidt, & Gold, 2005; Kimerling, Alvarez, Pavao, Kaminski, & Baumrind, 2007).

Both prospective and retrospective studies now point to the critical role that adolescence plays in understanding lifetime risk for RV (Arata, 2002; Gidycz, Coble, Latham, & Layman, 1993; Gidycz, Hanson, & Layman, 1995; Smith, White, & Holland, 2003). For example, females who experienced child abuse were at risk of dating violence as adults *only* when they experienced dating violence during adolescence (Smith et al., 2003). That is, the link between child abuse and adult RV was fully mediated by adolescent RV. Humphrey and White (2000) documented that college women who had been sexually assaulted during adolescence were 4.6 times more likely than their peers to report sexual victimization in young adulthood. Thus, preventing RV in the context of teen dating relationships may decrease violence later in life, resulting in potential savings to individuals and to justice systems

**Focusing on female teens in the child welfare system.** The Youth Risk Behavior Survey found that in grades 9-12, approximately 10% of male and female students report being physically hurt by a dating partner in the past 12 months (Centers for Disease Control and Prevention, 2007) and 15% report being “physically hurt” by a dating partner (Silverman, Raj, Mucci, & Hathaway, 2001). Compared to male victims of adolescent IPV, adverse health outcomes are also uniquely elevated for female victims, including the physical and mental stress associated with higher rates of unwanted pregnancies among female IPV victims (versus non-victims; Silverman et al., 2001). Serious physical injury is also more likely to occur for female (versus male) victims of adolescent IPV (Coker et al., 2000). A review by Saunders (2002) indicated that female victims of male-perpetrated teen dating violence suffer more serious negative consequences, particularly health outcomes, compared to male victims of female-perpetrated aggression. Straus’ (1995) landmark finding that women needed medical attention seven times as often as husbands after a physically violent conflict in the relationship is echoed in studies with youth. For instance, Muñoz-Rivas and colleagues (2007) found that female victims were more likely to receive injuries and need medical attention/hospitalization for injuries than male victims. This disparity in consequences may be due to the fact that males engage in violence that is more severe and more often

involves lethal weapons compared to females who engage in lower level violence such as kicking, slapping, or shoving (Schwartz, Magee, Griffin, & Dupuis, 2004). Thus, we focused on females in our current study.

Teen violence – and RV in particular – do not occur at random, making the study of *high risk* samples particularly important. In the current study, we are concerned with teens previously exposed to violence; therefore, we recruited adolescent girls who had come to the attention of the child welfare system. Girls in the child welfare system are at high risk of RV in dating relationships. For example, an estimated 25-50% of females in foster care report violence in dating relationships (Jonson-Reid & Bivens, 1999; Jonson-Reid et al., 2007). One study of teen dating violence with an urban sample of homeless youth found higher prevalence rates among those youth involved with the child welfare system as compared to their peers without child-welfare involvement (Goldstein, Leslie, Wekerle, Leung, & Erickson, 2010). Compared to their peers, girls in the child welfare system face risks that may leave them particularly vulnerable to RV, such as mental health problems and placement instability (e.g., Anttil, McCubbin, O'Brian, & Pecora, 2007).

**Why does RV happen?** Effective interventions depend on properly identifying the processes that increase RV risk. Two dominant approaches to victimization risk have emerged in the literature with an emphasis on 1) social learning and feminist theory (from the teen dating violence literature); and 2) risk detection (from the sexual RV literature). Though RV happens across physical, sexual, and emotional forms of aggression (Wekerle & Wolfe, 1999), teen dating violence (TDV) research has focused most heavily on physical violence (for a review, see Cornelius & Resseguie, 2007). The two literatures have developed relatively independent of one another. With some important exceptions (e.g., O'Keefe & Treister, 1998; Wolfe et al., 2003), TDV rarely focuses on RV, addressing instead first-time incidents of violence (Cornelius & Resseguie, 2007). In addition, TDV tends to focus on administering primary prevention programming in schools (e.g., Foshee et al., 1998, 2000, 2004, 2005; Taylor, Stein, Mumford, & Woods, 2013; Wolfe, Crooks, Chiodo, Hughes, & Ellis, 2012) or more recently with intact caregiver-child dyads (e.g., Foshee et al., 2012); however, vulnerable youth from the child welfare system may not access such programming as easily given frequent transitions in school and care. A recent review identified various relationship education programs that target vulnerable high-risk youth; however, no programs were identified that have been rigorously evaluated among youth in foster care in the United States (Scott, Moore, Hawkins, Malm, & Beltz, 2012). In a separate literature on sexual RV, the vast majority of research has been conducted with *adults* (e.g., college students). Because sexual violence in *adolescence* mediates the links between child and adult sexual RV (Arata, 2002), the lack of research with adolescents is highly problematic. Therefore, this research fills a gap by examining both sexual *and* physical RV; and focusing on *teens* where interventions may change trajectories to decrease lifetime RV rates. We now review social learning/feminist and risk detection theories and interventions.

### **Social Learning and Feminist Theories (SL/F): Proposed RV Mechanisms.**

Social learning and feminist (SL/F) theories provide a lens for understanding how girls previously exposed to abuse may be at increased risk of RV in dating relationships. Table 1 summarizes the processes that these theories implicate. Social learning theory emphasizes that children learn through conditioning and modeling (Bandura, 1977). Thus, children exposed to violence (e.g., directly by caregivers; or indirectly by observing violence between caregivers) are likely to learn that violent tactics are acceptable (and even effective) routes to resolving conflict (see O'Keefe & Treister, 1998; Wolfe et al., 2003; Wolfe et al., 1996). Indeed, maltreated youth (relative to their non-maltreated peers) show more hostility, lower problem-solving self-efficacy, and more aggression in peer and dating relationships

(Brown, Cohen, Johnson, & Smailes, 1999; Wolfe et al., 2001; Wolfe, Wekerle, Reitzel-Jaffe, & Lefebvre, 1998).

From a social learning theory perspective, maltreated youth may also fail to learn a host of skills that then cause interpersonal problems and conflict in later relationships (e.g., Crick & Dodge, 1994). For example, youth may not develop interpersonal skills important to effective assertiveness (Finkelhor & Brown, 1986) and communication (Allen & Oliver, 1982; Eigsti & Cicchetti, 2004). Similarly, early violence exposure may disrupt learning that is critical to girls’ sexual decision-making and ability to communicate about those decisions (Zurbriggen & Freyd, 2004). Further, early abuse experiences may limit children’s opportunities to learn to effectively interpret socio-emotional information (e.g., Cicchetti & Toth, 1995; DePrince, 2005; Finkelhor & Kendall-Tackett, 1997; Pollak & Tolley-Schell, 2003). Deficits in all of these skills increase the risk that youth will use or be victims of violent tactics in dating relationships.

From a feminist theory perspective, researchers have argued that teens may learn overly rigid gender roles from maltreating caregivers (Wolfe et al., 2003). For girls, these rigid gender roles may result in expectancies that relationships involve harm to women and inequities in power between male and female partners. The interpersonal schema hypothesis of RV implicates both social learning and feminist theories by proposing that exposure to violence in childhood creates negative expectations of others in relationships, including expectations of harm (Cloitre, 1998; Cloitre, Cohen, & Scarvalone, 2002). A schema is an automatically activated set of associations that can have an impact on thoughts and behavior (see Cloitre et al., 2002; Lindgren, Shoda, & George, 2007). Several theorists have proposed that interpersonal traumas involving close others early in life can disrupt the development of healthy schemas and attachment (Cloitre et al., 2002; Freyd, DePrince, & Gleaves, 2007). For example, a child who tries to elicit attachment from caregivers and is met with abusive behavior may develop templates for future relationships that link relationships and harm. In particular, Cloitre et al. (2002) argued that children exposed to abuse by caregivers and close others may develop schemas that “reflect the learned contingency that to be interpersonally engaged means to be abused, and that abuse is a way to be

connected (p. 92).”  
 Self-report studies have shown links between RV and relationship schemas (Cloitre, 1998; Cloitre et al., 2002). DePrince and colleagues (2009) assessed relationship-harm schema using a cognitive task (the

Table 1.  
 Processes underlying RV risk from SL/F models.

Approach	Process	Target
Social learning	Violent tactics are acceptable and even effective routes to resolving conflict	Understanding power and its role in relationship violence
	Problems in assertiveness and communication skills	Develop skills to build healthy relationships and to recognize and respond to abuse in their own relationships
Feminist	Relationship expectancies include harm	
	Socialization of gender roles and sexism that support power discrepancies and violence	Understand the societal influences and pressures that can lead to violence; develop skills to respond

implicit lexical decision task) that examined automatic (outside conscious awareness) links between relationship and harm concepts in college women who reported histories of no-, single-, or re-victimization involving close others (e.g., family member, partner). Women exposed to RV involving close others showed stronger automatic relationship-to-harm associations than singly- or non-exposed women. The stronger relationship-to-harm associations actually explained unique variance in the

number of interpersonal trauma types (e.g., sexual, physical trauma) women reported. These findings suggest that the relational schema held by women in the RV group include concepts of harm, which has important implications for how women behave in and think about intimate relationships.

**SL/F Intervention.** Wolfe and colleagues' (1996, 2003) Youth Relationships Manual is a health promotion approach to preventing violence that stands out among prevention programs derived from social learning and feminist traditions. First, the Youth Relationships Manual is one of the only programs developed to address RV in teen dating relationships. Second, the program was rigorously evaluated using a randomized control design with teens recruited through Child Protective Services, similar to the current sample. Third, the intervention addresses the interpersonal relationship skills and beliefs that are disrupted following maltreatment; and put youth at risk for teen dating violence. With a heavy emphasis on building skills, Wolfe's intervention targets four broad aims: 1) Understanding power and its role in relationship violence; 2) Developing skills needed to help adolescents build healthy relationships and to recognize and respond to abuse in their own relationships; 3) Understanding the societal influences and pressures that can lead to violence and to develop skills to respond to these influences; and 4) Increasing competency through involvement and social action (see Wolfe et al., 1996, p. 7). For the current study, we modified the Youth Relationships Manual for use as the intervention grounded in social learning/feminist theories; thus, we refer to curriculum as SL/F throughout this report. In particular, we made two modifications to the curriculum: we shortened the intervention from 18 to 12 sessions and from 2 hours to 1.5 hours to make the length comparable to the RD intervention and address child welfare caseworker concerns that engaging youth for 18 2-hour sessions was not feasible; and we ran female-only groups given the female sample. We do not refer to it as Youth Relationships Manual because we modified the original curriculum to meet timing constraints (length of session and number of session constraints) in the current project.

### **Risk detection/Executive Function (RD/EF): Proposed RV Mechanism**

The literature on *sexual* RV risk has largely focused on impaired ability to detect and respond to threat in intimate relationships, referred to as risk detection. In a widely used experimental methodology, participants listen to an audiotape of a situation involving a man and a woman that begins as a benign dating interaction and escalates to date rape. Participants are asked to press a button to indicate when the man "goes too far" or when they would leave; the length of time to press the button has been viewed as a measure of risk detection ability (Marx & Gross, 1995). Both prospective and retrospective studies have demonstrated that sexually revictimized women (compared to singly- and never-victimised women) take significantly longer to indicate when 1.) the man has become inappropriate (e.g., Marx, Calhoun, Wilson, & Meyerson, 2001; Wilson, Calhoun, & Bernat, 1999) or 2.) they would leave the situation (Meadows, Jaycox, Webb, & Foa, 1996 as cited in Marx et al., 2001).

Complementing this research with a different experimental paradigm, DePrince (2005) found that young adults who report revictimization in young adulthood, as compared to young adults without revictimization histories, performed worse when asked to detect violations of if-then conditional reasoning problems involving social and safety information. This task has been referred to as a "cheater detector" task. Failure to detect violations of social and safety information may result in higher risk of being taken advantage of or entering risky dating situations. For example, a rule might state, "if you tell him you don't like what's happening, then he should stop". DePrince (2005) demonstrated that RV was associated with problems detecting violations of if-then rules that had to do with safety and social relationships, which are critical to detecting and responding to risk in intimate relationships.

Risk detection requires that the person effectively notice and respond to both external (e.g., a dating partner’s threatening behaviors) and internal (e.g., one’s own feelings of fear or discomfort) danger cues (DePrince, 2006). The ability to notice and respond to cues requires a range of cognitive skills that are collectively referred to as executive functions (EFs). EFs tap a diverse set of attention skills, including the ability to shift, inhibit and focus attention; maintain focus in the face of distracting information; updating new information in the working memory system; think flexibly about potential solutions; plan and initiate actions. Table 2 gives examples of how such EFs map on to the tasks necessary to detect and respond to danger cues in dating relationships. For example, a teen may simply not notice a danger cue, in which case she would never have a chance to respond to it. Alternatively, a teen might notice the cue, but not be able to use her EF system effectively to think flexibly in order to plan and carry out a response. In addition to such EF problems, though, teens may also lack relevant knowledge. Thus, even with the best of EF abilities, teens may not be able to respond effectively in a dangerous situation. Therefore, interventions focused on risk detection should address both EF abilities and knowledge about

how one could respond in a dangerous situation.

Pointing to the importance of EFs in understanding RV, several studies now link child abuse (including physical/sexual abuse and witnessing domestic violence) and deficits in EFs (e.g., DePrince, Weinzierl, & Combs, 2009; Beers & DeBellis, 2002). For example, DePrince and colleagues found that EF deficits were uniquely related to the experience of childhood maltreatment in a sample of ethnically-

diverse school-aged children (ages 9-12; mean age=10). Based on trauma exposure, children were assigned to one of three groups: familial trauma (i.e., physical or sexual abuse; or witnessing domestic violence), non-maltreatment trauma (e.g., car accidents), and no trauma. Children completed a battery of tests to assess several of the EFs outlined in Table 2 (working memory, behavioral inhibition, processing speed, auditory attention, and interference control). Children exposed to familial trauma performed significantly worse on the EF battery relative to non-familial and no trauma exposure groups; the effect size was medium. Familial trauma exposure explained unique variance in performance on EF tasks after controlling for anxiety symptoms, socio-economic status, and traumatic brain injury. Further, the number of familial trauma types explained unique variance in EF scores (the number of non-familial trauma types did not). This suggests that multiple events, as in the case of RV, are associated with worse EF performance. Disruptions in EF have also been observed in adult women exposed to violence (e.g., Stein, Kennedy, & Twamley, 2002), further supporting the importance of EF to RV.

Table 2.

Processes underlying RV risk from RV/EF models.

Process	Intervention Target
Fail to notice external danger cues (e.g., something in the environment, such as the expression on another person)	Increase EF to the environment (directing attention)
Fail to notice internal danger cues (e.g., one’s own feelings of fear.	Increase EF to emotions; improve emotion labeling/awareness
Notice cue(s), but fail to maintain and use this information or become distracted; thus, multiple danger cues seem disconnected and unrelated.	Increase EF (working memory, interference control)
Notice danger and know what to do, but fail to change or inhibit current behaviors.	Increase EF (set-shifting; inhibition)
Notice danger, but have difficulty generating possible behavioral responses.	Increase EF (cognitive flexibility); increase knowledge of possible responses
Have difficulty planning or initiating a response.	Increase EF (planning); Practice generating ways to respond.

In sum, the sexual RV literature points to risk detection as a central factor in RV. Risk detection likely requires many EF abilities; however, EF abilities are compromised in children and adults exposed to violence. Thus, in potentially dangerous situations, compromised EF abilities may decrease teen's ability to notice internal and/or external danger cues and organize responses to threat. This evidence points to the need to ensure teens have knowledge about what danger as well as bolster their EF abilities to facilitate effective risk detection and response.

**RD/EF Intervention.** Drawing on the risk detection research, several intervention programs have targeted adult women's risk detection abilities. Unfortunately, programs that only offer women educational information on prevalence rates of sexual assault, situational risk factors, and protective behaviors do *not* reduce RV (Breitenbecher & Gidycz, 1998; Hanson & Gidycz, 1993). However, women who were randomized to a prevention program that focused on risk recognition *and* problem solving (e.g., teaching skills for preventing unwanted experiences, assertiveness, communication) showed increases in self-efficacy and decreases in distress, compared to a control group at 2-month follow-up. Women in the treatment group reported fewer rapes in the follow-up period compared to the control group; however, the groups did not differ on lesser degrees of sexual aggression (e.g., unwanted sexual experiences not involving penetration). Further, an alarming 27% of previously victimized women reported that RV occurred in the 2-month follow-up period (Marx et al., 2001).

The Marx et al. (2001) intervention targeted risk detection, but not EF abilities. Because risk detection requires EF abilities, we modified the risk detection program to include interventions that target EF abilities. Therefore, we capitalized on the initial success of Marx's risk detection program and modified it in two important ways. First, we adapted the protocol to create an age-appropriate, engaging protocol for adolescents (versus college students). Second, we targeted alterations in EF described in Table 2. To accomplish this, we adapted a mindfulness-based intervention protocol developed by DePrince and Shirk for use with maltreated teens receiving services in a community health setting (DePrince & Shirk, 2013); we then integrated the adapted mindfulness protocol with Marx's risk detection curriculum.

DePrince and Shirk's (2013) intervention relied on mindfulness-based cognitive interventions to address adolescents' EF and emotion processing. Davidson and colleagues (2003) found that a group mindfulness intervention resulted in changes in brain activity in anterior brain regions that, broadly speaking, share reciprocal connections with prefrontal regions that affect both EFs and emotion-processing (Bush, Luu, & Posner, 2000; Drevets & Raichle, 1998; Mayberg et al., 1999). Thus, mindfulness training appears important to EF-emotion circuits that are relevant to RV risk. To develop their protocol for teens, DePrince and Shirk adapted mindfulness-based cognitive therapy (MBCT, formerly called attentional control training) developed with adults (e.g., Ma & Teasdale, 2004; Segal, Williams, & Teasdale, 2002; Teasdale et al., 2000) for teens. Such interventions have been associated with moderate-large effect size changes in EF (e.g., Papageorgiou & Wells, 2000; Segal & Gemar, 1997). DePrince and Shirk's adaptation of MBCT targeted EFs by teaching clients to increase concentration; awareness of thoughts, feelings, bodily sensations; and attention to the present (e.g., versus worries about the past or future). In the current study, we adapted this approach to help adolescents become aware of internal (e.g., feelings of fear, shame) and external (e.g., threatening behaviors in a partner or danger in the environment) cues that are important to RV risk.

### Other factors

Several other factors are associated with RV, though are not made explicit in either of the

approaches reviewed above. For example, posttraumatic stress disorder (PTSD) symptoms have been linked to RV, though whether symptoms are a cause or consequence of RV remains unclear (e.g., Classen et al., 2005; Cloitre, Scarvalone, & Difede, 1997; Sandberg, Matorin, & Lynn, 1999). Other research points to the role that alcohol and drug use plays in RV and teen dating violence (e.g., Howard & Wang, 2003). Therefore, we assessed PTSD and substance use as well, though we did not have a priori predictions about differences in changes in either variable by intervention type

**Predictions**

Relative to girls who did not participate in the prevention curriculum (referred to as assessment only), we predicted that those who attended either the Risk Detection/EF or SL/F interventions would report decreases in revictimization over the study period. We further predicted that the Risk Detection/EF and SL/F curricula would be associated with changes in process variables as described in Table 3. The dots in Table 3 indicate which constructs are believed to be targeted by the two intervention approaches. In addition, given the number of self-report measures, we assessed social desirability at Time 2 to test relationships controlling for social desirability.

Table 3.  
Predictions by intervention group.

		SL/F	RD/EF
Background risk factors	Previous trauma exposure		
Dating violence	Victim of aggressive tactics in dating relationships	•	•
	Use of aggressive tactics in dating relationships	•	
Knowledge and beliefs	Acceptability of dating violence	•	•
	Knowledge of gender roles and sexism	•	
	Relationship expectancies	•	
	Potential responses to danger		•
	Belief in capacity for social action	•	
Skills and abilities	General relationship skills	•	
	Assertiveness skills	•	•
	Communication skills	•	
	Detection of danger cues		•
	Emotion awareness		•
	Executive function		•
Other factors	Substance use		
	Psychological Symptoms		

*Note:* Dots indicate which constructs are targeted by the two approaches to dating violence (social learning/feminist and risk detection/EF).

**Method**

All study procedures and measures were reviewed and approved by a university-based Institutional Review Board.

**Participants**

Adolescent females between the ages of 12 and 19 who were currently or previously involved with the child welfare system were referred by their case workers, service providers, or legal guardians based on their child welfare involvement and history of maltreatment exposure. The research team

worked with multiple counties as well as community agencies that serve child welfare youth in Denver and surrounding areas to recruit participants into the study. Additional inclusion criteria were: 1) no current suicidal ideation; 2) current treatment services if teens reported suicide attempts or psychiatric hospitalizations in the last three to six months; and 3) current treatment services if teens reported current self-harm behavior or psychosis. Based on these criteria, we received 214 referrals, of whom 180 (84%) completed an interview at Time 1. Of these 180, 4 did not meet the inclusion criteria (e.g., due to current psychotic symptoms) and were excluded from the intervention and Time 2-4 assessments.

**Randomization.** At the end of the pre-treatment assessment, all adolescents (N=174) who met inclusion criteria knew that they were going to be randomly assigned to a group, though they did not know which group (nor did they know anything about the differences between the two groups). Group start dates were set on a rolling basis as we completed enough pre-assessments to populate two groups (one SL/F and one EF/RD); when this happened, we reached out to adolescents to confirm their plans to come to group. After we reached adolescents to confirm, we randomized them to condition; however, we did not tell them their randomization during that confirmation contact. Fifteen adolescents never confirmed to attend a group; thus, these participants were never randomized.

When adolescents arrived for the first session, they were directed to one of two classrooms based on their randomization assignment. The first session was then parallel for participants in both groups, focusing on rapport/group-building activities, such as ice breakers; talking about past experiences in groups/classes; and laying out group rules/expectations. The substantive content of the interventions did not begin until the second meeting.

Traditional intent-to-treat (ITT) analysis has been utilized by prevention and intervention researchers because results from ITT analyses are considered to be more representative of the larger population as compared to analyses utilizing only completers of the treatment. ITT analysis requires researchers to analyze participants in the groups to which they were randomized regardless of adherence to treatment or other considerations (Lachin, 2000). However, given the extremely conservative nature of intent-to-treat (ITT) analysis, concerns about this approach have been raised broadly as well as in prevention research specifically (for a review of relevant issues, see Atkins, 2009; Gross & Fogg, 2004; Olsson, 2010).

Further complicating issues, the current study targeted a difficult-to-reach population of adolescents in the child welfare system. Of the 176 adolescents who met inclusion criteria, 15 never confirmed for a group and were therefore never randomized to either condition. Further, 27 attended the first session only, which did not involve substantive content of the interventions). In a traditional ITT approach, the 15 youth who were never randomized would not be included in analyses because they were not randomized; however, in this difficult-to-reach population, failure to include data because of the conservative ITT approach would be unfortunate. Recognizing that the 27 youth who attended only the first session had not received a dose of intervention, we made a post-hoc decision to combine these youth with the non-randomized 15 youth to create an assessment-only condition. Youth who attended only the first session from the treatment conditions were removed because the first session did not cover substantive intervention content (as detailed in Tables 4 and 5, the first session focused on meeting the group and establishing group rules). Thus, these youth did not receive a dose of the intervention. In a study with two active conditions to which youth were randomized, this offered an imperfect, but reasonable, comparison condition where youth did not receive intervention. Notably, we were conservative in creating this assessment-only condition. For example, youth who attended only 1

session at the first session (before substantive intervention content was covered) were included in the assessment-only condition, while youth who attended only 1 session at a later session (when substantive intervention content would have been covered) were grouped with their randomized condition. We took advantage of this naturally-occurring, post-hoc comparison group because of the difficulty in recruiting an adolescent sample of youth from the child welfare system combined with long-standing evidence that youth who drop-out of treatment comprise a reasonable control group (Weisz, Weiss, & Langmeyer, 1987). As will be described in-depth in the Result sections, we followed the recommendations of Gross and Fogg (2004) in using propensity scores as an alternate to the very conservative ITT approach.

Figure 1 illustrates the participant flow through the study.

**Interventions**

Both prevention groups targeted revictimization mechanisms. One prevention group used materials based on SL/F theories (Wolfe et al., 2003) while the other prevention group derived materials from RD/EF literatures (DePrince & Shirk, 2013; Marx et al., 2001).

The SL/F intervention was modified from Wolfe et al.’s empirically supported, published intervention manual (Wolfe et al., 1996). The major modification involved shortening the intervention from 18 to 12 sessions based on caseworker feedback at the start of the project that adolescents would not stay engaged for nearly 5 months. To accommodate the need to shorten the intervention, sessions that involved inviting community speakers to come to sessions as well as those that involved planning, implementing, and debriefing a visit to an agency were removed. In lieu of these sessions, a single session (Session 11) addressed ways that adolescents could use what they learned to support others (e.g., how to listen to friends who may have trouble and to provide them with helpful information; how to connect people with resources in the community). Finally, we also updated multimedia examples used in the curriculum, as many of the examples offered in the original Wolfe et al. (1996) protocol were quite dated.

The RD/EF intervention was founded on Marx et al.’s (2001) 2-session intervention for college students, integrated with DePrince and Shirks (2013) approach to mindfulness-based intervention with adolescents. The major modifications included adapting Marx et al.’s content on risk detection for teens, using mindfulness-based exercises to teach about the role that attention plays in risk detection (e.g., attention to one’s own internal as well as external cues to potential danger). Mindfulness-based

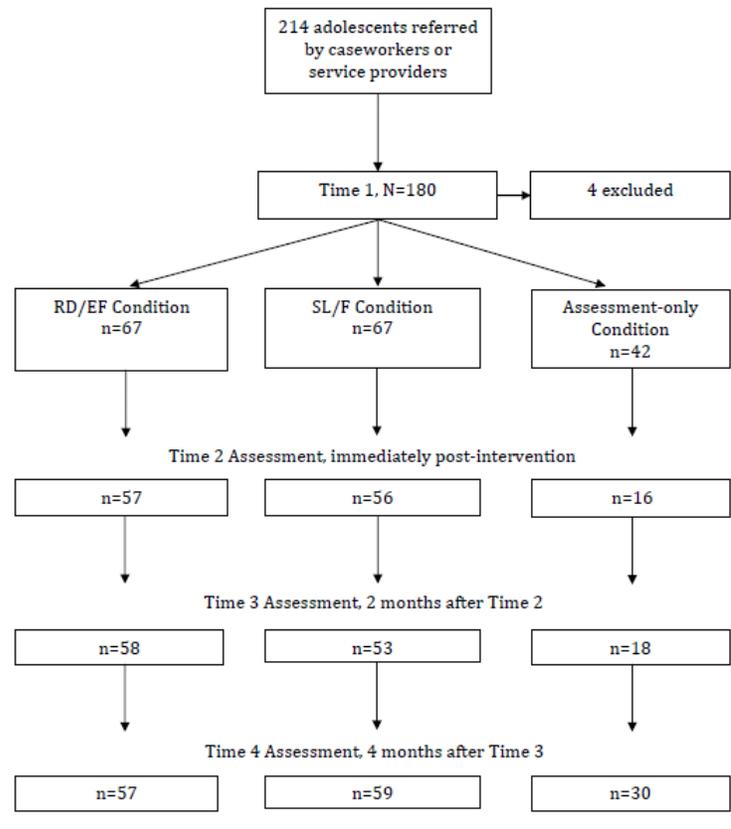


Figure 1. Participant Flow through Study

exercises were adapted from a 12-session, mindfulness-based intervention for depression used by DePrince and Shirk (2013).

The respective SL/F and RD/EF manuals contain detailed session themes (summarized in Table 4) and content to be covered by two co-facilitators. The co-facilitators were graduate-level trainees; in addition, APD and ATC each served as co-facilitators for three cohorts of the RD/EF and SL/F interventions respectively. Group facilitators received weekly supervision with APD or SRS/ATC for the RD/EF and SL/F interventions respectively.

Table 4.  
Overview of intervention session themes.

Session	SL/F	RD/EF
1	Introduction to Group (meeting other group members, establishing group rules)	Introduction to Group (meeting other group members, establishing group rules)
2	Power in Relationships: Explosions and Assertions	Consequences of violence/abuse: Going on auto-pilot
3	Defining Relationship Violence: Power Abuses	What is violence and aggression?
4	Defining Power in Relationships: Equality, Empathy, and Emotional Expressiveness	Getting on active pilot: Noticing the world around us
5	Defining Powerful Relationships: Assertiveness Instead of Aggressiveness	Getting on active pilot: Noticing our bodies and physical sensations as guides
6	Date Rape: Being Clear, Being Safe, and Learning How to Handle Dating Pressure	Getting on active pilot: Noticing our thoughts as guides
7	Gender Socialization and Societal Pressure	Getting on active pilot: Noticing our reactions as guides
8	Choosing Partners and Sex Role Stereotypes	Active pilot in dating situations: What is risky?
9	Sexism and the Influence of the Media	Responding to risk: Figuring out what to do
10	Confronting Sexism and Violence against Women and Identifying Community Helpers for Relationship Violence	Responding to risk: Knowing what to do and asserting what I want
11	Taking Action: Using What You've Learned to Support Others	Responding to risk: Knowing where to get help
12	End of Group Celebration	End of Group Celebration

A checklist was developed to assess fidelity to the intervention curricula. Examples of specific items assessed in the fidelity checklist are detailed in Table 5.

Table 5.  
Examples of specific items assessed in fidelity checklist.

Session	Social learning/feminist	Risk detection/EF
1	Introduction to Group <ul style="list-style-type: none"> <li>• Outlined purpose of group</li> <li>• Discussed logistics</li> <li>• Ice-breaker</li> <li>• Past group experiences</li> <li>• Group agreement</li> </ul>	Introduction to Group <ul style="list-style-type: none"> <li>• Outlined purpose of group</li> <li>• Discussed logistics</li> <li>• Ice-breaker</li> <li>• Past group experiences</li> <li>• Group agreement</li> </ul>
2	Power in Relationships: Explosions and	Consequences of violence/abuse: Going on

	<p>Assertions</p> <ul style="list-style-type: none"> <li>• Elements of power</li> <li>• Power relationships</li> <li>• Anger and connection to power</li> <li>• Choices and responsibility</li> <li>• Assertiveness</li> </ul>	<p>auto-pilot</p> <ul style="list-style-type: none"> <li>• Autopilot</li> <li>• Connection from violence to autopilot</li> <li>• Connection from attention and autopilot to safety</li> <li>• Mindfulness</li> <li>• Seeing exercise</li> </ul>
3	<p>Defining Relationship Violence: Power Abuses</p> <ul style="list-style-type: none"> <li>• Video and discussion on dating violence</li> <li>• Video and discussion on myths and facts about violence against women</li> <li>• Personal rights</li> </ul>	<p>What is violence and aggression?</p> <ul style="list-style-type: none"> <li>• Mindfulness exercise</li> <li>• Facts about violence against women</li> <li>• Personal rights</li> <li>• Connection from personal rights to attention</li> </ul>
4	<p>Defining Power in Relationships: Equality, Empathy, and Emotional Expressiveness</p> <ul style="list-style-type: none"> <li>• Define healthy relationships</li> <li>• Attending skills/exercise</li> <li>• Empathy skills/exercise</li> <li>• Identifying emotions</li> </ul>	<p>Getting on active pilot: Noticing the world around us</p> <ul style="list-style-type: none"> <li>• Describing versus judging</li> <li>• Connection from noticing to safety</li> <li>• Making sense of emotions in other people</li> <li>• Importance of noticing people and environment cues</li> </ul>
5	<p>Defining Powerful Relationships: Assertiveness Instead of Aggressiveness</p> <ul style="list-style-type: none"> <li>• Video/discussion on gender stereotypes and violence</li> <li>• Video/discussion on speaking out against domestic violence</li> <li>• DESC script and exercise</li> </ul>	<p>Getting on active pilot: Noticing our bodies and physical sensations as guides</p> <ul style="list-style-type: none"> <li>• Connection from noticing own bodily signals to safety</li> <li>• Mindfulness of breathing exercise</li> <li>• Sounds/music exercise</li> <li>• Clues about safety in relationships from own bodies</li> <li>• Strategies for paying attention to clues from own body in relationships</li> </ul>
6	<p>Date Rape: Being Clear, Being Safe, and Learning How to Handle Dating Pressure</p> <ul style="list-style-type: none"> <li>• Video and discussion of safety in dating situations</li> <li>• Video and discussion of safety in social situations</li> <li>• Defining sexual assault</li> <li>• Sexual assault myths and facts</li> <li>• Victim blaming</li> <li>• Vignette and discussion on potential assault situation</li> </ul>	<p>Getting on active pilot: Noticing our thoughts as guides</p> <ul style="list-style-type: none"> <li>• Negative Automatic Thoughts (NATs)</li> <li>• Focusing on past or future at expense of present</li> <li>• What we think affects how we feel and what we do</li> <li>• Personal experiences of automatic thoughts</li> <li>• NATs common in people who have experienced abuse or violence</li> </ul>
7	<p>Gender Socialization and Societal Pressure</p> <ul style="list-style-type: none"> <li>• Vignettes and discussion on power and communication in relationships</li> <li>• Positive feedback to group members</li> </ul>	<p>Getting on active pilot: Noticing our reactions as guides</p> <ul style="list-style-type: none"> <li>• Body, thought, and action signals</li> <li>• Complexity of multiple emotions</li> <li>• Tips for noticing emotions, body/action/thought signals</li> <li>• What to do when noticing emotions</li> </ul>

		<ul style="list-style-type: none"> <li>Practice observing mind, body, and heart during tough situations</li> </ul>
8	<p>Choosing Partners and Sex Role Stereotypes</p> <ul style="list-style-type: none"> <li>Video and discussion on gender roles in media</li> <li>Video and discussion on objectification of women</li> <li>Qualities to look for in best friend, dating partner, spouse</li> </ul>	<p>Active pilot in dating situations: What is risky?</p> <ul style="list-style-type: none"> <li>Risk factors in situations</li> <li>Warning signs for violent partners</li> <li>Situational and personal warning signs</li> <li>Practice in noticing risk</li> </ul>
9	<p>Sexism and the Influence of the Media</p> <ul style="list-style-type: none"> <li>Videos and discussion on images of women in advertising</li> <li>Vignettes and discussion on gender roles</li> <li>Discussion on sexism and the media, gender role stereotypes</li> </ul>	<p>Responding to risk: Figuring out what to do</p> <ul style="list-style-type: none"> <li>Five steps to recognize and respond to problems</li> <li>Step 1: notice problem</li> <li>Step 2: describe problem</li> <li>Step 3: generate alternative solutions</li> <li>Step 4: make a decision</li> <li>Step 5: take action</li> <li>Practice skills with hypothetical situations</li> </ul>
10	<p>Confronting Sexism and Violence against Women and Identifying Community Helpers for Relationship Violence</p> <ul style="list-style-type: none"> <li>Vignettes and discussion on peer pressure</li> <li>Continued discussion of qualities in best friend, dating partner, spouse</li> <li>Vignettes and discussion using problem scenarios</li> <li>Introduce final project</li> </ul>	<p>Responding to risk: Knowing what to do and asserting what I want</p> <ul style="list-style-type: none"> <li>Define assertiveness</li> <li>Connection from assertiveness to being mindful/active pilot</li> <li>How to be assertive skillfully</li> <li>Assertiveness stories</li> </ul>
11	<p>Taking Action: Using What You've Learned to Support Others</p> <ul style="list-style-type: none"> <li>Talk about the ways that teens can use what they've learned to support others</li> <li>Work on final project</li> </ul>	<p>Responding to risk: Knowing where to get help</p> <ul style="list-style-type: none"> <li>Who to talk to if needing help</li> <li>What to say when asking for help</li> <li>Tips learned from previous discussion of asking for help</li> </ul>
12	<p>End of Group Celebration</p> <ul style="list-style-type: none"> <li>Present final project to group</li> <li>Celebration and goodbye</li> </ul>	<p>End of Group Celebration</p> <ul style="list-style-type: none"> <li>Review tips from previous session</li> <li>Practice role plays</li> <li>Plans and goals for healthy relationships</li> <li>Celebration and goodbye</li> </ul>

## Procedure

Adolescents received a flyer about the Healthy Adolescent Relationship Project (HARP) via their caseworker, foster parents, or service providers. For adolescents under age 18 interested in participating in the project, parental or child welfare administrative consent was secured (depending on the custody status of the young woman) prior to contacting the adolescents to invite them to the Time 1 assessment. Adolescents aged 18 and 19 either contacted the research team director or gave permission for their contact information to be given to the research team. Upon receiving referrals, research staff

initiated phone calls to invite potential participants. During the initial phone call, adolescents were told that the project involved four interviews as well as participation in a 12-week healthy relationship class. If adolescents were interested, they were invited to attend the Time 1 (3-hour) assessment.

Participants were greeted by a graduate-level interviewer or the project manager. During the assent/consent process, adolescents were informed in both written and verbal formats about the scope of the study (including that they would be asked about exposure to interpersonal trauma). The interviewer administered an “assent/consent quiz” designed to assess understanding of the assent/consent information during the assent/consent process. Adolescents were considered assented/consented into the study if they answered the quiz questions correctly and provide written assent/consent (depending on their age). Following assent/consent procedures, participants completed the interview. At the end of the session, participants were asked to complete questions to monitor responses to study procedures.

Prevention groups were started on a rolling base, once approximately sixteen teens had completed the Time 1 assessment. Each intervention session lasted approximately one and a half hours; 12 sessions were implemented weekly. Teens received \$10 after each group session to help cover transportation costs. To encourage attendance, teens were also entered into a raffle drawing once they have attended 9 sessions. For each additional session after 9 sessions they received one additional raffle entry. After the cohort completed the 12-week prevention group protocol, a drawing was conducted for one winner of a \$50 gift card or an iPod shuffle.

After the 12-week curriculum was implemented, participants were invited back for three additional 2-hour assessments: immediately post-intervention group, 2- and 6-months after the intervention group. Notably, adolescents who did not attend the intervention were also invited back to the three follow-up interviews. The post- group assessment occurred as close to the last intervention meeting as possible. Pre-, post-, 2-month, and 6-month assessments were all administered one-on-one by graduate level research staff who were blind to randomization condition. At the end of each interview, teens were compensated \$40 for their time and \$10 to help cover transportation costs. At the end of the Time 1 interview, teens were offered a newsletter that provided referrals to community agencies dealing with health and violence issues.

## Materials

Demographic information about each participant was collected (e.g., out-of-home placement history, education, perceived socio-economic status).

**Trauma Exposure, Dating Violence, and Revictimization.** At Time 1, the Traumatic Events Screening Inventory-Child version (TESI; National Center for PTSD/Dartmouth Child Trauma Research Group, 1996) was used to characterize previous trauma exposure in this sample. The TESI is a 24-item scale that uses behaviorally-defined items to assess exposure to a variety of events. Internal consistency for the measure is quite good (Ford et al., 2000; Davis et al., 2000). We used select items to assess for history of interpersonal victimizations including physical abuse, emotional abuse, exposure to domestic violence, sexual abuse, and neglect. To characterize the sample’s trauma exposure, details for the first, most recent, and most stressful episode over the participant’s lifetime for each category of events were assessed at Time 1. Details surrounding the incidents included perpetrator relationship and frequency of violence exposure. At each follow-up time point, the TESI was re-administered to assess for the occurrence of traumatic events since the previous interview.

Dating violence as assessed using the Conflict in Adolescent Dating Relationship Inventory (CADRI; Wolfe, et al., 2001), a 70-item measure that assesses the frequency with which conflict tactics are used with dating partners. Items for each subscale were administered twice at each time point: once to assess the dating partner's behavior and once to assess the participant's behavior. Participants were instructed to think about their current or most recent relationship when responding to the CADRI.

The presence/absence of revictimization at follow-up interviews (Time 2, 3, and 4) was calculated using a combination of data from the TESI and CADRI, as the CADRI was specific to current dating relationships while the TESI asked participants to report on victimization exposures more generally. Physical revictimization was considered present at a follow up time point if adolescents reported a physical victimization on the TESI (by someone other than a caregiver/close family member to exclude maltreatment) or reported on the CADRI the occurrence of at least one of the following behaviors from their dating partners: kicking, hitting, punching, slapping, shoving, shaking, or pushing. Sexual revictimization was considered present at a follow-up time point if participants reported a sexual victimization on the TESI (by someone other than a caregiver/close family member to exclude maltreatment) or reported on the CADRI the occurrence of at least one of the following behaviors from their dating partners: threatening sex, forcing sex, or unwanted sexual touching.

In addition to looking at the presence/absence of revictimization, the CADRI gave us the opportunity to look at aggressive conflict tactics used during conflict in current dating relationships as a continuous measure. The CADRI has 5 abuse subscales: physical aggression, relational aggression, sexual aggression, verbal aggression, and threats along with one positive subscale of conflict resolution behaviors. We combined the relational aggression, verbal aggression, and threats subscales into an emotional aggression scale to increase internal reliability and minimize statistical tests run (e.g., we did not have reason to predict different things about these forms of aggression). When the CADRI was scored continuously by averaging subscale times, coefficient alphas for female physical aggression ranged from 0.64 to 0.85 across time points; for emotional aggression ranged from 0.80 to 0.89; and for sexual aggression ranged from 0.16 to 0.36. Across time points, coefficient alphas for partner physical aggression ranged from .59 to .88; for emotional aggression ranged from 0.85 to 0.88; and for sexual aggression ranged from 0.33 to 0.62. The relatively low alphas for sexual aggression likely reflect the low level of endorsement of these items. Despite the low alphas, we report on analyses with the continuous sexual aggression scales given the importance of this form of aggression, though results should be interpreted cautiously.

**Knowledge and Beliefs. Acceptability of dating violence.** We adapted a vignette task created by Cauffman, Feldman, Jensen, and Arnett (2000) to assess teens' understanding of dating violence. In this task, teens were presented with a vignette that described a couple and an instance of violence. For example, "Paul (age 17) has been going out with his girlfriend for 4 months. One evening while hanging out together, Paul hit her and gave her a bloody nose." Teens then read a list of 17 explanations for the event and were asked to rate the acceptability of Paul's behavior in each instance (e.g., if Paul: was an aggressive person; was just being playful and it went too far; felt she was treating him badly). Teens rated each item on a scale of 1 (totally unacceptable) to 4 (totally acceptable). Coefficient alphas for this sample ranged from 0.71 to 0.87 across the four time points.

**Knowledge about gender roles and sexism.** The Ambivalent Sexism Inventory (ASI; Glick & Fiske, 2001) is a 22-item self-report measure that assesses two types of sexism: hostile (e.g., most women fail to appreciate all that men do for them) and benevolent (e.g., a good woman ought to be set on a

pedestal by her man). Participants indicated how much they agreed or disagreed with each statement on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree). The ASI has good psychometric properties and has been used with adolescents (e.g., Fernandez, Castro, & Torrejon, 2001). Across the four time points, coefficient alphas for this sample ranged from 0.59 to 0.68 for the benevolent subscale and 0.61 to 0.75 for the hostile subscale across the four time points.

**Relationship expectancies.** A lexical decision making task was administered to assess relationship expectancies (DePrince, Combs, & Shanahan, 2009). Participants were presented with two words at a time on a laptop. For each pair of words presented, teens were asked to make key presses to indicate if the words were real- (e.g., house) or non- (e.g., dorb) words. For each trial, a fixation cross appeared in the center of the screen for 400 milliseconds (ms). After a 150 ms inter-trial interval, two words appeared in the center of the screen. Word pairs remained on the screen until participants made a response, for a maximum of 5000 ms. Three types of words were presented: neutral, harm, and relationship. Eight combinations of words were used to calculate a priming score (Relationship-Harm) as described by Zurbriggen (2000) and DePrince et al. (2009).

**Knowledge about potential responses to danger.** Teens read vignettes adapted from the Salt Lake City Teen Dating Violence Toolbox. These vignettes described different types and degrees of violence in dating relationships. At each assessment, teens read 3 different vignettes (teens saw 12 different vignettes over the course of the four assessments; the order was randomized for each participant). Teens were then asked: 1) “what cues did you see that could make this a dangerous or unsafe situation?”, 2) “what are all of the possible ways the girl in the situation could respond?”, and 3) “what are some of the potential costs for the ways you said the girl could respond?” The total number of unique responses that participants identified for question 2 was tallied to demonstrate knowledge about identifying and responding to dangerous situations (that is, coders ensured that duplicative or nonsensical responses were not included in the tally). Teens’ responses were categorized into helpful responses and unhelpful responses. Two coders independently tallied all responses; a third coder resolved any discrepancies between the two initial coders.

**Belief in capacity for social action.** The Sociopolitical Control Scale (SPCS; Zimmerman & Zahniser, 1991), measures the capacity for individuals to act in their communities. SPCS items load onto 2 factors: Leadership Competence and Policy Control. We adapted items to make them directly relevant to RV. For example, “People like me are generally well qualified to participate in the activity and decision making about violence against women in our community.” The SPCS has 17 items and uses a six-point Likert scale. The SPCS has good psychometric properties (Zimmerman & Zahniser, 1991). The total score for the SPCS items was used for current analyses; coefficient alphas in this sample ranged from 0.83 to 0.87 across the four time points.

**Skills and abilities. Healthy relationship and assertiveness skills.** The Adolescent Interpersonal Competence Questionnaire (AICQ; Buhrmester, 1990) was used to assess healthy relationship skills and attitudes across four competence domains: 1.) dating relationships; 2.) providing emotional support to friends; 3.) management of conflicts; and 4.) assertion. Participants rated on a Likert scale “how good they are at the following things” described by each item from 1 (Poor at This) to 5 (Extremely Good at This). This measure has been used extensively (including by Wolfe et al., 2003) and has excellent psychometric properties (Buhrmester, 1990). Coefficient alphas across the four competence domains for this sample ranged from 0.81 to 0.89 across the four time points. The total score for the AICQ items was used for current analyses; coefficient alphas in this sample ranged from 0.93 to 0.95 across all time points.

Replicating Wills, Baker, and Botvin (1989), we administered a modified version of the Assertion Inventory (AI; Gambrill and Richey, 1975) that assessed the likelihood of engaging in assertive behaviors across three domains: substance use, general, and social situations. Wills and colleagues' modified measure had excellent psychometric properties in a sample of ethnically diverse teens (Epstein, Griffin, & Botvin, 2000). Teens were asked to indicate "how often you generally do the things listed" from 1 (never) to 5 (always). The total score was used for current analyses; coefficient alphas for this sample ranged from 0.76 to 0.83 across the four time points.

Communication skills. The Communication Skills Test (CST; Saiz & Jenkins, 1996) describes both negative and positive communication patterns. Teens were asked to indicate how often they engage in these patterns using a 7-point Likert scale. The CST has been used in couple's communication research and demonstrates good reliability and validity (Stanley et al. 2001; 2005). In the interests of time, we shortened the original 32-item measure to 15 items. Due to low coefficient alphas for the positive communication subscale, we used only the negative communication subscale for current analyses. For the negative communication subscale, coefficient alphas for this sample ranged from .80 to .83 across the four time points.

Risk detection. Risk detection was assessed using a Wason Selection Task (WST; see DePrince, 2005) in which participants were asked to detect violations of social and safety rules in dating situations. Participants were presented with if-then rules (e.g., If I tell my partner to stop touching me, then he should stop). They were asked to identify when this rule was violated using 4 cards. The number of errors identified was tallied. Twelve rules were randomized over the four time points so that participants responded to three rules at each time point. This task has been used to assess risk detection with both youth and young adults (DePrince et al., 2009; DePrince, 2005). In addition, teens were asked to label danger cues in the 3 vignettes they read at each time point (a total of 12 different vignettes over the course of four assessments), as adapted from the Salt Lake City Teen Dating Violence Toolbox. Teens' responses to question 1 from the vignettes were tallied to determine the total number of danger cues participants identified. All danger cues were tallied independently by two coders; a third coder resolved any discrepancies between the two initial coders. Because the number of cues differed across vignettes, a proportion score was calculated for each vignette by dividing the number of danger cues the participants identified by the number of total possible danger cues. Thus three proportion scores were calculated for the three vignettes at each time point. The average proportion score across the three vignettes was used in analyses.

Emotion Awareness and Emotion Impulse Control. Emotion awareness was assessed using the Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004), a 36-item measure designed to assess multiple aspects of emotion regulation, including: non-acceptance of emotional responses; difficulties engaging in goal directed behaviors; impulse control difficulties; lack of emotional awareness; limited access to emotion regulation strategies; lack of emotional clarity. Participants indicated how often each item occurs for them on a scale of 0 (Almost Never) to 5 (Almost Always) at pre-, post-intervention, and follow-ups. The lack of emotional awareness subscale from the DERS was used to assess emotion awareness while the impulse control difficulties subscale was used to assess executive functioning. Coefficient alphas for these two subscales from this sample ranged from 0.82 to 0.88 across the four time points.

Executive Function. Several domains of EF were assessed using behavioral measures, such as set shifting; interference control; working memory. These specific domains were selected based on the

dimensions we expect mindfulness training to affect based on past research and theory (e.g., Siegel, Ginassi, & Thase, in press; Davidson et al., 2003). Alternate versions of the tasks were used at each time point to minimize practice effects. A single, modified Stroop task assessed both interference control and set shifting. To assess interference control, participants were asked to name the colors in which words were presented on the computer screen while ignoring the word meaning in an emotional Stroop task. For some trials, the color was incongruent with the word meaning (e.g. the word “red” appears in green). Trial types and stimuli were replicated from Moradi, Taghavi, Doost, Yule and Dalgleish (1999): incongruent (color words) neutral, happy, negative, general threat-related, and trauma-related. Response times were used to calculate Stroop interference (subtracting baseline reaction time from incongruent reaction time). To assess set-shifting, a follow-up block required participants to switch between naming the colors and reading the words, dependent on whether the word appears in a box or not. This task is adapted from Delis and colleagues (2001) and was administered pre-treatment, post-treatment, and at follow-ups. The total number of errors made in the set shifting task was tallied. The Sentence Span Task (SST; adapted by Siegel & Ryan, 1989) was also used. In the SST, participants were asked to provide the last word for a set of simple sentences (e.g., “I throw the ball up and it comes \_\_\_\_\_”). After a group of sentences were presented (the number in each group increases as the task proceeds), the teen must list the words she generated for all sentences in the group, in order. The task requires processing of new verbal information while storing words for later recall (Willcutt et al., 2001). The number of words correctly recalled was tallied; different sentences were used at each administration to minimize practice effects.

To assess for inattention symptoms participants completed 11 of the 18 items of the Adult ADHD Self-Report Scale (ASRS; Kessler et al., 2005), a self-report measure based on DSM-IV criteria for Attention Deficit Hyperactivity Disorder. Participants indicated how frequently they experienced each item related to inattention symptoms on a scale of 0 (never) to 4 (very often) during the last 6 months. The measure has good psychometric properties (Kessler et al., 2005). Coefficient alphas for this sample ranged from 0.80 to 0.88 across the four time points.

**Other relevant factors.** Alcohol and drug use. At each time point, we assessed the frequency and quantity of teens’ drug and alcohol use in dating situations over the previous month.

Psychological symptoms. The Trauma Symptom Checklist for Children (TSCC; Briere, 1996) assesses symptoms commonly associated with the experience of traumatic events across various domains. Participants in this study responded to items corresponding to anger, anxiety, dissociation, and posttraumatic stress symptoms. Participants indicated how frequently they experience each item on a scale of 0 (never) to 3 (often). Each of the TSCC subscales is scored by summing responses, and has good psychometric properties (Briere, 1996). The total TSCC score was used for current analyses; coefficient alphas for this sample was 0.95 for each time point.

Depression symptoms were assessed with the Beck Depression Inventory – 2 (BDI-II; Beck, Steer, Ball, Ranieri, 1996). The BDI is among the most widely used self-report measures of depression that assesses symptoms based on DSM-IV criteria. Participants indicated how often they experienced each of the 21-items in the past 2 weeks on a scale from 0 to 3: zero indicative of no symptoms for that item, and 3 indicative of severe symptoms. Items are summed to create a total depression score. Coefficient alphas for this sample ranged from 0.84 to 0.90 across the four time points.

Social Desirability. The Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960) was administered at the second interview to control for social desirability tendencies. Social desirability is

the tendency some participants may have to respond to questions in a particular way in order to project favorable images of themselves during social interactions with the research interviewer. Participants responded either “True” or “False” to 11 of the measure’s 33 items, as each item pertains to them personally. The items of the Marlowe-Crowne Social Desirability Scale describe both: a) behaviors that are socially unacceptable but probable and b) behaviors that are socially acceptable but improbable. The measure has excellent psychometric properties (Crowne & Marlowe, 1960).

**Alliance and Group Process.** Adolescent alliance with clinicians is both an important predictor of treatment efficacy (Shirk, Gudmundsen, Kaplinski, & McMakin, 2008) and a challenge for maltreated youth (Eltz, Shirk, & Sarlin, 1995). To assess alliance, we administered the Therapeutic Alliance Scale for Adolescents (TASA; Shirk, 2003), a 12-item self-report measure, at the end of Meetings 2, 6, 10, and 12. Adolescents were asked to rate their perceptions of 1.) their bond with the group leaders (e.g., I can count on my group leaders) and 2.) the level of collaboration with the group’s leaders (e.g., My group leaders and I have figured out a good way to work on my feelings) on a 4-point scale. The measure has excellent psychometric properties (Shirk, 2003). Alphas for this sample across sessions ranged from 0.40 to 0.77 for the bonding subscale (6 items) and from 0.65 to 0.77 for the collaboration subscale (6 items).

To assess group processes, we administered the Intervention Group Environment Scale (IGES; Wilson et al., 2008) at Meetings 2, 6, 10, and 12. This 25-item measure comprises three subscales: 1.) implementation and preparedness (sample items: leaders provide direction; activities carefully planned; group members prepared); 2.) counterproductive activity (sample items: tension between members; atmosphere hostile); and 3.) cohesion (sample items: members feel sense of belongingness; members show they care; friendly atmosphere). The IGES has good psychometric properties (Wilson et al., 2008). Notably, the IGES was developed and tested with a group intervention for trauma-exposed clients, making it particularly suitable for use in the proposed project. We administered this measure at sessions 2, 6, 10, and 12. Alphas for this sample across sessions ranged from 0.90 to 0.96 for the preparedness subscale (8 items), from 0.92 to 0.95 for the counterproductive activity subscale (11 items), and from 0.88 to 0.94 for the cohesion subscale (6 items).

## Results

### Participant Demographics

The ages of the 180 adolescent girls ranged from 12-19, with a mean age of 15.85 ( $SD=1.58$ ). Of the 152 teens that indicated their race, 36% were White/Caucasian, 36% were Black/African-American, 7% were American Indian/Native Alaskan/Native American, 3% were Asian/Asian-American, and 18% classified their race as ‘Other’. Additionally, of 178 teens who identified their ethnicity, 38% identified as Hispanic/ Latina, 59% as Not Hispanic/ Latina, and 3% declined to answer. In terms of sexual orientation, 77% of teens identified as Heterosexual/ Straight, 18% as Bisexual/ Pansexual, 4% as Not sure, 3% as Lesbian/ Gay, 1% as Other, and 1% as Asexual. The majority of teens (89%) were currently in middle school, high school or completing GED coursework at Time 1. Roughly 2% of teens were in the 6<sup>th</sup> or 7<sup>th</sup> grade, 10% in the 8<sup>th</sup> grade, 15% in the 9<sup>th</sup> grade, 17% in the 10<sup>th</sup> grade, 19% in the 11 grade, 16% in the 12<sup>th</sup> grade, and 10% currently doing GED coursework. Median grade reported for the last school grade completed was 9<sup>th</sup> grade. We asked teens to describe all of the schools they had attended. Approximately 81% of teens reported having attended public school at some point in their lives. In addition, 29% reported attending alternative school, 19% school at a residential treatment center, 16% school at day treatment, 16% online school, 11% GED courses, 9% Private school, 6% other school settings, 6% home school, 2% vocational training, 2% college, and 1% job corps. At the time of the T1

interview, 6% of teens were not attending school of any type. Teens reported their current place of residence as follows: 27% were with their biological/natural family, 23% were in a foster home, 17% were in a group home, 12% were in a residential treatment facility, 4% were in an independent living program, 6% were with relatives, 3% were on their own, 3% were with an adoptive family, and 4% declined to answer.

## History of Exposure to Violence

**History of Maltreatment: Victimization by Adult Perpetrators.** Teens reported histories of extensive trauma and violence exposure. According to coding from the trauma interview administered at T1, participants reported the following forms of maltreatment by an adult perpetrator: 37% of teens reported physical abuse; 40% reported sexual abuse; 69% reported witnessing domestic violence; 35% reported emotional/psychological abuse; and 43% reported neglect. Regarding those experiences of maltreatment (i.e. victimization by an adult perpetrator), the median age of onset for participants was 5.00 years and the mean age of onset was 5.56 years ( $SD = 4.39$ ). The average number of adult perpetrators reported by teens was 2.51 ( $SD = 2.00$ ;  $Median = 2.00$ ).

**History of Child Teen Victimization: Victimization by Peer Perpetrators.** In addition to experiences of maltreatment by adult perpetrators, 63% of teens ( $n=113$ ) reported having experienced additional victimization by peer perpetrators either by peers outside of their family (e.g., schoolmates, dating partners) or by peers within their family (e.g., siblings, cousins).

Victimization by peer dating partners. Twenty-seven percent ( $n=31$ ) of teens who reported perpetration by a peer ( $n=113$ ) reported that the peer was a dating and/or romantic partner. Of those 31 teens reporting dating violence, 71% ( $n=22$ ) reported physical dating violence, 54% ( $n=17$ ) reported emotional/psychological dating violence, and 26% ( $n=8$ ) reported sexual dating violence.

Victimization by peer family members. Fifty percent ( $n=57$ ) of teens who reported perpetration by a peer ( $n=113$ ) reported that the peer was a family member. Of those 57 teens, thirty-nine percent ( $n=22$ ) of teens reported that they had witnessed violence between peers within their family, 33% ( $n=19$ ) of teens reported that the peer family violence was physical, 28% ( $n=16$ ) of teens reported that the peer family violence was emotional/psychological, and finally, 28% ( $n=16$ ) of teens reported that the peer family violence was sexual.

Victimization by peers outside the family and non-dating partners. Fifty-eight percent ( $n=66$ ) of teens who reported perpetration by a peer ( $n=113$ ) reported that the peer was someone outside of their family and dating relationships (e.g., schoolmates, peer nonromantic friends, neighbors, etc.). Of those 66 teens reporting violence by nonromantic peers outside their family, 45% reported that the violence by those peers was emotional/psychological in nature, 47% reported that the violence by those peers was sexual, 32% ( $n=66$ ) reported that the violence by those peers was physical, and 11% ( $n=7$ ) reported witnessing violence between peers outside of their family.

## Equivalence of Groups

Of the 134 participants who attended two or more intervention sessions, 67 were randomized to complete the RD/EF intervention while 67 were randomized to complete the SL/F intervention. As described in the Randomization section, 42 teens did not receive an active intervention and were

analyzed in an assessment-only group. Four teens were excluded from the study after Time 1 due to exclusion criteria (e.g., presence of psychotic symptoms).

See Table 6 for a summary of demographic information provided by participants at Time 1. Note that continuous process and outcome variables by group, including for T1, are reported as mean estimates in later analyses. We initially evaluated equivalence of the adolescents in the three groups (RD/EF, SL/F, assessment only) in terms of basic demographic factors, including age (RD/EF  $M = 15.73$ ,  $SD = 1.65$ ; SL/F  $M = 15.93$ ,  $SD = 1.47$ ; assessment only  $M = 15.83$ ,  $SD = 1.72$ ). In addition to finding no differences in age, participants in the three groups did not report on any demographic factors described in Table 6, with only one exception. We detected a difference in presence/absence of a history of witnessing domestic violence, wherein 85% of the youth in the SL/F group reported witnessing domestic violence relative to 55% in the RD/EF and 67% in the assessment only group ( $\chi^2=14.22$ ,  $p=.001$ ). Given the number of tests we ran comparing the groups and  $\alpha=.05$ , this single difference may be due to chance. For the purposes of evaluating the assessment only group as a non-randomize, post-hoc comparison group, it is important to note that that group was not the outlier. Further, it is important to note that the groups did not differ in presence/absence of other forms of abuse/neglect.

Table 6.  
Demographic Variables assessed in examining group equivalence.  
*Note: Unless otherwise reported to be an average, numbers represent frequencies.*

	RD/ EF (n=67)	SL/F (n=67)	Assessments Only (n=42)
<b>Race</b>			
White/Caucasian	24	17	12
Black/African American	18	23	11
Asian/Asian American	1	2	1
American Indian/Native	6	3	2
Alaskan/Native American			
Other	8	12	7
Decline to Answer	0	0	1
<b>Ethnicity</b>			
Hispanic/Latino	22	27	18
Not Hispanic/Latino	42	37	22
Decline to Answer	3	1	2
Missing Data	0	2	0
<b>Sexual Orientation<sup>a</sup></b>			
Heterosexual/Straight	53	51	32
Lesbian/Gay	0	4	1
Bisexual/Pansexual	12	9	10
Not Sure	3	4	0
Other	1	1	0
<b>Childhood Socioeconomic Status (SES)</b>			
Working Class	20	22	7
Middle Class	32	32	21
Upper Middle Class	5	6	10
Upper Class	1	2	0
Don't Remember	8	5	4
<b>Current SES</b>			

Working Class	4	2	1
Middle Class	21	24	15
Upper Middle Class	9	8	6
Upper Class	2	5	2
Don't Know/Not applicable	25	25	14
Grades in past year			
All A's	3	0	1
Mostly A's	10	4	6
Mostly B's	18	34	14
Mostly C's	23	21	17
Mostly D's	5	1	1
All Failing	7	7	1
Grade Now			
6 <sup>th</sup>	1	0	0
7 <sup>th</sup>	1	0	2
8 <sup>th</sup>	6	7	5
9 <sup>th</sup>	11	14	2
10 <sup>th</sup>	15	11	5
11 <sup>th</sup>	9	12	12
12 <sup>th</sup>	12	10	3
GED	7	6	5
Other	5	6	7
Grade Last Completed			
6 <sup>th</sup>	1	1	2
7 <sup>th</sup>	7	7	5
8 <sup>th</sup>	15	15	7
9 <sup>th</sup>	16	12	6
10 <sup>th</sup>	11	14	13
11 <sup>th</sup>	13	12	5
12 <sup>th</sup>	0	4	2
GED	3	2	1
Other	1	0	1
Current Dating Status			
No/rare dating	25	25	18
Casual dating	15	14	9
Serious relationship	26	28	15
Usual Dating Status			
No/rare dating	17	19	14
Casual dating	23	20	10
Serious relationship	25	28	18
Current Placement			
Biological/Natural family	16	14	16
Foster family	16	16	9
With relatives	5	2	4
Adoptive family	2	3	1
On my own	0	2	3
Group home	7	17	7
Residential treatment center	12	9	1
Independent living program	5	2	1
Missing Data	4	2	0

Average Total Placements	3.69	4.65	4.19
Average Age of First Placement	10.51	10.47	10.74
History of			
Physical abuse	18	29	17
Emotional abuse	24	18	19
Witnessing domestic violence	37	57	28
Sexual abuse	30	26	14
Neglect	25	30	21
Average Past Number of			
Types of school settings attended	2.25	2.18	2.39
Types of services received	.78	.73	.71
Providers	3.37	3.21	2.62
Groups (e.g., alcohol/drug classes)	1.43	1.81	1.36
Previous participation in a class specifically focused on healthy relationships	8	16	7
Pregnant	6	8	8
Have one or more children	6	12	4
Probation officer, current or past	22	19	11
Parole officer, current or past	3	1	0

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<sup>a</sup> Numbers in subcategories may add up to greater than total number of teens in group because teens could pick as many options as apply.

**Propensity score estimation.** For the purposes of this technical report, we provide an overview here of work we did to attempt to use propensity score estimation and analysis to control for any potential pre-treatment differences on covariates between those adolescents who attended treatment in the SL/F or RD/EF groups (referred to here as Treatment) and those adolescents who did not (referred to here as No Treatment), we estimated propensity scores and applied them in analyses. A propensity score is a single number that represents a participant’s score on the observed covariates. It is calculated as the conditional probability of receiving a particular level of the treatment given the observed covariates. To estimate propensity scores, we used a classification and regression tree algorithm because, unlike logistic regression, this approach automatically selects variables for the model and implicitly detects interactions among variables (Luellen, Shadish, & Clark, 2005).

Classification and regression trees are a simple, nonparametric regression approach based on a recursive partitioning algorithm that builds classification and regression trees for predicting continuous dependent variables (regression) and categorical predictor variables (classification). The recursive partitioning algorithm attempts to maximize within-node homogeneity by partitioning/splitting the data into segments that are as homogeneous as possible with respect to the dependent variable (here, Treatment versus No Treatment group membership). Ultimately, the goal of this analysis is to extract homogenous subgroups based on the observed baseline covariates. The result of recursive partitioning is a decision tree where data (cases) are partitioned into nodes (leaves) along branches. Cases that are more similar according to some criteria tend to be localized into the same nodes, while more dissimilar

data tend to occupy different nodes. After the tree is grown (data partitioned), the algorithm can be used predict group membership (Breiman, Friedman, Olshen, & Stone, 1984).

The classification and regression tree algorithm in SPSS 20 decision trees (SPSS, 2011) was employed to calculate the conditional probability of receiving Treatment (SL/F and RD/EF groups) or No Treatment (assessment-only group). Essentially, this approach allowed us to examine which covariates best predict/classify those who participated in an active treatment and those who did not. Types of propensity score analyses include: propensity score matching, stratification on the propensity score, and covariate adjustment with the propensity score (Austin, 2011).

**Regression tree generation.** Table 7 contains the list of covariates observed at baseline that were entered into the analysis to determine their relevance in the prediction. For the generation of the tree, we did not restrict the maximum depth of the tree; however, we restricted parent nodes to a minimum of 10 cases and child nodes to 5 cases to limit over-fitting (see Figure 2 for an illustration of an excerpt of the tree, though the full tree is too large to represent graphically here). This resulted in a tree with depth=4 and 10 nodes. The 10-fold cross validation method estimated risk at .34 ( $SE=.04$ ) indicating that the treatment group assignment (no treatment, active treatment) predicted by the model is wrong for 34% of the cases. So the “risk” of misclassifying a participant using this algorithm was approximately 34%. The resubstitution and leave-one-out method risk estimate was .22. The overall performance of the classification algorithm was 78%; however, the algorithm only correctly classified 4 (9.5%) of 42 individuals who opted not to participate in treatment (No Treatment). The algorithm accurately classified 133 (99.3%) out 134 patients.

Table 7.  
Variables used in propensity analyses.

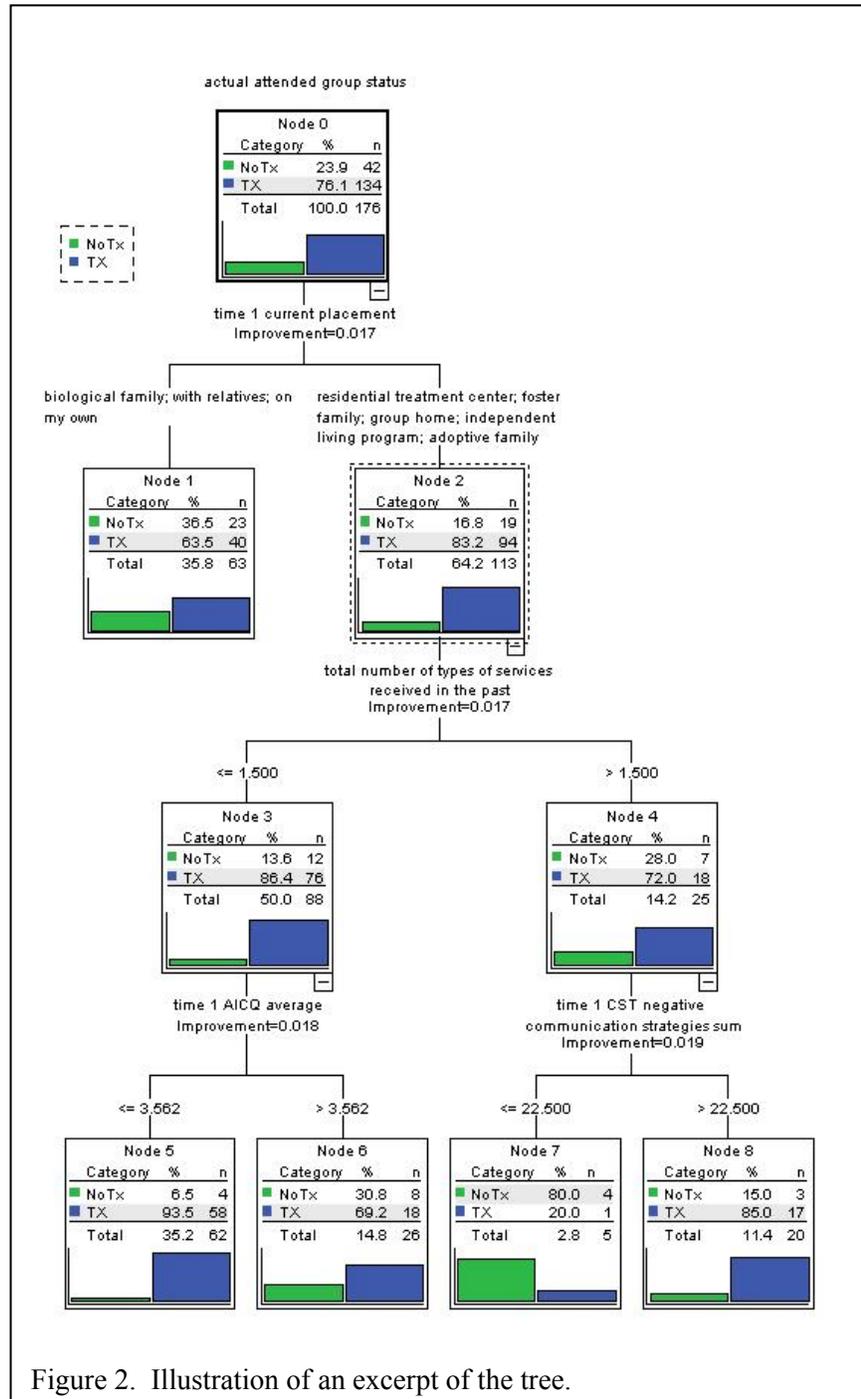
Demographic Factors:	Process Variables:
<ul style="list-style-type: none"> <li>• Ethnicity</li> <li>• Race</li> <li>• Race, minority (yes/no)</li> <li>• Sexual orientation, minority (yes/no)</li> <li>• Number of own children</li> <li>• Age &gt;15</li> <li>• Pregnant</li> <li>• Childhood SES</li> <li>• Current SES</li> <li>• Overall grades in past year</li> <li>• Grade in now</li> <li>• Grade last completed</li> <li>• Current dating status</li> <li>• Usual dating status</li> <li>• Current placement</li> <li>• Physical abuse (yes/no)</li> <li>• Emotional psychological abuse (yes/no)</li> <li>• Witnessing domestic violence (yes/no)</li> <li>• Sexual abuse (yes/no)</li> <li>• Neglect in childhood (yes/no)</li> <li>• Number of types of school settings attended</li> </ul>	<ul style="list-style-type: none"> <li>• Working memory: Sentence Span task</li> <li>• Alcohol use during dating situations</li> <li>• Illegal drugs during dating situations</li> <li>• Risk detection vignette: danger cues</li> <li>• Risk detection vignette: helpful responses</li> <li>• Risk detection vignette: unhelpful responses</li> <li>• Risk detection: Wason task</li> <li>• Interference control: Stroop task</li> <li>• Interference control: Switch errors</li> <li>• Relationship-to-trauma priming</li> <li>• Depression symptoms</li> <li>• Trauma symptoms</li> <li>• ADHD symptoms</li> <li>• CADRI partner physical aggression</li> <li>• CADRI self physical aggression</li> <li>• CADRI partner sexual aggression</li> <li>• CADRI self sexual aggression</li> <li>• CADRI partner emotional aggression</li> <li>• CADRI self emotional aggression</li> <li>• Emotion regulation: impulse control</li> <li>• Emotion regulation: awareness of emotions</li> <li>• Hostile sexism</li> </ul>

- Number of types of services received
- Number of types of service providers seen
- Number of types of groups attended
- Number of placements since removal
- Age of first placement
- Benevolent sexism
- Negative communication strategies
- General relationship skills
- Assertiveness skills
- Acceptability of dating violence
- Belief in capacity for social action

Next we attempted to estimate propensity scores. First, we sought to stratify individuals based

on propensity scores and to assess the overlap in propensity scores across the Treatment and No Treatment groups within strata. As seen in Figures 3 and 4, we identified only 3 strata; and only participants who participated in active treatment were in the fifth percentile. Thus, this model did not have reasonable overlap; therefore, we looked at the effects of pruning the model on overlap in propensity scores. Due to the nature of the data, we could not stratify by quintiles, as indicated for propensity analyses (Atkins, 2011). We considered covariate adjustment instead of using strata; however, the covariate approach has not been thoroughly studied and is strongly *not* recommended in this case because we cannot model the nonlinear effects (Atkins, 2011).

After these steps, we came to the conclusion that propensity estimation and analyses were not appropriate for these data. In retrospect, this conclusion makes sense given that propensity score analyses are typically used in



observational studies with large samples (Rosenbaum & Rubin, 1983). While we did attempt to estimate propensity scores several different ways using CART, results repeatedly indicated that the data were unsuitable for propensity score analysis. For example, we failed to find a reasonable range of propensity scores that overlapped among the Treatment group. We were unable to form the recommended five strata. Finally, our sample size meant that we were unable to do propensity score matching or analyses within strata due to loss of power and unbalanced cells. Overall, these efforts suggest that the groups were relatively homogenous, resulting in a lack of adequate variability to pursue propensity scores. These efforts, combined with the non-significant univariate analyses of baseline characteristics (see Table 6), suggest that there were not meaningful differences between the Treatment (referred to as Assessment-only) and No-Treatment groups (SL/F, RD/EF).

**Assessment of Treatment Adherence**

Intervention groups were audiotaped to check adherence to treatment components using an adherence checklist corresponding to the specific treatment protocols tested. We trained new, independent coders (that is, coders who are not involved in delivering the

two curricula) to reliably check adherence to treatment protocol for each session. 10% of sessions were double-coded to monitor coder reliability; the Kappa = 0.63,  $p < .001$ , indicating that the % agreement between the two coders is substantial (Landis & Koch, 1977). Facilitator adherence to the curricula was

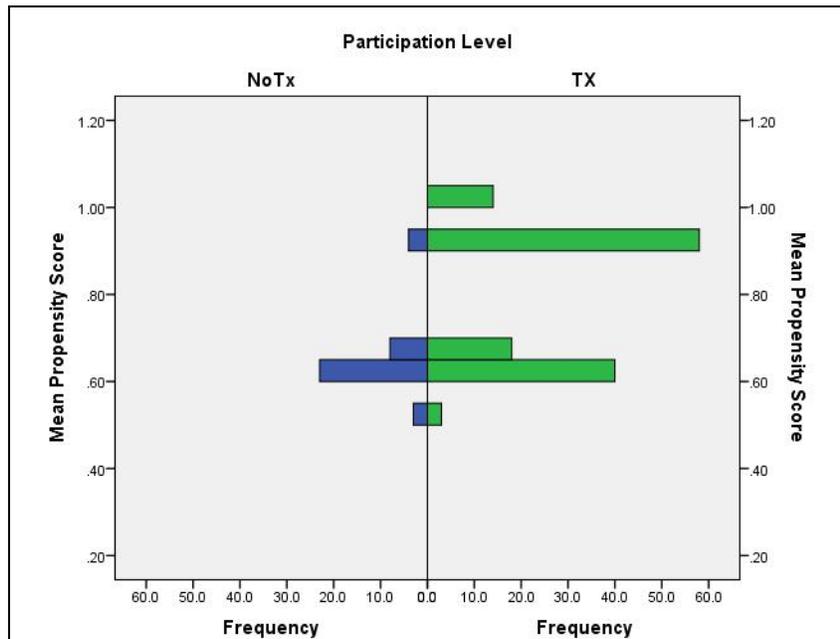


Figure 3. Distribution of propensity score by group for 5-level trees.

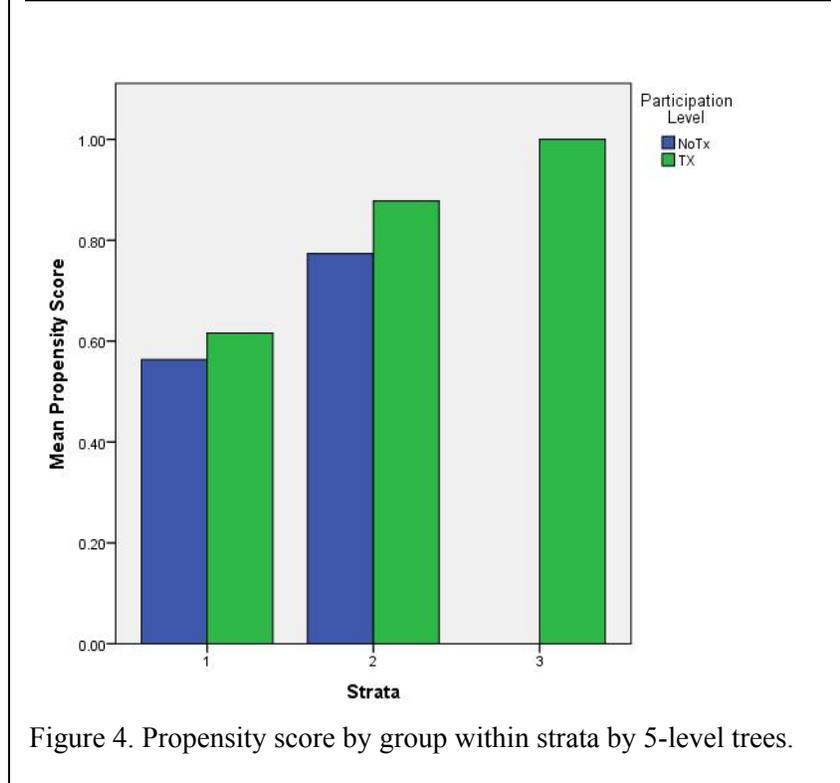


Figure 4. Propensity score by group within strata by 5-level trees.

98.0% and 92.1% for the RD/EF and SL/F prevention conditions respectively, which is excellent. Thus, facilitators in both groups successfully implemented the curricula as planned.

To check whether the curricula covered different concepts (except where there was planned overlap, such as in the case of Session 3 discussion of personal rights in both curricula), we conducted exploratory coding of the two interventions. Two graduate student coders (who were independent of group facilitators) listened to randomly selected sessions. Using the fidelity checklists from the RD/EF group while listening to the SL/F group, the coders assessed for the unintended inclusion of risk detection concepts. They repeated this process using the fidelity checklist from the SL/F group while listening to the RD/EF group. Coding a randomly-selected 10 sessions, we found absolutely no evidence of content overlap.

**Acceptability of Interventions**

We examined three indicators of intervention acceptability, including attendance, alliance with facilitators, and group process. Of the teens who attended two or more sessions of either intervention group, the mean number of sessions attended for the RD/EF intervention (8.70; *SD* = 3.17; 73% of sessions) was comparable to that for the SL/F intervention (8.36; *SD* = 3.60; 70% of sessions). In addition, alliance and group process measures were also comparable across groups (see Table 8). Given the lack of difference between groups in terms of numbers of sessions attended as well as comparable alliance and group process ratings, both interventions appear comparably acceptable to adolescents.

Table 8.  
Least squares mean estimates of alliance and group process by condition.

		RD/EF		SL/F	
		Mean	SE	Mean	SE
Alliance (TASA):	Bond	23.30	.62	29.11	.64
	Collaboration	27.88	.59	27.39	.61
Group Process (IGES):	Cohesiveness	4.17	.08	3.92	.08
	Counterproductive Activity	1.02	.11	3.99	.11
	Preparedness	4.39	.07	4.13	.07

**Cleaning Reaction Time Data**

Data for the lexical decision making task related to relationship expectancies were cleaned in several steps, similar to procedures used in previous studies (i.e., DePrince et al., 2009). First, all trials for which participants made errors were deleted. Second, reaction times of less than 200 ms or greater than 2,000 ms were deleted because of concerns that these were likely to be invalid responses (e.g., anticipatory response before stimuli were actually read or distraction leading to failure to respond in a timely fashion, respectively). Next, data were examined for outliers at the individual participant level prior to calculating means for each condition. Reaction times for individual trials that exceeded 2.5 standard deviations above or below the mean for each participant in each condition were winsorized (that is, brought back to the value of 2.5 *SD* x mean); by this criterion, an average of 0.6% (*SD* = 0.94) of trials were affected per participant for the lexical decision making task. Data for the Stroop task were cleaned in the identical fashion: 1) error trials deleted; 2) reaction times below 200 ms or above 2,000 milliseconds were deleted; 3) reaction times 2.5 *SD* above or below individual participants’ means were deleted and winsorized for each trial type. By this criterion, an average of 5% (*SD* = 5.07) were affected

per participant. For the Stroop Switch task, reaction times for trials were not obtained; all trials were kept and participants' errors were tallied for each trial type for each participant.

**Binary Outcomes**

Reports of revictimization at each time point were anchored to the previous assessments; thus, reports at Time 2 were since baseline, which included the period during which adolescents in the EF/RD and SL/F groups were participating in the curricula. Figure 5 shows the percentage of youth who reported physical and sexual RV, respectively, at Time 2 (immediately following the intervention), Time 3 (2 months following the intervention) and Time 4 (6 months following the intervention).

**Repeated measures logistic regression with binary data.** Linear contrast analysis on estimates derived from a repeated measures general estimating equations

(GEE) approach were used to determine the effects of treatment on sexual and physical revictimization in dating relationships post-treatment (Time 2, 3, and 4). The GEE models the marginal expectation of the dependent variable as a linear function of explanatory variables, while accounting for correlation among repeated observations. In a marginal model the between-subject effect is modeled separately from the within-subject correlation. We transformed regression coefficients to represent the odds for success from a participant assigned to one intervention divided by the odds of success for a subject assigned to a comparison group. Using SAS proc genmod, dichotomous outcomes were regressed onto treatment group (SL/F, RD/EF, assessment-only comparison) and time (end of intervention, 2 months, and 6 months) and group cohort (12 groups, with the first group considered the reference group). Within-subject covariance structure of the repeated measures was modeled and the best fitting error-

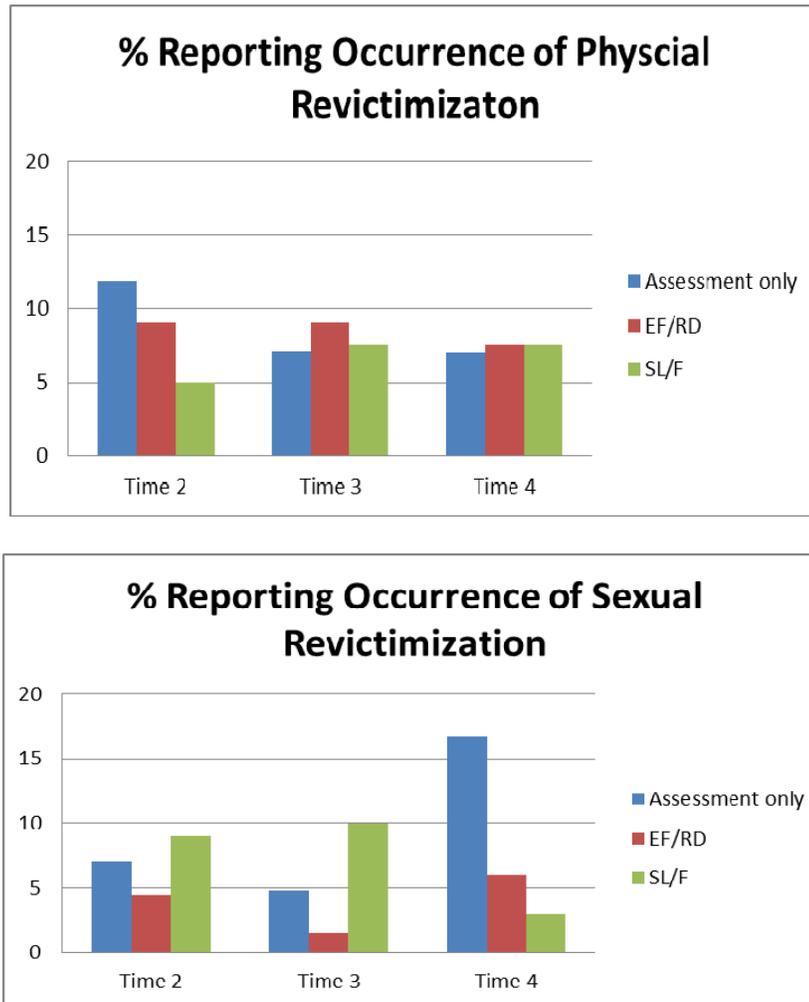


Figure 5. Percent of adolescents reporting physical (top) and sexual (bottom) RV by group and time.

covariance structure that minimized the quasi-likelihood information criteria (QIC) model fit criteria was found to be exchangeable (equality of all correlations). We tested 3 contrasts 1.) SL/F versus assessment-only; 2.) RD/EF versus assessment-only; and 3.) SL/F versus RD/EF.

**Sexual Revictimization.** In two of the 12 cohorts (cohorts 6 and 10), no participants reported sexual revictimization at Time 2, 3 or 4. Due to this quasi-complete separation, which created problems with model convergence, we recoded the group cohort variables to allow for model convergence (Allison, 1999). Specifically, we coded the 2 cohorts as if they participated in cohorts that were held subsequently (i.e., group 7 and group 11). Because no significant cohort effects were found ( $p>.16-.96$ ), this term was dropped from the model. Subsequent analysis of dichotomous revictimization outcomes indicated that between post treatment and 6 month follow up, the odds of *not being* sexually revictimized was 4.9 times greater for girls in the EF/RD group compared to girls in the assessment-only group ( $\chi^2=8.97$   $p=.003$ ). A trend ( $\chi^2=3.52$   $p=.07$ ) revealed that the odds of *not being sexually revictimized* was 2.5 greater for girls in the SL/F group compared to girls in the assessment-only group. No significant differences were observed between the odds ratios of the two active interventions.

**Physical Revictimization.** Cohort was not a significant covariate and was dropped from the model. For physical revictimization, the odds of *not being physically revictimized* between post treatment and 6 month follow-up assessment were 2.5 times greater for girls in the SL/F group compared to the assessment-only group ( $\chi^2=5.31$   $p=.02$ ) and 3.3 times greater in EF/RD group compared to assessment-only group ( $\chi^2=7.34$   $p=.007$ ). No significant differences were observed between the two active treatments ( $\chi^2=.557.34$   $p=.46$ ).

**Continuous Outcomes and Process Variables**

**Repeated measured for general linear mixed models for continuous data.** For continuous outcomes we applied repeated measures general linear mixed model via SAS proc mixed to obtain estimates for the three intervention contrasts specified above. We regressed outcome onto intervention, time, and intervention\*time controlling for group cohort effects. Although we considered modeling cohort as a random effect, the best fitting model according to Akaike information criteria was modeling the repeated observations using an autoregressive one structure.

For most variables, significant effects of time were observed; however, we found no significant interaction effects for time\*group intervention effects. Therefore, linear contrasts were performed on the mean estimates across time. Table 10 provides mean estimates for each variable. Although important to test for potential group cohort effects, this term was dropped from final model estimation if it was not significant.

**Conflict Tactics in Dating Relationships.** Turning next to continuous measures of conflict tactics in dating relationships, statistically significant intervention effects were found for time for all forms of aggression ( $p's <.001$ ), with the exception of own sexual aggression. Cohort was a significant categorical covariate for self-report of own aggression and of partners' sexual aggression, but not self-reports of partners' physical and emotional aggression. Table 9 contains least square mean sand contrast estimates for the conflicts tactics in dating relationships variables.

Table 9.  
Least squares mean estimates of continuous conflict tactics in dating relationships by condition.

	RD/EF <sup>a</sup>	SL/F <sup>b</sup>	Assessment-	F for time
--	--------------------	-------------------	-------------	------------

	Conflict Tactic	only <sup>c</sup>						effect
		Mean	SE	Mean	SE	Mean	SE	
Own Behavior	Sexual	.07	.02	.09	.02	.05	.06	.88
	Physical	.24	.05	.29	.05	.36	.14	17.42
	Emotional	.56	.05	.58	.04	.50	.13	25.75
Partner Behavior	Sexual	.16	.03	.17	.03	.17	.10	13.47
	Physical	.13	.04	.19	.04	.11	.12	15.74
	Emotional	.64	.05	.66	.05	.58	.15	17.41

**Process Variables.** Given the use of self-report measures to assess the theoretically-driven constructs (e.g., acceptability of dating violence), we also measured social desirability at Time 2 ( $F(2,116)=.01, p=.99$ ). The three groups did not differ on social desirability scores; thus, we did not include social desirability as a control variable in further analyses.

Group cohort (GC) was significantly associated with the following variables: use of drugs in dating situations, SST, and WRDT; thus, it was included as a covariate in these analyses. Table 10 provides the least squares mean estimates of process variables by condition across assessment periods. Very few treatment effects were observed on the process variables. For two self-report measures of attention, trends/effects were in the opposite direction of predictions. For DERS Impulse control, RD/EF as compared to the assessment only condition resulted in higher scores ( $t=2.07, p=.04$ ). Trends suggested that the RD/EF and SL/F groups self-reported higher attention problems on the ASRS. In contrast, both RD/EF ( $t=-2.14, p=.03$ ) and SL/F ( $t=-2.32, p=.02$ ) groups had significantly lower (better) scores for Stroop interferences across all assessments relative to the assessment-only comparison group; however, we had predicted changes in this task for the ED/F group only.

Table 10.  
Least squares mean estimates of process variables by condition across assessment periods.

Construct	Measure	RD/EF <sup>a</sup>		SL/F <sup>b</sup>		Assessment-only <sup>c</sup>	
		Mean	SE	Mean	SE	Mean	SE
<b>Knowledge/Beliefs:</b>							
Acceptability of dating violence	ADV	23.12	.50	22.59	.50	23.61	1.51
Sexism	ASI Benevolent	3.17	.05	3.08	.05	3.28	.15
	ASI Hostile	3.04	.05	3.03	.05	3.01	.07
Relationship expectancies	Relationship-to-Trauma Priming	58.41	19.23	44.56	19.44	49.19	62.11
Potential responses to danger	Risk Detection Vignettes (RDV): Helpful Responses	4.94	.15	5.07	.15	5.11	.21
	Unhelpful Responses	.73	.08	.71	.08	.38	.25
Belief in capacity for social action	BCSA	29.92	.59	29.75	.59	31.34	1.81
<b>Skills/Abilities:</b>							
General relationship skills	AICQ	3.24	.06	3.38	.06	3.39	.08
Assertiveness skills	AI	52.39	.80	53.66	.79	52.89	1.07
Communication skills	CST	33.08	1.07	32.22	1.07	33.54	1.43
Detection of danger cues	WRDT	2.80	.18	2.51	.18	1.89	.56
	RDV: Total Cues	.18	.01	.19	.01	.18	.01

		Detected					
Emotion awareness	DERS: Emotion Awareness	18.61	.53	16.74	.53	17.20	.71
Executive function	ASRS	17.11	.68	16.51	.67	16.28	2.04
	SST	1.98	.08	2.02	.08	1.81	.26
	Stroop Interference	-8.88	5.53	-13.45	5.55	-4.86	17.56
	Switch Errors	6.98	.60	7.41	.60	4.04	1.86
	DERS: Impulsivity	13.76	.52	12.26	.53	12.25	.70
<b>Other:</b>							
Substance use	Alcohol use in dating situations	3.29	.25	3.42	.25	2.48	.35
	Drug use in dating situations	3.26	.26	3.44	.25	3.09	.79
Psychological Symptoms	TSCC	29.07	2.02	31.87	2.01	38.65	6.10
	BDI	13.71	.84	14.14	.84	14.32	2.54

Note: ADV=Acceptability of Dating Violence; ASI=Ambivalent Sexism Inventory; BCSA= Sociopolitical Control Scale; AICQ=Adolescent Interpersonal Competence Questionnaire; CST=Communication Skills Test; WRDT=Wason Risk Detection Task; DERS=Difficulties in Emotion Regulation Scale; ASRS:=Adult ADHD Self-Report Scale; SST=Sentence Span Task; TSCC=Trauma Symptom Checklist for Children; BDI=Beck Depression Inventory

\* $p < .05$ ; ^ $p < .10$

**Secondary Analyses: Responses to Research Participation**

We monitored participants’ responses to research participation closely. One of the tools we used for this was the Response to Research Participation Questionnaire (RRPQ; Newman & Kaloupek, 2001, 2004). Three factors (Participation, Personal Benefits, and Global Evaluation) tap positive aspects of the research experience, including perceptions of personal benefits. Specifically, the Personal Benefit scale taps benefits to the individual, such as gaining insight or meaning. Sample items include: I gained insight into my experiences through research participation; I found participating in this study personally meaningful. The Global Evaluation scale taps beliefs about the importance of the research and the integrity of the research process. Sample items include: I was treated with respect and dignity; I trust that my replies will be kept private. The Participation scale taps important global concepts, such as the participants’ perceptions of the value of the trauma-related research and the participants’ beliefs about empowerment to stop the research. Sample items include I like the idea I contributed to science; I felt I could stop participating at any time.

Two factors (Drawbacks and Emotional Reactions) tap negative aspects of the research, including costs and unanticipated, negative emotional reactions. The Drawbacks scale taps regret and negative perceptions about the research procedures. Sample items include: I found participating boring; the study procedures took too long. The Emotional Reactions scale taps unexpected and negative emotions during participation. Sample items include: The research raised emotional issues for me that I had not expected; I was emotional during the research session.

Participants’ responses are reported in Table 11 as average scores on the five factors.

Table 11.  
Mean (SD) scores for subscales on the Response to Research Participation Questionnaire by time.

	Time 1	Time 2	Time 3	Time 4
--	--------	--------	--------	--------

		n = 171		n = 126		n = 123		n = 143	
Subscale		Mean	SD	Mean	SD	Mean	SD	Mean	SD
Positive:	Personal Benefits	3.84	0.66	3.99	0.85	3.93	0.80	4.10	0.69
	Participation	4.29	0.67	4.37	0.72	4.35	0.79	4.44	0.66
	Global Evaluation	4.53	0.53	4.46	0.70	4.47	0.69	4.51	0.61
Negative:	Perceived Drawbacks	1.95	0.59	1.95	0.65	1.92	0.64	1.92	0.69
	Emotional Reactions	2.51	0.87	2.34	1.00	2.20	0.93	2.27	1.00

Note: 1=strongly disagree, 3=neutral, 5= strongly agree.

To assess the perceived costs and benefits of participating in this research, we first compared each subscale mean score to 3, the neutral point on the scale (1=strongly disagree; 5=strongly agree). At all time points scores on the three positive factors (Participation, Personal Benefits, and Global Evaluation) were significantly greater than 3 (neutral point), indicating agreement with statements indicative of positive gains and experiences in the study. Scores on the negative factors (Perceived Drawbacks and Emotional Reactions) were significantly less than 3, indicating disagreement with statements that tap unexpected or negative emotional reactions and inconveniences caused by the study. Next, to assess the perceived benefit-to-cost ratio, we compared the Personal Benefits subscale to the Emotional Reactions and Drawbacks subscales at each time point. Teens rated Personal Benefits as significantly higher than either Emotional Reactions or Drawbacks across all time points. These data demonstrate that the current research assessments took place within a positive benefit-to-cost ratio and that the positive benefit-to-cost ratio was maintained throughout the course of the study.

## Discussion

### Two Approaches to Revictimization Prevention

The current study compared two active interventions designed to decrease revictimization in a diverse sample of adolescent girls in the child welfare system. The interventions targeted theoretically distinct risk factors for revictimization. The SL/F intervention focused on concepts derived from social learning and feminist models of risk, such as sexism and beliefs about relationships. The RD/EF intervention focused on potential disruptions in the ability to detect and respond to risky situations/people due to problems in executive function. A subgroup of youth never attended the intervention or only attended an introductory session (without intervention content), enabling us to compare the active interventions to a post-hoc, assessment-only condition. Importantly, the two randomly-assigned intervention groups and the post-hoc, naturally-occurring comparison group were equivalent on extensive list of demographic characteristics assessed at Time 1 (see Table 6), with the exception of history of exposure to domestic violence (present/absent). The similarities between groups is consistent with older work suggesting that youth who drop out of treatments do make reasonable comparison groups (Weisz et al., 1987), though the field has more recently focused on conservative ITT and relatively newer procedures such as propensity score analyses in clinical trials. We attempted to use propensity score analyses to further evaluate/control for group equivalence, taking into consideration both demographic characteristics as well as scores on all process variables at Time 1. Given the relative homogeneity in the sample (across groups) and small sample size, we were unable to successfully model propensity scores for analysis. Though disappointing to not be able to add propensity scores to our analyses, the relative homogeneity in the sample, which contributed to problems developing

propensity scores, underscores data in Table 6, suggesting the groups were quite reasonably equivalent to one another.

Adolescent girls who participated in the RD/EF condition that focused on risk detection were about 5 times more likely to *not* report sexual revictimization over the course of the study period compared to girls in the assessment-only group, a statistically significant difference. A trend suggested that girls who participated in the SL/F intervention that focused on social learning and feminist principles related to revictimization risk were 2.5 times more likely to *not* report sexual revictimization relative to the comparison group. The two intervention conditions did not differ significantly from one another. For physical revictimization, the odds of not being physically revictimized were 3 times greater in the SL/F condition and 2 times greater in the RD/EF condition compared to the assessment-only group. Interestingly, rates of revictimization for the assessment-only comparison condition were comparable to those observed by Marx et al. (2001), the developers of the risk detection curriculum on which the EF/RD curriculum was based.

The active interventions did not differ from one another in rates of sexual or physical revictimization across the study period, suggesting that practitioners have at different options for curricula to engage youth around revictimization prevention in that both interventions were linked with lower revictimization than the assessment-only comparison group. Further, the current study demonstrates that the longer 18-session 2-hour curriculum developed by Wolfe can be adapted for use in contexts where only shorter intervention durations are possible.

### **Aggression in Dating Relationships**

While the primary goal of the current study was to look at revictimization, we also had the opportunity to examine adolescent girls' ratings of physical, emotion, and sexual aggression in dating relationships using a well-validated, continuous measure of aggression (i.e., CADRI). Participants reported on their partners' as well as their own aggression at each interview. Importantly, given the percentage of youth who identified as something other than heterosexual, we assessed for conflicts with partners generally, not *male* partners specifically. Across the three groups, a significant main effect of time was observed for adolescents' reports of their own physical and emotional aggression as well as their partners' sexual, physical, and emotional aggression. This suggests that assessments may, perhaps, provide some degree of intervention. By becoming more aware of aggression through repeated assessment, youth might be changing their behaviors (e.g., including ending dating relationships with aggressive partners, for example) in ways that decreases aggression. We detected no effects of interventions relative to the comparison group on aggressive tactics broadly were detected only for females' own behaviors.

Together with the revictimization findings, these aggression findings point to at least two important issues. First, how researchers operationalize and assess victimization experiences may matter. When examining the occurrence of physical and sexual revictimization (which included more severe items than many others assessed in aggression by the CADRI and relationships outside the current dating relationship as tapped by the TESI), both interventions were linked with protective benefits for adolescent girls relative to the comparison group. However, when we considered a range of aggressive tactics, including much lower level conflict tactics, girls in the intervention condition reported similar experiences of aggression directed at them by dating partners to those reported by girls in the comparison condition. This suggests that interventions might affect some forms of aggression (in this case, more severe occurrences of physical or sexual revictimization, such as being hit or forced to have

sex) and not others. It may also be that the interventions affected forms of aggression that were seen as outside the norms of adolescent dating behavior (more severe occurrences of victimization). However, other aggressive tactics, such as making a dating partner jealous, may be seen as within normal teen dating behavior; thus, girls did not see a need to alter these tactics. Further, because the CADRI items are yoked to current relationships, some of which may be very short and transitory in nature (Furman & Hand, 2006; Noonan & Charles, 2009; Sherrod, Busch-Rossnagel, & Fisher, 2003), asking about aggression differently, such as yoking items to the most aggressive relationship since the last interview, may have yielded a different picture of changes in aggression. The revictimization scoring included responses from the TESI, thus taking into account revictimization outside the current dating relationship.

Second, that girls did not report changes in their current dating partners' overall aggressive behaviors is consistent with feminist critiques that violence prevention efforts should not be targeted solely at victims of violence, given that only offenders can decide to change their own behaviors (e.g., Banyard, 2011). Indeed, professionals and the public have increasingly called for violence prevention approaches (particularly for sexual violence prevention) that focus on increasing the involvement and capacity of bystanders to influence environments in order to make violence less tolerated. Prevention programs that focus on girls and women as potential victims and boys and men as potential perpetrators have been criticized for many reasons, including victim-blaming of girls/women as well as ignoring boys/men as victims of sexual violence (Banyard, 2011).

### **Assessing Theory-driven Process Variables**

The RD/EF and SL/F interventions were selected because they had distinct theoretical underpinnings for decreasing RV. Guided by the theory driving each of the interventions, we implemented a comprehensive assessment battery that assessed adolescents' knowledge and beliefs as well as skills and abilities. A strength of the study was that the assessment battery included both self-report and behavioral (e.g., risk detection vignettes in which participants had to identify danger cues; a laboratory priming task to assess implicit beliefs about relationships include harm) tasks. However, the behavioral tasks were relatively low in ecological validity (i.e., cognitive laboratory tasks, such as the switch task; identifying risk cues in a verbal vignette). Behavioral measures of other underlying constructs (e.g., assertive communication) should be assessed in future studies (e.g., a dyadic conflict resolution task) to increase sensitivity of measures of the processes theorized to underlie RV risk.

Facilitators showed excellent fidelity to the curricula as coded by independent observers who were not involved in the implementation of the interventions. We randomly selected a small subsample of sessions to code in order to evaluate whether the interventions did, in fact, overlap in content unintentionally. Independent coders found no evidence of overlap in content outside of planned overlap (e.g., discussion of dating violence as unacceptable; discussion of personal rights).

We made a series of specific, directional predictions based on the theory behind the two interventions (see Table 3). Given these theory-driven assessments and predictions as well as the careful fidelity checks for the two theoretically-distinct curricula, we were surprised to find few differences between the three groups across this battery. Thus, we have little in the way of data to inform the mechanisms by which the interventions were linked with lower reports of revictimization and lower levels of girls' own aggressive behaviors relative to the assessment-only comparison group.

Researchers have routinely noted the relative lack of mediators identified in intervention research as compared to primary outcomes (e.g., Breitborde, Srihari, Pollard, Addington, & Woods, 2010; Lubans, Foster, & Biddle, 2008). Though there is increasing interest in exploring the mechanisms – mediators and moderators – through which interventions produce change, most studies to date have focused on the effectiveness and efficacy of intervention programs. Similarly, within the teen dating violence literature, De Grace and Clarke (2012) noted that though there have been several reviews addressing the theoretical foundations and effectiveness of prevention programs, no article to date has offered an overview regarding the change mechanisms associated with these prevention programs. In addition to the importance of future research that seeks to identify mediators, research is also needed to identify for whom each curricula worked (and did not work) best. In addition, the findings from this study point to the urgent need for additional research that will build upon and expand the field's knowledge of efficacious interventions for victimized youth.

### **Engaging High-Risk Adolescents Outside of School-Based Programs**

Data from this study demonstrate that diverse youth who have experienced significant adversity can be successfully engaged outside school settings. Youth in this sample were diverse with regard to ethnicity as well as sexual orientation, with nearly one quarter of the sample identifying with a group other than heterosexual. Youth in the sample also experienced complex maltreatment histories prior to study start as well as significant economic challenges. The fact that we could successfully engage youth in the intervention is particularly important given that many of these youth would not otherwise be reached by traditional school-based dating violence programming. Nearly two-thirds of the adolescent girls in this sample reported having attended school in a setting outside of the traditional public school system, where some of the hallmark dating violence prevention programs have been tested (e.g., Foshee et al., 1998). For instance, 29% of adolescents reported attending alternative school, 19% school at a residential treatment center, and 16% school at day treatment. Thus, this study reached and engaged a high-risk sample of teens not otherwise reflected in the majority of prior revictimization/teen dating violence prevention trials. In future research, it would also be interesting to understand the effectiveness of the two approaches in populations of lower risk and system involvement.

Nearly one-fifth of participants were teen mothers. To facilitate teen mothers' participation in the project, we provided childcare during research interviews and group meetings. Anecdotally, caseworkers reported being relieved to be able to refer teen mothers to the project because of the difficulty finding other services with childcare for these youth. Addressing basic barriers to treatment, such as childcare and transportation, seem key to engaging vulnerable youth in interventions.

As reviewed recently by Vézina and Hébert (2007), the majority of dating violence prevention programs has been implemented as universal prevention programs in schools and targeted *attitudes* regarding the acceptability of violence. While many of these programs have been successful in modifying attitudes, results are mixed in terms of their success in decreasing actual experiences of victimization. To date, we know little about how high-risk groups (such as youth in the child welfare system) might respond to prevention programs, in terms of the applicability of curricula content to these youth as well as the impact on victimization.

Interestingly, our major findings were on revictimization outcomes; with no positive effects of the either intervention on attitude measures. This is in contrast to what Vézina and Hébert (2007) found in their review of universal prevention programs: most positive effects in settings such as schools were on attitudes and not experiences of victimization. For youth facing significant adversity, as in the current

study, prevention messages about the acceptability of violence may get lost in the context of peer groups and family systems that communicate messages favoring and/or condoning violence. Thus, girls living in violence-prone environments may be less amenable to attitude change due, for example, to peer and family pressure to conform. However, youth in the current study may have acquired behavioral skills that did help them to engage in protective behaviors. Our assessment battery may not have included the sorts of behavioral measures that could have picked up on such change.

Engaging this sample of high-risk youth was not without serious challenges, some of which warrant further discussion if we, as a field, are to conduct much-needed research with such samples. First, youth from this high-risk population often move across different systems and institutions that vary in the degree to which research is possible and/or feasible. For example, though youth were initially recruited out of the child welfare system, some also spent time in the juvenile justice system or in high-need settings, such as inpatient facilities. We ran into barriers to conducting research assessments where facilities required staff to be present with youth at all times, as it became insurmountable for us to conduct research interviews in private. However, demonstrating youth engagement in the project overall, we would often hear from youth again when they were out of these facilities and able to complete interviews.

Second, recruitment/enrollment challenges were myriad, ranging from engaging caseworkers in the referral process to obtaining consent from legal guardians (which can range from biological parents or relatives to the counties). Beyond burdens faced by caseworkers that may affect their likelihood of taking the time to refer youth (such as large caseloads and myriad demands on their time), a serious impediment to planning early in the project was our discussion with stakeholders about randomizing youth to a waitlist control group. Understandably, caseworkers and supervisors expressed eagerness to see youth engaged in intervention as part of research, but not if referral might result in another waitlist for 6 months in the context of the already-existing limited services for these youth. Out of such conversations, we elected to randomize youth only to the two active intervention conditions. Though inclusion of an ideal randomized waitlist control comparison condition was not feasible given caseworker/supervisor reluctance, we had an opportunity to capitalize on a naturally-occurring group of youth who stayed engaged with the project for completing the research assessments, but did not engage in the intervention as a non-intervention comparison group.

Our comparison of youth who attended at least one substantive session of either curriculum to a post-hoc, non-randomized group who attended no substantive sessions differed from a strict ITT approach. Notably, our approach was still quite conservative (e.g., we did not analyze only treatment completers); however, we departed from the most traditional ITT approach, which calls on researchers to treat all cases as randomized regardless of adherence to treatment protocol or other considerations (Atkins, 2009; Gross & Fogg, 2004; Lachin, 2000; Olsson, 2010). While ITT has been championed as the best method to represent a clinical population (versus focusing solely on treatment completers, for example), the approach has also been critiqued, particularly in prevention research (see Gross & Fogg, 2004). Were we to have utilized the most conservative ITT approach, we would have had to exclude data from 15 youth who were never randomized to an intervention condition. This led us to consider that while traditional ITT viewpoints may be reasonable in intervention research with populations facing less adversity, the reality for high-risk and high-needs samples such as this one differs in important ways that should be considered. For example, given the difficulty and resources required to access a high-risk sample such as this one, the exclusion of data seemed an unnecessary loss. Thus, we combined the youth who were never randomized to an intervention with those who never attended a substantive session of either curriculum to create a reasonably-sized, non-randomized comparison group. Without a

randomized waitlist control condition, the inclusion of this group was important in demonstrating that all youth, regardless of group, reported declines in aggressive dating conflict tactics over time; however, both interventions were significantly linked with a high likelihood of not being revictimized.

In addition to demonstrating that high-risk youth can be successfully engaged outside of school-based programs, this study has implications for thinking about assessing violence exposure as a routine part of practice. Screening for and/or explicitly discussing traumatic experiences has become a key component in many forms of trauma-informed clinical interventions (e.g., Amaya-Jackson et al., 2003; Cohen, Mannarino, Murray, & Igelman, 2006). Addressing traumatic experiences is also increasingly seen as a necessary component in the treatment of serious problems such as substance use among trauma-exposed individuals (e.g., Najavits, Weiss, Shaw, & Muenz, 1998). As evidence increasingly points to the need to screen for and address trauma as part of providing effective mental and physical healthcare, service providers in diverse settings are likely to be asked to screen for and explicitly discuss trauma as a routine part of practice. Before integrating trauma screening and discussions into practice, service providers may have questions about the potential for negative impact asking about trauma as part of routine care appointments where patients may not be expecting trauma to be discussed. Beginning to address such issues, Hebenstreit and DePrince (2012) recently demonstrated that adult women recruited from public records reported favorable benefit-to-cost ratios for participation in a study focused on intimate partner abuse, despite not knowing the explicit trauma focus of the study when the research interview was scheduled. Unfortunately, we know relatively less about how youth perceive trauma-specific questions in research generally (as they is less available research and no longitudinal research) as well as part of entry into services.

The current study offered an opportunity to examine adolescent girls' perceptions of the benefits and costs of participating in a longitudinal study that assessed for childhood interpersonal trauma exposure and teen dating violence. The study contributes to existing research in several important ways. First, the sample comprised youth who did not self-select into the study based on the topic of trauma or interpersonal violence. Rather, youth were recruited from an at-risk population of girls who came to the attention of the child welfare system due to childhood maltreatment and/or neglect. Girls were invited to participate in a "Healthy Adolescent Relationship Project". Recruiting materials mentioned that the project involved participating in a 12-week group that focused on how to build healthy relationships, including decreasing aggression; however, recruiting materials did not explicitly state that girls would be asked to report on their own experiences of violence/trauma. Girls were told that they would be asked about their own experiences of violence/trauma at the point of consent, including the fact that they would be asked about their experiences of violence at each of four interviews (pre-, immediately post-, 2 months post- and 6 months-post intervention groups). Thus, the study mimicked common practice where service providers try to engage at-risk youth in services (in this case around healthy relationships) and screen for trauma exposure prior to service start and over time as services continue.

Consistent with previous research, adolescent girls rated the benefits of participation in trauma-focused research as greater than the costs. Adolescents in the current study were involved in the child welfare system and referred by caseworkers or other service providers for participation in a healthy relationship prevention group. Participants learned about being asked about their interpersonal trauma exposure during the informed consent process. None of the teens declined to participate after learning about the need to discuss their trauma (including violence and maltreatment) histories during the informed consent process. Importantly, teens reported positive cost-benefit ratios, meaning that they viewed the positive aspects of participation as greater than the negative aspects. The favorable cost-to-

benefit ratios were favorable across four time points spread over an average of one year. Additionally, retention rates remained comparable across the course of the study (see figure 1). These patterns suggest that participants' perceptions of participating in research did not become more negative over time, and that participants did not decide to drop out of the study despite reporting positive cost-to-benefit ratios. Thus, these data demonstrate that the benefits of interviews that assess violence and trauma can outweigh the costs when engaging diverse teens exposed to complex trauma histories. These findings are consistent with a recent study with a sample of female survivors of intimate partner abuse who were also not expecting to be interviewed extensively about their violence exposures (Hebenstreit and DePrince, 2012). Women exposed to intimate partner abuse reported favorable cost-to-benefit ratios after participating in the study which involved gathering in-depth information about their trauma experiences.

### Limitations

Several limitations should be considered in interpreting findings from the current study. For example, we did not have a randomly-assigned control group. Referring caseworkers expressed concerns about referring to a study where some adolescents would not receive intervention (in the case of a no-treatment control group) or would have to wait more than nine months to begin intervention (in the case of a waitlist-control condition). Recognizing this practical, real-world concern, we continued to engage youth who did not participate in the intervention groups in follow-up assessments to create an assessment-only comparison group. Though a limitation that this group was not randomly assigned, the group was equivalent on factors that we assessed at Time 1, suggesting it was a reasonable comparison group, consistent with previous research (Weisz et al., 1987).

Additional limitations include the lack of partner report on aggression; instead, we had to rely on girls' reports of their own and their partners' behaviors. Further, the continuous measures of sexual aggression had low internal consistency and were skewed. Nonetheless, we elected to report analyses in this technical report with these variables because of their theoretical importance; however, results should be interpreted cautiously. It is encouraging that the finding for girls' own sexual aggression was replicated in terms physical and emotional aggression as well. In addition, the intervention targeted girls in the child welfare system, so this study does not contribute to understanding of the relative impact of these curricula on boys (though Wolfe and colleagues, 2001, did include boys in a randomized trial of an 18-sessions healthy relationship curricula focused on social learning and feminist principles).

Findings from school-based samples of primarily Caucasian adolescents in heterosexual relationships have established an important foundation from which to expand our knowledge of teen dating relationships and adolescent dating victimization. However, focusing solely on such sampling methods ignores a large portion of U.S. youth and likely limits our understanding of the heterogeneity of teen dating violence experiences. Researchers studying adolescent romantic relationships have observed that teens have multiple dating partners across adolescence (e.g., Halpern, Oslak, Young, Martin, & Kupper, 2001). Dating and victimization experiences also range from the context of casual one-time dating to serious long-term relationships. Many teen dating violence studies, including this one, focused on one specific relationship, thereby precluding researchers' ability to examine individual differences in and across romantic relationships (e.g., Banyard & Cross, 2008; Coker et al., 2000; Noonan & Charles, 2009; Rizzo, Esposito-Smythers, Spirito, & Thompson, 2010). Although our sample was diverse in terms of sexual orientation and race/ethnicity, we did not systematically obtain information regarding additional aspects of the relationship (e.g., length or seriousness of relationship, age/gender of partner).

The current sample included only females because we targeted reduction of female RV in adolescence that is predictive of additional RV in adulthood. Women, and not men, appear to be at elevated risk of RV by intimate partners in adulthood (Desai et al., 2002); however, little is known about men who may also be at risk of intimate partner abuse. Further, boys and men who engaged in aggressive tactics may benefit from these curricula as well, as indicated by Wolfe and colleagues’ (2001) testing of their original 18-session healthy relationship curriculum in co-ed groups. Inclusion of both males and females in groups may facilitate more dynamic discussions about gender roles in curricula that integrate social learning and feminist perspectives; however, there may be cases, too, where discussions are facilitated in single-gender groups. Future research should consider the relative benefits and costs of co-ed intervention groups that target revictimization risk.

**Policy and Practice Implications**

In sum, we tested two approaches to decreasing revictimization with adolescent girls in the child welfare system. Both approaches were linked with lower likelihood of reporting revictimization from post-intervention to six-month follow-up relative to an assessment-only comparison group. Girls who participated in the interventions attended an average of nearly 70% of sessions. Given the severity of the adversity that these adolescents faced (e.g., in terms of changes in school and care placements, teen parenthood), this level of participation in the groups is quite impressive. Further, these interventions were able to reach adolescents outside of traditional school settings, demonstrating the feasibility of engaging high-risk youth in alternative settings particularly when they are not consistently attending traditional schools. In addition, we were able to retain participants across four interviews, with a rate of 83.0% retention at Time 4. When their responses to the interview procedures were systematically assessed at each time point, adolescents reported significantly greater benefits of participating in these trauma-focused interviews than costs. As evidence increasingly points to the need to screen for and address trauma as part of providing effective mental and physical healthcare for youth and adults, these data may be reassuring to service providers insofar as youth can be asked explicit questions about violence over time without a negative impact on their engagement; however, practitioners will have to consider unintended consequences of collecting this information, such as mandated reporting requirements, while developing protocols for routine violence assessment.

Policy implications are summarized in Table 12.

Table 12.  
Key policy and practice implications.

Policy/Practice Issue Addressed	Study Findings	Policy/Practice Implications
Engaging youth with complex violence histories in discussions of revictimization	The current study tested two curricula designed to talk with youth about revictimization risk in different ways. One focused on social learning/feminist content; the other on risk detection/executive function content. Both approaches engaged youth as evidenced by comparable attendance rates; attendance rates were high particularly given the degree of adversity faced by this sample.	The two curricula took very different approaches to talking with adolescent girls about revictimization risk. Both approaches engaged youth, offering practitioners multiple routes to revictimization discussions with adolescent girls.

<p>Choosing curricula to use with adolescent girls at high risk of revictimization</p>	<p>When we examined the presence/absence of sexual and physical revictimization, participation in the interventions was linked with lower likelihood of reporting revictimization relative to an assessment-only condition.</p> <p>The curriculum derived from social learning/feminist theories of victimization performed comparably to a curriculum derived from risk detection theories of victimization when we looked at both revictimization and a continuous measure of aggressive conflict tactics in dating relationships.</p>	<p>Participation in a curriculum focused on revictimization is linked with lower rates of revictimization relative to an assessment-only comparison condition; thus, practitioners should look for opportunities to talk with adolescents about revictimization directly.</p> <p>The comparable performance of the two curricula suggests that practitioner have choices in selecting curricula to use with youth depending on what works for their site and practice.</p>
<p>Victim-focused revictimization prevention</p>	<p>When we examined continuous measures of aggressive tactics in dating relationships, all three groups reported comparable decreases over time.</p>	<p>Increasingly, researchers and practitioners have critiqued emphasis on victim-focused prevention. These data point to changes in adolescents own behaviors, but not reports of their partners' conflict behaviors. Addressing partners' conflict behaviors effectively should involve partners directly.</p>
<p>Assessing violence exposure in youth with complex violence histories</p>	<p>Participants were invited to take part in four thorough assessments across the study period, each of which included detailed questions about violence exposure (generally as measured by the TESI; and in dating relationships specifically as measured by the CADRI). Even with the trauma-focus of the interviews, we were able to successfully engage and retain adolescents over the study period.</p>	<p>As evidence increasingly points to the need to screen for and address trauma as part of providing effective mental and physical healthcare for youth and adults, these data may be reassuring to service providers insofar as youth can be asked explicit questions about violence over time without a negative impact on their engagement. That said, we recognize that collecting such information may trigger actionable information (e.g., mandated reporting requirements); thus, the implications of routinely assessing violence exposure will have to be considered by each practice site. For example, teachers, school personnel, healthcare providers, youth program personnel, and community organizations that work with children/youth will need to consider the potential legal impact of routine assessment (e.g.,</p>

Engaging high-risk adolescent victims over time successfully.	Over 89% of the 176 young women enrolled in this study after the Time 1 assessment were retained at one or more of the three follow-up interviews.	due to mandated reporting requirements). It can often be assumed that adolescents, particularly those facing significant adversity, will be reticent to talk in-depth experiences of violence and/or difficult to engage over time. This research demonstrates that careful procedures designed to stress adolescents' rights and dignity in the research process are associated with perceptions of benefiting from taking part in the research.
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We have begun dissemination efforts both locally and internationally. Table 13 summarizes some of our dissemination efforts to date. In addition to pursuing academic presentations and publishing opportunities, we have kept community partners and practitioners updated on this project through two electronic newsletters. The first is a newsletter created by DePrince's research group. This newsletter describes ongoing research and findings across multiple research projects (including this one) in DePrinces' research group. This newsletter is launched quarterly; community-based colleagues receive an email alerting them to new issues. The second is a brief newsletter specific to this project that we have distributed twice a year to community-based colleagues who have specific interests in and/or have made referrals to this project. This brief newsletter has focused on major project accomplishments, rather than more nuanced discussions of findings that appear in the first newsletter. In addition, DePrince and Chu were in regular contact with community-based colleagues who have made referrals to the study to apprise them of study progress and preliminary findings through the lifetime of the project. We look forward to collaborating locally and nationally to translate this research into policies and practices that address the important criminal justice problem of adolescent girls' revictimization. In addition, we are actively working on at least five new manuscripts (in addition to two under review currently) as well as submitting presentation proposals to national conferences.

Table 13.  
Sample dissemination efforts.

<p>Manuscripts</p> <p>Chu, A.T. &amp; DePrince, A.P. (in press). Perceptions of trauma research with a sample of at-risk youth. <i>Journal of Empirical Research on Human Research Ethics</i>.</p> <p>Sundermann, J.M. &amp; DePrince, A.P. (under review). Maltreatment characteristics and emotion regulation (ER) difficulties as predictors of mental health symptoms: Results from a community-recruited sample of female adolescents.</p>
<p>Paper and poster presentations</p> <p>DePrince, A.P. &amp; Chu, A.T. (June, 2013). Talking with Young Women about Revictimization Risk: Comparing Two Approaches. Workshop presented at the Colorado Advocacy in Action Conference. Vail, CO.</p> <p>DePrince, A.P., Chu, A.T., Shirk, S.R., &amp; Potter, C. (November, 2012). Adapting and testing revictimization prevention programming with adolescent girls in the child welfare system. Paper</p>

presented at the International Society for Traumatic Stress Studies Annual Conference. Los Angeles, CA.

Sundermann, J.M., DePrince, A.P., & Chu, A.T. (November, 2012). Relationships between Emotion Regulation (ER) Difficulties and Mental Health Symptoms in a Community-Recruited Sample of Maltreated Youth. Paper presented at the International Society for Traumatic Stress Studies Annual Conference. Los Angeles, CA.

DePrince, A.P., Chu, A.T., Shirk, S.R., & Potter, C. (October, 2012). Revictimization prevention programming with adolescent girls in the child welfare system: A comparison. Paper presented at the 24th Annual Colorado Organization for Victim Assistance Conference. Keystone, CO.

Chu, A. T. & DePrince, A. P. (October, 2012). At-risk youth: Perceptions of reporting on trauma history. Paper presented at the 24th Annual Colorado Organization for Victim Assistance Conference. Keystone, CO.

DePrince, A.P., Chu, A.T. (June, 2012). Revictimization: A Preliminary Test of Two Models of Dating Aggression. Invited paper presented at the National Institute of Justice 2012 Conference.

DePrince, A.P. (May, 2012). Community-engaged clinical science: Modified interventions for depression and revictimization following interpersonal violence. Invited workshop for the Annual Meeting of the Northern Ireland Branch of the British Psychological Society. Enniskillen, Northern Ireland.

DePrince, A.P., Chu, A.T., Sundermann, J., Lindsay-Brisbin, J. & Babcock, R. (April, 2011). A preliminary examination of two models of dating violence risk among adolescent girls previously exposed to violence. Poster presented at the U.S. Department of Education National Summit on Gender-Based Violence Among Young People. Washington, D.C.

Sundermann, J., DePrince, A.P., & Chu, A.T. (November, 2011). Linking childhood maltreatment characteristics to mental health symptoms in adolescence: the role of emotion regulation difficulties. Poster presented at the 27<sup>th</sup> Annual Meeting of the International Society for Traumatic Stress Studies. Baltimore, MD.

#### Manuscript and presentations in preparation

As of this writing, at least 5 additional manuscripts are in preparation. We plan to submit a manuscript describing the major intervention findings to an upcoming special issue on teen dating violence. We will present on the major intervention findings at the annual meeting of the American Society of Criminology in November 2013.

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