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# School-Based Interventions to Reduce Dating and Sexual Violence: A Systematic Review

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# Campbell Systematic Reviews



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# Executive summary/Abstract


## BACKGROUND

The incidence of psychological, physical, and sexual violence in intimate dating relationships has a significant impact on young people. These issues are of great concern to researchers, educators, and administrators who strive to help youth be happy and healthy. This review focused on prevention and intervention efforts implemented in schools that sought to reduce or prevent incidents of dating violence.

## OBJECTIVES

The main objective of this review was to evaluate and synthesize the efficacy of school-based interventions that sought to reduce or prevent teen dating violence or sexual violence in intimate relationships. Specifically this review evaluated the impact of dating violence prevention programs implemented in middle and high schools on changing attitudes or beliefs supportive of teen dating violence, reducing incidents of dating violence perpetration, or reducing incidents of dating violence victimization. Additionally, this review examined potential substantive or methodological variables (e.g., program characteristics, age, gender, location) that moderated the effect sizes.

## SEARCH STRATEGY

An extensive search strategy was used to identify qualifying studies. Various electronic bibliographic databases were searched in July 2013, along with government databases, grey literature databases, and citations in other reviews. In addition, we searched the reference lists of primary studies, hand searched relevant journals, and searched the Internet using Google and Google Scholar. We also contacted researchers who have published extensively in the area of teen dating violence and researchers who have received grants to implement teen dating violence prevention programs to identify studies in press or in preparation. Neither language nor date restrictions were applied to the searches.

## SELECTION CRITERIA

Studies were required to meet several criteria to be eligible for inclusion. Studies must:

- have a well-defined control group.
- include a school-based intervention, implemented with students between 4th and 12th grade.
- have a primary goal of reducing or preventing teen dating violence or sexual violence in intimate relationships.
- measure the impact of the program on either attitude change, frequency of intimate partner violence perpetration or victimization, teen dating violence knowledge, or on the ability to recognize both safe and unhealthy behaviors in intimate partner disputes.

Studies were excluded if they measured the above outcomes as secondary outcomes. Studies that utilized community centers or other locations outside the brick-and-mortar schools were also excluded.

## DATA COLLECTION AND ANALYSIS

The literature search yielded a total of 1,608 references, of which 90 were deemed potentially relevant and retrieved for additional screening. Of these 90 studies, 23 were included in the study after a full review. Meta-analysis was used to examine the effects of school-based programs versus a control group on increasing knowledge of teen dating violence, changing attitudes or beliefs supportive of teen dating violence, reducing incidents of dating violence perpetration, and reducing incidents of dating violence victimization. A three-level meta-analytic model was utilized to synthesize the effect sizes.

## RESULTS

This systematic review found that prevention programs do have an impact on teen dating violence knowledge and attitudes. At post-test, students in the intervention conditions increased their knowledge and endorsed attitudes that were less accepting of violence in relationships. In addition, at post-test, prevention students were less accepting of rape myths and reported an increased awareness of appropriate approaches to conflict resolution. The positive results for teen dating violence knowledge and attitudes were supported at follow-up. However the results for dating violence perpetration and victimization were less encouraging. Although only a limited number of studies focused on these outcomes, the results indicated that prevention programs are not impacting these behaviors to a great extent.

Moderation analysis did not find any significant variables that impacted the effect sizes.

## AUTHORS' CONCLUSIONS

The results of this review are tentatively encouraging, but also highlight the need for modifications to programs in order to support schools using time and resources to implement teen dating violence prevention programs. Specifically, programs will need to be refined so that they support behavior change, with future research focusing on program development that explicitly seeks to incorporate skill-building components in an effort to impart behavior change. Additionally, future research should explore the role of bystanders more explicitly, examining how prevention programs may shift the peer culture to be less tolerant of dating violence.

# 1 Background

## 1.1 DESCRIPTION OF THE CONDITION

Violence and assaults experienced by adolescents are of great concern to researchers, parents, educators, and school administrators who strive to help youth be healthy and happy. The incidence of psychological, physical, and sexual violence in intimate dating relationships has a significant impact on young people. Consequences of dating violence include decreased mental and physical health and lower life satisfaction (Banyard & Cross, 2008). Teen dating violence impacts the psychological well-being of youth (Black, Tolma, Callahan, Saunders, & Weisz, 2008), with youth who are victims more likely to experience depression and suicidal behaviors than non-victims (Vézine & Hérbert, 2007). Additionally, longitudinal studies have identified long-term consequences of intimate partner violence to include depression, binge eating, substance abuse, and antisocial behavior (Foshee et al., 2012). Limited research that has examined academic outcomes suggests that victims may have more negative views of school, which may be the result of increased feelings of depression and substance abuse associated with victimization experiences.

Unfortunately, despite the alarming consequences noted above, researchers and educators struggle to prevent these problems. This is complicated by the fact that school-based prevention programs vary considerably in content, scope, and quality, and often demonstrate small changes in targeted outcomes, or no changes at all (Espelage, 2012; Espelage, Holt, & Isaia, 2007; Espelage & Low, 2013).

### 1.1.1 The Problem, Condition or Issue

Adolescents spend a significant amount of time with their peers in school and in their neighborhoods. Although the majority of relationships with peers provide positive social experiences, for some youth, some relationships may also involve victimization (Espelage, Low, & De La Rue, 2012). Many assaults experienced by youth happen within interpersonal relationships, including in friendships and with romantic partners, with one in every four assaults committed by youth occurring in a domestic relationship (i.e., family members, intimate partners; Snyder & McCurley, 2008). Abuse in dating relationships is an all too frequent occurrence, with 1 in 10 teenage relationships involving violence (Mulford & Giordano, 2008).

This latter type of victimization is often described as teen dating violence (Mulford & Giordano, 2008; Offenhauer & Buchalter, 2011) and can include controlling behaviors and physical, verbal, psychological/emotional, and sexual abuse (Holt & Espelage, 2005; Offenhauer & Buchalter, 2011). The rates of teen dating violence in middle and high school are substantial. One school-based study of 9th -12th graders found a rate of 8.7% for physical dating violence, and another nationally representative study found a 1-year incidence rate of 3.6% for 13 to 17 year olds (Hamby, Finkelhor, & Turner, 2012). While both boys and girls experience teen dating violence, the exact nature of the violence tends to vary by gender. About one in four girls experience sexual and physical abuse (Latta & Goodman, 2011), while boys report experiencing high amounts of psychological abuse (Molidor, 1995).

The experience of dating violence has consequences for the overall well-being of youth and challenges a young person's ability to be successful in school. Negative ramifications of teen dating violence include mental health problems, low academic achievement, and aggressive conflict-management (Offenhauer & Buchalter, 2011). Research has also found that girls who are victims of violence in relationships are at risk of increased discipline problems at school (Vézina & Hébert, 2007). These consequences extend beyond externalizing symptoms. Psychological symptoms of dating violence can include feelings of incompetence, anxiety, paranoia, severe depression, isolation from family and friends, and guilt and self-blame (Molidor, 1995). There can also be long-term consequences of dating violence, which can include isolation and emotional/interpersonal withholding of support as well as continued experiences with abuse such as constant harassment and degradation (Molidor, 1995). These adverse outcomes highlight the importance of implementing policies that address dating violence to ensure the well-being of students and support their educational opportunities. This also points to the importance of identifying strategies that can prevent dating violence. This includes examining whether intervention programs are effective in reducing the incidence of teen dating violence, including sexual, physical, and mental abuse that young people may experience in unhealthy dating relationships.

### 1.1.2 Gender and Dating Violence

There is some evidence that gender differences may be less pronounced in adolescent partnerships as compared to adult domestic relationships. Studies that have measured both victim and perpetrator behaviors among youth find that both dating partners perpetrate and sustain physical and emotional aggression (Wekerle & Wolfe, 1999). It is important to note, however, that violence perpetrated by boys has a greater likelihood of causing injury and fear, which can serve as a coercive means of control (Wekerle & Wolfe, 1999), a defining factor in dating violence. It is also likely that the initiation of violence will have different motives for boys and girls. Adolescent girls' reports of the use of violence in dating relationships are often tied to feelings of anger and frustration, whereas boys attribute their actions at attempts to be playful (Wekerle & Wolfe, 1999). These findings must be considered

in conjunction with the manner in which information is typically collected. Research reporting greater similarities between boys and girls might be particular to one type of methodology, specifically using self-report perpetrator-specific behavioral checklists, which have been shown to exaggerate the similarities between boys and girls (Hamby & Grych, 2013). In contrast, adult measures of domestic violence are often augmented by the use of police and hospital records, a methodology that is not as readily available for youth dating violence research. Therefore, claims of increased similarity in rates of victimization and perpetration for teen dating violence must be considered in conjunction with this limitation.

Furthermore, when looking at factors that influence youths' propensity to perpetrate dating violence, studies that explore whether gender moderates the link between risk factors and dating violence have provided mixed results. For instance, negative parenting and peer experiences have been shown to be important risk factors for youth dating violence, but the nature of this relationship by gender is not as clear (Miller, Gordon-Smith, Sullivan, Orpinas, & Simon, 2009). Cross-sectional studies have found that having more deviant peers was correlated with both boys and girls exhibiting more physical aggression in dating relationships (Miller et al., 2009) whereas other studies have found an association between having friends who perpetrate dating aggression and dating violence for boys but not for girls (Foshee, Linder, MacDougall, & Bangdiwala, 2001). Also, despite the belief that substance use plays an important role in the risk for perpetrating dating violence, a longitudinal study found that only marijuana use was predictive of the initiation of dating violence perpetration among girls and that marijuana use was actually slightly protective against dating violence perpetration for boys (Foshee, McNaughton-Reyes, & Ennett, 2010). While an understanding of the antecedents of teen dating violence by gender might not be clearly understood, it is evident that both boys and girls are perpetrators and victims of dating violence, which supports the need for effective prevention and intervention efforts.

## 1.2 DESCRIPTION OF THE INTERVENTION

Myriad programs exist within schools to prevent teen dating violence. Programs may exist at a universal level, where the school introduces various stimuli or psycho-educational directives. This can include lessons provided to all students and educational posters on walls and in hallways. Researchers and administrators may also implement programs directed solely at classrooms or even individuals. Many programs, especially those implemented with young students (i.e., elementary school students), focus on altering the school culture in an effort to decrease aggression and promote respect (Flannery et al., 2003; Haynes, 1998). These prevention efforts have the goal of shifting the culture of the school in positive directions, partly by encouraging bystander support, where students are supportive of victims of dating violence while also not accepting of teen dating violence behaviors perpetrated by their peers. Programs implemented for older youth,

including during middle school, spend more time trying to change dating attitudes and behaviors (Foshee et al., 1998; Macgowan, 1997). These programs focus on teaching the individual student skills that will foster healthy dating relationships.

The Safe Dates program is an example of a school-based prevention program for adolescents (Foshee & Langwick, 2004). This program includes a 45-minute theater production, a 10-session curriculum, and a poster contest. The intent of the program is to prevent the onset of and promote a decrease in dating abuse perpetration and victimization by helping students recognize the difference between caring, supportive relationships and controlling, manipulative, or abusive dating relationships. The activities in the Safe Dates program target behavioral change by seeking to shift gender role, sexual behavior, and teen dating violence norms, while also improving conflict management skills (Foshee et al., 2005). Changes in dating violence and gender-role norms and increased conflict management skills are intended to support the prevention of dating violence and decrease experiences of dating abuse perpetration and victimization.

### 1.2.1 Theory of Behavior Change

Within prevention efforts, it is important to consider how individual behavior change can be manifested. Programs often include targeted messages that are developed to present information and material that describes the advantages and disadvantages of adopting a particular behavior (Hampton, Brinberg, Peter, & Corus, 2009), and, in the case of teen dating violence, with the goal of reducing the potential of engaging in the behavior and/or being a victim of dating violence. The reduction of dating violence is likely to be the result of a chain of events as opposed to a simple bivariate relationship, and as such a logic model provides a useful illustration of the components necessary to impart behavior change (Anderson et al., 2011). As an example, the Safe Dates program discussed above implements activities intended to shift dating violence and gender-role norms and also increase conflict management skills (Foshee et al., 2005). These changes in norms and an increase in skills are then expected to lead to reductions in the onset of dating violence and a cessation of dating violence perpetration and victimization. Thus, behavior change manifests as a result of both attitude change and skill building. Evidence from literature on sexual assault prevention has shown that programs focusing exclusively on attitudinal or educational components will likely not be effective in changing behavior (Cornelius & Resseguie, 2007) and as such the skill building component of Safe Dates is a crucial component of the chain of events that can lead to positive outcomes.

Within systematic reviews it is important to consider the components of the chain that contribute to prevention efforts effecting behavior change, and to identify the specific components that are necessary to improve outcomes (Anderson et al., 2011). Within dating violence prevention efforts, increasing knowledge of dating violence, promoting attitudes that are not supportive of dating violence, and building skills to

effectively prevent or reduce incidents of dating violence are expected to be important components to support the prevention or reduction of dating and sexual violence perpetration and victimization. However, there remains a gap in the knowledge about the overall effectiveness of dating violence prevention efforts. Specifically, it is unclear the extent to which current programs are effective in actually producing an increase in knowledge and a change in behavior. As such, there is a need to quantitatively synthesize empirical studies that have been conducted.

## 1.3 THE IMPORTANCE OF THIS REVIEW

During the preteen and teen years, students are learning skills they need to form positive relationships with others (Center for Disease Control and Prevention, 2012), and effective dating violence prevention programs in schools may serve as one way to help young people build the necessary skills to promote healthy relationships. Because adolescence is an ideal time to promote the development of healthy relationships and to prevent patterns of dating violence that can last into adulthood, it is important to ensure programs for youth that target these domains are effective. In addition, given the cost of implementing such programs and the time allotted during busy school days to engage in the material, understanding which programs are effective will also support the appropriate use of time and resources in schools.

Little previous research has attempted to quantitatively synthesize empirical evaluations of school-based programs designed to prevent or reduce the incidence of dating violence among adolescents, and the reviews often fall short of including all relevant studies. As a result, there is a lack of knowledge surrounding the overall effectiveness of teen dating violence prevention programs in schools, and around what types of interventions are most effective. However, the information is available to integrate. Research has consistently detailed the implementation of programs, and many have included empirical information about the effectiveness of said programs.

Narrative reviews of prevention programs have been conducted. Law (n.d.) and Calvillo (2010) detail several large-scale prevention programs using a narrative review technique, and note overarching benefits of prevention programs including altering the school climate and changing attitudes supportive of teen dating violence. Foshee and McNaughton-Reyes' (2009) narrative review of school-based dating violence intervention programs noted that changes in dating abuse norms and attitudes could be made with interventions. While these reviews are promising, they were limited by the vote-counting process used to synthesize information. The National Resource Center on Domestic Violence also conducted a narrative literature review but failed to utilize a systematic search process or detail all programs completely.

While narrative reviews provide us with valuable insight, the subjective nature creates challenges when increasingly more studies are included. Additionally, while previous reviews have found that teen dating violence prevention programs can produce positive changes in knowledge and attitudes, it is still unclear whether changes in attitudes leads to corresponding changes in behavior (Whitaker et al., 2006). As noted previously, considering this chain of events is critically important. This set the foundation for the present systematic review, which quantitatively synthesized multiple studies of the effectiveness of teen dating violence prevention programs.

Fellmeth and colleagues (2013) provide an example of a similar review. The authors conducted a review of educational skills-based interventions aimed to prevent initial or further relationship violence behaviors in individuals between the ages of 12 and 25. In that review, the authors included programs that were implemented in any setting, and had as primary outcomes the frequency of dating violence episodes, injuries, adverse events, and subjective well-being. Knowledge of relationship violence and increased awareness of services were included as secondary outcomes. The authors excluded five studies from their review (including Foshee [1998] which was included in the present review) because the results were analyzed using non-parametric analyses. The authors concluded that although programs improved knowledge of relationship violence, there were no significant effects of the intervention programs on episodes of relationship violence or on behaviors and skills related to relationship violence. The present review complements the review of Fellmeth and colleagues (2013) by examining the effectiveness of school-based prevention programs that aimed to reduce dating violence behavior *and* change attitudes regarding teen dating violence. In addition, this review sought to examine how dating violence prevention programs encourage peer support to reduce incidents of teen dating violence. Furthermore, as opposed to including programs in any setting, this review focused on school-based programs, and did not include adults who are no longer in school. This narrowed focus makes the review more relevant for school decision-makers.

Our review included studies of programs implemented in schools (grades 4-12) that sought to increase knowledge about teen dating violence, address attitudes or beliefs supportive of teen dating violence, encourage bystander intervention or peer support, or reduce the incidence of dating violence perpetration/victimization or sexual coercion in dating relationships. In order to best understand the effectiveness of the prevention programs, specific considerations were made. First, there needed to be clear evidence that an intervention would indeed be the cause of a potential change in knowledge, attitudes, or behaviors; therefore, only studies that implemented an experimental or quasi-experimental design with a control group were included. We also examined pre-test-post-test and follow-up measures to help minimize the attribution of changes to experimenter, practice, attention, spontaneous maturation, or Hawthorne effects (Topping & Baron, 2009). Studies had to focus on middle and high schools, as this population has specific needs and

constraints. This includes a need for developmentally specific material that is appropriate for the developmental level of the students, and material that can be implemented effectively in schools and classrooms in conjunction with the time allotted for the academic curriculum.

There is a need to address teen dating violence amongst young people given the significant adverse effects noted, and the potential for these behaviors to continue into adult dating relationships if left unchallenged (Noonan & Charles, 2009). Advocating for policy changes and funding to support school-implemented programs requires that there be solid empirical justification advocating the effectiveness of such prevention programs. Taken together, it is essential to gain a better understanding of the effectiveness of dating violence prevention programs implemented in schools, and this review aims to do this. This review is one of the first to quantitatively synthesize empirical evaluations of school-based programs aimed to reduce behaviors or change attitudes related to dating violence. This review has the potential to impact school policy and prevent victimization.

# 2 Objectives

The aim of this review was to evaluate the effectiveness of school-based intervention efforts aimed at preventing or reducing incidents of teen dating violence or sexual violence in intimate relationships. The following questions were addressed in this review.

1) Are dating violence prevention programs implemented in 4th – 12th grade effective in changing attitudes or beliefs supportive of teen dating violence immediately following the program and at later follow-up?

2) Are dating violence prevention programs implemented in 4th – 12th grade effective in encouraging bystander intervention to stop the perpetration of dating violence and/or increase peer support for victims of dating violence immediately following the program and at later follow-up?

3) Are dating violence prevention programs implemented in 4th – 12th grade effective in promoting the development of skills to help reduce incidence of dating violence victimization or perpetration, immediately following the program and at later follow-up?

4) Are dating violence prevention programs implemented in 4th – 12th grade effective in reducing the incidence of dating violence perpetration, including reductions in mental and/or physical abuse, and/or sexual violence or coercion perpetrated in a dating relationship, immediately following the program and at later follow-up?

5) Are dating violence prevention programs implemented in 4th – 12th grade effective in reducing incidences of dating violence victimization, including reductions in mental and/or physical abuse, and/or sexual violence or coercion experienced in a dating relationship, immediately following the program and at later follow-up?

6) Are there substantive or methodological variables that moderate the effect sizes?

    a. The substantive variables that were examined include: program characteristics, age, gender, location, racial composition, and socio-economic status (SES).

b. The methodological variables that were examined include: method of assignment, date of publication, funding, and publication source.

# 3 Methodology

## 3.1 TITLE REGISTRATION AND REVIEW PROTOCOL

The title for this systematic review was approved by The Campbell Collaboration on 13 January 2013. The review protocol was approved on 13 August 2013. The title registration and protocol are available at: http://www.campbellcollaboration.org/lib/project/268/

## 3.2 CRITERIA FOR INCLUDING STUDIES IN THE REVIEW

The purpose of this review was to synthesize the best available evidence on the effects of school-based prevention programs designed to reduce teen dating violence perpetration and victimization. The following criteria were used to select studies for the review.

### 3.2.1 Types of Research Designs

Only studies that used a well-defined control group were included in the review. These may have included wait-list control, treatment-as-usual, and straw-man designs (e.g., studies that provided a low impact alternative curriculum to the control group participants). However, studies that compared a dating violence program to another putatively effective dating violence program (i.e., treatment vs. treatment designs) were not included. We included studies in which participants were assigned at the individual, group, school, district, or state level. Specifically, the following designs were included:

1. Randomized control trials: Studies in which individual participants, classrooms, or schools were randomly assigned to control and treatment conditions.

2. Quasi-randomized control trials: Studies in which some quasi-random procedure (e.g., alternating last names) was employed to assign students to intervention or control conditions.

3. Quasi-experimental designs (i.e., where participants or groups were assigned to conditions non-randomly). Where applicable, we calculated pre-test effect

sizes to adjust the post-test effect size (Borenstein, Hedges, Higgins, & Rothstein, 2010). Most studies used one of the following approaches:

a. Matching on individual or group pre-test demographics.

b. Measures of pre-test equivalence.

We included studies that measured outcomes immediately following a program, and also included studies that measured outcomes at any time period after an immediate post-test. This allowed us to examine both the immediate and long-term outcomes.

Although randomized experiments are preferable to quasi-experimental designs because they inherently have a lower risk of selection bias, a burgeoning literature contends that quasi-experimental designs, with appropriate pre-test observations, have the ability to produce similarly efficient and unbiased estimates of a treatment effect (Shadish & Cook, 2009). We, therefore, chose not to exclude studies based on lack of random assignment. Including such studies increased the total study sample size and provided a more complete picture of the literature. To ensure that a potentially high risk of selection bias did not bias the average effect size, we conducted sensitivity analyses that removed quasi-experimental studies and re-calculated the average effect size.

### 3.2.2 Types of Participants

The population of interest was 4$^{th}$-12$^{th}$ grade students. Studies that included participants outside this range must have provided summary statistics for the age groups of interest. For instance, a study might have implemented a program for students in 11$^{th}$ and 12$^{th}$ grade as well as freshman and sophomore college students. A study that provided summary statistics for the eligible population, in this case 11$^{th}$ and 12$^{th}$ graders, was included. However, studies that failed to provide relevant disaggregated information were excluded.

### 3.2.3 Types of Interventions

The intervention of interest was a school-based prevention program designed to reduce teen dating violence. The intervention could also seek to change other outcomes (e.g., bullying perpetration, sexual harassment, etc.); however, *a clear goal*, as provided by the authors, must have stated that the program sought to explicitly reduce teen dating violence behaviors, change attitudes supportive of teen dating violence, increase bystander intervention to reduce perpetration, or increase peer support for victims of dating violence. Studies that only measured these as secondary outcomes were excluded.

### 3.2.4 Types of Outcomes

The primary outcomes of interest were:

1. Attitudes about teen dating violence behaviors
2. Frequency of engagement in adolescent intimate partner violence behaviors, including perpetration of:
    a. Verbal aggression
    b. Relational aggression (controlling, jealousy)
    c. Physical aggression/violence
    d. Sexual aggression/violence or coercion
3. Frequency of victimization in adolescent intimate partner violence behaviors, including being a victim of:
    a. Verbal aggression
    b. Relational aggression (controlling, jealousy)
    c. Physical aggression/violence
    d. Sexual aggression/violence or coercion
4. Knowledge about teen dating violence and what behaviors constitute teen dating violence
5. Recognizing both safe and unhealthy behaviors in intimate partner disputes
6. Skill development to appropriately manage conflicts in intimate partner disputes and/or to prevent victimization in an intimate partner relationship.
7. Learning how to be a bystander who intervenes when dating violence is perpetrated or learning how to support a victim of dating violence

Outcome information could have been reported via self-report questionnaires, teacher reports and observations, or researcher reports and observations. Examples of measures include modified versions of the *Conflict Tactics Scale* (Straus, Hamby, Boney-McCoy, & Sugarman, 1996), which assesses the frequency of use and type of behaviors used when dealing with conflict; dating violence knowledge, which can include “true” or “false” questions on definitions of abuse, resources for help, etc. (Taylor, Stein, Mumford, & Woods, 2013); and measures of victimization, which ask how many times incidents of sexual and nonsexual violence have occurred while on a date (Foshee et al., 2000).

### 3.2.5 Types of Time Points

We included outcomes measured directly after intervention (i.e., post-test) and at any follow-up measurements. Studies had to include at least one of these time points. A post-test was defined as a measure taken directly after the intervention had been completed (or shortly thereafter). The authors had to include a timeframe for any later follow-up measurements in order for those effect sizes to be included. Effect sizes that were labelled ambiguously as "follow-up," without a reference to the amount of time occurring after the intervention, were excluded.

### 3.2.6 Types of Settings

The review included studies conducted in middle and high schools. Studies that utilized community centers or other locations outside the brick-and-mortar schools were excluded. We did include, however, all types of schools (e.g., publicly or privately funded).

### 3.2.7 Example of Included Study

Weisz and Black (2001) implemented a school-based intervention in an urban middle school to change students' knowledge about and attitudes toward dating violence. The researchers used instruments to measure knowledge drawn from the Knowledge of Sexual Assault scale (RAVE, 1997), and a measure of attitudes drawn from the Rape Attitude Scale (Hall, Howard, & Boezio, 1994), the Youth Dating Violence Survey (Foshee, 1994) and the Teen Life Questionnaire (Kantor, 1996). The authors recruited seventh-grade students by offering a $5 McDonald's gift card ($n$ = 44). A control group was formed by randomly selecting students from the same school who chose not to participate in the program ($n$ = 20). This study constituted a non-randomized design.

The authors assessed pre-test equality using an independent $t$-test; the results indicated no significant differences between the groups at pre-test on attitude and knowledge scores, gender, or the amount of violence victimization and perpetration for the previous year. Results at post-test indicated significant increases in knowledge about dating violence and improved attitudes around sexual violence for students who received the intervention ($gs$ = .20 & .17, respectively).

## 3.3 SEARCH METHODS FOR IDENTIFICATION OF STUDIES

Relevant studies were identified using electronic database searches, government policy databanks, and Internet search engines. We placed neither language nor date restrictions on the search. We searched from 1960 – July 2013. Two review authors ran the searches.

The following electronic databases were searched:

1. Education Resources Information Center
2. PsycInfo - Behavioral Sciences and Mental Health Database
3. SocIndex – Sociology Research Database
4. Applied Social Sciences Index and Abstracts
5. PubMed
6. Sociological Abstracts
7. Gale Search Database
8. Academic Search Premier

The electronic databases included international publications. However, we also searched Canadian Business and Current Affairs Education, the British Education Index, and the Australian Education Index for citations of studies conducted outside the U.S.

The following "grey literature" databases were searched:

1. scientific.thomson.com databases
2. csa.com/factsheets databases
3. apa.org/psyextra database
4. Proquest (for dissertations and theses)

### 3.3.1 Search Terms

Search terms were created using relevant key words that represent the studies of interest. Table 8.1 in the Appendix lists each of the relevant search terms. These terms were arranged to produce a Boolean search phrase for each combination.

### 3.3.2 Searching Other Resources

Two further procedures were conducted to ensure search breadth. First, the authors scanned and screened the bibliographies of included studies. Hammerstrøm, Wade, and Jørgensen (2010) showed that this procedure has the ability to produce substantial numbers of additional studies even with the most robust searches of electronic databases. Second, the authors contacted high-profile researchers in this field. These contacts verified that relevant published studies were included and reduced concerns of missing "file-drawer" datasets not yet published (Rosenthal, 1991). High-profile researchers were those who have published extensively within the field of teen dating violence and/or those who have received funding to evaluate teen dating violence prevention programs. Finally, we searched websites of

foundations and organizations that aim to decrease the prevalence of sexual and dating violence among youth for studies that may not have been included from previous search efforts. These foundations and organizations included the Centers for Disease Control and Prevention, National Institute of Justice, Love is Respect, Robert Wood Johnson Foundation, and the American Association of University Women.

To identify potential grey literature outside of indexed databases, we also searched Google and Google Scholar search engines to locate conference abstracts, government documents, and other online material. We included any studies that met the inclusion criteria listed above regardless of source.

### 3.3.3 Targeting Specific Journals

One member of the review team hand-searched the *Journal of Counseling Psychology* and *Prevention Science* starting in 2000 to locate any additional studies or references. These journals were selected because they had high initial citation counts relative to the purpose of this review.

### 3.3.4 Screening Procedures

The screening process occurred in two distinct phases. First, two reviewers independently screened each title and abstract obtained from the search procedures described above for inclusion. Each reviewer coded each citation according to pre-determined inclusion criteria. This information was stored in an Excel database. Disagreements were handled by discussion and consensus agreement. Points of discussion included whether the design of the study met the inclusion criteria, and whether outcomes reported were consistent with the focus of the present review. The decisions available to the reviewer were: 1) Yes, include for full article scan, 2) Unclear so include for full scan, 3) Unclear but do not include (include reason), and 4) No, this article should be eliminated (include reason). Citations that met the initial inclusion criteria were retrieved for full review using the University of Illinois and Loyola University Chicago library resources.

Second, two reviewers independently screened the full articles for inclusion. As with the previous procedure, the studies were screened using the inclusion criteria, with results tracked in an Excel database. If the citation was excluded at this stage, the reviewer provided a brief description of the reason for dismissal. When there was a disagreement, two reviewers discussed the citation and reached an agreement.

## 3.4 DATA COLLECTION AND ANALYSIS

### 3.4.1 Extraction of Study Information

Two reviewers separately coded the included studies, with each reviewer assigned to code half of the studies. The codebook details the variety of study characteristics that

were coded, including report type, setting, sample, and program characteristics. The authors also coded design aspects, including risk of bias. Finally, outcome measures were coded. The full codebook is available in Appendix D of the protocol (http://www.campbellcollaboration.org/lib/project/268/). The codebook was operationalized in a Microsoft Access database. Electronic coding is preferable to paper coding because it reduces data entry errors (Cooper, 2010). Microsoft Access was utilized because of the hierarchical nature of data extraction. For instance, a study may include multiple outcomes nested within multiple treatment groups. Microsoft Access allowed the reviewers to assign this multiplicity of information to one study, in turn limiting the amount of redundant coding.

Eight randomly chosen studies were double-coded and the inter-rater reliability (i.e., percentage match) was calculated. Disagreements were discussed and a consensus code used.

### 3.4.2 Assessment of Risk of Bias in Included Studies

The review team assessed the methodological quality of studies using the risk of bias tool developed by the Cochrane Methods group (Higgins, Altman, & Sterne, 2011). The risk of bias tool assesses study quality on nine indicators. The review team did not exclude studies based on the risk of bias assessment because this procedure has been shown to substantially bias meta-analytic results (Jüni, Witschi, Bloch, & Egger, 1999). Rather, we used some of the results of the risk of bias assessment as a categorical moderator. It should be noted that because the risk of bias was developed for medical interventions, certain aspects of the tool were not reported by the primary authors. For example, it is uncommon for social science researchers to employ allocation concealment techniques and all but impossible to blind participants to assignment results. In such cases when all studies were missing (e.g. allocation concealment), this indicator was not counted toward a study's overall level of bias.

We also used pre-test information to evaluate studies for risk of selection bias. We calculated pre-test effect sizes to test for equivalence of all outcomes reported, regardless of whether the outcome was included in the review. If more than half of the reported pretest effect sizes differed significantly across treatment and control groups, the study was labelled "high risk" and a sensitivity analysis was conducted. In addition, we noted whether study authors indicated that treatment and control groups differed on demographic variables at baseline.

### 3.4.3 Effect Size Calculations

Effect sizes were extracted from each study using relevant summary statistics. Effect size calculation procedures followed those laid out by Lipsey and Wilson (2001) and Hedges and Olkin (1985). David Wilson's online effect size calculator (2013) and the software program Comprehensive Meta-Analysis (Borenstein, Hedges, Higgins, & Rothstein, 2005) were utilized to calculate each effect size.

#### *3.4.3.1 Discrete Data*

Outcomes that measured incidence or a binary instance (yes/no) were estimated via the odds ratio and 95% confidence interval and calculated from the 2 x 2 frequency table. All discrete effect sizes were converted to the d-metric using Wilson's (2013) online effect size calculator (Lipsey & Wilson, 2001, pg. 187). Only one study provided discrete data (Macgowan, 1997). Therefore, this study's effect sizes were converted into the continuous metric.

#### *3.4.3.2 Continuous Data*

The preferred summary statistics for continuous data are means and standard deviations (or standard errors). Cohen's *d* is easily calculated; the numerator is the mean post-test difference of treatment and control scores and the denominator is the pooled standard deviation. Lipsey and Wilson (2001) demonstrated, however, that Cohen's *d* effect sizes can be calculated from a variety of statistical information. For instance, *t* tests, *F* ratios, chi-squared values, correlation, and regression coefficients all represent statistical data that can be converted into a standard effect size. To limit small-sample bias, all *d* effect sizes were converted to Hedges' *g* effect sizes (Hedges & Olkin, 1985).

#### *3.4.3.3 Dependent Effect Sizes*

Dependent effect sizes can occur for myriad reasons. For instance, studies may include multiple treatment arms but only one control group; studies may include multiple time points; authors may publish the results of the same project in more than one report. To ensure correct standard errors, we utilized a three-level meta-analysis procedure (Van den Noortgate, López-López, Marín-Martínez, & Sánchez-Meca, 2013). Instead of simply averaging or using only the "best" indicator of an outcome, we calculated every effect size relevant to each study. The three-level meta-analytic model accounts for the clustering associated with multiple effect sizes within a study, thus producing adjusted standard errors and limiting the impact of bias (see analysis section below). It should be noted, however, that we split the effect sizes by the period of time the outcome was measured. The post-test and follow-up effect sizes, therefore, were not analyzed in the same model.

It is important to note that primary studies can produce *independent* effect sizes within a single study report. Where clear evidence was given that separate studies were represented within one publication, we treated those effect sizes as independent. For instance, Silverman (2000) implemented two independent interventions, both reported in her dissertation. One intervention focused solely on high-risk students and utilized a quasi-experimental, matching design. The other study was a primary prevention program implemented at the school-level where schools were randomly assigned to conditions. Given the clear indication that these were two separate studies, we analyzed the results of both studies independently.

#### *3.4.3.4 Unit of Analysis*

A final important methodological consideration is the unit of analysis. Often, participants are randomly assigned into a treatment or control condition. In education research, however, entire classrooms or schools can also be randomly assigned to conditions. Calculating the variance assuming individual assignment when group assignment was employed biases the study's effect and, ultimately, the average effect size. We used statistical adjustments that correct for this phenomenon (Hedges, 2010). An intraclass correlation of .1 was used when the authors failed to provide this information (Hedges & Hedberg, 2007).

## 3.5 DATA SYNTHESIS

### 3.5.1 Effect Size Synthesis

The majority of studies provided a continuous measure of the effect; therefore, we converted all discrete effect sizes to the continuous metric first. We hypothesized that this would be the case.

The review utilized a three-level, random-effects model for effect size synthesis. The random-effects model choice was preferable given that the effect sizes derived from a theoretical population of effect sizes (Borenstein, et al., 2010). Thus, the random-effects model accounts for the distributional effects by including a between-groups variance component in addition to the within-group variance. The effect size and confidence interval therefore reflect a more conservative estimate relative to fixed-effect models.

The three-level model is preferable given the inherent clustering of effect sizes within studies. For instance, Jaycox et al. (2006) reported multiple teen dating violence attitude outcomes that fit the inclusion criteria. Instead of simply averaging the results, the three-level model estimates the average effect size using the entirety of information available then adjusts the standard errors to account for the inherent clustering of these related effect sizes.

Conceptually, the synthesis calculation differs little from traditional meta-analysis, where each effect size is weighted by the inverse of the study's variance. Included in the weight calculation, however, are two random effects variance components instead of the one found in traditional meta-analyses (Van den Noortgate et al., 2010). The three-level model decomposes the variance of the effect size (i.e., the inverse of the weight) into three parts. The first part is the Level-1 variance, estimated via the traditional variance calculation methods described by Hedges and Olkin (1985). The second component is the variance within studies but between effect sizes. Konstantopoulos (2011) used the script $T$ to represent this variance component. Finally, the Level-3 variance is the variance between the studies; Konstantopoulos used the script $u$ to represent this variance component. Other

authors have continued to use τ, simply stating it is the Level-3 component.

Each of the random-effect components is estimated using the maximum-likelihood technique. In a three-level random effects model, the variance of the effect size (ES) then, can be represented by the equation below:

$$(\text{variance}_{ES\text{i}}) = v_\text{i} + \tau_2^2 + \tau_3^2$$

where $v_i$ is the traditional level-1 variance estimated for each effect size, $T$ is the Level-2 variance, and $u$ is the Level-3 variance. The inverse of the total variance for each study ($w_i$), therefore, represents each study's weight.

The synthesis calculation is thus represented below:

$$\overline{ES} = \frac{\sum ES_i * w_i}{\sum w_i}$$

where $w_i$ represents the three-level random-effect weight from study $i$ and $ES_i$ is the effect size from study $i$.

A z-test and confidence interval is calculated by estimating the standard error of the average weighted effect size. This calculation is represented below:

$$SE_{\overline{ES}} = \frac{1}{\sum w_i}$$

where $w_i$ again represents the random-effects weight from study $i$.

An average effect size was calculated for each outcome type. We also calculated an average effect across all outcome types.

### 3.5.2 Assessing Heterogeneity

In three-level meta-analyses, two separate $\tau^2$ estimates are available and can be tested against the null hypothesis of $\tau^2 = 0$, amounting to heterogeneity at Level-2 (L2) and Level-3 (L3). The calculation of $\tau^2$ does not have a closed-form calculation and therefore must be estimated from maximum likelihood procedures (Cheung, 2013).

For ease of interpretation, we also calculated the corresponding $I^2$ values at each level. For example, to calculate the $I^2$ at level-2, we would calculate:

$$I_2^2 = \frac{\tau_2^2}{v_\cdot + \tau_2^2 + \tau_3^2} * 100$$

where $\tau_2^2$ represents the $\tau^2$ at level-2, $\tau_3^2$ represents the $\tau^2$ at level-3, and $v_\cdot$ represents the average within-study variance component. Higgins, Thompson, Deeks, & Altman (2003) suggested that 50% was a moderate level of heterogeneity.

### 3.5.3 Moderator Analyses

Lipsey (2009) suggested utilizing three types of moderators: extrinsic, methodological, and substantive. Extrinsic variables are represented by the study's unchangeable characteristics, for instance date of publication, or published and not published. Methodological variables can be represented by random vs. non-random assignment, variables that the study's authors often have control over. Length of intervention or intervention location constitutes substantive moderators.

We investigated the impact of 13 moderator variables. Following the suggestion of Lipsey (2009), they have been subdivided into 3 broad categories:

1) *Extrinsic*

    a. Date of Publication: Trikalinos and Ioannidis (2005) showed that treatment effects might diminish over time as more sophisticated methodological approaches and designs are utilized. It is therefore important to test this assumption.

    b. Publication Type: Rothstein, Sutton, and Borenstein (2005) wrote extensively on the impact of publication bias, especially with regard to publication type.

    c. Funding: Although less common in social science, in medicine it has been shown that funded studies tend to produce more significant treatment effects as compared to unfunded studies (Dickersin, 1997).

2) *Methodological*

    a. Design: We included quasi-experimental designs in addition to randomized experiments. Because quasi-experimental designs may inherently differ from randomized experiments, especially with regard to selection bias (Shadish, Cook, & Campbell, 2002), it is important to rule out treatment effect differences that might be associated with research design.

    b. Risk of Bias: If possible, Higgins, Altman, and Sterne (2011) suggested conducting moderator analyses based on the potential level of bias. It is possible to group studies according to the "low risk of bias," "unclear risk of bias," and "high risk of bias." We utilized these categories as levels to test for differences among the effect sizes.

    c. Metric: We utilized a single effect size metric (i.e., only standardized-mean difference) based on the majority of effect sizes. As such, we tested whether the studies that utilized different effect size metrics are biased, by testing for differences.

3) *Substantive*

   a. Program Type: We grouped studies according to the type of program utilized.

   b. Age: Given that we included a wide range of students, it was important to test differences in treatment effect by age.

   c. Gender

   d. Location

   e. Racial composition

   f. SES

To analyze effect sizes efficiently, we again utilized the three-level meta-analytic model. All effect sizes were included in the model, allowing for the estimation of the average effect sizes controlling for the other types of effect sizes. This limited the number of statistical tests conducted because moderators were tested once instead of for each outcome (Polanin & Pigott, *in press*).

In another bid to limit the number of Type 1 errors, we tested the moderators using a block design. Instead of testing each moderator independently (i.e., using the one-way ANOVA-style analyses), moderators were included in the model simultaneously based on their respective types. In other words, all the methodological variables in a block were modelled simultaneously. Given our goal to test for study-level differences, this model provided a conservative test of moderation. Given the small number of studies included in the review, we considered this conservative approach important.

### 3.5.4 Publication Bias

Publication bias was controlled for and assessed using various methodological and statistical techniques. First, the authors took great pains to locate and include studies not published via traditional methods. Sutton (2005) showed bias consequences associated with the exclusion of unpublished studies; overall, studies that fail to find positive intervention effects tend to remain unpublished. As a result, the meta-analytic estimate of the average weighted effect size can be upwardly biased. Including unpublished studies may help prevent this bias.

Second, the authors evaluated empirically the presence of possible publication bias using funnel plot asymmetry and Duval and Tweedie's (2000) Trim and Fill procedure. Funnel plot asymmetry is a simple graphical technique that plots each study's standard error against its effect size. Asymmetry in the funnel plot may indicate potential bias of the outcomes. The trim and fill procedure is also used to locate potential missing effect sizes, usually those missing due to having a non-

positive treatment effect. The technique estimates an imputed effect size and recalculates the average weighted effect size. Although this procedure is not robust to criticism, it can be useful for sensitivity analysis purposes.

### 3.5.5 Handling of Missing Data

Missing data are bound to occur in the meta-analytic context. Pigott (2009) suggested multiple methods for handling this inevitable situation. One practical solution often requires the meta-analyst to estimate an effect size given less than ideal summary statistics. These situations often require little more than the correct software packages. We used this technique when summary statistics were not available to calculate an effect size.

Another pragmatic solution was to contact the primary author for further information. Unfortunately, this procedure did not warrant any new information.

### 3.5.6 Sensitivity Analyses

We observed the distribution of effect sizes to check for potential outliers. None of the effect sizes were more than the 3 SDs from the mean limit, and therefore we did not remove them or re-calculate the mean effect size.

### 3.5.7 Software

Wilson's (2013) online effect size calculator was utilized to calculate effect sizes in addition to stand-alone software, Comprehensive Meta-Analysis (CMA; Borenstein, Hedges, Higgins, & Rothstein, 2005). All meta-analytic estimations were conducted using the R program metaSEM (Cheung, 2013). The forest and funnel plots were created using the R program metafor (Viechtbauer, 2010).

### 3.5.8 Inclusion of Qualitative Research

We did not include qualitative research.

# 4 Data and Analyses

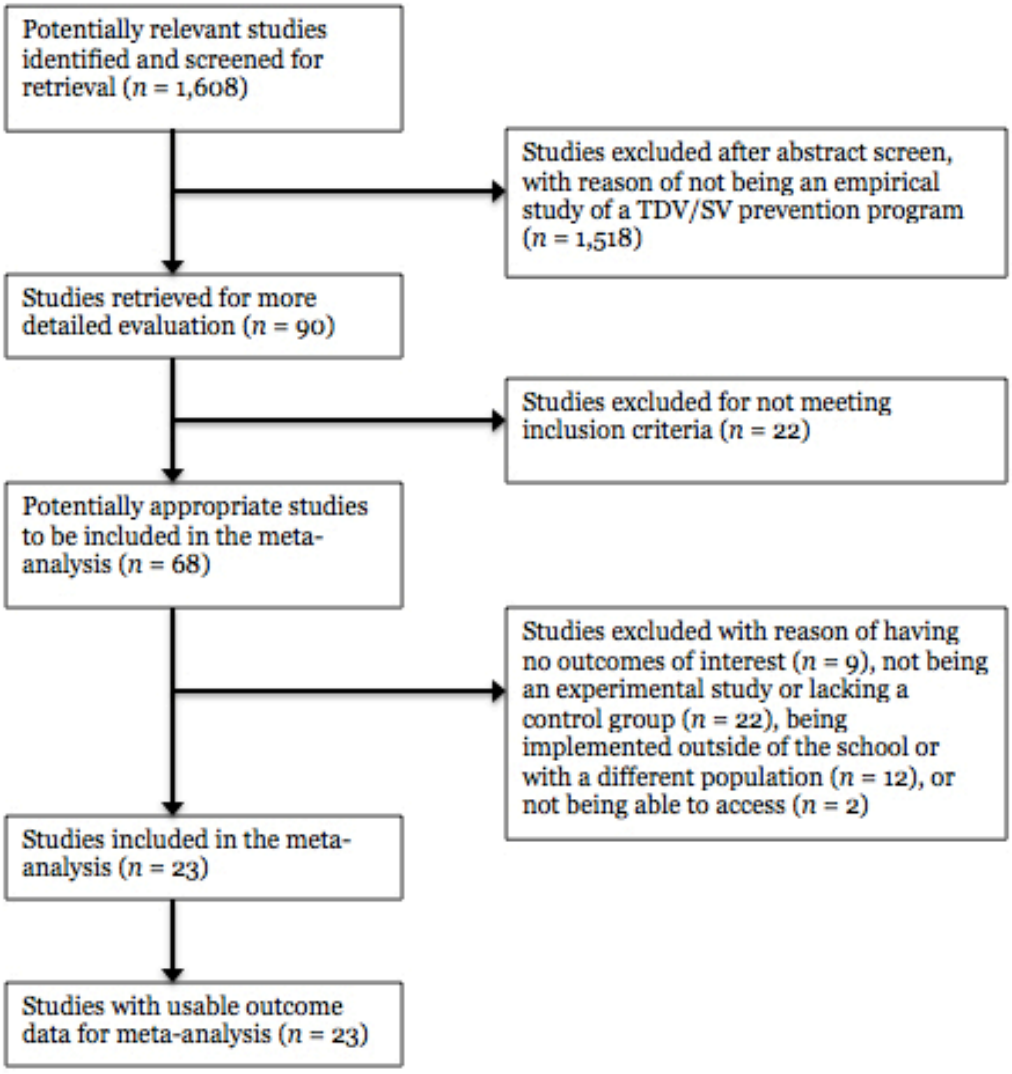
## 4.1 RESULTS OF THE SEARCH

We conducted the main searches in July of 2013. We searched 12 national and international bibliographic databases, and performed an extensive grey literature search which included searching the websites of 5 foundations and organizations which focus on the prevention of teen dating violence or sexual violence in intimate relationships.

The total number of potentially relevant records identified through these methods was 1,608 after excluding duplicates (database: 1,331, grey: 266, hand search and other: 11).

The titles and abstracts of all 1,608 citations identified in the search were screened for relevance. Following a title and abstract screen, 90 study reports were retrieved for a more detailed evaluation. Of these, 22 were initially excluded for not meeting inclusion criteria. After a full review, an additional 45 of the 68 remaining studies were excluded (See figure 4.1.1.1 below).

#### *4.1.1.1 Figure: Search and screen diagram*




A total of 23 unique studies reported in 21 papers were included in the review. Tables 8.2 and 8.3 in the Appendix provide additional details on included and excluded studies, respectively.

### 4.1.2 Coding Reliability

We conducted an inter-rater reliability assessment to ensure accuracy of the coding process. Two authors double coded eight studies. The studies were chosen at random. The authors assessed for exact agreement (or majority overlap in the case of the program aspects code) on coding of study characteristic (including report type, setting, sample, and program characteristics), design aspects, (including risk of bias) and on outcomes. After the results were calculated, the coders re-assessed the studies to ensure reliable coding.

The results of the reliability check revealed moderate to high levels of inter-rater agreement (See Table 4.1 below). The agreement percentages were calculated for

each of the four descriptive sections of the codebook. The two reviewers coded the first section, report characteristics, with 100% agreement. The second section, setting characteristics, scored the lowest of the four categories. Upon discussion of the disagreements, this phenomenon occurred due to an ambiguity in two of the items, both subsequently updated and recoded. The section on program characteristics scored a high agreement percentage given the clarity of most of the questions, for instance, the name of the program or the program implementer. Finally, the risk of bias section agreement was moderate relative to the other sections.

**TABLE 4.1: INTER-RATER RELIABILITY**

| Codebook Section | Number of Items | Percentage Agreement |
|---|---|---|
| A. Report Characteristics | 6 | 100% |
| B. Setting Characteristics | 5 | 82.5% |
| C. Sample & Program Characteristics | 12 | 89.5% |
| D. Risk of Bias | 8 | 84.3% |
| Overall | 31 | 89.1% |

*Notes*: Eight studies were randomly selected for double coding. The percentage agreement reflects the total number of items that matched exactly divided by the total number of items coded. All disagreements were discussed and a consensus was taken.

## 4.2 DESCRIPTION OF THE STUDIES

### 4.2.1 Included Studies

Twenty-three studies met our inclusion criteria. See Table 4.2 below, and for additional details see Table 8.2 in the Appendix. Most of these studies utilized either random assignment ($n$ = 10) or non-random assignment that included pre-test equivalence measures ($n$ = 11). One study implemented a quasi-experimental design with a matching procedure (Adler-Baeder et al., 2007) and one study used quasi-random assignment by using time of class (Proto-Campise, 1998).

**TABLE 4.2: SUMMARY DESCRIPTION OF STUDIES**

| Study Description | Number of Studies |
|---|---|
| Curriculum Presenter | |
| Teacher | 15 |
| Community Professionals | 4 |

| Study Description | Number of Studies |
|---|---|
| Research Staff or Graduate Student | 4 |
| Location of Studies | |
| East Coast of the U.S. | 4 |
| Southern U.S. | 5 |
| Midwestern U.S. | 9 |
| West Coast of the U.S. | 3 |
| Multiple U.S. states | 1 |
| Canada | 1 |
| Participants | |
| Grades 9th – 12th | 13 |
| Grades 6th – 8th | 10 |

In a majority of the studies, teachers presented the curriculum to students ($n$ = 15). Other studies made use of adults and professionals from the community. In Hillenbrand-Gunn, Heppner, Mauch, and Park's (2010) study, the curriculum was presented by a female professional working in the field of sexual violence prevention. Other presenters of material included a rape counselor (Taylor Stein & Burden, 2010), school personnel trained as substance abuse prevention and intervention specialists (Taylor Stein & Mumford, 2013), and an attorney (Jaycox et al., 2006). The remaining studies utilized research staff (Proto-Campise) or graduate students (Sanchez-Cesareo, 2002; Silverman, 2000; Weisz & Black, 2001).

### 4.2.2 Location of studies

One study was implemented in Canada (Wolfe et al., 2009) and the remaining studies were conducted in the United States. A number of studies were implemented in rural areas, including in Alabama (Adler-Baeder, 2007), South Carolina (Fay & Medway, 2006), and North Carolina (Foshee at al., 1998). One study was conducted in an urban area in Florida (Macgowan, 1997). Three studies were implemented on the east coast, two in New York (Avery-Leaf, Cascardi, O'Leary, & Cano, 1997; Taylor et al., 2013) and one in Rhode Island (Silverman, 2000). A number of studies were conducted in the Midwest: including Minnesota (Jones & Levy, 1991), Ohio (Proto-Campise, 1998; Taylor et al., 2010), suburban Illinois (Sanchez-Cesareo, 2002), rural South Dakota (Gardner, 2001), urban Michigan (Weisz & Black, 2001), urban Wisconsin (Krajewski, Rybarik, Dosch, & Gilmore, 1996), and one labeled only as Midwest (Hillenbrand-Gunn et al., 2010). The remaining studies were conducted on the west coast, including two in California (Gardner, Giese, & Parrot, 2004; Jaycox

et al., 2006) and one in the suburban Pacific Northwest (Pacifici, Stoolmiller, & Nelson 2001).

### 4.2.3 Participants

All of the participants were students in middle or high schools. Most of the studies included high school students (Adler-Beader et al., 2007; Gardner, 2001; Gardner et al., 2004; Proto-Campise et al., 1998) or a subset of the high school population. Avery-Leaf and colleagues (1997) included 11th and 12th graders, while other studies included only 10th grade (Pacifici et al., 2001) or 9th grade students (Fay & Medway, 2006; Jaycox et al., 2006; Sanchez-Cesareo, 2002; Wolfe et al., 2009). One study included both 8th and 9th graders (Foshee et al., 1998). Some studies focused on the middle school population (Jones & Levy, 1991; Macgowan, 1997), with some looking at specific grades within middle school: 6th and 7th grade (Silverman, 2000; Taylor et al., 2010, Taylor et al., 2013; Weisz & Black, 2001) and 7th grade (Krajewski et al., 1996).

### 4.2.4 Interventions

There was a wide range of programs implemented. Indeed, only the *Connections* program was implemented in multiple studies and this was all with the same author (Gardner 2001; Gardner et al., 2004; Gardner, 2005).

#### *4.2.4.1 Previously developed programs*

Some studies evaluated programs that were developed previously. *Love U2: Increasing your Relationship Smarts (RS adapted)* was an 8-week teacher led intervention that included didactic materials, experiential activities, and participatory discussion (Adler-Beader et al., 2007). The *RS adapted* covers material that is consistent with developmental perspectives on romantic relationships and was designed for schools that work with youth in grades 8 through 12 (Furman & Shaffer, 2003).

The *Safe Dates* program was a primary and secondary prevention program that included school and community activities (Foshee et al., 1998). The school activities promoted the primary prevention and included a theatre production performed by peers, a 10-session curriculum and a poster contest. Community activities promoted secondary prevention and included special services for adolescents in abusive relationships (e.g., a crisis line, support groups, materials for parents) and community service provider training.

*Connections: Relationships and Marriage* was a high school marriage education curriculum designed to teach students to develop healthy relationships and marriages (Gardner, 2001; Gardner et al., 2004; Gardner, 2005). The curriculum included 15 one-hour lessons that comprised four units: personality, relationships, communication and conflict resolution, and marriage.

The *Ending Violence* program was conducted across three-class periods and taught students that the law protects victims of domestic violence and punishes perpetrators (Jaycox et al., 2006). *Ending Violence* was taught by attorneys and emphasized the legal dimensions while also seeking to increase students' comfort with speaking with attorneys. The program also highlighted free services available to youth.

*The Fourth R: Skills for Youth Relationships* was a 21-lesson curriculum comprised of 3 units containing 75-minute classes on personal safety and injury prevention, healthy growth and sexuality, and substance use and abuse (Wolfe et al., 2009). This program utilized individual and school level components to address dating violence and related risk behaviors, such as negotiation, delay and refusal skills, and exercises to define and rehearse responsibilities associated with healthy relationships. The curriculum included video resources, role-play exercises, and an extensive focus on skill building using graduated practice with peers. The aim was to aid in the development of positive strategies for dealing with pressures and the resolution of conflict without using abuse or violence.

#### *4.2.4.2 Adapted programs*

A number of studies adapted existing curricula to meet the needs of their students. Fay and Medway (2006) adapted Parrot's (1991) program for college students. The Parrot program deals broadly with sexual assault and recognizes that both boys and girls can be the victims of rape. The format of the program involved activities that encouraged critical thinking, reflection and discussion as opposed to didactic lectures. The content used with the 9$^{th}$ grade students was identical to the original program except that language and role-playing situations were modified to make them relevant for high school students.

Krajewski and colleagues (1996) used the *Skills for Violence-Free Relationships (SVFR*; Levy, 1984), which challenges sex role stereotypes, offers alternative conflict resolution strategies, and assumes that violence is related to power and control. The *SVFR* was also used as the basis for the Minnesota school curriculum project (Jones & Levy, 1991). The goals of this curriculum included the ability to define important terms related to abuse in intimate relationships, to dispel myths about battered women, to identify reasons why battering occurs, and to have the skills and knowledge to reduce the likelihood of being either a victim or perpetrator of abuse in an intimate relationship. To adapt the curriculum, additional information was included around topics of battering and state specific domestic violence statistics and legal issues, available resources and local services. This curriculum also included a video, *The Power to Choose*, which depicts four dramatic scenes designed to help students explore issues of power and violence in adolescent dating relationships.

Weisz and Black (2001) used the *Reaching and Teaching Teens to Stop Violence* curriculum (Nebraska Domestic Violence Sexual Assault Coalition, 1995), which

included the goals of increasing knowledge about the extent and causes of sexual assault and dating violence and making students aware of community resources available. In addition, the program sought to increase intolerance for this type of violence, and increase engagement in behaviors that can prevent sexual assault and teen dating violence. This six-week curriculum included didactic presentation of information, modelling, role-plays, experiential exercises and discussions to help participants acquire knowledge and better understand their own attitudes and behavior. The program was adapted to focus on interactions between young people who are attracted to each other and spending time together as opposed to officially "dating." Additionally, the program was geared to address concerns specific to the target population and based discussions and role-play activities on the youths' experiences.

#### *4.2.4.3 Newly developed programs*

Some studies examined newly developed programs. In the study conducted by Avery-Leaf et al. (1997), the authors conducted a pilot study of a dating violence prevention program. The program was a five session curriculum sensitive to gender inequalities, which also recognized that both boys and girls may occupy victim or perpetrator status within dating relationships. The lessons provided a didactic, skills-based approach focused on attitude change and skill enhancement.

Using a Men as Allies philosophy, Hillenbrand-Gunn et al. (2010) examined the effects of a three-session healthy relationships and sexual violence prevention program using the theoretical framework of social norms. There were six specific intervention activities designed to promote Men as Allies (Heppner et al., 2005).

The teen dating violence prevention program evaluated by Macgowan (1997) was developed by Domestic Violence Intervention Services of Tulsa, Oklahoma (Kraizer & Larson, 1993). This program was designed to help students recognize dating violence, understand its causes, and make decisions to avoid or end an abusive relationship. The program included five one-hour sessions implemented over 5 days and included teacher-led discussions with the students.

*Dating and Sexual Responsibility* is a multimedia curriculum developed for high school students, with the aim of preventing coercive sexual behavior in dating situations (Pacifici et al., 2001). The curriculum was organized into three 80-minute periods of class instruction, with an additional class period in which students individually viewed an interactive video story called *The Virtual Date*. Class activities included videos, role-play, and discussion formats.

Proto-Campise et al. (1998) evaluated a rape awareness program. The objective of this program was to dispel common societal rape myths, learn the warning signs of potentially dangerous situations, educate participants about the need for effective and self-assertive communication in dating relationships, examine the media influences that affect society's and individuals' attitudes about rape, and provide

students with information on community resources available to survivors of sexual assault. The rape awareness curriculum was held during a one-hour class period, and was a combination of lecture and interactive discussions.

The Youth Project was developed with the goal of addressing teen dating violence, and included participatory workshops, interactive group discussions, skill-building exercises and elective counseling (Sanchez-Cesareo, 2002). The two-hour workshops were designed to target an entire population, and focused on the intergenerational cycle of violence, domestic violence, and dating violence. The aim was to increase students' basic knowledge and change their attitudes about teen dating violence. These workshops were followed later by a 14-session curriculum, which had the goal of challenging students to look at the connections between domestic violence, dating violence, and other forms of institutionalized violence and oppression, such as racism, sexism and homophobia.

The Rhode Island Teen Dating Violence Prevention Program was implemented by master's-level clinicians, and had the goal of modifying attitudes and behaviors so as to reduce incidents of intimate partner violence (Silverman, 2000). The program had both a primary prevention component, and a secondary prevention program that was implemented with a subset of high-risk youth. The primary prevention program was a one session 45-minute intervention and the secondary prevention program consisted of seven sessions.

Taylor et al. (2010) developed two sets of curricula in collaboration with the school district and a local rape crisis center, each of which was presented across five 40-minute classroom periods. The interaction-based curriculum addressed gendered violence and sexual harassment and focused on setting and communicating boundaries in relationships, forming relationships/friendships, the continuum between friendship and intimacy, wanted and unwanted behaviors, and the role of bystanders. This curriculum highlighted the ambiguity in many situations, and encouraged students to struggle with subjectivity. Alternatively, the second curriculum focused on laws, definitions, information, and data about penalties for sexual assault and sexual harassment, in addition to sharing results from research on the consequences of gendered violence and sexual harassment.

The *Shifting Boundaries* intervention considered the environmental context that surrounds and influences intentions and behaviors and included a classroom and building-based intervention (Taylor et al., 2013). The classroom-based intervention combined components of the interaction-based curriculum and the law and justice curriculum as described above (Taylor et al., 2010). The six-session curriculum emphasized the consequences for perpetrators of dating violence and sexual harassment, state and federal laws related to dating violence and sexual harassment, setting and communicating one's boundaries in interpersonal relationships, and the role of bystanders as interveners (Taylor et al., 2013). The lessons utilized both concrete and applied materials, and activities that required abstract thinking. The

building-level intervention included the introduction of temporary building-based restraining orders, the placement of posters in school buildings to increase awareness and reporting of dating violence and sexual harassment to school personnel, and the mapping of hotspots in the school.

### 4.2.5 Control conditions

A majority of the studies had either a wait-list control group ($n$=10) or the control group received treatment as usual ($n$ = 12). The exception was one study in which the control group received a minimal intervention (Sanchez-Casareo, 2002).

### 4.2.6 Outcome measures

The outcomes utilized are outlined next. Table 8.4 in the Appendix provides additional details about each outcome construct, and identifies the studies that included each outcome of interest.

#### *4.2.6.1 Teen Dating Violence Knowledge*

Ten studies measured teen dating violence knowledge, including both true/false questions and questions that assessed whether students could recognize teen dating violence behaviors. Many of the researchers developed their own knowledge measures based on the information provided in the specific intervention program under study.

#### *4.2.6.2 Teen Dating Violence Attitudes*

Ten studies measured attitudes towards teen dating violence. Often these measures presented scenarios or described behaviors, and asked students' to indicate if these behaviors were acceptable in dating relationships. Multiple studies made distinctions between being a male or female perpetrator.

#### *4.2.6.3 Rape Myths Acceptance*

Four studies measured adherence to rape myths. Many studies used the Rape Myth Acceptance Scale (RMAS) or versions of the scale. The original RMAS consist of 19 items in three sections. In the first section 11 declarative statements are presented and students select one of seven levels of agreement. In the second section there are two items that ask students to indicate the percentage of rape reports they feel are false due to vengeance or pregnancy. The final 6 items focus on how likely students would be to believe reports of rape depending on the status of the victim. The RMAS items are summed to provide an overall score.

#### *4.2.6.4 Dating Violence Perpetration*

Studies were less likely to measure dating violence perpetration behaviors. Three studies did include perpetration measures, including psychological abuse perpetration, and measures of sexual and nonsexual violence perpetration. Students

could also be presented with behaviors and asked how often they perpetrated these behaviors against a dating partner. For sexual violence students were asked to indicate how often they forced a partner to have sex or engage in sexual acts.

#### *4.2.6.5 Dating Violence Victimization*

Five studies assessed dating violence victimization. This included measures of psychological abuse and sexual and nonsexual violence victimization in dating relationships. Studies included prevalence (yes/no) and incidence (number of times) questions on the experience of being a victim of sexual and nonsexual violence by people they have dated.

#### *4.2.6.6 Conflict Tactics Scale*

Six studies used the *Conflict Tactics Scale*, and an additional study used a measure aimed to capture similar information. The *Conflict Tactics Scale* (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) is a measure designed to assess both frequency of use and type of behaviors used (i.e. reasoning, verbal, physical) when dealing with conflict. This measure consists of three subscales of ways to resolve conflict: using reasoning, verbal aggression, or physical aggression. Higher scores reflected a greater likelihood to use the respective strategy.

## 4.3 RISK OF BIAS IN INCLUDED STUDIES

The studies included were of medium-to-high risk of bias. We expected this assessment given the high level of unclear assessments of bias inherent in a number of the categories. In fact, we do not present the coding on allocation concealment, blinding of studies, or assessment blinding simply because all of the studies failed to report this information. These findings are likely a reflection of the nature of school-based research in which it is impossible to blind participants or researchers to the conditions, and of social science research more generally where these risk of bias assessments are often not reported. Nevertheless, there are a few indicators of risk of bias available for discussion and these are displayed in the table below.

### TABLE 4.3: RISK OF BIAS

| Risk of Bias Assessment | Low (%) | High (%) | Unclear (%) |
|---|---|---|---|
| Random Allocation | 3 (13%) | 15 (65.2%) | 5 (21.7%) |
| Incomplete Outcome Data | 6 (26.1%) | 14 (60.9%) | 3 (13%) |
| Selective Reporting | 19 (82.6%) | 3 (13%) | 1 (4.3%) |
| Condition Assignment | 10 (43.5%) | 1 (4.3%) | 12 (52.2%) |
| Other Source of Bias | 1 (4.3%) | 6 (26.1%) | 16 (69.6%) |

| Risk of Bias Assessment | Low (%) | High (%) | Unclear (%) |
|---|---|---|---|
| Pre-test Equivalence | 18 (78.3%) | 3 (13.0%) | 2 (8.7%) |

*Notes*: The number of studies for each risk of bias indicator is noted, with the corresponding row percentage displayed in parentheses.

### 4.3.1 Random allocation

Although most of the studies received an "unclear" rating, three of the studies provided information to support a low risk of bias judgment (Taylor et al., 2010; Taylor et al., 2013; Wolfe et al., 2009). Each of the studies explicitly stated that a random number generator was utilized to assign conditions to groups. Not surprisingly, these studies had the largest sample sizes (in terms of number of students) and most explicitly described design and analyses. The studies rated with a high risk of bias included quasi-experimental designs. Studies that utilized random assignment but failed to provide the method of allocation were given ratings of unclear.

### 4.3.2 Incomplete outcome data

Six studies utilized an intent-to-treat analysis that accounted for the attrition common in large-scale randomized experiments (Adler-Baeder et al., 2007; Foshee, et al., 1998; Krajewski, et al., 1996; Taylor et al., 2010; Taylor et al., 2013; Wolfe et al., 2009). All of these studies reported the level of attrition and also chose to evaluate the program using missing data programs that accounted for the missingness.

Unfortunately, most of the studies received the rating of high risk of bias given the way they handled the missing data and attrition ($n$ =14). The studies receiving high risk of bias all reported the attrition, but they also eliminated participants when they did not have post-test or follow-up data. For instance, Weisz & Black (2001) eliminated 41.3% of the intervention sample because they failed to complete a follow-up instrument (46 completed pre-test instruments, 27 completed post-test instruments, 21 completed a follow-up instrument). The authors did, however, evaluate pre-test differences between individuals who completed post-test instruments and those who did not, finding no differences. Nevertheless, there was substantial risk of bias given the incompleteness of the research report.

Three reports were coded as an unclear risk of bias. Jaycox et al. (2006) received this rating because the attrition levels were reported but the handling of missing data was not clear.

### 4.3.3 Selective reporting of outcome data

The selective reporting of outcome data category represented the lowest measure of bias. A total of nineteen studies reported outcomes that they stated were collected.

This procedure often resulted in multiple measures of the same type of outcome (e.g. two measures of teen dating violence knowledge).

However, four studies reported only the results of the significant intervention effects. Avery-Leaf et al. (1997) stated three other measures of dating violence knowledge were recorded, but were not significant, and were unavailable to the reader. Three other studies conducted by the same research team (Gardner et al., 2001; Gardner et al., 2004; Gardner et al., 2005) provided only the results of the significant findings, and, in one case (Gardner et al., 2001), this resulted in only one measure of the intervention effect being reported.

### 4.3.4 Condition assignment

Ten studies utilized a random or quasi-random process to assign students (or classrooms or schools) to conditions. The one study that utilized a quasi-random approach (Proto-Campise et al., 1998) assigned classrooms to conditions based on the time of day the classes were scheduled (morning classes received the intervention).

The thirteen remaining studies utilized a non-random approach to assign students to conditions. Only the Jones and Levy (1991) study failed to include a pretest measure to assess equivalence across the groups, but the authors compared the demographic characteristics of the conditions to demonstrate equivalence. All other non-randomized studies provided a measure of the pretest or used a matching procedure to create groups that were equivalent on the matching variables.

Interestingly, the Silverman (2000) dissertation utilized two separate condition assignments for the two studies included. The first study (Silverman, 2000; 1) utilized a matching procedure to equate the groups. In the second study of high-risk students (Silverman, 2000; 2), the author implemented a random assignment procedure.

### 4.3.5 Pre-test equivalence

Eighteen studies both tested for pretest equivalence and achieved pretest equivalence in the measured and observed variables. Three studies measured pretest equivalence and had at least one outcome variable vary significantly across the conditions. All three of these studies used random assignment. The final two studies failed to measure for pretest equivalence. These two studies used a random assignment mechanism.

## 4.4 EFFECTS OF THE INTERVENTION: POST-TEST

The effect sizes for each study are displayed in Table 9.1 of the Appendix. The first analysis was an analysis of the post-test effect sizes, see Table 4.4 below. These effect sizes were taken from measures given immediately after (or as close to) the

conclusion of the intervention. The three-level random effects model was used to estimate the mean effect size for each outcome construct. Because we planned to conduct moderator analyses across all the effect sizes (i.e. both post-test and follow-up effect sizes), we do not provide a discussion of the heterogeneity of each construct. For the knowledge, attitude, and conflict tactics scale, a positive effect size indicates a favorable outcome for the intervention group. For the rape myths, perpetration, and victimization constructs, a negative effect size indicates a favorable outcome for the intervention group.

**TABLE 4.4: INTERVENTION VERSUS NO INTERVENTION USING RANDOM-EFFECTS META-ANALYSIS FOR POST-TEST MEASURES**

| Outcome | Studies | Effect Sizes | Effect Size (95% CI) | **L2:** $\tau^2$, $I^2$ | **L3:** $\tau^2$, $I^2$ |
|---|---|---|---|---|---|
| Teen Dating Violence Knowledge | 13 | 15 | .22* (.05, .39) | .02, 21.6% | .06, 71.52% |
| Teen Dating Violence Attitudes | 11 | 23 | .14** (.10, .19) | .01, 22.68% | .01, 1.0% |
| Rape Myths Acceptance | 4 | 4 | -.47** (-.68, -.26) | .02, 34.13% | .02, 34.09% |
| Dating Violence Perpetration | 3 | 6 | .01 (-.04, .05) | .01, 1.0% | .01, 1.0% |
| Dating Violence Victimization | 5 | 8 | -.21* (-.41, -.02) | .001, 1.0% | .03, 86.57% |
| Conflict Tactics Scale | 8 | 10 | .18** (.12, .23) | .02, 67.41% | .01, 1.0% |

*Notes*: * $p < .05$; ** $p < .01$; L2 = Level-2 (Effect size level); L3 = Level-3 (Study level).

### 4.4.1 Teen Dating Violence Knowledge

Thirteen studies included information sufficient to calculate an effect size for the teen dating violence knowledge construct. From those thirteen studies, 15 effect sizes were calculated. The effect sizes ranged from a high of 1.23 (Weisz, 2001) to a low of -.04 (Sanchez-Casareo, 2002). A three-level random-effects model was fit to the data. The results revealed an intervention effect ($\theta = .22$, 95% C.I. = .05, .39), which was significantly different from zero ($p < .01$) indicating that intervention participants exhibited greater teen dating violence knowledge than comparison participants at the post-test.

### 4.4.2 Teen Dating Violence Attitudes

Eleven studies included information sufficient to calculate an effect size on teen dating violence attitudes. Most of the studies provided multiple measures of teen dating violence attitudes and we therefore calculated 23 effect sizes. The effect sizes ranged from a high of .89 (Weisz & Black, 2001) to a low of -.38 (Taylor et al., 2010). The three-level random effects model revealed a small but statistically significant result ($\theta$ = .14, 95% C.I. = .09, .19), indicating an improvement in teen dating violence attitudes for intervention participants over comparison participants.

### 4.4.3 Rape Myths Acceptance

Only four studies, each generating a single effect size, provided a measure of rape myths acceptance. Therefore, multilevel modeling was not appropriate and we conducted the synthesis using the traditional two-level random effects meta-analytic approach. The effect sizes ranged from a low of -.69 (Proto-Campise, 1998) to a high of -.18 (Pacifici, et al., 2001). All four effect sizes were negative, indicating intervention groups espoused fewer rape myths after treatment. The results of the random-effects model, therefore, indicated an intervention effect ($\theta$ = -.47, 95% C.I. = -.69, -.26); intervention participants were less likely to espouse rape myths relative to control participants.

### 4.4.4 Dating Violence Perpetration

A total of three studies, contributing six effect sizes, were synthesized for the dating violence perpetration outcome. Across all studies, the range of effect sizes varied from -.19 (Wolfe, 2009) to .05 (Avery-Leaf et al., 1997). The random-effects meta-analysis, using the three-level design, revealed a very small non-statistically significant, overall intervention effect ($\theta$ = -.01, 95% C.I. = -.04, .05). Intervention participants did not differ in their levels of dating violence perpetration relative to control participants.

### 4.4.5 Dating Violence Victimization

Eight effect sizes, calculated from five total studies, were used to synthesize the intervention effects on dating violence victimization. The effect size range was slightly larger than that for dating violence perpetration: the lowest effect size was -.49 (Gardner, 2004) while the highest was .08 (Taylor et al., 2010). We used a three-level random-effects model to estimate the average intervention effect across studies. The results revealed an average effect size that was not statistically significant ($\theta$ = -.21, 95% C.I. = -.41, .02); intervention participants were less likely to experience dating violence victimization than control participants, but the effect was not statistically significant.

### 4.4.6 Conflict Tactics Scale

Eight studies provided sufficient information to calculate ten effect sizes on the Conflict Tactics Scale. Of the studies that reported an effect size, Sanchez-Cesareo (2002) reported the largest (.57) and Jaycox's (2006) study yielded the smallest effect size (-.02). A random-effects three-level model revealed a statistically significant intervention effect ($\theta$ = .18, 95% C.I. = .12, .23). Participants in the intervention increased their level of conflict tactic skills relative to control students.

## 4.5 EFFECTS OF THE INTERVENTION: FOLLOW-UP

We conducted a further analysis of the follow-up effect sizes, shown in Table4.5. We again utilized the three-level meta-analytic model to conduct these analyses. For the knowledge, attitudes, and conflict tactics scale, a positive effect size indicates a favorable outcome for the intervention group. For the rape myths, perpetration, and victimization constructs a negative effect size indicates a favorable outcome for the intervention group.

**TABLE: 4.5 INTERVENTION VERSUS NO INTERVENTION USING RANDOM-EFFECTS META-ANALYSIS FOR FOLLOW-UP MEASURES**

| Outcome | Studies | Effect Sizes | Effect Size (95% CI) | L2: $\tau^2$, $I^2$ | L3: $\tau^2$, $I^2$ |
|---|---|---|---|---|---|
| Teen Dating Violence Knowledge | 8 | 10 | .36*(.01, .71) | .03**, 97.40 | .01, 1.00 |
| Teen Dating Violence Attitudes | 6 | 15 | .11*(.01, .22) | .01, .53 | .01, 39.40 |
| Rape Myth Awareness | 1 | 1 | NA | NA | NA |
| Dating Violence Perpetration | 4 | 8 | -.11*(-.21, -.01) | .01, 1.00 | .01, 17.30 |
| Dating Violence Victimization | 3 | 7 | -.01(-.36, .21) | .01, 1.10 | .03, 10.30 |
| Conflict Tactics Scale | 4 | 4 | .66(-.24, 1.57) | .84**, 98.90 | NA |

*Notes*: * $p < .05$; ** $p < .01$; L2 = Level-2 (Effect size level); L3 = Level-3 (Study level).

The results of the analysis of the follow-up effect sizes yielded similar conclusions to the post-test analysis, with a few notable differences. For teen dating violence knowledge, the results indicated a significant treatment effect ($\theta$ = .36, 95% C.I. = .01, .71), participants in the treatment group continued to have greater teen dating violence knowledge relative to control participants. Intervention participants also

had significant, albeit small, improvements in teen dating violence attitudes (θ = .11, 95% C.I. = .01, .22).

The dating violence perpetration construct showed a decrease in teen dating violence perpetration (θ = -.11, 95% C.I. = -.21, -.01), however, teen dating violence victimization showed no intervention effect at follow-up (θ = -.01, 95% C.I. = -.36, .21).

Only one effect size per study was presented for the conflict tactics scale; therefore, we used traditional two-level meta-analytic procedures. The results indicated a positive treatment effect for the intervention conditions, but the confidence interval was quite large (θ = .66, 95% C.I. = -.24, 1.57). Finally, only one rape myth awareness effect size was captured at follow-up; therefore, we did not conduct a meta-analytic synthesis.

## 4.6 MODERATOR ANALYSIS

We conducted two sets of moderator analyses. The first of the two assessed the impact of the assignment mechanism on the outcome analyses, see table 4.6 below. In line with previous analyses, we separated the post-test and follow-up effect sizes. The results of this test yielded small, but important differences. For post-test effect sizes, studies that utilized random assignment produced larger effect sizes compared to non-random assignment for only one of the five outcomes (*note*: the dating violence perpetration outcome studies used only random assignment). The differences between effect sizes were largest for dating violence victimization and conflict tactic scale outcomes. With regard to follow-up studies, a large difference was again found for the conflict tactic scales outcome. Of note, none of the follow-up average effect sizes were significant at the $p < .05$ level.

### TABLE 4.6: MODERATOR ANALYSIS USING METHOD OF ASSIGNMENT TO CONDITION FOR ALL OUTCOMES FOR EACH TYPE OF EFFECT

| | Immediate Post-test | | Follow-Up | |
|---|---|---|---|---|
| | Random Assignment | Non-random Assignment | Random Assignment | Non-random Assignment |
| Teen Dating Violence Knowledge | .36** (.13, .59) | .09 (-.12, .30) | .24 (-.45, .93) | -.13 (-.72, .45) |
| Teen Dating Violence Attitudes | .12** (.06, .18) | .19** (.11, .29) | .13 (-.02, .27) | -.09 (-.19, .38) |
| Rape Myth Awareness | -.46** (-.78, -.15) | -.52 (-1.09, .05) | NA | NA |

| | Immediate Post-test | | Follow-Up | |
|---|---|---|---|---|
| Dating Violence Perpetration | .01 (-.04, .05) | NA | -.11 (-.21, .01) | NA |
| Dating Violence Victimization | -.08 (-.33, .16) | -.37** (-.65, -.09) | -.01 (-.36, .21) | NA |
| Conflict Tactics Scale | .03 (-.22, .27) | .24** (.10, .38) | .10 (-1.33, 1.54) | 1.23 (-.21, 2.67) |

*Notes*: * $p < .05$; ** $p < .01$.

The second of the two moderator analyses used meta-regression. The results of this analysis did not yield any statistically or conceptually significant results. To foster clarity we do not present the results of the analyses here. Instead, please see Section 9.3 in the Appendix for a full description of the results and corresponding tables.

## 4.7 Sensitivity analysis: Follow-up

We were also interested in the relationship between the effect size and the number of months after the intervention ended when the follow-up measurements were gathered. To assess this relationship, a single-predictor meta-regression model was estimated. Across the five constructs tested, only the results from the teen dating violence perpetration construct yielded a significant relationship ($\beta = -.002$, SE = .001, $p < .05$).

### TABLE 4.7: META-REGRESSION USING MONTH AS A PREDICTOR OF THE FOLLOW-UP EFFECT SIZE

| Outcome | Studies | Effect Sizes | Intercept (SE) | Number of Months (SE) |
|---|---|---|---|---|
| Teen Dating Violence Knowledge | 8 | 10 | .047 (.035) | .002 (.006) |
| Teen Dating Violence Attitudes | 6 | 15 | .007 (.011) | -.003 (.002) |
| Rape Myths Awareness | 1 | 1 | NA | NA |
| Dating Violence Perpetration | 4 | 8 | -.002 (.005) | -.002* (.001) |
| Dating Violence Victimization | 3 | 7 | .018 (.008) | -.002 (.002) |
| Conflict Tactics Scale | 4 | 4 | 1.32 (.795) | .110 (.111) |

*Notes*: *$p < .05$; ** $p < .01$.

## 4.8 PUBLICATION BIAS

Publication bias reflects the tendency for significant results to be published over non-significant results, and for larger studies to be published more often than smaller ones. This can create concerns for systematic reviews and may lead to conclusions that are not truly reflective of the state of interventions. To assuage concerns, a series of analyses were run to assess for publication bias.

### 4.8.1 Funnel plots

Funnel plot analyses were utilized to examine publication bias. None of the funnel plots indicated an asymmetrical distribution, reducing concerns of publication bias or systematic differences between larger and smaller studies. The funnel plots for each of the six outcomes can be found in section 9.4 of the appendix.

### 4.8.2 Trim and fill analysis

The results of the trim and fill analyses revealed only two findings of interest. First, the teen dating violence knowledge outcome was potentially excluded from four studies. After accounting for the potentially excluded studies, the imputed average effect size estimate would decreased from .24 to .08, (95% C.I. = .11, .26), therefore the effect sizes for teen dating violence knowledge might be inflated in the present review. This is substantial and must be considered when evaluating the completeness (or, rather the incompleteness) of studies available. Second, the results revealed a single excluded study for the rape myths outcome. Unlike teen dating violence knowledge, however, the missing study would only decrease the intervention effect slightly ($\theta$ = -.43, 95% C.I. = -.66, -.20), and as such does not raise concerns of an inflated effect size. For all other outcomes, the results revealed they were not likely excluded from studies. Overall, this confirmed the review's completeness.

**TABLE 4.8: TRIM AND FILL RESULTS**

| Variable | # Missing Studies | Observed Effect Size (95% CI) | Imputed Effect Size (95% CI) |
|---|---|---|---|
| Teen Dating Violence Knowledge | 4 | .24 (.05, .43) | .08 (.11, .26) |
| Teen Dating Violence Attitudes | 0 | .13 (.07, .18) | .13 (.07, .18) |
| Rape Myths Acceptance | 1 | -.52 (-.64, -.41) | -.43 (-.66, -.20) |

| Variable | # Missing Studies | Observed Effect Size (95% CI) | Imputed Effect Size (95% CI) |
|---|---|---|---|
| Dating Violence Perpetration | 0 | -.09 (-.17, -.01) | -.09 (-.17, -.01) |
| Dating Violence Victimization | 0 | -.15 (-.31, .01) | -.15 (-.33, .01) |
| Conflict Tactic Scales | 0 | .30 (.02, .57) | .30 (.02, .57) |

# 5 Discussion

## 5.1 SUMMARY OF OVERALL RESULTS

The results of this meta-analysis indicated several significant findings. First, the impact that prevention programs have on teen dating violence knowledge and attitudes was significant. Across thirteen studies, varying in intervention length, location, implementation, and participants, the interventions increased the participants' knowledge of dating violence above and beyond that of control students at post-test, and this increase in knowledge was sustained at follow-up. The results were slightly less enthusiastic for teen dating violence attitudes, but nevertheless impactful. An intervention student would be predicted to endorse attitudes less supportive of dating violence at post-test compared to a control student. However, at follow-up, the size of this treatment effect decreases slightly.

Knowledge and attitude change are important precursors to addressing teen dating violence. Raising awareness of dating violence and helping students recognize violent and abusive behaviors is an important step in helping students' establish healthy and safe dating relationships and can also increase their awareness of resources available to them if they are in a violent dating relationship. Additionally, shifting attitudes to be less tolerant of dating violence is an important precursor to fostering a positive school and peer climate. However, changes in knowledge, attitudes and beliefs regarding dating violence are a minimum requirement, and it is not known if this will actually lead to changes in behavior (World Health Organization, 2010).

Indeed, the results of the perpetration and victimization analyses in the present review were less encouraging. Across three studies, intervention students showed no change in their levels of dating violence perpetration, and this null finding remained at follow-up. For the five studies that measured dating violence victimization, there was only a small but significant effect at post-test where intervention students showed lower levels of victimization; however, at follow-up this effect size decreased to null. Most importantly, only a limited number of studies actually measured these constructs, despite the fact that programs are often implemented in order to lower levels of perpetration and decrease experiences of victimization. As such, this should motivate researchers to look beyond simple knowledge and attitude measures, and examine how programs may change behaviors, especially given that this is the

ultimate goal of many prevention efforts. Indeed, theories of behavior change indicate that changing attitudes will likely not be enough to lead to changes in actual behaviors and if the goal of prevention programs is to alter behaviors then significant modifications may be needed.

The other two outcomes synthesized indicated significant intervention effects. Although only four studies contributed a measure of rape myths acceptance, the results indicated a large intervention effect at post-test. Intervention students were less likely to endorse rape myths as compared to control students. Clearly this is one outcome where researchers and practitioners can expect to find significant changes; however, it is not known if these changes will be sustained at follow-up given that only one rape myth acceptance effect was captured beyond post-test. Additionally, because this is a different construct from dating violence, it is unclear what impact this change will have on perpetration and victimization. Evaluation studies have found that providing "factual" information as part of efforts to address rape has little effect on attitudes towards rape or on the levels of empathy for victims (World Health Organization, 2010), which raises the question whether prevention efforts are able to impact behavioral changes in dating violence by solely addressing rape myths. Indeed, a similar argument is apparent for the conflict tactics scale outcomes, where the results indicated that intervention students have increased positive conflict management skills at post-test, but again it is not clear whether this leads to reductions in perpetration and victimization of dating violence.

While an aim of this review was to examine if prevention programs could be effective in encouraging bystander intervention to stop the perpetration of dating violence and/or increase peer support for victims of dating violence, only one study reported this outcome. Given the importance of peer relationships during adolescence, it will be important to examine whether prevention programs can shift the peer culture to be less tolerant of dating violence and whether this can then lead to reductions in perpetration and victimization behaviors.

The results of this meta-analysis indicated that while prevention programs show promise in increasing knowledge and awareness, impacts on behaviors are less clear and indeed are not often reported. The results evident for the victimization and perpetration outcomes suggest, however, that dating violence programs will likely require modifications in order to make an impact on behaviors. As discussed by Cornelius and Ressegule (2007), a skill-building component is an important aspect of prevention programming, and as presented in the logic model previously, a reduction in dating violence perpetration and victimization was expected to be the result of a chain of events that included increases in knowledge and shifting attitudes that could then support skills and behavior change. Many programs had the stated goal of increasing knowledge and shifting attitudes around dating violence, but without a skill-building component that integrates specific training to modify behavior and develop skills, it is unlikely that behavior change will be

accomplished (Cornelius & Ressegule, 2007). Of the studies included in this review only two clearly described a skill-building component as part of the program curriculum (Foshee, 1998; Wolfe et al., 2009) and an additional two mentioned activities that may reflect skill components, but this was not stated explicitly. In future prevention efforts, a skill-building component needs to be explicitly incorporated, and behavioral outcomes need to be measured.

## 5.2 OVERALL COMPLETENESS AND APPLICBAILITY OF EVIDENCE

We initiated this meta-analysis using a comprehensive, thorough, and systematic review of the extant literature. This resulted in a relatively large number of citations to screen; this comprehensiveness ensured that all relevant studies were retained. Moreover, our contact with leading dating violence researchers ensured that we received and reviewed all applicable studies. We are confident that a very limited number of studies, if any, remain available for inclusion.

## 5.3 QUALITY OF EVIDENCE

The quality of evidence included in this review is varied but encouraging. Although a number of high quality, large-scale, randomized experiments have been funded and published, there remain a number of studies that exhibit a high risk of bias. In this review, some of the studies demonstrated a high risk of bias, including four studies that reported only the significant findings. Given the preference for publishing significant findings to the exclusion of non-significant results there is a concern that systematic reviews will not obtain the most complete picture of the literature. The results of the trim and fill analyses assuage some of our concerns with regards to missing studies. Excluding the knowledge and rape myths outcomes, the results revealed there were not likely excluded outcomes from additional studies. In regards to knowledge, the possible exclusion of effects sizes may have upwardly biased the effect size in the present review. While the trim and fill analyses provide increased confidence in our results, the exclusion of non-significant outcomes, and more generally the exclusion of non-significant findings from publication, do raise concerns as to whether the outcomes reported are truly reflective of the state of teen dating violence interventions. Given that we cannot know for certain what outcomes were excluded, there is some doubt that the included outcomes completely represent the effects of teen dating violence intervention efforts.

There are also some concerns with how studies handled missing data. Many studies (n = 14) demonstrated a high risk of bias for missing data given that often participants with missing data on the outcome measures were excluded from the analyses. With more sophisticated options of handling missing data available, including imputation techniques, it will be important for future studies to explore

options to retaining as many subjects as possible. Additionally, in order to advance the field, it is paramount that researchers continue to attempt randomized-control trials or, at the very least, high quality matched-group studies. Randomized control studies offer an advantage over non-randomized designs given the former can reduce spurious causality and bias by randomly assigning all eligible participants to either the intervention or control condition.

Another issue to address is the level of analysis. With the exception of the largest and most recent, most studies analyzed individual-level data and failed to account for the inherent nested structure of the data (e.g., students in a class). We attempted to correct for this concern by applying a clustering adjustment, but the studies often failed to provide sufficient information to allow for this correction. More so than incorrectly calculated effect sizes, this has the potential to bias the meta-analytic results by weighting the studies improperly. Although this issue may be resolved with the use of multilevel modeling procedures, it should nevertheless be taken into consideration when judging the quality of this meta-analysis.

Finally, the quality of evidence of this review was superior to previous reviews, because of the inclusion and use of all reported effect sizes. The synthesis of these effect sizes was facilitated through multilevel meta-analysis, an advanced approach to synthesis that relaxes the assumption of effect size independence. However, one potential limitation to this approach was the small number of studies included for a number of outcomes (i.e., dating violence perpetration). It is yet unknown if the small number of studies biases the estimated variance components or average effect size, but some measure of caution should be taken when interpreting these results.

## 5.4 POTENTIAL BIASES IN THE REVIEW PROCESS

Only one important limitation should be noted. All of the authors live and practice in the United States, in addition to speaking primarily only English. It is possible that studies were overlooked given that all search terms were in English and the risk of excluding studies published outside the United States. Of course, we took pains to search and include studies outside the United States, as well as not limiting the search to English-only languages. We believe, therefore, this bias is most likely somewhat limited.

## 5.5 AGREEMENTS OR DISAGREEMENTS WITH OTHER STUDIES OR REVIEWS

A number of other authors have explored the topic of teen dating violence interventions (Cornelius & Ressegui, 2007; Meyer & Stein, 2004; Whitacker et al., 2006). While these reviews did not include effect size calculations or estimate meta-analytic results, they did prove instrumental in our search and screening procedures.

One review that did conduct a meta-analysis on the outcomes of teen dating violence knowledge ($k$ =10) and attitudes ($k$ = 9) looked at whether intervention students improved their knowledge or attitude following an intervention as compared to students who did not participate in an intervention (Ting et al., 2009). The authors found large average effect sizes (θs = .724, .687, respectively) where students who participated in a program improved their knowledge and attitudes towards dating violence.. This review did differ from the present review in that Ting et al. (2009) measured students' gain scores (i.e., within-study, one-group, pre-test-post-test design) after participating in the intervention, which does not allow for direct comparisons with the effect sizes of the present review. Nevertheless, this review at least partially confirms that prevention programs can have an impact on students' knowledge and attitudes.

## 5.6 IMPLICATIONS FOR PRACTICE

This review highlights some benefits of implementing teen dating violence prevention programs in schools. Students who participated in teen dating violence prevention programs demonstrated increased knowledge about dating violence, including an improved ability to recognize abusive behaviors within intimate relationships. To a lesser degree, students exposed to teen dating violence prevention programs also reported attitudes less supportive of violence in intimate relationships and increases in positive conflict management skills in comparison to youth who were not exposed to these programs. However, results on whether these programs will lead to changes in behaviors are less encouraging. While there were some small reductions in the levels of victimization at post-test, these results were not sustained at follow-up. In addition, the levels of perpetration were not different between intervention and control students.

While the outcomes noted in this review can provide direction as to next steps for teen dating violence prevention programs, the results do come with some important limitations. The risk of biases noted previously, including the majority of studies including quasi-experimental designs, the incompleteness of data and some studies only reporting significant findings, all lead to some trepidation around the quality of the included studies. As such practitioners and researchers should regard the results of this review as a guiding step in conjunction with developing their own thorough understanding of the nature of dating violence and theories of behavior change. Nevertheless, the results of the present review are a strong reflection of the current state of the literature, and as the field moves towards more rigorous research design and more sophisticated statistical analyses (which can address things like concerns with missing data), the risk of biases should also lessen.

The adolescent years are formative. During this time, students are developing the skills they need to form positive relationships with others (Center for Disease

Control and Prevention, 2012), and this includes learning to navigate dating relationships. Teen dating violence prevention programs implemented in schools can provide students with the knowledge and resources to aid in the development of healthy relationship skills, while also providing them with tools to navigate the possible conflicts that will arise. Intervening early in the formative years appears to be critical and can hopefully facilitate the development of healthy relationship skills and prevent the emergence of violence patterns that may set the stage for concerns that continue into adult relationships (Mulford & Blachman-Demner, 2013). Adolescence is an ideal time to promote the development of healthy relationships and to prevent patterns of dating violence that can last into adulthood, and prevention programs can be utilized to support this goal.

Knowledge and attitude change, however, is only one aspect of preventing and reducing incidences of teen dating violence. It is still unclear what impact increases in knowledge have in the subsequent years of an intervention. For instance, do changes in knowledge actually prevent an adolescent from perpetrating violence against a dating partner following an intervention? Indeed, there were only small changes noted on dating violence victimization behaviors and no changes seen on rates of perpetration following a prevention program. As such, it may be necessary for schools to modify or extend prevention programs in order to reduce actual behavior. Also, it is important for schools to continue to monitor behaviors and to make focused efforts to address dating violence in their schools and amongst their students.

## 5.7 IMPLICATIONS FOR RESEARCH

It is imperative that researchers continue to engage in randomized-control trials, or at the very least high quality non-random designs, such as matched-group studies. This will allow for increased confidence that results are attributable to the intervention and reduce concerns of spurious cases and bias. These studies are essential in moving the field forward, and necessary to understand how teen dating violence preventions programs can be optimized to best meet the needs of students and schools.

Equally important, researchers should attempt to clarify whether changes in knowledge and attitudes will actually lead to behavior change. Frequently evaluations have relied upon measures of knowledge and attitude instead of measuring the effects of the program on the actual behaviors (World Health Organization, 2010). While this review did not show substantial changes in perpetration or victimization experiences, this may reflect methodological challenges in: (1) understanding the best way to assess the sensitive constructs of teen dating violence behaviors and (2) developing multi-informant or dyad-level assessments beyond self-report measures. Moving forward, studies need to incorporate both measures of perpetration and victimization, and work with schools

to satisfactorily address issues around confidentiality and mandated reporting. In addition, it will likely prove beneficial to develop more nuanced measures of these constructs given the low prevalence of many of these behaviors within adolescent relationships. Including behavioral measures of perpetration and victimization will also help assuage concerns of missing outcomes. These are especially important measures to include given the goal of most intervention efforts are to reduce rates of victimization and perpetration. By excluding these outcomes the results of this review, and any subsequent review, are severely limited and this reduces our ability to accurately reflect on the state of intervention efforts. Developmental timing is also key. Prevention studies should employ longitudinal studies including youth from early to late adolescence to examine predictors of the onset of and changes in teen dating violence behaviors over time. It may be that increases in knowledge and changing attitudes allow students to make healthier choices when they face increasing levels of intimacy in their dating relationships.

It will also be important for future research to consider the context of dating violence, specifically the role of bystanders and peer supports for teen dating violence. While an aim of this review was to understand the role of bystanders, only one study reported this outcome and as such the role of bystanders remains unclear. It will be necessary for programs to consider the social contextual factors present in adolescence, and specifically the powerful influence that peers have on social development (Cornelius & Resseguie, 2007). Given the importance of peers in adolescence, this is an important area in need of further exploration. Continued work to see how prevention programs influence bystander support, and also how these programs may shift the peer culture are important. It is plausible that increases in knowledge and improvements in attitudes around teen dating violence could shift the culture of the school where intervention programs are implemented. This would require a systematic study of peer networks before and after an intervention program.

Finally, this review was not able to identify how program type (i.e., universal, psycho-educational, individual or classroom level) contributed to differential efficacy in preventing perpetration and victimization in dating relationships. It may be helpful for research to focus on specific programs that are effective and easily accessible to schools, and explore how modifications specific to the needs of the individual school impact the effects of the program. For instance, supplementing a dating violence prevention program with a curriculum that focuses on gender identity. Within this review it is evident that prevention programs can have a positive impact, however, the plethora of programs presented and the limited evidence to support behavior change creates challenges in recommending specific approaches for schools.

# 6 Author's Conclusions

This review was the first to quantitatively synthesize the exhaustive extant empirical evaluations of school-based programs designed to prevent or reduce the incidence of dating violence among adolescents. Following a comprehensive search of the literature, including contacting high profile researchers in the field, this review identified 23 empirical studies to include in a meta-analysis. To ensure there was clear support that an intervention was indeed the cause of a change in knowledge, attitudes or behaviors, only those studies that implemented an experimental or quasi-experimental design with a control group were included.

The findings of the meta-analysis tentatively support the use of dating violence prevention programs in schools. Specifically, within this review it was found that students who were part of a teen dating violence intervention, showed moderate increases in knowledge, lower adherence to rape myths, and moderately improved abilities to appropriately resolve conflicts in interpersonal relationships at post-test. Intervention students also demonstrated small changes in attitudes or beliefs supportive of teen dating violence and small reductions in the incidence of dating violence victimization, including reductions in mental and/or physical abuse, and/or sexual violence or coercion experienced in a dating relationships. The reductions in perpetration of dating violence victimization were minimal and not sustained at follow-up.

Only one study reported bystander effects, so this review was unable to determine if dating violence prevention programs are effective in encouraging bystander intervention to stop the perpetration of dating violence and/or increase peer support for victims of dating violence. In addition, a moderator analyses was conducted using a block design. Thirteen moderators were tested, which fell into three categories: extrinsic, methodological and substantive. None of the moderation analyses were significant. As such, this review was not able to identify any substantive or methodological variables that moderate the effect sizes. However, finding null moderator results may indeed be a function of the limited heterogeneity of the studies included in this meta-analysis.

To understand how confident we could be in the causal nature of results of this meta-analysis we included a risk of bias analysis. Many of the studies received a high risk of bias given the way they handled missing data, often eliminating participants

who did not complete post-test or follow-up measures. In addition, four studies reported only significant outcomes. Notably, none of the studies blinded students or schools to the conditions. Given the high risk of bias across studies there is some caution to be noted when interpreting the results of this meta-analysis. These results are believed to be an accurate reflection of the current state of the literature, however, and point to the importance of continued investment in high quality research designs that can more fully assess the effects of teen dating violence prevention efforts.

Given the adverse consequences of teen dating violence, including decreased mental and physical health and lower life satisfaction (Banyard & Cross, 2008), depression and suicidal behaviors (Vézine & Hérbert, 2007), and long-term consequences of binge eating, substance abuse, and antisocial behavior (Foshee et al., 2012), it is imperative to engage in efforts to prevent and reduce incidences of dating violence. This review tentatively supports the use of dating violence prevention programs in schools as a means to address this need. The implementation of teen dating violence prevention programs in schools has been systematically shown to provide benefits to students (including increased knowledge and improved attitudes), but will likely require some modifications to support behavior change.

# 7 Acknowledgements

This systematic review was funded by the Education Coordinating Group of the Campbell Collaboration for the review entitled “School-Based Interventions to Reduce Dating and Sexual Violence: A Systematic Review”.

# 8 Figures and Tables

## 8.1 SEARCH TERMS BY CLASSIFICATION

| Type | Outcomes | Design | Sample |
|---|---|---|---|
| Intervention | Sexual violence | Experiment* | 4-12 grade |
| Prevention | Sexual coercion | Quasi-Experiment* | High School |
| Program | Peer support | | Middle School |
| | Intimate Partner violence | | Middle Level |
| | Bystander | | |
| | Dating Violence | | |
| | Physical Violence | | |
| | Dating Aggression | | |
| | Dating Abuse | | |
| | Rape | | |

## 8.2 CHARACTERISTICS OF INCLUDED STUDIES

*Adler-Baeder, et al., 2007*

| | |
|---|---|
| **Participants** | Age: High School Students<br>Gender: 21% Males<br>Number: Intervention = 235, Control = 105<br>Setting: Rural, Alabama |
| **Interventions** | Program name: Love U2: Increasing your relationship smarts<br>Implementer: Teachers<br>Duration: 8 weeks<br>Aspects: Didactic materials, experiential activities, |

| | |
|---|---|
| | participatory discussion |
| **Outcomes** | Knowledge: NA<br>Attitude: Aggressive relationship beliefs<br>Rape Construct: NA<br>DV Perpetration: NA<br>DV Victimization: NA<br>Conflict Tactics Scale: Reasoning, Verbal, Physical |
| **Methods** | Design: Quasi-experimental design (matching)<br>Control Type: Wait-list<br>Fidelity: Not provided |
| **Risk of Bias** | Random Allocation: High Risk<br>Allocation Concealment: High Risk<br>Incomplete Outcome Data: Low Risk<br>Selective Outcome Reporting: Unclear Risk<br>Other Bias: High Risk |
| **Other** | Unit of Analysis: Individual<br>Source: Journal article<br>Funded: Yes |

*Avery-Leaf, et al., 1997*

| | |
|---|---|
| **Participants** | Age: 11th and 12th grade students<br>Gender: 58% Males<br>Number: Intervention = 102, Control = 90<br>Setting: Mixture of locations, New York |
| **Interventions** | Program name: Pilot study of a dating violence prevention program<br>Implementer: Teachers<br>Duration: 1 weeks<br>Aspects: Four goals of psychoeducation, focusing on multi-dimensional aspects of "courtship" aggression |
| **Outcomes** | Knowledge: NA<br>Attitude: Acceptance of male, female, male-to-female, and female-to-male aggression<br>Rape Construct: NA<br>DV Perpetration: NA<br>DV Victimization: NA<br>Conflict Tactics Scale: NA |
| **Methods** | Design: Random assignment<br>Control Type: Treatment as usual<br>Fidelity: Not provided |
| **Risk of Bias** | Random Allocation: Unclear Risk<br>Allocation Concealment: Unclear Risk<br>Incomplete Outcome Data: Unclear Risk<br>Selective Outcome Reporting: High Risk<br>Other Bias: Unclear Risk |
| **Other** | Unit of Analysis: Individual<br>Source: Journal article<br>Funded: Yes |

*Fay & Medway, 2006*

| | |
|---|---|
| **Participants** | Age: 9th grade students<br>Gender: 44.1% Males<br>Number: Intervention = 76, Control = 76<br>Setting: Rural, South Carolina |
| **Interventions** | Program name: Acquaintance Rape Education Program<br>Implementer: Teachers<br>Duration: 3 weeks<br>Aspects: Role-playing, reflection, discussion, video media |
| **Outcomes** | Knowledge: NA<br>Attitude: NA<br>Rape Construct: Rape Myths Acceptance Scale<br>DV Perpetration: NA<br>DV Victimization: NA<br>Conflict Tactics Scale: NA |
| **Methods** | Design: Random assignment<br>Control Type: Treatment as usual<br>Fidelity: Low |
| **Risk of Bias** | Random Allocation: High Risk<br>Allocation Concealment: High Risk<br>Incomplete Outcome Data: High Risk<br>Selective Outcome Reporting: High Risk<br>Other Bias: Unclear Risk |
| **Other** | Unit of Analysis: Individual<br>Source: Journal article<br>Funded: No |

*Foshee, et al., 1998*

| | |
|---|---|
| **Participants** | Age: 8th & 9th grade students<br>Gender: 48.9% Males<br>Number: Intervention = 850, Control = 850<br>Setting: Rural, North Carolina |
| **Interventions** | Program name: Safe Dates Project<br>Implementer: Teachers<br>Duration: 60 weeks<br>Aspects: Lecture, poster contest, and a theater production performed by peers |
| **Outcomes** | Knowledge: Awareness of victim services<br>Attitude: Acceptance of dating violence; Perceived negative consequences of dating violence<br>Rape Construct: NA<br>DV Perpetration: Perpetration of dating violence in current relationship<br>DV Victimization: Victimization of dating violence in current relationship<br>Conflict Tactics Scale: Destructive anger |
| **Methods** | Design: Random assignment<br>Control Type: Treatment as usual<br>Fidelity: NA |

| | |
|---|---|
| **Risk of Bias** | Random Allocation: Unclear Risk<br>Allocation Concealment: Unclear Risk<br>Incomplete Outcome Data: Low Risk<br>Selective Outcome Reporting: Low Risk<br>Other Bias: Unclear Risk |
| **Other** | Unit of Analysis: School<br>Source: Journal article<br>Funded: Yes |

*Gardner, S.P., 2001*

| | |
|---|---|
| **Participants** | Age: High school students<br>Gender: 38% Males<br>Number: Intervention = 107, Control = 105<br>Setting: Rural, South Dakota |
| **Interventions** | Program name: Connections: Relationships and Marriage<br>Implementer: Teachers<br>Duration: 15 weeks<br>Aspects: Lecture only |
| **Outcomes** | Knowledge: NA<br>Attitude: NA<br>Rape Construct: NA<br>DV Perpetration: NA<br>DV Victimization: NA<br>Conflict Tactics Scale: Verbal |
| **Methods** | Design: Non-Random assignment (Pretest equivalence)<br>Control Type: Treatment as usual<br>Fidelity: NA |
| **Risk of Bias** | Random Allocation: High Risk<br>Allocation Concealment: Unclear Risk<br>Incomplete Outcome Data: High Risk<br>Selective Outcome Reporting: High Risk<br>Other Bias: High Risk |
| **Other** | Unit of Analysis: Individual<br>Source: Journal article<br>Funded: Yes |

*Gardner et al., 2004*

| | |
|---|---|
| **Participants** | Age: High school students<br>Gender: 21% Males<br>Number: Intervention = 263, Control = 147<br>Setting: Mixture of locations, California |
| **Interventions** | Program name: Connections: Relationships and Marriage<br>Implementer: Teachers<br>Duration: 15 weeks<br>Aspects: Lecture only |
| **Outcomes** | Knowledge: NA<br>Attitude: NA<br>Rape Construct: NA<br>DV Perpetration: Perpetration of dating violence |

| | |
|---|---|
| | DV Victimization: NA<br>Conflict Tactics Scale: Verbal |
| **Methods** | Design: Non-Random assignment (Pretest equivalence)<br>Control Type: Treatment as usual<br>Fidelity: NA |
| **Risk of Bias** | Random Allocation: High Risk<br>Allocation Concealment: High Risk<br>Incomplete Outcome Data: High Risk<br>Selective Outcome Reporting: High Risk<br>Other Bias: Unclear Risk |
| **Other** | Unit of Analysis: Individual<br>Source: Journal article<br>Funded: Yes |

*Gardner, S.P., 2005*

| | |
|---|---|
| **Participants** | Age: High school students<br>Gender: 31.1% Males<br>Number: Intervention = 198, Control = 109<br>Setting: Mixture of locations, Multiple states (sampled from US) |
| **Interventions** | Program name: Connections: Relationships and Marriage<br>Implementer: Teachers<br>Duration: 15 weeks<br>Aspects: Lecture only |
| **Outcomes** | Knowledge: NA<br>Attitude: NA<br>Rape Construct: NA<br>DV Perpetration: NA<br>DV Victimization: NA<br>Conflict Tactics Scale: Verbal |
| **Methods** | Design: Non-Random assignment (Pretest equivalence)<br>Control Type: Treatment as usual<br>Fidelity: NA |
| **Risk of Bias** | Random Allocation: High Risk<br>Allocation Concealment: High Risk<br>Incomplete Outcome Data: High Risk<br>Selective Outcome Reporting: High Risk<br>Other Bias: Unclear Risk |
| **Other** | Unit of Analysis: Individual<br>Source: Unpublished online report<br>Funded: Yes |

*Hillenbrand-Gunn, et al., 2010*

| | |
|---|---|
| **Participants** | Age: High school students<br>Gender: 62.9% Males<br>Number: Intervention = 124, Control = 88<br>Setting: Mixture of locations, Midwest |
| **Interventions** | Program name: Men as Allies |

| | |
|---|---|
| | Implementer: External staff<br>Duration: 3 days<br>Aspects: Lecture and participatory discussion |
| **Outcomes** | Knowledge: NA<br>Attitude: NA<br>Rape Construct: Illinois Rape Myths (Short form)<br>DV Perpetration: NA<br>DV Victimization: NA<br>Conflict Tactics Scale: NA |
| **Methods** | Design: Non-Random assignment (Pretest equivalence)<br>Control Type: Treatment as usual<br>Fidelity: High |
| **Risk of Bias** | Random Allocation: High Risk<br>Allocation Concealment: Unclear Risk<br>Incomplete Outcome Data: High Risk<br>Selective Outcome Reporting: Low Risk<br>Other Bias: Unclear Risk |
| **Other** | Unit of Analysis: Individual<br>Source: Journal article<br>Funded: Yes |

*Jaycox et al., 2006*

| | |
|---|---|
| **Participants** | Age: 9th grade students<br>Gender: 47.8% Males<br>Number: Intervention = 1237, Control = 1056<br>Setting: Urban, California |
| **Interventions** | Program name: Ending Violence<br>Implementer: External staff (Attorneys)<br>Duration: 3 days<br>Aspects: Lecture and discussion of laws and legal issues surrounding dating violence |
| **Outcomes** | Knowledge: Knowledge of dating violence<br>Attitude: Acceptance of female-on-male and male-on-female aggression<br>Rape Construct: NA<br>DV Perpetration: NA<br>DV Victimization: NA<br>Conflict Tactics Scale: Verbal, Physical |
| **Methods** | Design: Random assignment<br>Control Type: Treatment as usual<br>Fidelity: High |
| **Risk of Bias** | Random Allocation: Unclear Risk<br>Allocation Concealment: Unclear Risk<br>Incomplete Outcome Data: High Risk<br>Selective Outcome Reporting: Low Risk<br>Other Bias: Unclear Risk |
| **Other** | Unit of Analysis: Classroom<br>Source: Journal article<br>Funded: Yes |

*Jones & Levy, 1991 (1)*

| | |
|---|---|
| **Participants** | Age: Middle school students<br>Gender: 50% Males<br>Number: Intervention = 280, Control = 280<br>Setting: Mixture of locations, Minnesota |
| **Interventions** | Program name: The Power to Choose<br>Implementer: Teachers<br>Duration: 1 weeks<br>Aspects: Video presentations, multimedia lectures, school posters |
| **Outcomes** | Knowledge: Author-created teen dating knowledge scale<br>Attitude: NA<br>Rape Construct: NA<br>DV Perpetration: NA<br>DV Victimization: NA<br>Conflict Tactics Scale: NA |
| **Methods** | Design: Non-Random assignment (Pretest equivalence)<br>Control Type: Wait List<br>Fidelity: Low |
| **Risk of Bias** | Random Allocation: High Risk<br>Allocation Concealment: High Risk<br>Incomplete Outcome Data: High Risk<br>Selective Outcome Reporting: Low Risk<br>Other Bias: High Risk |
| **Other** | Unit of Analysis: Individual<br>Source: Book chapter<br>Funded: Yes |

*Jones & Levy, 1991 (2)*

| | |
|---|---|
| **Participants** | Age: Middle school students<br>Gender: 50% Males<br>Number: Intervention = 362, Control = 218<br>Setting: Mixture of locations, Minnesota |
| **Interventions** | Program name: The Power to Choose<br>Implementer: Teachers<br>Duration: 1 weeks<br>Aspects: Video presentations, multimedia lectures, school posters |
| **Outcomes** | Knowledge: Author-created teen dating knowledge scale<br>Attitude: NA<br>Rape Construct: NA<br>DV Perpetration: NA<br>DV Victimization: NA<br>Conflict Tactics Scale: NA |
| **Methods** | Design: Non-Random assignment (Pretest equivalence)<br>Control Type: Wait List<br>Fidelity: Low |
| **Risk of Bias** | Random Allocation: High Risk<br>Allocation Concealment: High Risk |

| | |
|---|---|
| | Incomplete Outcome Data: High Risk<br>Selective Outcome Reporting: Low Risk<br>Other Bias: High Risk |
| **Other** | Unit of Analysis: Individual<br>Source: Book chapter<br>Funded: Yes |

*Krajewski et al., 1996*

| | |
|---|---|
| **Participants** | Age: 7th grade students<br>Gender: 50% Males<br>Number: Intervention = 239, Control = 200<br>Setting: Urban, Wisconsin |
| **Interventions** | Program name: Skills for Violence-Free Relationships<br>Implementer: Teachers<br>Duration: 2 weeks<br>Aspects: Participatory discussion devoted to challenging stereotypes and conflict resolution |
| **Outcomes** | Knowledge: Knowledge of relationship violence<br>Attitude: Attitudes toward relationship violence<br>Rape Construct: NA<br>DV Perpetration: NA<br>DV Victimization: NA<br>Conflict Tactics Scale: NA |
| **Methods** | Design: Non-Random assignment (Pretest equivalence)<br>Control Type: Treatment as usual<br>Fidelity: Low |
| **Risk of Bias** | Random Allocation: High Risk<br>Allocation Concealment: High Risk<br>Incomplete Outcome Data: Low Risk<br>Selective Outcome Reporting: Low Risk<br>Other Bias: Unclear Risk |
| **Other** | Unit of Analysis: Individual<br>Source: Journal article<br>Funded: No |

*Macgowan, M.J., 1997*

| | |
|---|---|
| **Participants** | Age: 6th, 7th, 8th grade students<br>Gender: 49.3% Males<br>Number: Intervention = 241, Control = 199<br>Setting: Urban, Florida |
| **Interventions** | Program name: Dating Violence Prevention Program<br>Implementer: Teachers<br>Duration: 1 weeks<br>Aspects: Group discussions, experiential exercises |
| **Outcomes** | Knowledge: Knowledge of dating violence<br>Attitude: NA<br>Rape Construct: NA<br>DV Perpetration: NA<br>DV Victimization: NA |

| | |
|---|---|
| | Conflict Tactics Scale: NA |
| **Methods** | Design: Random assignment<br>Control Type: Wait list<br>Fidelity: High |
| **Risk of Bias** | Random Allocation: Unclear Risk<br>Allocation Concealment: Unclear Risk<br>Incomplete Outcome Data: High Risk<br>Selective Outcome Reporting: Low Risk<br>Other Bias: Unclear Risk |
| **Other** | Unit of Analysis: Individual<br>Source: Journal article<br>Funded: Yes |

*Pacifici, et al., 2001*

| | |
|---|---|
| **Participants** | Age: 10th grade students<br>Gender: 48.1% Males<br>Number: Intervention = 239, Control = 219<br>Setting: Suburban, Pacific Northwest |
| **Interventions** | Program name: Dating and Sexual Responsibility<br>Implementer: Teachers<br>Duration: 1 week and 3 days<br>Aspects: Video media, role play, discussion, lecture |
| **Outcomes** | Knowledge: NA<br>Attitude: Acceptance of interpersonal violence & Adversarial sexual beliefs<br>Rape Construct: Rape myth acceptance<br>DV Perpetration: NA<br>DV Victimization: NA<br>Conflict Tactics Scale: NA |
| **Methods** | Design: Random assignment<br>Control Type: Wait list<br>Fidelity: High |
| **Risk of Bias** | Random Allocation: Unclear Risk<br>Allocation Concealment: Unclear Risk<br>Incomplete Outcome Data: High Risk<br>Selective Outcome Reporting: Low Risk<br>Other Bias: Unclear Risk |
| **Other** | Unit of Analysis: Individual<br>Source: Journal article<br>Funded: Yes |

*Proto-Campise, L., 1998*

| | |
|---|---|
| **Participants** | Age: High school students<br>Gender: 53% Males<br>Number: Intervention = 263, Control = 174<br>Setting: Mixture of locations, Ohio |
| **Interventions** | Program name: Rape-awareness program<br>Implementer: External research staff |

| | |
|---|---|
| | Duration: 1 day<br>Aspects: Lecture |
| **Outcomes** | Knowledge: NA<br>Attitude: NA<br>Rape Construct: Rape myth awareness<br>DV Perpetration: NA<br>DV Victimization: NA<br>Conflict Tactics Scale: NA |
| **Methods** | Design: Quasi-Random assignment (Time of class)<br>Control Type: Wait list<br>Fidelity: Unclear |
| **Risk of Bias** | Random Allocation: High Risk<br>Allocation Concealment: High Risk<br>Incomplete Outcome Data: Unclear Risk<br>Selective Outcome Reporting: Low Risk<br>Other Bias: Unclear Risk |
| **Other** | Unit of Analysis: Individual<br>Source: Journal article<br>Funded: No |

*Sanchez-Cesareo, M., 2002 (1)*

| | |
|---|---|
| **Participants** | Age: 9th grade students<br>Gender: 52.3% Males<br>Number: Intervention = 503, Control = 191<br>Setting: Suburban, Illinois |
| **Interventions** | Program name: The Youth Project<br>Implementer: Graduate students<br>Duration: 1 day<br>Aspects: Role-playing, conflict resolution strategies; two-hour workshop |
| **Outcomes** | Knowledge: Teen Dating Violence Knowledge; Awareness of resources<br>Attitude: NA<br>Rape Construct: NA<br>DV Perpetration: NA<br>DV Victimization: NA<br>Conflict Tactics Scale: Physical |
| **Methods** | Design: Non-random (Pretest equivalence)<br>Control Type: Wait list<br>Fidelity: Unclear |
| **Risk of Bias** | Random Allocation: High Risk<br>Allocation Concealment: High Risk<br>Incomplete Outcome Data: High Risk<br>Selective Outcome Reporting: Low Risk<br>Other Bias: Unclear Risk |
| **Other** | Unit of Analysis: Individual<br>Source: Dissertation<br>Funded: No |

*Sanchez-Cesareo, M., 2002 (2)*

| | |
|---|---|
| **Participants** | Age: 9th grade students<br>Gender: 52.1% Males<br>Number: Intervention = 186, Control = 159<br>Setting: Suburban, Illinois |
| **Interventions** | Program name: The Youth Project<br>Implementer: Graduate students<br>Duration: 15 weeks<br>Aspects: Participatory workshops, interactive group discussion, skill-building exercises, elective counseling |
| **Outcomes** | Knowledge: Teen Dating Violence Knowledge; Awareness of resources<br>Attitude: NA<br>Rape Construct: NA<br>DV Perpetration: NA<br>DV Victimization: NA<br>Conflict Tactics Scale: Physical |
| **Methods** | Design: Non-random (Pretest equivalence)<br>Control Type: Minimal intervention (equivalent to treatment-as-usual)<br>Fidelity: Unclear |
| **Risk of Bias** | Random Allocation: High Risk<br>Allocation Concealment: High Risk<br>Incomplete Outcome Data: High Risk<br>Selective Outcome Reporting: Low Risk<br>Other Bias: Unclear Risk |
| **Other** | Unit of Analysis: Individual<br>Source: Dissertation<br>Funded: No |

*Silverman, A., 2000 (1)*

| | |
|---|---|
| **Participants** | Age: 6th & 7th grade students<br>Gender: 52% Males<br>Number: Intervention = 2717, Control = 1684<br>Setting: Mixture of locations, Rhode Island |
| **Interventions** | Program name: Rhode Island Teen Dating Violence Prevention Program<br>Implementer: Graduate students (master's level clinicians)<br>Duration: 1 day<br>Aspects: Workshop presentations |
| **Outcomes** | Knowledge: Teen Dating Violence Knowledge<br>Attitude: Teen Dating Violence Attitudes<br>Rape Construct: NA<br>DV Perpetration: NA<br>DV Victimization: NA<br>Conflict Tactics Scale: NA |
| **Methods** | Design: Non-random (Pretest equivalence)<br>Control Type: Treatment as usual<br>Fidelity: Unclear |

| | |
|---|---|
| **Risk of Bias** | Random Allocation: High Risk<br>Allocation Concealment: High Risk<br>Incomplete Outcome Data: High Risk<br>Selective Outcome Reporting: Low Risk<br>Other Bias: High Risk |
| **Other** | Unit of Analysis: Individual<br>Source: Dissertation<br>Funded: Yes |

*Silverman, A., 2000 (2)*

| | |
|---|---|
| **Participants** | Age: 6th & 7th grade students<br>Gender: 44.6% Males<br>Number: Intervention = 148, Control = 145<br>Setting: Mixture of locations, Rhode Island |
| **Interventions** | Program name: Rhode Island Teen Dating Violence Prevention Program<br>Implementer: Graduate students (master's level clinicians)<br>Duration: 8 weeks<br>Aspects: Workshop presentations, interactive media, consolations |
| **Outcomes** | Knowledge: Teen Dating Violence Knowledge<br>Attitude: NA<br>Rape Construct: NA<br>DV Perpetration: NA<br>DV Victimization: NA<br>Conflict Tactics Scale: NA |
| **Methods** | Design: Random<br>Control Type: Wait list<br>Fidelity: High |
| **Risk of Bias** | Random Allocation: High Risk<br>Allocation Concealment: High Risk<br>Incomplete Outcome Data: High Risk<br>Selective Outcome Reporting: Low Risk<br>Other Bias: Unclear Risk |
| **Other** | Unit of Analysis: Individual<br>Source: Dissertation<br>Funded: Yes |

*Taylor, B., 2010*

| | |
|---|---|
| **Participants** | Age: 6th & 7th grade students<br>Gender: 46% Males<br>Number: Intervention = 754, Control = 885<br>Setting: Suburban, Ohio |
| **Interventions** | Program name: Gender Violence/Harassment Prevention Program<br>Implementer: External staff (rape counselor)<br>Duration: 6 weeks<br>Aspects: Lecture and discussion focusing on setting boundaries and the determination of unwanted behavior* |

| | |
|---|---|
| **Outcomes** | Knowledge: Teen Dating Violence Knowledge<br>Attitude: Inappropriate attribution to victim; Belief that DV is not a problem; Attitude toward reducing DV<br>Rape Construct: NA<br>DV Perpetration: Sexual/Non Sexual perpetration by a dating partner<br>DV Victimization: Sexual/Non Sexual victimization by a dating partner<br>Conflict Tactics Scale: NA |
| **Methods** | Design: Random<br>Control Type: Treatment as usual<br>Fidelity: High |
| **Risk of Bias** | Random Allocation: Low Risk<br>Allocation Concealment: Unclear Risk<br>Incomplete Outcome Data: Low Risk<br>Selective Outcome Reporting: Low Risk<br>Other Bias: Low Risk |
| **Other** | Unit of Analysis: School<br>Source: Journal articles<br>Funded: Yes |
| **Notes** | *This study utilized two independent interventions, but only one control group. Therefore, all treatment effects were averaged prior to including in the meta-analysis. |

*Taylor, B., 2013*

| | |
|---|---|
| **Participants** | Age: 6th & 7th grade students<br>Gender: 50.7% Males<br>Number: Intervention = 88 classrooms, Control = 29 classrooms; Total N = 2,655<br>Setting: Urban, New York |
| **Interventions** | Program name: Shifting Boundaries<br>Implementer: External staff<br>Duration: 8 weeks<br>Aspects: Lecture and discussion focusing on setting boundaries and the determination of unwanted behavior* |
| **Outcomes** | Knowledge: Teen Dating Violence Knowledge<br>Attitude: Inappropriate attribution to victim; Belief that DV is not a problem; Attitude toward reducing DV<br>Rape Construct: NA<br>DV Perpetration: Sexual/Non Sexual perpetration by a dating partner<br>DV Victimization: Sexual/Non Sexual victimization by a dating partner<br>Conflict Tactics Scale: NA |
| **Methods** | Design: Random<br>Control Type: Wait list<br>Fidelity: High |
| **Risk of Bias** | Random Allocation: Low Risk<br>Allocation Concealment: Unclear Risk<br>Incomplete Outcome Data: Low Risk<br>Selective Outcome Reporting: Low Risk |

| | |
|---|---|
| | Other Bias: Low Risk |
| **Other** | Unit of Analysis: Classroom<br>Source: Journal articles<br>Funded: Yes |
| **Notes** | *This study utilized three independent interventions, but only one control group. Therefore, all treatment effects were averaged prior to including in the meta-analysis. |

*Weisz, A.N., 2001*

| | |
|---|---|
| **Participants** | Age: 6th & 7th grade students<br>Gender: 45.7% Males<br>Number: Intervention = 17, Control = 9<br>Setting: Urban, Michigan |
| **Interventions** | Program name: Reaching and Teaching Teens to Stop Violence<br>Implementer: Graduate students<br>Duration: 6 weeks<br>Aspects: Didactic materials, modeling, role-playing, experiential exercises |
| **Outcomes** | Knowledge: Knowledge of Sexual Assault<br>Attitude: Attitudes toward Sexual Assault<br>Rape Construct: NA<br>DV Perpetration: NA<br>DV Victimization: NA<br>Conflict Tactics Scale: NA |
| **Methods** | Design: Non-Random (Pretest equivalence)<br>Control Type: Wait list<br>Fidelity: High |
| **Risk of Bias** | Random Allocation: High Risk<br>Allocation Concealment: High Risk<br>Incomplete Outcome Data: High Risk<br>Selective Outcome Reporting: Low Risk<br>Other Bias: High Risk |
| **Other** | Unit of Analysis: Individual<br>Source: Journal articles<br>Funded: Yes |

*Wolfe, D.A., 2009*

| | |
|---|---|
| **Participants** | Age: 9th grade students<br>Gender: 49% Males<br>Number: Intervention = 968, Control = 754<br>Setting: Mixture of locations, Canada |
| **Interventions** | Program name: Fourth R: Skills for Youth Relationships<br>Implementer: Teacher<br>Duration: 7 weeks<br>Aspects: Video resources, role-playing exercises, rubrics, handouts |
| **Outcomes** | Knowledge: NA<br>Attitude: NA |

| | |
|---|---|
| | Rape Construct: NA<br>DV Perpetration: Physical dating violence<br>DV Victimization: NA<br>Conflict Tactics Scale: NA |
| **Methods** | Design: Random assignment<br>Control Type: Treatment as usual<br>Fidelity: Unclear |
| **Risk of Bias** | Random Allocation: Low Risk<br>Allocation Concealment: Low Risk<br>Incomplete Outcome Data: Low Risk<br>Selective Outcome Reporting: Low Risk<br>Other Bias: Unclear Risk |
| **Other** | Unit of Analysis: Individual<br>Source: Journal articles<br>Funded: Yes |

## 8.3 CHARACTERISTICS OF EXCLUDED STUDIES

*Abadi, S. 2000*

| | |
|---|---|
| **Reason for exclusion** | Not an experimental study or lacking a control group |

*Andrews, D. A. 1986*

| | |
|---|---|
| **Reason for exclusion** | Implemented outside of a school or with a different population |

*Arango, L. L. 2008*

| | |
|---|---|
| **Reason for exclusion** | No outcomes of interest |

*Arnold, E. M. 2000*

| | |
|---|---|
| **Reason for exclusion** | No outcomes of interest |

*Averill, J. B. 2007*

| | |
|---|---|
| **Reason for exclusion** | Not an experimental study or lacking a control group |

*Banyard, V. L. 2008*

| | |
|---|---|
| **Reason for exclusion** | Not an experimental study or lacking a control group |

*Benner, T. A. 2008*

| | |
|---|---|
| **Reason for exclusion** | No outcomes of interest |

*Biglan, A. 1996*

| | |
|---|---|
| **Reason for exclusion** | Not an experimental study or lacking a control group |

*Burman, L. B. 2010*

| | |
|---|---|
| **Reason for exclusion** | No outcomes of interest |

*Cassidy, T. 2009*

| | |
|---|---|
| **Reason for exclusion** | Not an experimental study or lacking a control group |

*Cavanaugh, M. M. 2007*

| | |
|---|---|
| **Reason for exclusion** | Implemented outside of a school or with a different population |

*Cerdá, M. 2012*

| | |
|---|---|
| **Reason for exclusion** | No outcomes of interest |

*Chamroonsawasdi, K. 2010*

| | |
|---|---|
| **Reason for exclusion** | Could not access |

*Coker, A. L. 2011*

| | |
|---|---|
| **Reason for exclusion** | Implemented outside of a school or with a different population |

*Day, C. 2006*

| | |
|---|---|
| **Reason for exclusion** | No outcomes of interest |

*Eley, T. 2007*

| | |
|---|---|
| **Reason for exclusion** | Not an experimental study or lacking a control group |

*Feder, L. 2008*

| | |
|---|---|
| **Reason for exclusion** | Not an experimental study or lacking a control group |

*Feder, L. 2011*

| | |
|---|---|
| **Reason for exclusion** | Not an experimental study or lacking a control group |

*Feltey, K. M. 1991*

| | |
|---|---|
| **Reason for exclusion** | Not an experimental study or lacking a control group |

*Flay, B. R. 2000*

| | |
|---|---|
| **Reason for exclusion** | Not an experimental study or lacking a control group |

*Florsheim, P. 2011*

| | |
|---|---|
| **Reason for exclusion** | Implemented outside of a school or with a different population |

*Goodman, R. M. 2009*

| | |
|---|---|
| **Reason for exclusion** | Not an experimental study or lacking a control group |

*Hamby, S. L. 2006*

| | |
|---|---|
| **Reason for exclusion** | Not an experimental study or lacking a control group |

*Harper, G. W. 2009*

| | |
|---|---|
| **Reason for exclusion** | No outcomes of interest |

*Hilton, N. Z. 1998*

| | |
|---|---|
| **Reason for exclusion** | Not an experimental study or lacking a control group |

*Jaffe, P. G. 1992*

| | |
|---|---|
| **Reason for exclusion** | Not an experimental study or lacking a control group |

*Jones, H. B. 2008*

| | |
|---|---|
| **Reason for exclusion** | Not an experimental study or lacking a control group |

*Kershner, R. E. 1995*

| | |
|---|---|
| **Reason for exclusion** | Could not access |

*Labriola, M. 2010*

| | |
|---|---|
| **Reason for exclusion** | Implemented outside of a school or with a different population |

*Lavoie, F. 1995*

| | |
|---|---|
| **Reason for exclusion** | Not an experimental study or lacking a control group |

*Leadbeater B. 2011*

| | |
|---|---|
| **Reason for exclusion** | No outcomes of interest |

*Levine, M. 2002*

| | |
|---|---|
| **Reason for exclusion** | Implemented outside of a school or with a different population |

*Ley, D. 2001*

| | |
|---|---|
| **Reason for exclusion** | Implemented outside of a school or with a different population |

*Massey, O. T. 2007*

| | |
|---|---|
| **Reason for exclusion** | Implemented outside of a school or with a different population |

*Maxwell, C. D. 2010*

| | |
|---|---|
| **Reason for exclusion** | Implemented outside of a school or with a different population |

*Meyer, G. 2004*

| | |
|---|---|
| **Reason for exclusion** | Not an experimental study or lacking a control group |

*Murray, C. E. 2007*

| | |
|---|---|
| **Reason for exclusion** | Not an experimental study or lacking a control group |

*Rayburn, N. R. 2007*

| | |
|---|---|
| **Reason for exclusion** | Not an experimental study or lacking a control group |

*Schwartz, J. P. 2004*

| | |
|---|---|
| **Reason for exclusion** | Implemented outside of a school or with a different population |

*Smothers, M. K. 2011*

| | |
|---|---|
| **Reason for exclusion** | Not an experimental study or lacking a control group |

*Sørlie, M. 2007*

| | |
|---|---|
| **Reason for exclusion** | No outcomes of interest |

*Stein, N. 2007*

| | |
|---|---|
| **Reason for exclusion** | Not an experimental study or lacking a control group |

*Ting, S. R. 2009*

| | |
|---|---|
| **Reason for exclusion** | Not an experimental study or lacking a control group |

*Wolfe, D. A. 2003*

| | |
|---|---|
| **Reason for exclusion** | Implemented outside of a school or with a different population |

*Yom, Y. H. 2005*

| | |
|---|---|
| **Reason for exclusion** | Implemented outside of a school or with a different population |

## 8.4 DESCRIPTION OF MEASURES

| Measures | Description |
|---|---|
| **Teen Dating Violence Knowledge (13 studies)** | |
| Foshee et al. (1998) | Measured awareness of services that were available to victims or perpetrators in the community. |
| Jaycox et al. (2006) | 18-item true-false and multiple-choice measure to assess knowledge about dating violence and the law. This measure aligned with the curriculum offered. |
| Jones and Levy (1991) | True-false knowledge questionnaire. Higher scores reflected greater knowledge of dating violence and the law. |
| Krajewski et al. (1996) | 18-item true-false statements. This measure aligned with the curriculum offered. |
| Macgowan (1997) | 22-item measure that included items related to knowledge about dating violence. Higher scores reflected greater knowledge and more desirable attitudes around relationship violence. |
| Sanchez-Cesareo (2002) | Measure developed by intervention project staff, which assessed knowledge regarding domestic violence and teen dating violence. This measure aligned with the curriculum offered. |

| | |
|---|---|
| Silverman (2000) | Assessed knowledge with a series of statements examining knowledge of teen dating violence facts, attitudes, stereotypes, and myths. Additional items evaluated students' ability to identify and label behaviors as abusive, and included mental/emotional abuse, verbal abuse, and sexual abuse behaviors. |
| Taylor, Stein, & Burden (2001)<br>Taylor, Stein, & Mumford (2013) | Knowledge measure that included questions about state rape laws, definitions of abuse and sexual harassment, resources for help, and sexual harassment myths. |
| Weisz & Black (2001) | 17-item measure that drew primarily from the *Knowledge of Sexual Assault* measure (RAVE, 1997) and included items that assessed knowledge on rape myths and on sexual assault laws. |
| **Teen Dating Violence Attitudes (10 studies)** | |
| Adler-Baeder et al. (2007) | A measure on relationship beliefs, which included what the authors labeled as aggression beliefs and two items that evaluated if students agreed with the appropriateness of using aggressive behaviors in intimate relationships. |
| Avery-Leaf et al. (1997) | Measure was an adapted version of the *Justification of Interpersonal Violence* (*AIV)* questionnaire that assessed stduents' acceptance of violence as a means of conflict resolution with a dating partner. Separate scales were computed, one for the acceptance of females' use of dating aggression and one for the acceptance of aggression by a male against his partner. An additional measure was the *Justification of Dating Jealousy and Violence* scale. This measure consisted of 10 vignettes depicting a conflict situation in which one partner is jealous, coercive, and/or physically aggressive toward his or her partner. Students' rate how justified they feel the behaviors are. |
| Foshee et al (1998) | Utilized three variables to assess attitudes toward dating violence, and included a measure of the level of acceptance of prescribed norms (norms accepting dating violence under certain circumstances), acceptance of proscribed norms (norms considering dating violence acceptable under all circumstances), and perceived negative consequences of dating violence. |

| | |
|---|---|
| Taylor et al. (2010)<br>Taylor et al. (2013) | A series of question similar to Foshee et al. (1998) assessed the acceptability of violence and abusive and harassing behaviors. The measure assessed the perceived norms around dating violence of the student's own group and motivation to comply with these norms. |
| Jaycox et al. (2006) | Utilized two scales from the *Prescribed Norms Scale* (Foshee et al., 1998); One was a 5-item measure tapping female-on-male violence and the other a 4-item measure tapping acceptance of male-on-female violence after provocation. An additional measure assessed attitudes towards help seeking where students rated nine sources of potential help on two dimensions: helpfulness and likelihood of talking to each source if "you experienced violence with a date". |
| Krajewski et al. (1996) | 12 statements that assessed attitudes towards the use of violence in dating relationships and power dynamics in relationships. |
| Weisz & Black (2001) | Developed a 25-item measure drawn from the *Rape Attitude Scale* (Hall, Howard, & Boezio, 1986), *Youth Dating Violence* survey (Foshee, 1994) and the *Teen Life Questionnaire* (Kantor, 1996). |
| Pacifici, Stoolmiller, & Nelson (2001) | 9-item *Adversarial Sexual Beliefs* scale (e.g. "On dates, girls are mostly out to take advantage of guys.") and the 6-item *Acceptance of Interpersonal Violence* subscale (e.g. " A girl should stop seeing a guy if he hits her"). |
| Silverman (2000) | 7-item measure that assessed attitudes toward dating violence, where higher scores reflected less endorsement of common stereotypes and myths surrounding teen dating violence. |
| **Rape Myths Acceptance (4 studies)** | |

| | |
|---|---|
| Fay & Medway (2006)<br>Pacifici et al. (2001) | Utilized the *Rape Myths Acceptance Scale* (RMAS; Burt, 1980), which measures students' acceptance of rape myths. The original RMAS consist of 19 items in three sections. In the first section 11 declarative statements are presented and students select one of seven levels of agreement. In the second section there are two items that ask students to indicate the percentage of rape reports they feel are false due to vengeance or pregnancy. The final 6 items focus on how likely students would be to believe reports of rape depending on the status of the victim.<br>Fay and Medway added 6 additional items specific to acquaintance rape.<br>Pacifici et al. (2001) dropped 11 of the items because they asked students to estimate percentages of rape related events, these were judged by the authors to be out of date, or did not relate to the curriculum. |
| Hillenbrand-Gunn et al. (2010) | Utilized the *Illinois Rape Myth Acceptance Scale* (IRMA-SF; Payne, Lonsway, & Fitzgeral, 1999), which consist of 20 items that assessed adherence to rape myths. |
| Proto-Campise, Belknap & Wooldredge (1998) | 24-item true-false measure that assessed adherence to rape myths. Prior instruments on rape attitudes and an attempt to address specific points covered by the curriculum guided the development of the measure. |
| **Dating Violence Perpetration (4 studies)** | |
| Foshee et al. (1998) | 14-item measure of psychological abuse perpetration with a. Provided a list of acts, and students indicated how often they had engaged in these behaviors while on a date. An additional measure of sexual and nonsexual violence perpetration was included. Students were presented with behaviors and asked how often they perpetrated these behaviors against a dating partner. For sexual violence students were asked to indicate how often they forced a partner to have sex or engage in sexual acts. |
| Gardner, Giese, & Parrot (2004) | A self-report measure of the use of violence. |
| Taylor et al. (2010) | A measure of prevalence (yes/no) and incidence (number of times) questions of being a perpetrator of sexual violence and nonsexual violence towards people the student has dated. |

| | |
|---|---|
| Wolfe et al. (2009) | 8-item scale developed from the *Conflicts in Adolescent Dating Relationships Inventory* (Wolfe et al., 2001). The measure included yes/no responses to whether a student has engaged in a list of aggressive behaviors towards a dating partner in the last year. |
| **Dating Violence Victimization (2 studies)** | |
| Foshee et al. (1998) | Measured psychological abuse and sexual and nonsexual violence victimization in dating relationships. For psychological abuse, 14 acts were listed and students reported how often someone has done this to them on a date. The measure of sexual and nonsexual violence, also listed incidents and asked students to respond to how often these events had happened to them. Additionally, students were asked how often a partner had used physical force against them (not in self-defense). |
| Taylor et al. (2010) | Prevalence (yes/no) and incidence (number of times) questions on the experience of being a victim of sexual violence and nonsexual violence by people students have dated. |
| **Conflict Tactics Scale (CTS) (6 studies plus an additional 1 that used a similar measure)** | |
| Gardner (2001) | 18 -items from the CTS form R. The measure asked students how often they had done these things to a best friend (as opposed to a spouse as indicated in the original form). |
| Gardner et al. (2004)<br>Gardner (2005) | Utilized the words, "boyfriend" "girlfriend" or "best friend" in place of spouse. The item that asked if students' had "threatened him/her with a knife or gun" was not included. |
| Adler-Baeder et al. (2007) | A revised version of the CTS, which included 18 tactics used in settling differences within the past 2 months. Before students completed the questions they were asked to indicate whom they were thinking about as they answered. The choices were boyfriend, girlfriend, best friend (male) or best friend (female). This measure included three factors, physical aggression, verbal aggression and reasoning. |
| Jaycox et al. (2006) | Used the Revised CTS and condensed questions about sexual abuse from 14 to 8 items and items about injury from 12 to 2 items. |

| | |
|---|---|
| Sanchez-Casareo (2002) | Utilized version R of the CTS. |
| Foshee et al. (1998) | Utilized two measures that assessed conflict responses to disagreements, including destructive communication skills and destructive responses to anger. |

## 8.5 OUTCOME MEASURES

| | Knowledge | Attitude | Rape Myths | Perpetration | Victimization | Conflict Tactics | Total |
|---|---|---|---|---|---|---|---|
| Adler-Baeder, et al., 2007 | 0 | 1 | 0 | 0 | 0 | 3 | 4 |
| Avery-Leaf, et al., 1997 | 0 | 4 | 0 | 0 | 0 | 0 | 4 |
| Fay & Medway, 2006 | 0 | 1 | 1 | 0 | 0 | 0 | 2 |
| Foshee, et al., 1998 | 2 | 3 | 0 | 3 | 3 | 2 | 13 |
| Gardner, S.P., 2001 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Gardner, S.P., 2004 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| Gardner, S.P., 2005 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| Hillenbrand-Gunn, et al., 2010 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| Jaycox et al., 2006 | 2 | 4 | 0 | 0 | 0 | 2 | 8 |
| Jones, L.E. (1), 1991 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Jones, L.E. (2), 1991 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Krajewski et al., 1996 | 2 | 2 | 0 | 0 | 0 | 0 | 4 |
| Macgowan, M.J., 1997 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Pacifici, et al., | 0 | 2 | 1 | 0 | 0 | 0 | 3 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2001 | | | | | | | |
| Proto-Campise, L., 1998 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Sanchez-Cesareo, M. (1), 2002 | 4 | 0 | 0 | 0 | 0 | 2 | 6 |
| Sanchez-Cesareo, M. (2), 2002 | 4 | 0 | 0 | 0 | 0 | 2 | 6 |
| Silverman, A. (1), 2000 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| Silverman, A. (2), 2000 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Taylor, B., 2010 | 2 | 10 | 0 | 8 | 8 | 0 | 28 |
| Taylor, B. , 2013 | 2 | 8 | 0 | 2 | 2 | 0 | 14 |
| Weisz, A.N., 2001 | 2 | 2 | 0 | 0 | 0 | 0 | 4 |
| Wolfe, D.A., 2009 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| Total | 25 | 38 | 5 | 14 | 15 | 16 | 111 |

# 9 Data and Analyses

## 9.1 STUDY EFFECT SIZES

**Teen Dating Violence Knowledge**

| Study | Effect Size | Lower Limit, Upper Limit | Sample Size (Treatment, Control) |
|---|---|---|---|
| | P: .28 | .04, .52 | 850, 850 |
| Foshee et al. (1998) | F: .28 | .04, .52 | 850, 850 |
| | P: .71 | .62, .79 | 1237, 1056 |
| Jaycox et al. (2006) | F: .35 | .27, .43 | 1237, 1056 |
| Jones & Levy (1991) (1) | P: .28 | .11, .45 | 280, 280 |
| Jones & Levy (1991) (2) | P: .21 | .04, .38 | 362, 218 |
| | P: .29 | .1, .47 | 239, 200 |
| Krajewski et al. (1996) | F: -.01 | -.19, .18 | 239, 200 |
| Macgowan M.J. (1997) | P: .27 | .08, .46 | 241, 199 |
| | P: .02 | -.15, .19 | 503, 191 |
| | P: -.35 | -.52, -.18 | 503, 191 |
| | F: .05 | -.12, .21 | 503, 191 |
| Sanchez-Cesareo, M. (2002) (1) | F: -.07 | -.24, .09 | 503, 191 |
| | P: -.36 | -.57, -.14 | 186, 159 |
| | P: -.39 | -.6, -.17 | 186, 159 |
| | F: -.04 | -.25, .18 | 186, 159 |
| Sanchez-Cesareo, M. (2002) (2) | F: -1.74 | -1.99, -1.49 | 186, 159 |
| Silverman, A. (2000) (1) | P: .12 | .06, .18 | 2717, 1684 |
| Silverman, A. (2000) (2) | P: .49 | .26, .72 | 148, 145 |
| | P: .21 | -.01, .42 | 58, 65 |

| Study | Effect Size | Lower Limit, Upper Limit | Sample Size (Treatment, Control) |
|---|---|---|---|
| Taylor, B. (2010) | P: .17 | -.04, .37 | 58, 65 |
| | F: .19 | .01, .39 | 88, 29 |
| Taylor, B. (2013) | F: .12 | -.03, .27 | 88, 29 |
| | P: 1.23 | .36, 2.11 | 17, 9 |
| Weisz, A.N. (2001) | F: 1.43 | .53, 2.32 | 17, 9 |

**Teen Dating Violence Attitudes**

| Study | Effect Size | Lower Limit, Upper Limit | Sample Size (Treatment, Control) |
|---|---|---|---|
| Adler-Baeder et al. (2007) | P: .08 | -.15, .31 | 235, 105 |
| | P: .26 | -.03, .54 | 102, 90 |
| | P: .32 | .04, .61 | 102, 90 |
| | P: .05 | -.23, .33 | 102, 90 |
| Avery-Leaf et al. (1997) | P: .01 | -.27, .29 | 102, 90 |
| Fay & Medway (2006) | P: .11 | -.21, .43 | 76, 76 |
| | P: .23 | -.01, .47 | 850, 850 |
| | F: .28 | .04, .52 | 850, 850 |
| Foshee et al. (1998) | F: .28 | .04, .52 | 850, 850 |
| | P: .2 | .12, .28 | 1237, 1056 |
| | P: .03 | -.05, .11 | 1237, 1056 |
| | F: .04 | -.04, .12 | 1237, 1056 |
| Jaycox et al. (2006) | F: -.03 | -.11, .05 | 1237, 1056 |
| | P: .25 | .06, .44 | 239, 200 |
| Krajewski et al. (1996) | F: -.01 | -.2, .18 | 239, 200 |
| | P: .08 | -.1, .27 | 239, 219 |
| Pacifici et al. (2001) | P: .1 | -.08, .29 | 239, 219 |
| Silverman, A. (1) | P: .2 | .14, .26 | 2717, 1684 |
| | P: -.38 | -1.08, .33 | 58, 65 |
| | P: -.28 | -.73, .16 | 58, 65 |
| | P: .11 | -.28, .49 | 58, 65 |

| Study | Effect Size | Lower Limit, Upper Limit | Sample Size (Treatment, Control) |
|---|---|---|---|
| | P: .08 | -.19, .35 | 58, 65 |
| | P: .28 | -.07, .62 | 58, 65 |
| | P: .29 | -.4, .98 | 58, 65 |
| | P: .02 | -.57, .61 | 58, 65 |
| | P: .09 | -.47, .66 | 58, 65 |
| Taylor, B. (2010) | P: .01 | -.64, .66 | 58, 65 |
| | F: .21 | -.17, .59 | 58, 65 |
| | F: .02 | -.28, .33 | 88, 29 |
| | F: .31 | -.14, .76 | 88, 29 |
| | F: .14 | -.1, .38 | 88, 29 |
| | F: .22 | -.14, .57 | 88, 29 |
| | F: .07 | -.39, .53 | 88, 29 |
| | F: .07 | -.54, .67 | 88, 29 |
| | F: .33 | -.24, .9 | 88, 29 |
| Taylor, B. (2013) | F: -.04 | -.69, .61 | 88, 29 |
| | P: .77 | -.04, 1.58 | 17, 9 |
| Weisz, A.N. (2001) | F: .89 | .07, 1.71 | 17, 9 |

**Rape Myths Acceptance**

| Study | Effect Size | Lower Limit, Upper Limit | Sample Size (Treatment, Control) |
|---|---|---|---|
| Fay, K.E. (2006) | P: -.54 | -.86, .21 | 76, 76 |
| | P: -.52 | -.80, .24 | 124, 88 |
| Hillenbrand-Gunn, et al. (2010) | F: -.74 | -1.03, -.46 | 124, 88 |
| Pacifici, et al. (2001) | P: -.18 | -.36, .01 | 239, 219 |
| Proto-Campise, L. (1998) | P: -.69 | -.89, .-.49 | 263, 174 |

**Teen Dating Violence Perpetration**

| Study | Effect Size | Lower Limit, Upper Limit | Sample Size (Treatment, Control) |
|---|---|---|---|

| Study | Effect Size | Lower Limit, Upper Limit | Sample Size (Treatment, Control) |
|---|---|---|---|
| | P: -.23 | -.47, .01 | 850, 850 |
| | F: -.09 | -.33, .15 | 850, 850 |
| Foshee, et al. (1998) | F: -.08 | -.33, .15 | 850, 850 |
| | P: .03 | -.13, .20 | 58, 65 |
| | P: .01 | -.23, .25 | 58, 65 |
| | P: .01 | -.08, .10 | 58, 65 |
| | P:.05 | -.08, .18 | 58, 65 |
| | F: -.13 | -.37, .11 | 58, 65 |
| | F: -.23 | -.70, .24 | 58, 65 |
| | F: -.02 | -.13, .10 | 58, 65 |
| Taylor, B. (2010) | F: -.05 | -.27, .17 | 58, 65 |
| | P: .01 | -.86, .88 | 88, 29 |
| Taylor, B. (2013) | F: -.12 | -.86, .63 | 88, 29 |
| Wolfe, D.A. (2009) | P: -.19 | -.29, -.10 | 968, 754 |

**Teen Dating Violence Victimization**

| Study | Effect Size | Lower Limit, Upper Limit | Sample Size (Treatment, Control) |
|---|---|---|---|
| | P: -.28 | -.51, .04 | 850, 850 |
| | F: -.09 | -.33, .15 | 850, 850 |
| Foshee, et al. (1998) | F: -.09 | -.33, .15 | 850, 850 |
| Gardner et al. (2004) | P: -.49 | -.69, -.29 | 263, 147 |
| Gardner, S.P. (2005) | P: -.24 | -.47, -.01 | 198, 109 |
| | P: -.02 | -.12, .08 | 58, 65 |
| | P: -.01 | -.13, .12 | 58, 65 |
| | P: .05 | -.02, .12 | 58, 65 |
| | P:.08 | -.04, .21 | 58, 65 |
| | F: .04 | -.09, .16 | 58, 65 |
| | F: .07 | -.18, .32 | 58, 65 |
| | F: .07 | -.03, .18 | 58, 65 |
| Taylor, B. (2010) | F: .12 | -.07, .32 | 58, 65 |
| | P: -.02 | -.88, .84 | 88, 29 |
| Taylor, B. (2013) | F: -.18 | -.93, .58 | 88, 29 |

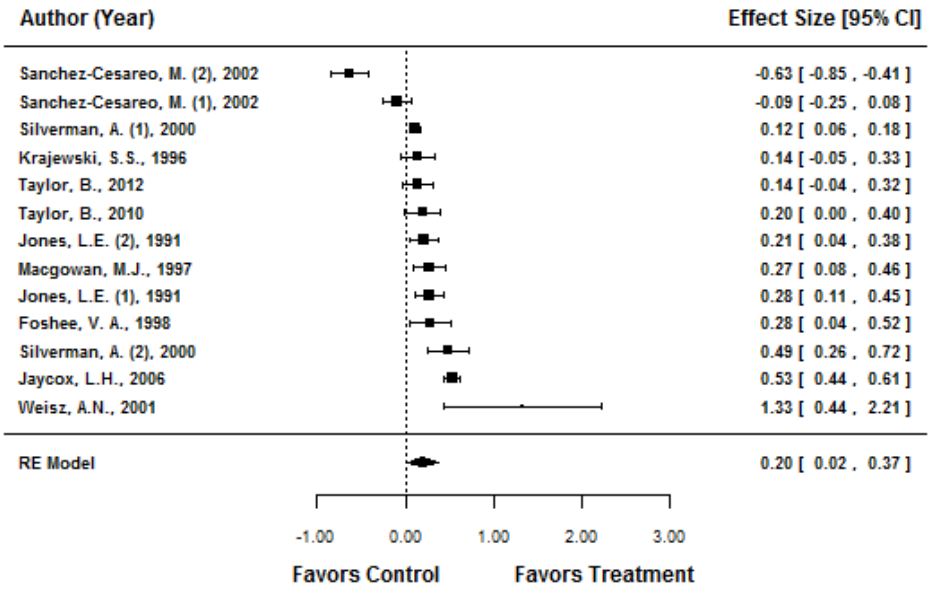
**Conflict Tactics Scale**

| Study | Effect Size | Lower Limit, Upper Limit | Sample Size (Treatment, Control) |
|---|---|---|---|

| Study | Effect Size | Lower Limit, Upper Limit | Sample Size (Treatment, Control) |
|---|---|---|---|
| | P: -.04 | -.27, .19 | 235, 105 |
| | P: .27 | .04, .50 | 235, 105 |
| Adler-Baeder et al. (2007) | P: .09 | -.14, .32 | 235, 105 |
| | P: .09 | -.15, .33 | 850, 850 |
| Foshee et al. (1998) | F: .23 | -.01, .47 | 850, 850 |
| Gardner, S.P. (2001) | P: .14 | -.15, .42 | 107, 105 |
| Gardner et al. (2004) | P: .17 | -.03, .38 | 263, 147 |
| Gardner, S.P. (2005) | P: .17 | -.07, .41 | 198, 109 |
| | P: -.02 | -.15, .11 | 1237, 1056 |
| Jaycox et al. (2006) | F: -.02 | -.15, .11 | 1237, 1056 |
| | P: .57 | .40, .74 | 503, 191 |
| Sanchez-Casareo, M. (2002) (1) | F: .20 | .03, .36 | 503, 191 |
| | P: .28 | .07, .49 | 186, 159 |
| Sanchez-Casareo, M. (2002) (2) | F: 2.27 | 2.00, 2.54 | 186, 159 |

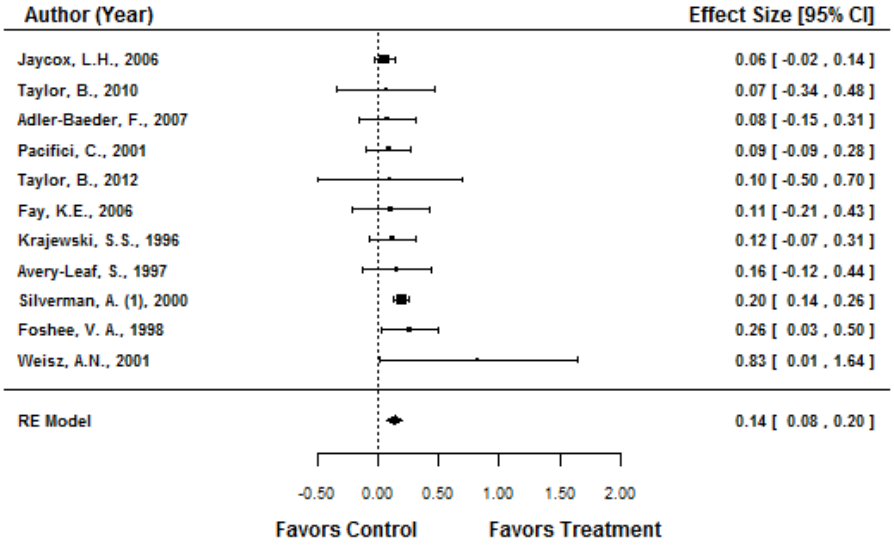
## 9.2 FOREST PLOTS

### 9.2.1 Teen Dating Violence Knowledge



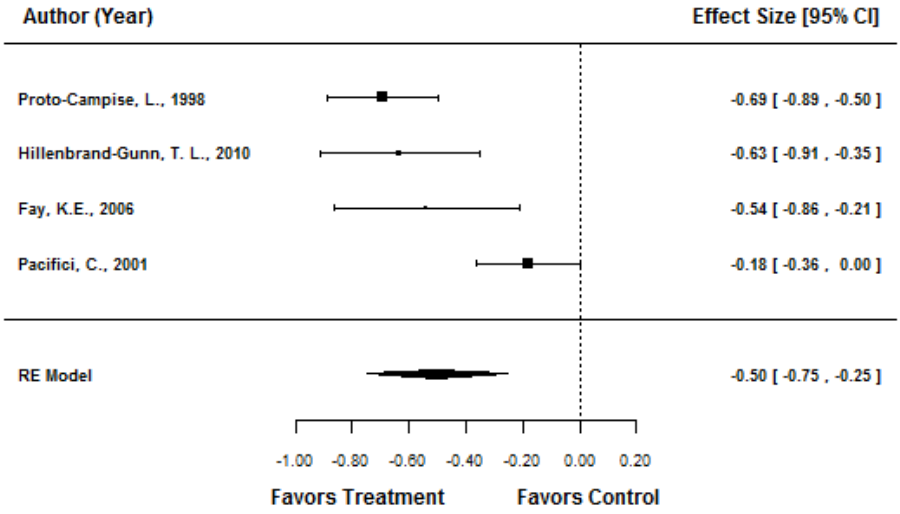

*Notes:* Study-level effect sizes and 95% confidence intervals; Positive effect sizes indicate knowledge improvement for the treatment group.

### 9.2.2 Teen Dating Violence Attitudes



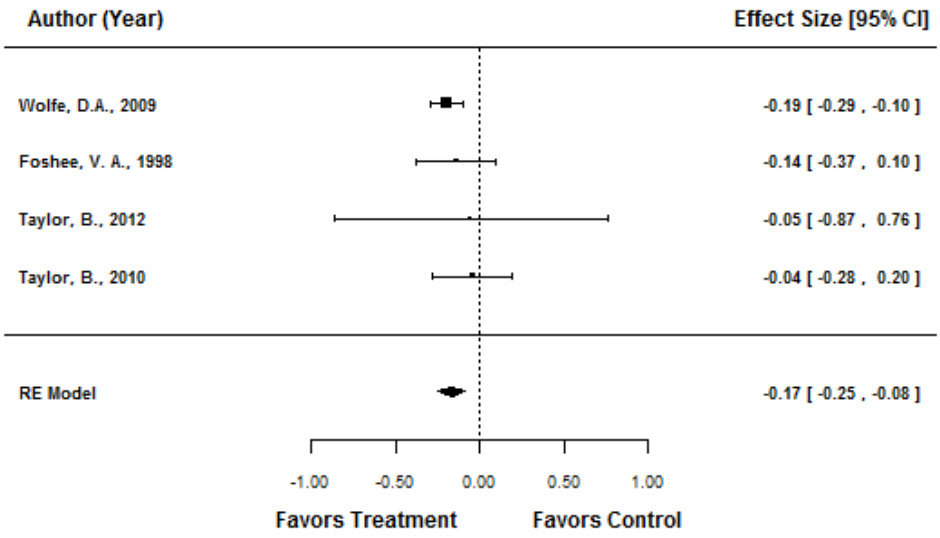

*Notes*: Study-level effect sizes and 95% confidence intervals; Positive effect sizes indicate attitude improvement for the treatment group.

### 9.2.3 Rape Myths Acceptance



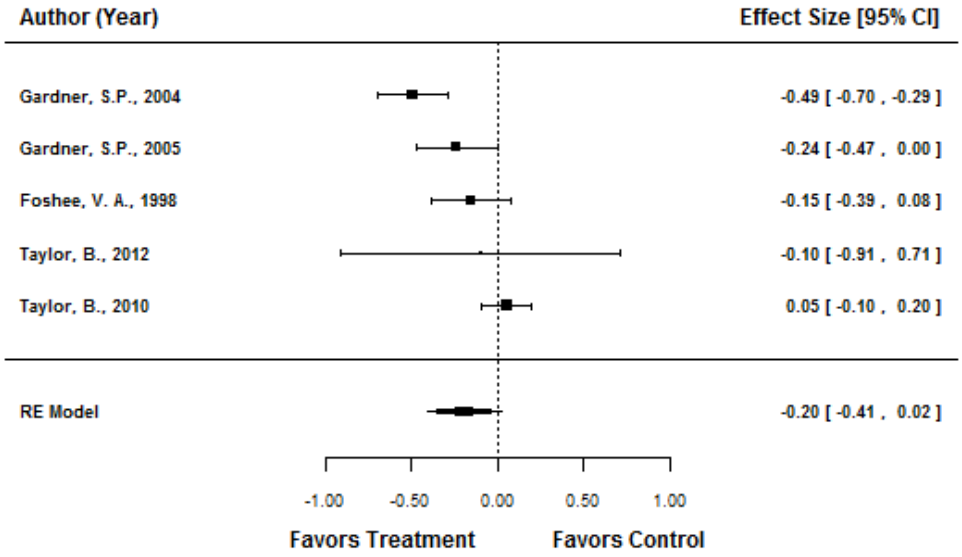

*Notes:* Study-level effect sizes and 95% confidence intervals; Negative effect sizes indicate decrease in the rape construct for the treatment group.

### 9.2.4 Teen Dating Violence Perpetration



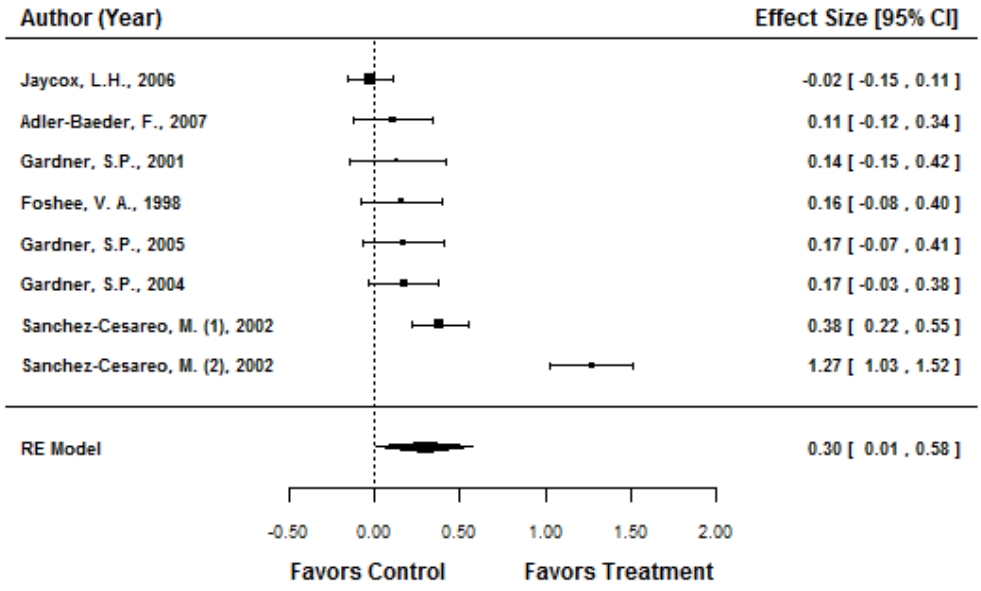

*Notes:* Study-level effect sizes and 95% confidence intervals; Negative effect sizes indicate decrease in teen dating violence perpetration for the treatment group.

### 9.2.5 Teen Dating Violence Victimization




*Notes:* Study-level effect sizes and 95% confidence intervals; Negative effect sizes indicate decrease in teen dating violence victimization for the treatment group.

### 9.2.6 Conflict Tactics Scale




*Notes:* Study-level effect sizes and 95% confidence intervals; Positive effect sizes indicate increase in conflict tactic skills for the treatment group.

## 9.3 MODERATOR ANALYSES

We conducted the moderator analyses using a grouping design, adding the moderators into a mixed-effects model as groups of variables. This allowed us to test the effects of moderators while mitigating the risk of Type 1 errors. Of interest, this procedure also allowed us to observe and compare intervention effects across outcomes and observe the effects of moderators while holding the outcomes constant. This is an important consideration because traditional moderator analyses (i.e., one-way ANOVAs) fail to account for these differences. In order to accomplish this task in a meaningful way, the Teen Dating Violence Knowledge, Attitudes, and Conflict Tactics Skills were transformed so that a negative effect size indicated a positive treatment effect.

We should also mention that the moderator analyses were conducted despite the small $\tau^2$ estimates. Because we were ultimately concerned with any relationship that remained, despite limited variability, we continued with the analyses. It is important to recognize, however, that finding null moderator results may indeed be a function of such limited heterogeneity. Moreover, these results represent, at best, planned sensitivity analyses.

### 9.3.1 Unconditional, three-level model

The first unconditional model fit utilized all twenty-three studies, totaling 111 effect sizes. The unconditional model yielded a moderate average effect size that was of little surprise given the results of the six outcomes ($\theta$ = -.16, 95% C.I. = -.25, -.07). On average, irrespective of outcome, a researcher should expect about a 16% standard deviation decrease (or increase, depending on the direction of the outcome) for the intervention in a measure related to teen dating violence.

Although it is considerably smaller than hypothesized, there remained some heterogeneity among the effect sizes. The heterogeneity was large at Level-2 ($\tau^2$ = .103, $I^2$ = 91.9) relative to Level-3 ($\tau^2$ = .002, $I^2$ = 1.6). This should not be surprising given the related but slightly different constructs measured at the effect size level. Based on the previous outcome analyses, the interventions had varied effects depending on the outcome measured. The high amount of Level-2 heterogeneity reflects these differences.

| Variable | ES | 95% CI | *p* - value |
|---|---|---|---|
| Intercept | -.156 | -.245, -.072 | .001 |

### 9.3.2 Level-2 variables (Block A)

We first tested for differences among the Level-2 variables. Unfortunately, aside from the different outcomes and their time points (i.e., post-test or follow-up), there were no other Level-2 variables available. For this analysis and all further analyses, the reference group for the constructs was Teen Dating Violence Knowledge. The reference group for the time point variable was post-test.

Nevertheless, the results of the model revealed significant findings. Not surprisingly, the rape myths acceptance outcome had significantly larger effects (β = -.44, 95% C.I. = -.84, -.05). The conflict tactics scale (β = -.22, 95% C.I. = -.43, -.01) also was significantly different. While controlling for other outcomes, however, the attitudes, perpetration, and victimization outcomes all were rendered non-significantly different from zero. In addition, the follow-up time points did not have a significantly larger effect size (β = -.02, 95% C.I. = -.15, .11).

A test of whether this model fit the data better than the unconditional model was also conducted using the likelihood-based chi-square difference test. The difference in the log-likelihood statistics was 11.98; this value was just over the nominal $p < .05$ with 6 degrees of freedom ($p = .062$). The inclusion of the Level-2 variables improved model-fit and they were therefore retained as control variables for the subsequent moderator analyses.

| Variable | β (SE) | 95% CI | *p*-value |
|---|---|---|---|
| Intercept | -0.084 (.139) | -.356, .188 | .544 |
| Attitude | -0.046 (.09) | -.223, .13 | .606 |
| Rape Myths Acceptance | -0.443 (.203) | -.842, -.045 | .029 |
| Perpetration | 0.023 (.243) | -.453, .499 | .924 |
| Victimization | 0.034 (.228) | -.413, .482 | .881 |
| Conflict Tactics Scale | -0.215 (.108) | -.426, -.004 | .045 |
| Time Measured | -0.017 (.066) | -.147, .112 | .792 |

*Notes*: Reference group for the outcomes is Knowledge; Time Measured (Post-Test = 0, Follow-up = 1).

### 9.3.3 Traditional moderators (Block B)

The first block of study-level (Level-3) moderators included the average age, percentage of males in the intervention condition, and program location (Block B). The continuous variables were centered around the grand mean of all the studies

Categorical variable were not centered and the reference group was rural schools. Neither of the continuous variables had a significant relationship with the effect sizes. Interestingly, rural schools, compared to suburban schools, showed a significantly larger treatment effect (β = .21, 95% C.I. = .04, .38). The results of the chi-square difference test, however, revealed that this model did not fit the data significantly better ($\Delta\chi^2$ =7.20, *df* = 5, *p* = .21).

| Variable | β (SE) | 95% CI | *p* - value |
|---|---|---|---|
| Intercept | -0.18 (.089) | -.354, -.007 | .042 |
| Attitude | -0.036 (.084) | -.201, .128 | .667 |
| Rape Myths Acceptance | -0.413 (.197) | -.8, -.026 | .036 |
| Perpetration | 0.012 (.113) | -.209, .233 | .916 |
| Victimization | 0.011 (.11) | -.204, .226 | .92 |
| Conflict Tactics Scale | -0.257 (.116) | -.486, -.029 | .027 |
| Time Measured | -0.011 (.066) | -.141, .119 | .868 |
| *Age* | 0.034 (.027) | -.019, .086 | .208 |
| *Percentage Male* | -0.003 (.005) | -.012, .007 | .576 |
| Suburban | 0.208 (.087) | .037, .379 | .017 |
| Mix | -0.072 (.302) | -.665, .52 | .811 |
| Urban | 0.053 (.101) | -.145, .25 | .600 |

*Notes*: Reference group for the outcomes is Knowledge; Time Measured (Post-Test = 0, Follow-up = 1); Age and Percentage Male are mean-centered at the study level; Rural schools were the reference group for school location.

### 9.3.4 Methodological moderators (Block C)

A second block of moderators included methodological variables. The variables included at this stage were the risk of bias items (the reference groups were low risk of bias), whether the study included a pretest adjustment (the reference group was the studies that did not include one), or group assignment (as opposed to individual assignment). Again, the results revealed there were no significant effect size differences based on these methodological characteristics. A test of the model-fit revealed that these variables had little impact ($\Delta\chi^2$ =6367, *df* = 3, *p* = .34).

| Variable | β (SE) | 95% CI | *p* - value |
|---|---|---|---|
| Knowledge | -0.311 (.223) | -.747, .125 | .163 |
| Attitude | -0.089 (.095) | -.275, .096 | .346 |

| Variable | β (SE) | 95% CI | *p* - value |
|---|---|---|---|
| Rape Myths Acceptance | -0.455 (.162) | -.772, -.138 | .005 |
| Perpetration | -0.022 (.128) | -.274, .23 | .863 |
| Victimization | -0.006 (.119) | -.239, .227 | .960 |
| Conflict Tactic Scale | -0.241 (.11) | -.456, -.025 | .028 |
| Time Measured | 0.035 (.094) | -.15, .22 | .714 |
| Random Allocation | -0.085 (.145) | -.369, .198 | .555 |
| Incomplete Data | 0.159 (.118) | -.073, .391 | .18 |
| Outcome Reporting | -0.027 (.146) | -.312, .258 | .853 |
| Other Biases | -0.062 (.131) | -.319, .195 | .634 |
| Random Assignment | 0.007 (.089) | -.168, .183 | .935 |
| Pretest Included | 0.201 (.126) | -.046, .447 | .111 |
| Group Assignment | 0.075 (.093) | -.107, .257 | .420 |

*Notes*: Reference group for the outcomes is Knowledge; Time Measured (Post-Test = 0, Follow-up = 1); Low Risk of Bias is the reference group for all risk of bias items; Pretest Included (No Pretest = 0, Pretest Included = 1); Group Assignment (0 = Individual Assignment).

### 9.3.5 Substantive moderators (Block D)

The third block of moderators investigated substantive variables. Enough information was available to test three different types of variables: program duration (mean-centered at the study level) and who implemented the program (teachers vs. all others). Again, none of the three variables showed signs of different intervention effects. The test of model-fit differences again revealed no improvement ($\Delta\chi^2$ =4.70, *df* = 7, *p* = .69).

| Variable | β (SE) | 95% CI | *p* - value |
|---|---|---|---|
| Knowledge | -0.078 (.073) | -.221, .066 | .288 |
| Attitude | -0.044 (.086) | -.214, .125 | .607 |
| Rape Myths Acceptance | -0.449 (.161) | -.764, -.134 | .005 |
| Perpetration | 0.032 (.11) | -.183, .248 | .769 |
| Victimization | 0.044 (.106) | -.163, .252 | .676 |
| Conflict Tactic Scale | -0.204 (.108) | -.415, .008 | .059 |

| Variable | β (SE) | 95% CI | *p* - value |
|---|---|---|---|
| Time Measured | -0.015 (.069) | -.15, .12 | .825 |
| Duration | -0.001 (.002) | -.005, .003 | .633 |
| Implementer | -0.02 (.077) | -.17, .131 | .799 |

*Notes*: Reference group for the outcomes is Knowledge; Time Measured (Post-Test = 0, Follow-up = 1); Duration was grand-mean centered; Implementer (0 = Researcher, 1 = Teacher/Staff).

### 9.3.6 Intrinsic moderators (Block E)

The final group of moderators tested intrinsic variables, for instance the date of publication (grand mean-centered), whether the program received financial support (studies without support was the reference group), and the source of the document (unpublished was the reference group). Consistent with the other moderator analyses, the three variables did not yield significant relationships with the effect sizes. The test of model-fit reaffirmed the non-significance of these relationships ($\Delta\chi^2$ =4.63, *df* = 3, *p* = .21).

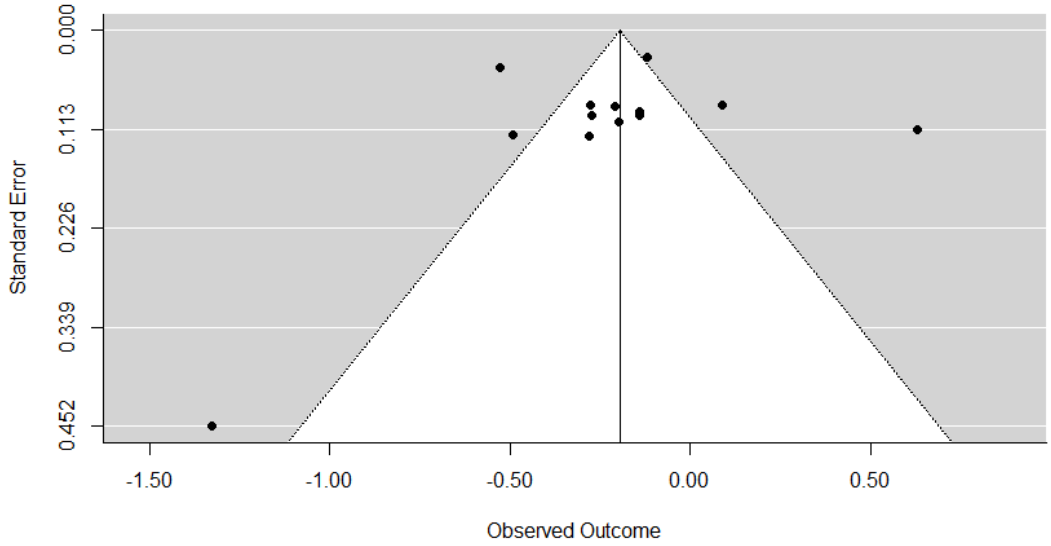
| Variable | β (SE) | 95% CI | *p* - value |
|---|---|---|---|
| Intercept | 0.023 (.092) | -.158, .203 | .805 |
| Attitude | -0.024 (.096) | -.213, .165 | .805 |
| Rape Myths Acceptance | -0.463 (.167) | -.791, -.135 | .006 |
| Perpetration | 0.035 (.121) | -.203, .272 | .775 |
| Victimization | 0.046 (.116) | -.18, .273 | .689 |
| Conflict Tactics Scale | -0.214 (.106) | -.423, -.006 | .044 |
| Time Measured | -0.036 (.066) | -.165, .093 | .584 |
| Date of Publication | 0.011 (.006) | -.001, .023 | .077 |
| Source | -0.03 (.106) | -.238, .179 | .779 |
| Received Funding | -0.132 (.101) | -.331, .067 | .192 |

*Notes*: Reference group for the outcomes is Knowledge; Time Measured (Post-Test = 0, Follow-up = 1); Date of Publication grand mean-centered; Source (0 = Unpublished, 1 = Published); Received Funding (0 = No funding, 1 = Received funding).

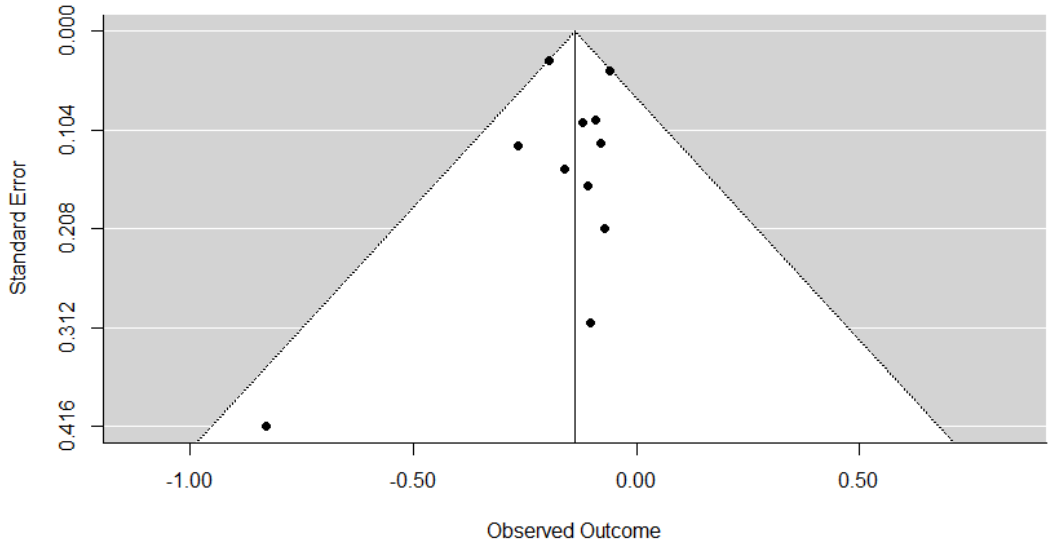
## 9.4 PUBLICATION BIAS

### 9.4.1 Funnel Plots

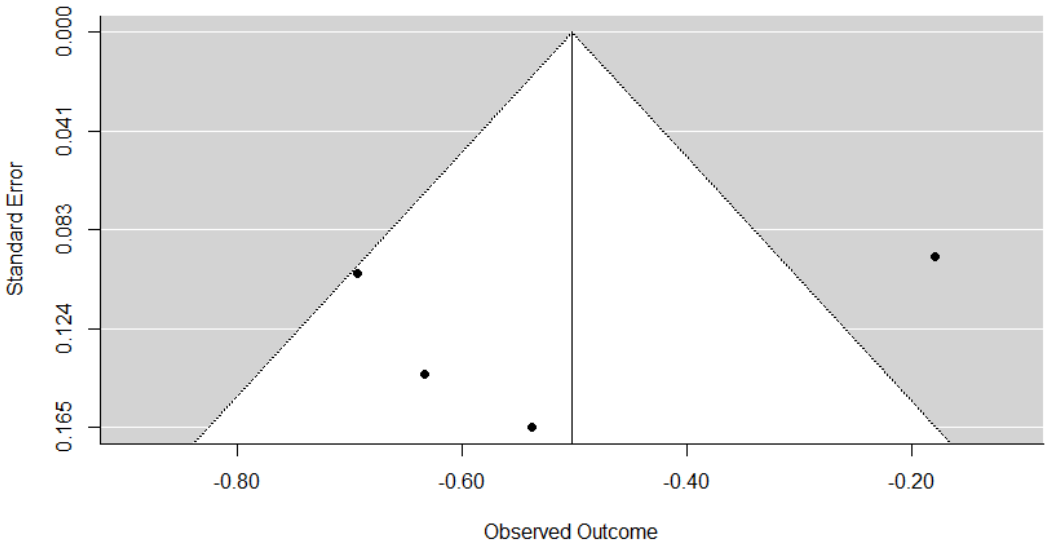
#### *9.4.1.1 Teen Dating Violence Knowledge*



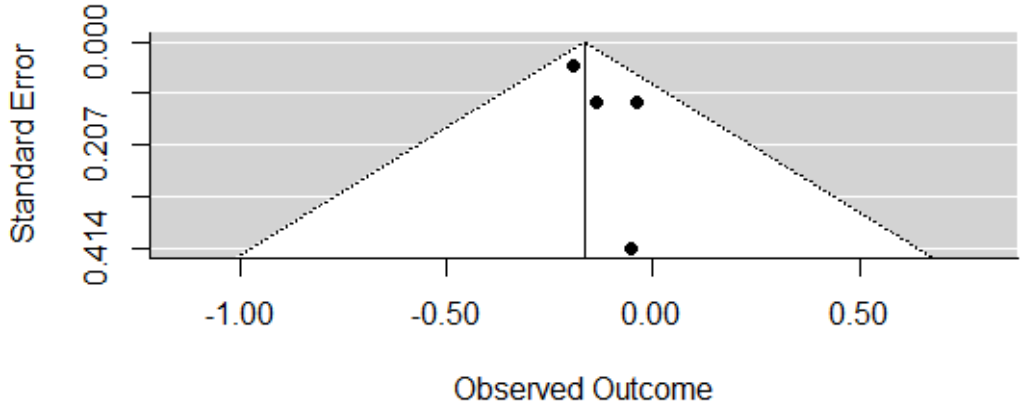

#### *9.4.1.2 Teen Dating Violence Attitudes*



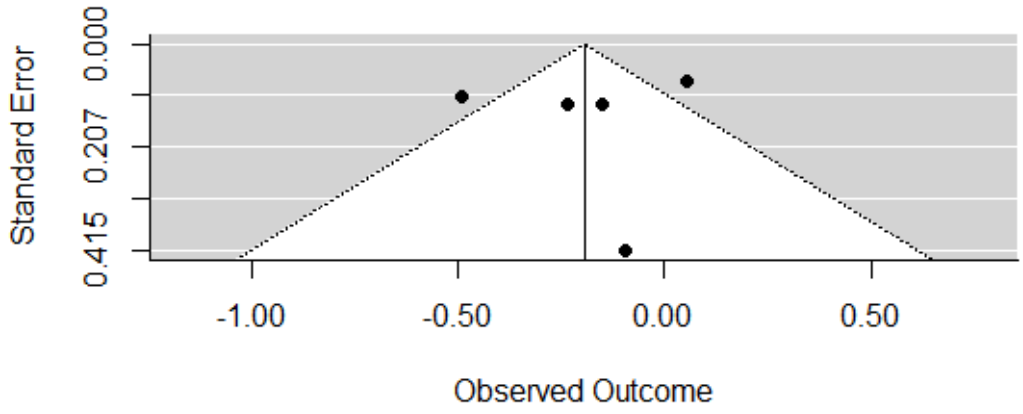
#### *9.4.1.3 Rape Myths Acceptance*



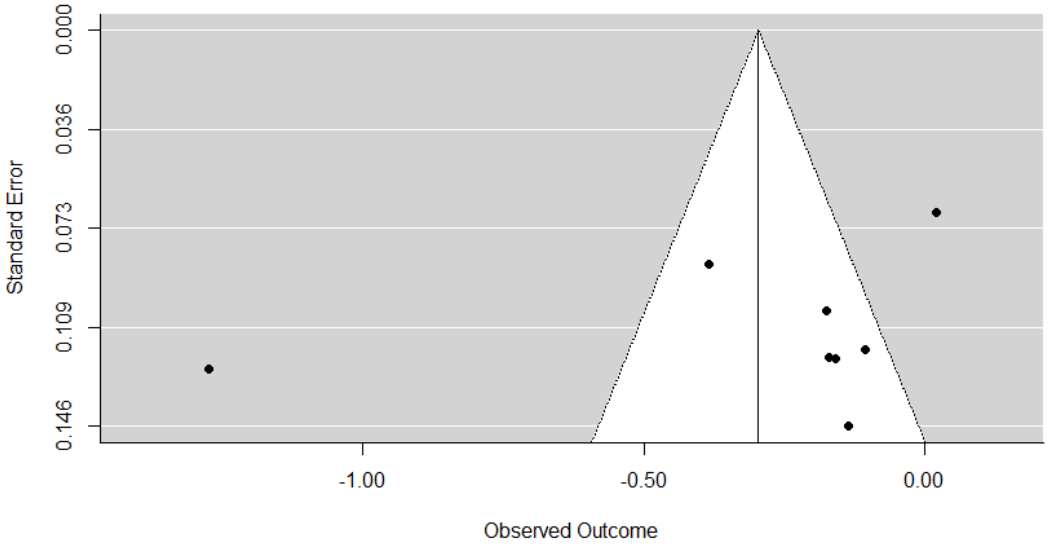

#### *9.4.1.4 Dating Violence Perpetration*



### *9.4.1.5 Dating Violence Victimization*




### *9.4.1.6 Conflict Tactics Scale*



# 10 References

## 10.1 INCLUDED STUDIES


Adler-Baeder, F., Kerpelman, J. L., Schramm, D. G., Higginbotham, B., & Paulk, A. (2007). The impact of relationship education on adolescents of diverse backgrounds. *Family Relations, 56*(3), 291-303. doi:10.1111/j.1741-3729.2007.00460.x

Avery-Leaf, S., Cascardi, M., O'Leary, K. D., & Cano, A. (1997). Efficacy of a dating violence prevention program on attitudes justifying aggression. *The Journal of Adolescent Health, 21*(1), 11-17.

Fay, K. E. & Medway, F. J. (2006). An acquaintance rape education program for students transition to high school. *Sex Education, 6*, 223-236. doi: 10.1080/14681810600836414

Foshee, V. A., Bauman, K. E., Arriaga, X. B., Helms, R. W., Koch, G. G., & Fletcher Linder, G. (1998). An evaluation of safe dates, and adolescent dating violence prevention program. *American Journal of Public Health, 88*, 45-50.

Gardner, S. P. (2001). Evaluation of the "connections: relationships and marriage" curriculum. *Journal of Family and Consumer Sciences Education, 19*, 1–14.

Gardner, S. P., Giese, K., & Parrot, S. M. (2004). Evaluation of the connections: Relationships and marriage curriculum. *Family Relations, 53,* 521-527.

Gardner, S. P. (2005). *Final Summary Report for the Evaluation of the Connections: Dating and Emotions Curriculum*. Retrieved from: http://www.dibbleinstitute.org/Documents/CDE-FER.pdf

Hillenbrand-Gunn, T. L., Heppner, M. J., Mauch, P. A., & Park, H. (2010). Men as allies: The efficacy of a high school rape prevention intervention. *Journal of Counseling & Development, 88*(1), 43-51. doi:10.1002/j.1556-6678.2010.tb00149.x

Jaycox, L. H., McCaffrey, D., Eiseman, B., Aronoff, J., Shelley, G. A., Collins, R. L., & Marshall, G. N. (2006). Impact of a school-based dating violence prevention program among Latino teens: Randomized controlled effectiveness trial. *Journal of Adolescent Health, 39*(5), 694-704.

Jones, L. E., & Levy, B. (1991). *Minnesota school curriculum project: A statewide domestic violence prevention project in secondary schools*.

Krajewski, S. S., Rybarik, M. F., Dosch, M. E., & Gilmore, G. D. (1996). Results of a curriculum intervention with seventh graders regarding violence in relationships. *Journal of Family Violence, 11*, 93-112.

Macgowan, M. J. (1997). An evaluation of a dating violence prevention program for middle school students. *Violence and Victims, 12*(3), 223-235.

Pacifici, C., Stoolmiller, M., & Nelson, C. (2001). Evaluating a prevention program for teenagers on sexual coercion: A differential effectiveness approach.

*Journal of Consulting and Clinical Psychology, 69*, 552-559. doi: 10.1037//0022-006x.69.3.552

Proto-Campise, L., Belknap, J., & Wooldredge, J. (1998). High school students' adherence to rape myths and the effectiveness of high school rape-awareness programs. *Violence Against Women, 4*(3), 308-328.

Sanchez-Cesareo, M. (2002). *Outcome evaluation of the youth project: A school-based teen dating violence prevention program*. (Ph.D., DePaul University). ProQuest Dissertations and Theses. (305508868).

Silverman, A. B. (2000). *Evaluating the efficacy of the Rhode island teen dating violence prevention program (TDVPP): A process and outcome approach to determining the success of both primary and secondary prevention projects*. (Ph.D., University of Rhode Island). ProQuest Dissertations and Theses. (304620315).

Taylor, B., Stein, N., & Burden, F. (2010). The effects of gender violence/ harassment prevention programming in middle schools: A randomized experimental evaluation. *Violence and Victims, 25*(2), 202-223.

Taylor, B. G., Stein, N., & Burden, F. F. (2010). Exploring gender differences in dating violence/harassment prevention programming in middle schools: Results from a randomized experiment. *Journal of Experimental Criminology, 6*(4), 419-445. doi:10.1007/s11292-010-9103-7

Taylor, B. G., Stein, N. D., Mumford, E., & Woods, D. (2013). Shifting Boundaries: An experimental evaluation of a dating violence prevention program in middle schools. *Prevention Science, 14*, 64-76. doi: 10.1007/s11121-012-0293-2

Weisz, A. N., & Black, B. M. (2001). Evaluating a sexual assault and dating violence prevention program for urban youths. *Social Work Research, 25*(2), 89-100.

Wolfe, D. A., Crooks, C., Jaffe, P., Chiodo, D., Hughes, R., Ellis, W., ... & Donner, A. (2009). A school-based program to prevent adolescent dating violence: A cluster randomized trial. *Archives of Pediatrics & Adolescent Medicine, 163*(8), 692.

## 10.2 EXCLUDED STUDIES

Abadi, S., & Madariaga, M. R. (2000). Abuso sexual en la pareja. un enfoque interdisciplinario. *Revista De Psicoanálisis, Spec Issue*(7), 9-25.

Andrews, D. A., Robinson, D., & Balla, M. (1986). Risk principle of case classification and the prevention of residential placements: An outcome evaluation of the share the parenting program. *Journal of Consulting and Clinical Psychology, 54*(2), 203-207. doi:10.1037/0022-006X.54.2.203

Arango, L. L., Kurtines, W. M., Montgomery, M. J., & Ritchie, R. (2008). A multi-stage longitudinal comparative design stage II evaluation of the changing lives program: The life course interview (RDA-LCI). *Journal of Adolescent Research, 23*(3), 310-341. doi:10.1177/0743558408314381

Arnold, E. M., Smith, T. E., Harrison, D. F., & Springer, D. W. (2000). Adolescents' knowledge and beliefs about pregnancy: The impact of "ENABL". *Adolescence, 35*(139), 485-498.

Averill, J. B., Padilla, A. O., & Clements, P. T. (2007). Frightened in isolation: Unique considerations for research of sexual assault and interpersonal violence in rural areas. *Journal of Forensic Nursing, 3*(1), 42-46. doi:10.1111/j.1939-3938.2007.tb00091.x

Banyard, V. L. (2008). Sexual violence: Current perspectives on prevention and intervention. *Journal of Prevention & Intervention in the Community, 36*(1-2), 1-4. doi:10.1080/10852350802022225

Benner, T. A. (2008). Aban aya youth project: Preventing high-risk behaviors among African American youth in grades 5-8. In J. J. Card (Ed.), (pp. 157-164). New York, NY, US: Springer Publishing Co, New York, NY.

Biglan, A. (1996). Sexual coercion. In M. A. Mattaini (Ed.), (pp. 289-316). Washington, DC, US: American Psychological Association, Washington, DC. doi:10.1037/10217-011

Burman, L. B. *Resolving drama: The effects of a theater-based youth violence prevention program on problem-solving skills. Dissertation Abstracts International: Section B: The Sciences and Engineering*. (742993901; 2010-99080-154).

Cassidy, T. (2009). Bullying and victimisation in school children: The role of social identity, problem-solving style, and family and school context. *Social Psychology of Education, 12*(1), 63-76. doi:10.1007/s11218-008-9066-y

Cavanaugh, M. M. (2007). *An exploration of the feasibility and utility of the dialectical psychoeducational workshop (DPEW) as a preventative intervention for males at potential risk of intimate partner violence.* (Ph.D., University of Pennsylvania). ProQuest Dissertations and Theses. (304836686).

Cerdá, M., Morenoff, J. D., Hansen, B. B., Tessari Hicks, K. J., Duque, L. F., Restrepo, A., & Diez-Roux, A. (2012). Reducing violence by transforming neighborhoods: A natural experiment in medellín, colombia. *American Journal of Epidemiology, 175*(10), 1045-1053.

Chamroonsawasdi, K., Suparp, J., Kittipichai, W., & Khajornchaikul, P. (2010). Gender roles, physical and sexual violence prevention in primary extend to secondary school in samutsakorn province, thailand. *Journal of the Medical Association of Thailand = Chotmaihet Thangphaet, 93*(3), 358-365.

Coker, A. L., Cook-Craig, P. G., Williams, C. M., Fisher, B. S., Clear, E. R., Garcia, L. S., & Hegge, L. M. (2011). Evaluation of Green Dot: An active bystander intervention to reduce sexual violence on college campuses. *Violence Against Women, 17*, 777-796. doi: 10.1177/1077801211410264

Day, C., & Davis, H. (2006). The effectiveness and quality of routine child and adolescent mental health care outreach clinics. *British Journal of Clinical Psychology, 45*(4), 439-452. doi:10.1348/014466505X79986

Eley, T. (2007). 'The time has come, 'the walrus said, 'to speak of many things; of shoes and ships and sealing wax, of cabbages and kings.'. *Journal of Child Psychology and Psychiatry, 48*(6), 525.

Feder, L., Holditch Niolon, P., Campbell, J., Wallinder, J., Nelson, R., & Larrouy, H. (2011). The need for experimental methodology in intimate partner violence: Finding programs that effectively prevent IPV. *Violence Against Women, 17*(3), 340-358. doi:10.1177/1077801211398620

Feder, L., & Wallinder, J. (2008). Developing and testing an intervention to prevent intimate partner violence: The enhanced nurse family partnership program. *Conference Papers -- American Society of Criminology*.

Feltey, K. M., Ainslie, J. J., & Geib, A. (1991). Sexual coercion attitudes among high school students: The influence of gender and rape education. *Youth and Society, 23*, 229-250. doi: 10.1177/0044118X91023002004

Flay. B. R. (2000). *Extension of the Aban Aya Youth Project*. Unpublished NIDA grant.

Florsheim, P., McArthur, L., Hudak, C., Heavin, S., & Burrow-Sanchez, J. (2011). The young parenthood program: Preventing intimate partner violence between adolescent mothers and young fathers. *Journal of Couple & Relationship Therapy, 10*(2), 117-134. doi:10.1080/15332691.2011.562823

Goodman, R. M., & Noonan, R. K. (2009). Empowerment evaluation for violence prevention public health programs. *Health Promotion Practice, 10*(1 suppl), 11S-18S. doi:10.1177/1524839908317646

Hamby, S. L. (2006). The who, what, when, where, and how of partner violence prevention research. *Journal of Aggression, Maltreatment & Trauma, 13*(3-4), 179-201. doi:10.1300/J146v13n03_07

Harper, G. W., Bangi, A. K., Sanchez, B., Doll, M., & Pedraza, A. (2009). A quasi-experimental evaluation of a community-based HIV prevention intervention for Mexican American female adolescents: the SHERO's program. *AIDS Education & Prevention, 21*(Supplement B), 109-123.

Hilton, N. Z., Harris, G. T., Rice, M. E., Krans, T. S., & Lavigne, S. E. (1998). Antiviolence education in high schools: Implementation and evaluation. *Journal of Interpersonal Violence, 13,* 726-742. doi: 10.1177/088626098013006004

Jaffe, P. G., Sudermann, M., Reitzel, D., & Killip, S. M. (1992). An evaluation of a secondary school primary prevention program on violence in intimate relationships. *Violence and Victims, 7,* 129–146.

Kershner, R. E. (1995). *The efficacy of adolescent rape prevention education.* (Ed.D., West Virginia University). ProQuest Dissertations and Theses. (304251093).

Labriola, M., Rempel, M., & Cissner, A. (2010). Lessons learned from the implementation of two randomized trials in a criminal court setting. *Journal of Experimental Criminology, 6*(4), 447-473. doi:10.1007/s11292-010-91028

Lavoie, F., Vezina, L., Piche, C., & Boivin, M. (1995). Evaluation of a prevention program for violence in teen dating relationships. *Journal of Interpersonal Violence, 10,* 516–524.

Leadbeater, B., & Sukhawathanakul, P. (2011). Multicomponent programs for reducing peer victimization in early elementary school: A longitudinal evaluation of the WITS primary program. *Journal of Community Psychology, 39*(5), 606-620. doi:10.1002/jcop.20447

Levine, M., Cassidy, C., Brazier, G., & Reicher, S. (2002). Self-categorization and bystander non-intervention: Two experimental studies. *Journal of Applied Social Psychology, 32*(7), 1452-1463. doi:10.1111/j.1559-1816.2002.tb01446.x

Ley, D. J. *Effectiveness of a court-ordered domestic violence treatment program: A clinical utility study. Dissertation Abstracts International: Section B: The Sciences and Engineering, .* (619725749; 2001-95020-082).

Massey, O. T., Boroughs, M., & Armstrong, K. H. (2007). School violence interventions in the safe Schools/Healthy students initiative: Evaluation of two early intervention programs. *Journal of School Violence, 6*(2), 57-74. doi:10.1300/J202v06n02_04

Maxwell, C. D., Davis, R. C., & Taylor, B. G. (2010). The impact of length of domestic violence treatment on the patterns of subsequent intimate partner violence. *Journal of Experimental Criminology, 6*(4), 475-497. doi:10.1007/s11292-010-9106-4

Meyer, G., Roberto, A. J., Boster, F. J., & Roberto, H. L. (2004). Assessing the Get Real about Violence® curriculum: Process and outcome evaluation results and implications. *Health Communication, 16*(4), 451-474.

Murray, C. E., & Graybeal, J. (2007). Methodological review of intimate partner violence prevention research. *Journal of Interpersonal Violence, 22*(10), 1250-1269. doi:10.1177/0886260507304293

Rayburn, N. R., Jaycox, L. H., McCaffrey, D. F., Ulloa, E. C., Zander-Cotugno, M., Marshall, G. N., & Shelley, G. A. (2007). Reactions to dating violence among Latino teenagers: an experiment utilizing the Articulated Thoughts in Simulated Situations paradigm. *Journal of Adolescence, 30*(6), 893-915.

Schwartz, J. P., Magee, M. M., Griffin, L. D., & Dupuis, C. W. (2004). Effects of a group preventive intervention on risk and protective factors related to dating violence. *Group Dynamics: Theory, Research, and Practice, 8*(3), 221-231. doi:10.1037/1089-2699.8.3.221

Smothers, M. K., & Smothers, D. B. (2011). A sexual assault primary prevention model with diverse urban youth. *Journal of Child Sexual Abuse: Research, Treatment, & Program Innovations for Victims, Survivors, & Offenders, 20*(6), 708-727. doi:10.1080/10538712.2011.622355

Sørlie, M., & Ogden, T. (2007). Immediate impacts of PALS: A school-wide multi-level programme targeting behaviour problems in elementary school. *Scandinavian Journal of Educational Research, 51*(5), 471-492. doi:10.1080/00313830701576581

Stein, N. (2007). Development and evaluation of gender Violence/Harassment prevention programs in middle schools. *Conference Papers -- American Society of Criminology*.

Ting, S. R. (2009). Meta-analysis on dating violence prevention among middle and high schools. *Journal of School Violence, 8*, 328-337. doi: 10.1080/15388220903130197

Wolfe, D. A., Wekerle, C., Scott, K., Straatman, A., Grasley, C., & Reitzel-Jaffe, D. (2003). Dating violence prevention with at-risk youth: A controlled outcome evaluation. *Journal of Consulting and Clinical Psychology*, 71, 279–291.

Yom, Y. H., & Eun, L. K. (2005). Effects of a CD-ROM educational program on sexual knowledge and attitude. *Computers, Informatics, Nursing: CIN, 23*(4), 214-219.

## 10.3 OTHER REFERENCES

Anderson, L. M., Petticrew, M., Rehfuess, E., Armstrong, R., Ueffing, E., Baker, P., Francis, D., & Tugwell, P. (2011). Using logic models to capture complexity in systematic reviews. *Research Synthesis Methods, 2*(1), 33-42.

Banyard, V. L., & Cross, C. (2008). Consequences of teen dating violence: understanding intervening variables in ecological context. *Violence Against Women, 14*, 998-1013. doi: 10.1177/1077801208322058

Black, B. M., Tolma, R. M., Callahan, M., Saunders, D. G., & Weisz, A. N. (2008). When will adolescents tell someone about dating violence victimization? *Violence Against Women, 14*, 741-758. doi: 10.1177/1077801208320248

Borenstein, M., Hedges, L.V., Higgins, J.P.T., & Rothstein, H.R. (2005). *Comprehensive meta- analysis, Version 2*. Englewood, NJ: Biostat.

Borenstein, M., Hedges, L. V., Higgins, J. P. T., & Rothstein, H. R. (2010). A basic introduction to fixed-effect and random-effects models for meta-analysis. *Research Synthesis Methods, 1*, 97-111. doi: 10.1002/jrsm.12

Burt, M. R. (1980) Cultural myths and support for rape, Journal of Personality and Social Psychology, 38, 217–230.

Calvillo, R.N. (2010). *Latino teens at risk: The effectiveness of dating violence prevention programs.* (Senior thesis). Claremont McKenna College, Claremont, USA. Retrieved from: http://scholarship.claremont.edu/cgi/viewcontent.cgi?article=1070&context = cmc _theses

Center for Disease Control and Prevention. (2012). *Understanding teen dating violence*. Retrieved from: http://www.cdc.gov/ViolencePrevention/pdf/TeenDating Violence2012-a.pdf

Cheung, M.W.L. (2013). Fixed- and random-effects meta-analytic structural equation modeling: Examples and analyses in R. *Behavioral Research Journal, 45*, 1-12. doi: 10.3758/s13428-013-0361-y

Cooper, H. (2010). Research synthesis and meta-analysis (4th ed.). Thousand Oaks, CA: Sage Publications.

Cornelius, T. L. & Resseguie, N. (2007). Primary and secondary prevention programs for dating violence: A review of the literature. *Aggression and Violent Behavior, 12*, 364-375. doi: 10.1016/j.avb.2006.09.006

Dickersin, K. (1997). How important is publication bias? A synthesis of available data. *AIDS education and prevention: official publication of the International Society for AIDS Education*, *9*(1 Suppl), 15-21.

Duval, S., & Tweedie, R. (2000). A nonparametric "trim and fill" method of accounting for publication bias in meta-analysis. *Journal of the American Statistical Association, 95*, 89-98. doi: 10.1080/01621459.2000.10473905

Espelage, D. L. (2012). *Commissioned paper for National Institute of Justice Research Meeting on Longitudinal Data on Teen Dating Violence*. Retrieved from: http://www.nij.gov/nij/topics/crime/intimate-partner-violence/teen-dating-violence/longitudinal-data-meeting/tdv-longitudinal-data-research-meeting-paper.pdf

Espelage, D. L., Holt, M. K., & Isaia, A. (2007). Dating violence among adolescents—Understanding the roles of attachment, self-esteem, dominance, and need for interpersonal control. In K.A Kendall-Tackett & S.M. Giacomoni (Eds.), *Intimate partner violence* (pp. 14-15). Kingston, NJ: Civic Research Institute.

Espelage, D., & Low, S. M. (2013). Understanding and preventing adolescent bullying, sexual violence, and dating violence. In E. M. Vera, (Ed.) *Oxford Handbook of Prevention in Counseling Psychology* (pp. 163-183). New York: Oxford University Press.

Espelage, D. L., Low, S., & De La Rue, L. (2012). Relations between peer victimization subtypes, family violence, and psychological outcomes during adolescence. *Psychology of Violence. Advance online publication.* doi: 10.1037/a0027386

Fellmeth, G. L. T, Heffernan, C., Nurse, J., Habibula, S., & Sethi, D. (2011). Educational and skills-based interventions for preventing relationship and dating violence in adolescents and young adults (Protocol). *Cochrane*

*Database of Systematic Reviews, Issue 6. Art. No.: CD004534*. doi: 10.1002/14651858.CD004534.pub3

Flannery, D. J., Vazsonyi, A. T., Liau, A. K., Guo, S., Powell, K. E., Atha, H., Vesterdal, W., & Embry, D. (2003). Initial behavior outcomes for Peacebuilders universal school-based violence prevention program. *Developmental Psychology, 39,* 292 – 308. doi: 10.1037/0012-1649.39.2.292

Foshee, V. A. (1994). *Youth Dating Violence Survey*. Unpublished instrument.

Foshee, V. A., Bauman, K. E., Arriaga, X. B., Helms, R. W., Koch, G. G., & Linder, G. F. (1998). An evaluation of Safe Dates, an adolescent dating violence prevention program. *American Journal of Public Health, 88,* 45-50.

Foshee, V. A., Bauman, K. E., Ennett, S. T., Suchindran, C., Benefield, T., & Linder, G. F. (2005). Assessing the effects of the dating violence prevention program "Safe Dates" using random coefficient regression modelling. *Prevention Science, 6,* 245-258. doi: 10.1007/s11121-005-0007-0

Foshee, V. A., Bauman, K. E., Greene, W. F., Koch, G. G., Linder, G. F., & MacDougall, J. E. (2000). The safe dates program: 1-year follow up results. *American Journal of Public Health, 90*, 1619-1622.

Foshee, V. A., & Langwick, S. (2004). *Safe Dates: An adolescent dating abuse prevention curriculum* [Program Manual]. Center City, MH: Hazelden Publishing and Educational Services. Retrieved from: http://www.hazelden.org/web/public/document/safe_dates_scope_sequence.pdf

Foshee, V. A., Linder, G. F., Bauman, K. E., Langwick, S. A., Arriaga, X. B., et al. (1996). The Safe Dates project: Theoretical basis, evaluation design, and selected baseline findings. *American Journal of Preventive Medicine, 12,* 39–47.

Foshee, V. A., & McNaughton-Reyes, H. L. (2009). Primary prevention of adolescent dating abuse perpetration: When to begin, whom to target, and how to do it. In D. J. Whitaker & J. R. Lutzker (Eds.) *Preventing partner violence: research and evidence-based intervention strategies* (pp. 141-168). Washington, DC: American Psychological Association.

Foshee, V. A., McNaughton-Reyes, H. L., Ennett, S. T. (2010). Examination of sex and race differences in longitudinal predictors of the initiation of adolescence dating violence perpetration. *Journal of Aggression, Maltreatment and Trauma, 19*, 492-516. doi: 10.1016/j.jadohealth.2010.07.030

Foshee, V. A., McNaughton-Reyes, H. L., Ennett, S. T., Cance, J. D., Bauman, K. E., & Bowling, J. M. (2012). Assessing the effects of Families for Safe Dates, a family-based teen dating abuse prevention program. *Journal of Adolescent Health, 51*, 349-356. doi: 10.1016/j.jadohealth.2011.12.029

Furman, W., & Shaffer, L. (2003). The role of romantic relationships in adolescent development. In P. Florsheim (Ed.), Adolescent romantic relations and sexual behavior: Theory, research, and practical implications (pp. 3–22). Mahwah, NJ: Erlbaum.

Hall, E. R., Howard, J. A., & Boezio, S. L. (1986). Tolerance of rape: A sexist or antisocial attitude? *Psychology of Women Quarterly, 10*, 101-118.

Hamby, S., Finkelhor, D., & Turner, H. (2012). Teen dating violence: co-occurrence with other victimizations in the National Survey of Children's Exposure to

Violence (NatSCEV). *Psychology of Violence, 2*, 111-124. doi: 10.1037/a0027191

Hamby, S., & Grych, J. (2013). *The Web of Violence: Exploring Interconnections among different forms of interpersonal violence and abuse.* SpringerBriefs in Sociology.

Hammerstrøm, K., Wade, A., & Jørgensen, A-M. K. (2010) Searching for studies: a guide to information retrieval for Campbell Systematic Reviews. *Campbell Systematic Reviews, Supplement 1*, 1-75. doi: 10.4073/csrs.2010.1

Hampton, B., Brinberg, D., Peter, P. Corus, C. (2009). Integrating the unified theory and stages of change to create targeted health messages. *Journal of Applied Social Psychology, 39*, 449-471.

Haynes, K. S. (1998). The one hundred-year debate: social reform versus individual treatment. *Social Work, 43*, 501-509.

Hedges, L. V. & Olkin, I. (1985). Statistical methods for meta-analysis. Orlando, FL: Academic Press.

Heppner, M. J., Hillenbrand-Gunn, T. L., & Mauch, P A. (2005). *Working together (High school version).* (Available from the Missouri Department of Health and Senior Services, PO Box 570, Jefferson City, MO 65102)

Higgins, J. P. T., Altman, D. G., & Sterne, J. A. C. (2011). Chapter 8: assessing risk of bias in included studies. In J. P. T Higgins & S. Green (Eds.) *Cochrane Handbook for Systematic Reviews of Interventions* (V. 5.1.0), Retrieved from www.cochrane-handbook.org.

Holt, M. K., & Espelage, D. L. (2005). Social support as a moderator between dating violence victimization and depression/anxiety among African-American and Caucasian adolescents. *School Psychology Review, 34*, 309-328.

Jüni, P., Witschi, A., Bloch, R., & Egger, M. (1999). The hazards of scoring the quality of clinical trials for meta-analysis. *Journal of the American Medical Association, 282*, 1054-1060.

Kantor, G. K. (1996). *A safe place dating violence prevention project*. Durham: University of New Hampshire, Family Research Laboratory.

Konstantopoulos, S. (2010). Power analysis in two-level unbalanced designs. *The Journal of Experimental Education, 78*(3), 291-317.

Kraizer, S., & Larson, C. L. (1993). *Dating violence: Intervention & prevention for teenagers.* Tulsa, OK: National Resource Center for Youth Services, College of Continuing Education, University of Oklahoma.

Latta, R. E., & Goodman, L. A. (2011). Intervening in partner violence against women: a grounded theory exploration of informal network members' experiences. *The Counseling Psychologist, 39*, 973 –1023. doi: 10.1177/0011000011398504

Law, K. M. (n.d.). *Youth sexual violence prevention programs: What we know and what we are doing*. Michigan Coalition Against Domestic and Sexual Violence: Okemos, MI. Retrieved from: http://www.mcadsv.org/resources/prevention/files/Youth%20SV%20Prevention.pdf

Levy, B. (1984). *Skills for Violence-Free Relationships,* Southern California Coalition on Battered Women, Los Angeles. Available from Minnesota Coalition for Battered Women, 570 Asbury Street Suite 201, St. Paul, MN 55104.

Lipsey, M. W. (2009). Identifying interesting variables and analysis opportunities. In H. Cooper, L. V. Hedges, & J. C. Valentine (Eds.) *The handbook of*

*research synthesis and meta-analysis,* (pp. 147-158), New York: Sage Publication.

Lipsey, M. W. & Wilson, D. B. (2001). *Practical meta-analysis (2nd ed.).* Thousand Oaks, CA: Sage Publications.

Macgowan, M. J. (1997). An evaluation of a dating violence prevention program for middle school students. *Violence and Victims, 12,* 223 – 235.

Meyer, H., & Stein, N. (2004). Relationship violence prevention education in schools: What's working, what's getting in the way, and what are some future directions. *American Journal of Health Education, 35*(4), 198-204.

Miller, S., Gorman-Smith, D., Sullivan, T., Orpinas, P., & Simon. T. R. (2009). Parent and peer predictors of physical dating violence perpetration in early adolescence: Tests of moderation and gender differences. *Journal of Child and Adolescent Psychology, 38,* 538-550. doi: 10.1080/15374410902976270

Molidor, C. E. (1995). Gender differences of psychological abuse in high school dating relationships. *Child and Adolescent Social Work Journal, 12,* 119-134.

Mulford, C. F., & Blachman-Demner, D. R. (2013). Teen dating violence: Building a research program through collaborative insights. *Violence Against Women, 19,* 756-770. doi: 10.1177/1077801213494705

Mulford, C., & Giordano, P. C. (2008). Teen dating violence: a closer look at adolescent romantic relationships. *National Institute of Justice, 261.* Retrieved from: http://www.nij.gov/journals/261/teen-dating-violence.htm

Nebraska Domestic Violence Sexual Assault Coalition. (1995). *Reaching and teaching teens to stop violence.* Lincoln, NE: Author.

Noonan, R. K., & Charles, D. (2009). Developing teen dating violence prevention strategies. *Violence Against Women, 15,* 1087-1105. doi: 10.1177/1077801209340761.

Offenhauer, P., & Buchalter, A. (2011). Teen dating violence: a literature review and annotated bibliography. Retrieved from: https://www.ncjrs.gov/pdffiles1/nij/grants/235368.pdf

Parrot, A. (1991) Acquaintance rape and sexual assault: a prevention manual (Holmes Beach, FL, Learning Publications, Inc.).

Payne, D. L., Lonsway, K. A., & Fitzgerald, L. F (1999). Rape myth acceptance: Exploration of its structure and its measurement using the Illinois Rape Myth Acceptance Scale. *Journal of Research in Personality, 33,* 27-68.

Pigott, T. D. (2009). Handling missing data. In H. Cooper, L. V. Hedges, & J. C. Valentine (Eds.) *The handbook of research synthesis and meta-analysis,* (pp. 399-416), New York: Sage Publication.

Polanin, J. R., & Pigott, T. D. (in press). The use of statistical significance testing in meta-analysis. *Research Synthesis Methods.*

Silverman, A. B. (2000). *Evaluating the efficacy of the Rhode island teen dating violence prevention program (TDVPP): A process and outcome approach to determining the success of both primary and secondary prevention projects.* (Ph.D., University of Rhode Island). *ProQuest Dissertations and Theses*. (304620315).

RAVE. (1997). *Knowledge of sexual assault.* Grand Rapids, MI: RAVE of West Michigan.

Rosenthal, R. (1991). Meta-analysis: a review. *Psychosomatic Medicine, 53,* 247-271.

Rothstein, H. R., Borenstein, M., & Sutton, A.J. (2005). Publication bias in meta-analysis. West Sussex, England: Wiley & Sons, Ltd.

Shadish, W. R., & Cook, T. D. (2009). The renaissance of field experimentation in evaluating interventions. *Annual Review of Psychology, 60,* 607-629. doi: 10.1146/annurev.psych.60.110707.163544

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Wadsworth Cengage Learning.

Snyder, H. N., and McCurley, C. (2008). *Domestic assaults by juvenile offenders*. Washington, DC: U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention. Retrieved from: https://www.ncjrs.gov/pdffiles1/ojjdp/219180.pdf

Straus M. A. (1979). Measuring intrafamily conflict and violence: The conflict tactics (CT) scales. *J Marriage Fam, 41,* 75-86.

Straus, M. A., Hamby, S. L., Boney-McCoy, S., & Sugarman, D. B. (1996). The revised conflict tactics scales (CTS2): Development and preliminary psychometric data. *Journal of Family Issues, 17,* 283–316. doi: 10.1177/019251396017003001

Sutton, A. J. (2005). Evidence concerning the consequences of publication and related biases. *Publication bias in meta-analysis: Prevention, assessment and adjustments,* 175-192.

Taylor, B. G., Stein, N. D., Mumford, E. A., & Woods, D. (2013). *Shifting Boundaries*: an experimental evaluation of a dating violence prevention program in middle schools. *Prevention Science, 14,* 64-76. doi: 10.1007/s11121-012-0293-2

Topping, K. J., & Barron, I. G. (2009). School-based child sexual abuse prevention programs: A review of effectiveness. *Review of Educational Research, 79,* 431-463. doi: *10.3102/0034654308325582*

Trikalinos, T. A., & Ioannidis, J. P. A. (2005). Assessing the evolution of effect sizes over time. In Rothstein, H.R., Sutton, A.J., Borenstein, M. (Eds.), Publication bias in meta-analysis (pp. 241-260), West Sussex, England: Wiley & Sons, Ltd.

Van den Noortgate, W. V., López-López, J. A., Marín-Martínez, F., Sánchez-Meca, J. (2013). Three-level meta-analysis of dependent effect sizes. *Behavioral Research Journal, 45,* 576-594. doi: 10.3758/s13428-012-0261-6

Verschuren, O., Wiart, L., & Ketelaar, M. (2013). Stages of change in ohysical activity behavior in children and adolescents with cerebral palsy. *Disability and Rehabilitation,* 1-6. doi: 10.3109/09638288.2012.748844

Vézina, J., & Hébert, M. (2007). Risk factors for victimization in romantic relationships of young women: A review of empirical studies and implications for prevention. *Trauma, Violence, & Abuse, 8,* 33-66. doi: 10.1177/1524838006297029

Viechtbauer, W. (2010). Conducting meta-analyses in R with the metafor package. *Journal of Statistical Software, 36,* 1-48.

Weisz, A. N., & Black, B. M. (2001). Evaluating a sexual assault and dating violence prevention program for urban youths. *Social Work Research, 25,* 89-100. doi:10.1093/swr/25.2.89

Wekerle, C. & Wolfe, D. A. (1999). Dating violence in mid-adolescence: Theory, significance, and emerging prevention initiatives. *Clinical Psychology Review, 19,* 435-456.

Whitaker, D. J., Morrison, S., Lindquist, C., Hawkins, S. R., O'Neil, J. A., Nesius, A. M., Mathew, A., & Reese, L. (2006). A critical review of interventions for the

primary prevention of perpetration of partner violence. *Aggression and Violent Behavior, 11*(2), 151-166. doi:10.1016/j.avb.2005.07.007

Wilson , D. B.(2013). *Practical meta-analysis effect size calculator*. Retrieved from: http://gemini.gmu.edu/cebcp/EffectSizeCalculator/index.html

Wolfe, D. A., Scott, K., Reitzel-Jaffe, D., Wekerle, C., Grasley, C., & Straatman, A. L. (2001). Development and validation of the conflict in adolescent dating relationships inventory. *Psychological Assessment, 13*(2), 277.

World Health Organization/London School of Hygiene and Tropical Medicine (2010). *Preventing intimate partner violence and sexual violence against women: Taking action and generating evidence*. Geneva, Switzerland: World Health Organization. Retrieved from http://apps.who.int/iris/bitstream/10665/44350/1/9789241564007_eng.pdf