Psychology of Violence

A Meta-Analytic Review of Peer Risk Factors and Adolescent Dating Violence

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Objective: Dating violence occurs frequently among adolescents and is associated with negative physical and psychosocial outcomes. Because of the variety of peer risk factors, methodologies, and the evolving literature in adolescent dating violence, a meta-analytic review of these peer influences is needed. Three peer risk factors that appear to be particularly important for adolescent involvement in dating violence include peers' violent dating behaviors, peers' aggressive and/or antisocial behavior, and being victimized by peers. ***Method:*** Three separate meta-analyses were conducted to synthesize the literature on each of the 3 peer risk factors for adolescent dating violence, incorporating 27 articles and data from 28,491 adolescents. ***Results:*** Meta analyses illustrated that peer dating violence ($r = .30$), peers' aggressive and/or antisocial behavior ($r = .20$) and being victimized by peers ($r = .22$) were all significantly related to adolescent dating violence perpetration and victimization. Moderation analyses showed differential results depending on how sex was analyzed, sampling techniques, and type of peer behaviors. ***Conclusion:*** The current study provided a necessary fusion of the literature on 3 distinct peer risk factors for adolescent dating violence. The findings inform current theoretical perspectives that address peer risk factors for adolescent dating violence, inform existing dating violence prevention programs, and provide future research directions for examining relations between peer behaviors and dating violence.

Keywords: dating violence, adolescence, meta-analysis, peer victimization, peer aggression

Adolescent dating violence is a fairly new area of research: The first studies on adolescent dating violence emerged in the 1980s (e.g., Makepeace, 1981), and national prevalence rates of physical forms of adolescent dating violence were published in 2000 in the Youth Risk Behavior Surveillance (Kann et al., 2000). Wolfe and colleagues (2003) described adolescent dating violence as a budding field of study, and Foshee and Matthew (2007) highlighted the necessity for more research in this area. Further theoretical and empirical efforts are crucial based on the high prevalence rates of dating violence among middle (Arriaga & Foshee, 2004; Lormand et al., 2013; Simon, Miller, Gorman-Smith, Orpinas, & Sullivan, 2010) and high school students (Eaton et al., 2010; Haynie et al., 2013) and associated negative physical and mental health outcomes (Exner-Cortens, Eckenrode, & Rothman, 2013). Three review articles of risk and protective factors for adolescent dating violence underscored several distinct peer risk factors including peers' involvement in dating violence behaviors, peers' engagement in aggressive and/or antisocial behaviors, and being victimized by peers (Leen et al., 2013; Olsen, Parra, & Bennett, 2010; Vagi et al., 2013). Based on the evolving literature on peer factors associated with adolescent dating violence, a meta-analytic review of these peer risk factors is needed to move the field forward.

Adolescent Dating Violence

Dating and romantic relationships are a normative part of adolescence and can have positive outcomes on development, such as interpersonal growth and better understanding of one's self in relation to others (Steinberg, 2014). A substantial percentage of American youth are dating: one fourth of 12 year olds, half of 15 year olds, and more than two thirds of 18 year olds reported having a romantic relationship in the previous 18 months (Connolly & McIsaac, 2009). Nearly half of adolescents have been on at least one date by age 12 (Steinberg, 2014). Connolly and Goldberg (1999) described dating as a central aspect of social life for many adolescents in North America, underscoring the need to better understand positive and negative aspects of these dating relationships.

A key negative aspect of adolescent romantic relationships is the high incidence of dating violence victimization and perpetration. Study findings reported prevalence rates of dating violence victimization and perpetration ranging from 14% to 53% for middle school students (Arriaga & Foshee, 2004; Lormand et al., 2013; Orpinas, Hsieh, Song, Holland, & Nahapetyan, 2013; Simon et al., 2010) and from 10% to 33% for high school students (Eaton et al., 2010; Haynie et al., 2013; Vagi et al., 2013). Detrimental repercussions of adolescent dating violence victimization include problems in adjustment and physical injury (Exner-Cortens et al., 2013), as well as difficulties in later development and adult relationships (Halpern, Oslak, Young, Martin, & Kupper, 2001). Overall, high prevalence rates and deleterious implications for current and future health and well-being underscore that adolescent dating violence is a national health concern (Exner-Cortens et al., 2013). Thus, it is important to synthesize the current literature to better

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discern the degree to which peer factors are associated with adolescent dating violence across relevant studies.

The Influence of Peers

Peer contexts and behaviors have a powerful influence on adolescent dating violence, as most romantic relationships form within peer groups (Brown, 1999). Peers are also one of the most influential socialization agents for both prosocial (Steinberg, 2014) and violent behavior (Miller-Johnson & Costanzo, 2004). This premise is supported by theory including interdependence theory (Thibaut & Kelley, 1959) and Bronfenbrenner's socioecological model (1979), positing that individuals who are close to adolescents exert a great amount of influence over their behavior. Peers can impact the timing, emergence, and quality of romantic relationships (Connolly, Furman, & Konarski, 2000), as they are intertwined in many aspects of romantic relationships throughout adolescence. From early to late adolescence, youth seek approval and learn norms and expectations for dating behaviors from their peers. Peers may also play a major role in helping adolescents maneuver through conflicts in romantic relationships by providing support and validation, offering advice, and modeling conflict resolution skills (Brown, 1999; Connolly & Goldberg, 1999). The majority of research on risk factors for adolescent dating violence has focused on parental and familial influences, and until recently, there has been a lack of research to identify peer-based risk factors.

Peer dating violence. The relation between peer dating violence and dating violence is supported by social learning theory (Bandura, 1986). A central premise of social learning theory is that behaviors are learned within an individual's social environment via modeling and imitation. For example, romantic relationships among peers may model and reinforce behaviors and norms of adolescents with whom they affiliate. If a peer handles conflict within a romantic relationship with violence, other adolescents may then imitate these modeled behaviors in managing their own relationship conflicts. Thus, relations between peer-based dating violence and an adolescent's own perpetration and experience of dating violence may be explained in part by the tenets of social learning theory.

Understanding the influence of peers in adolescent dating violence is especially important as peer-based social networks not only shape adolescents' romantic relationships and interactions, but they also affect the quality and characteristics of these relationships (Connolly et al., 2000). Arriaga and Foshee (2004) suggested that peers play a powerful role and exert influence over both healthy and violent dating relationships. In their longitudinal study of eighth and ninth graders, adolescents who reported having a friend who experienced physical dating violence were more likely to then perpetuate that type of violence in their own relationships, or be the victim of dating violence. This association was also examined with interparental violence; however, the influence of peers was significantly stronger than that of parents over time (Arriaga & Foshee, 2004). Several other studies have found that adolescents who witnessed peer dating violence were more likely to engage in (Foshee, Reyes, & Ennett, 2010; Price, 2002; Reed, Silverman, Raj, Decker, & Miller, 2011; Sears, Byers, & Price, 2007) or experience (Gagné, Lavoie, & Hérbet, 2005) dating violence within their own romantic relationships.

Peer aggressive and antisocial behaviors. The influence of peers' aggressive and antisocial behaviors on adolescent dating violence may be explained in part by homophily, or the affiliation with similar individuals (Prinstein & Dodge, 2008). Homophily is explained through processes of selection, or the tendency to associate with similar peers, and of socialization, the process by which peer affiliations influence youth behavior. Vitaro, Boivin, and Tremblay (2007) suggested that affiliation with aggressive or antisocial peers stems from the active selection and socialization processes of behavioral homophily. Most research in this area has focused on the relation between homophily and behaviors exhibited in peer relationships, however these processes may also influence romantic relationships. Peers and romantic partners are "co-occurring socializing agents" (Aikins, Simon, & Prinstein, 2010, p. 814) and together may affect adolescent dating violence. Thus, homophily may help to explain the impact of selection and socialization processes on behavioral dynamics occurring within peer groups that may then influence adolescents' romantic relationships which are typically embedded in these peer contexts (Brown, 1999).

Empirical evidence shows positive relations between peer aggressive and antisocial behaviors and adolescent dating violence (Foshee & Langwick, 2010; Grasley, 2002; Miller, Gorman-Smith, Sullivan, Orpinas, & Simon, 2009). For example, among an ethnically diverse sample of sixth graders, Miller et al. (2009) found that adolescents who reported having more delinquent peers were more likely to perpetrate dating violence. Other studies have found similar results, including the influence of aggressive peers (e.g., Foshee et al., 2010; Ramirez, Paik, Sanchagrin, & Heimer, 2012; Rivera, 2008) on adolescent dating violence behaviors.

Victimization by peers. The relation between victimization by peers and dating violence perpetration and victimization is supported by the social augmentation hypothesis (Dishion, Piehler, & Myers, 2008) and theories of polyvictimization (e.g., Turner, Finkelhor, & Ormrod, 2010). The first proponent of the social augmentation hypothesis is similar to that of homophily in that peers are drawn to each other based on similar attitudes and behaviors. The social augmentation hypothesis additionally suggests that marginalization, or peer rejection and victimization, magnifies the role of peers' antisocial behaviors or attitudes in influencing the victim's behavior. Dishion et al. (2008) theorized that if an adolescent has inadequate social skills and/or negative reactive behaviors (e.g., aggression), they might experience fewer positive/reinforcing experiences and more negative peer experiences as compared to their more socially skilled peers. Based on these experiences, they may then socialize with deviant or aggressive peers. Thus, in some cases, involvement with a deviant or aggressive peer network may be a form of adaptation in response to negative peer experiences (i.e., victimization by peers). Victimized or rejected adolescents who then join peer groups, including deviant or antisocial youth, may also become involved in violent dating relationships (e.g., Brooks-Russell, Foshee, & Ennett, 2013; Leadbeater, Banister, Ellis, & Yeung, 2008; Swahn, Bossarte, & Sullivent, 2008). For example, Swahn et al. (2008) found that higher levels of perceived victimization by peers were associated with a greater likelihood of dating violence in a diverse sample of middle and high school students.

Additionally, Turner et al. (2010) posited that *polyvictimization*, or the occurrence of multiple forms of victimization, also enhances

an individuals' vulnerability across different contexts. Kazdin (2011) furthered this idea, stating that there are strong interrelations between forms of aggression and abuse. For example, Hamby, Finkelhor, and Turner (2012) found empirical support for polyvictimization with a national sample of youth ages 12 to 17. All of the victims of teen dating violence reported at least one other form of victimization, and these victims were more than two times as likely to experience another form of victimization compared to those without a history of dating violence.

The Present Study

Adolescent dating violence is a relatively new area of research and it is important to consolidate what we know so far to inform future research on this topic and extend current theories of peer influence in this area. Review papers have addressed the impact of peer-based risk factors on adolescent dating violence. However, none have statistically synthesized research within each of the three distinct peer influences described in the current study. Meta-analyses provide many advantages to reviews and narratives. Reviews and narratives allow for a research synthesis, whereas meta-analyses allow for a research and statistical synthesis, including all of the effect sizes from the primary studies. Meta-analyses allowed us to efficiently assess the overall summary effect of the relation between a peer risk factor and dating violence, and allowed for the test of variation due to moderators (Borenstein, Hedges, Higgins, & Rothstein, 2009).

To advance the field of adolescent dating violence, it was deemed necessary to use three separate meta-analyses to examine each of these distinct peer risk factors. Theoretical foundations and empirical research support the premise that all three of these peer risk factors may be differentially related to adolescent dating violence. For example, adolescents may engage in violent dating behaviors because they are modeling their friends' violent dating behaviors. Other dating behaviors may be explained in part by homophily. Adolescents who are aggressive may want to stay in relationships that have similar or familiar levels of aggressive behaviors. Finally, violent dating behaviors may be in response to negative peer experiences, including being victimized by peers. These three peer risk factors have distinct theoretical underpinnings with empirical evidence, and it important to examine how each is associated with dating violence within the literature. The current study had three main aims:

1. First, through three separate meta-analyses, we summarized the relations between three distinct and focal peer risk factors and adolescent dating violence within the existing literature. In a series of meta-analyses, we examined peer dating violence, peer aggressive and antisocial behaviors, and being victimized by peers as risk factors for adolescent dating violence.

2. Second, within each meta-analysis, we explored if the peer risk factors were differentially related to dating violence perpetration and victimization. Determining whether peer risk factors in the current study predict dating violence perpetration and/or victimization has important implications for prevention and intervention programs (e.g., as to whether the factors overlap or are unique to perpetrators or victims).

3. Finally, meta-analyses of the peer influences on adolescent dating violence allowed us to test for moderators that could not be tested by primary studies. These moderation analyses allowed us to examine how different methodologies used in each of the primary studies may have affected the interpretation of findings across studies. For example, when examining sex differences in peer influences on dating violence, some studies combined males and females in the same analysis, whereas others ran separate analyses by sex. With regard to sample characteristics, some studies used samples of participants who were currently in a relationship (i.e., current daters only), whereas others used samples of adolescents who had dated at some point, were currently dating, or had never dated (i.e., all relationship statuses). We felt that the methodological decisions of authors of primary studies warranted further exploration to see if they had affected the relation between study variables. This research aim is important as it has the potential to inform future research directions.

Method

Literature Search

A search for articles relevant to the meta-analysis was conducted by searching electronic databases, manually examining online journal databases, and checking reference lists of relevant articles. First, a search was conducted using PsycINFO and Web of Science electronic databases. Several search parameters were employed within these methods. First, peer reviewed journal articles were examined that contained keywords or phrases: (1) *peer* or *friend* and (2) *dating violence, dating aggression, intimate partner violence, partner abuse,* or *adolescent romantic relationship*. Broad terms were used to reduce the chance of missing relevant studies. Articles published since 2000 until the search cutoff date (October 31, 2014) were included. The first national prevalence rates for physical dating violence emerged in the early 2000s, so we chose to begin the literature search in 2000, gathering relevant articles from 2000 to the present. The search was limited to the age range of school age (ages 6 to 12) and adolescence (ages 13 to 18) to cover adolescence (defined as ages 10 to 18). To minimize the risk of publication bias, PsycINFO was also searched for unpublished dissertations using the same keywords.

Second, journals were manually searched from key developmental and violence-focused journals for the years 2000 to 2014: *Aggression, Maltreatment, and Trauma, Child Development, Children & Youth Services Review, Developmental Psychology, Journal of Adolescence, Journal of Adolescent Health, Journal of Clinical Child and Adolescent Psychology, Journal of Early Adolescence, Journal of Interpersonal Violence, Journal of Research on Adolescence, Journal of Youth and Adolescence, Psychology of Violence,* and *Social Development*. From the relevant articles found in these searches, reference lists were searched to find all related studies. Through both of these methods, the initial search produced a list of 1,021 articles.

Meta-Analysis Inclusion and Exclusion Criteria

Articles were excluded if they met any of the following criteria: (a) articles did not examine dating violence as the outcome, (b) articles were review articles, (c) articles were nonempirical studies, (d) articles did not meet one or more of the three types of peer/friend influence, or (e) articles examined the effect of adolescent peer influences on young adult or adult dating violence. A large number of the studies were excluded from the meta-analysis by reading the title of the article ($n = 806$). The abstracts of the remaining 215 articles were read, resulting in the exclusion of an additional 157 articles. The remaining articles were read in entirety resulting in the exclusion of an additional 28 articles. Articles were included if they had the data required to calculate effect sizes. If these data were not included, study authors were emailed for the required statistics. One study was excluded from the meta-analysis due to lack of essential data. Two studies were excluded (Foshee, Benefield, Ennett, Bauman, & Suchindran, 2004; Foshee et al., 2011) as they used the same sample as two other studies (Foshee, Linder, MacDougall, & Bangdiwala, 2001; Foshee & Langwick, 2010). From this method and inclusion/exclusion criteria, a final list of 27 (24 peer reviewed articles and three dissertations) articles, including 28,491 adolescents was used in the three separate meta-analyses (see Table 1). For a detailed illustration of the inclusion/exclusion process, please see Figure 1. Finally, two articles were included in two of the meta-analyses because they examined multiple peer influences (i.e., Brendgen et al., 2002; Foshee & Langwick, 2010).

Variables were coded from the studies as potential moderators for the meta-analyses. Studies were categorized according to the type of sample that was analyzed. For instance, some of the studies used samples of adolescents, including those who had dated, those who were currently dating, and those who had never dated. Other studies used more restrictive samples, retaining only adolescents who were currently in a romantic relationship. Second, studies were coded for how they analyzed dating violence by sex: separately by female, separately by male, or by aggregated sex statistics (i.e., sex was not differentiated in the analyses). Last, the meta-analysis examining the influence of peers engaged in aggressive or antisocial behaviors on dating violence was coded for type of peer behavior: antisocial behavior or aggressive behavior.

The first meta-analysis examined the influence of peers' engagement in dating violence on individual dating violence. This meta-analysis examined 11 studies, with five reporting separate statistics by sex ($k = 16$). For the second aim, distributions of effects sizes were subdivided to examine whether peer dating violence differentially influenced dating violence perpetration and victimization. Of the 11 articles, 10 reported separate statistics of peer influences on perpetration or victimization. Eight studies reported the effect of peer dating violence on dating violence perpetration with two studies reporting separate statistics by sex ($k = 10$), and five studies reported the effect of peer dating violence on dating violence victimization, with three reporting separate statistics by sex ($k = 8$). Finally, for the third aim, moderators were assessed including sex and sample type. Of the 16 effect sizes, six reported results of females, seven of males, and three were of combined sex. Also, nine effect sizes were drawn from samples that included individuals with all relationship statuses (i.e., current daters, adolescents who dated previously, or

adolescents who never dated), and seven were drawn from samples that included current daters only.

The second meta-analysis examined the influence of peers engaged in aggressive or antisocial behavior on individual dating violence, encompassing nine articles; one reported separate statistics by sex ($k = 10$), and all reported separate statistics of peer influences on perpetration or victimization. For the second aim, distributions of effects sizes were subdivided to examine if peer aggressive or antisocial behavior differentially influenced dating violence perpetration and victimization. Eight studies reported the effect of peer aggressive or antisocial behavior on dating violence perpetration; with one study reporting separate statistics by sex ($k = 9$), and five studies reported the effect on dating violence victimization ($k = 5$). Finally, for the third aim, moderators were assessed, including sex, sample type, and type of peer behavior. Of the 11 effect sizes, two reported results of females, three reported of males, and five were of combined sex. Also, three effect sizes were drawn from samples including all relationship statuses, and seven were drawn from samples that included current daters only. Finally, six of the effect sizes were looking at the relationship between antisocial behaviors and dating violence and four examined aggressive behavior.

Finally, the third meta-analysis examined the influence of being victimized by peers on dating violence, using nine articles, with three reporting separate statistics by sex ($k = 12$). To assess second aim, of the nine articles, eight reported separate statistics of peer victimization influences on dating violence perpetration or victimization. Four studies reported the effect of peer victimization on dating violence perpetration, with one study reporting separate statistics by sex ($k = 6$), and six studies reported the effect of peer victimization on dating violence victimization; two studies reported separate statistics by sex ($k = 10$). Finally, for the third aim, moderators were assessed, including sex and sample type. Of the 12 effect sizes, four reported results of females, four reported of males, and four were of combined sex. Also, four effect sizes were drawn from samples including all relationship statuses, and eight were drawn from samples that included current daters only.

Data Analyses

Comprehensive Meta-Analysis Version 2.2.064 (Borenstein, Hedges, Higgins, & Rothstein, 2005) was used to conduct a random effects model meta-analysis of correlations. A random effects model was used in this analysis, because moderators were anticipated (i.e., effects sizes were not assumed to have a common population parameter) (Borenstein et al., 2009). Finally, to test homogeneity of effect sizes between studies, we computed Q statistics (within). A within Q test addresses whether the effect size variance can be attributed to random sampling error. Q statistics (between) were also used to evaluate moderators. To assess how much of the observed variance reflects differences in the effect size not attributable to random sampling error, we reported Higgins' I^2 statistic. The I^2 is the percentage of variance that is not accounted for by random sampling error. The larger the I^2, the greater the need for moderator analyses to address the unexplained variance. Reductions in the magnitude of I^2 in moderator subgroups (e.g., sex of the sample subgroups) relative to the data aggregated across subgroups (e.g., all sex subgroups combined) supports an inference of a moderating effect. When correlation

Table 1
Details of Studies Included in the Meta-Analysis

Study	Reference	Country	N	Age (range, mean)	Race/ethnicity	Measurement of peer variable	r
1. Peer dating violence	Antônio et al. (2012)	Brazil	43	13–17 $M = 15.37$	100% Brazilian	Self-report	.38
	Arriaga & Foshee (2004)	USA	526 (47% male)	12–17	83% Caucasian	Self-report	.25 (m) .31 (f)
	Foshee et al. (2001)	USA	1,186 (49% male)	10–17	77% Caucasian	Self-report	.34 (m) .34 (f)
	Foshee and Langwick (2010)	USA	1,666	Not specified (8th–10th graders)	25% AA; 75% Caucasian	Peer-report	.16
	Gagné et al. (2005)	Canada	622	14–20 $M = 16.3$	79% Canadian	Self-report	.24
	Kinsfogel & Grych (2004)	USA	391 (48% male)	14–20	51% Caucasian; 21% AA; 21% Latino	Self-report	.48 (m) .31 (f)
	McDonell et al. (2010)	USA	351 (45% male)	$M = 14.2$	58% Caucasian; 34% AA; 8% Hispanic	Self-report	.37 (m) .24 (f)
	Pradubmook-Sherer (2009)	Thailand	1,296	14–19 $M = 15.92$	100% Thai	Self-report	.14
	Price (2002)[a]	Canada	138	14–20 $M = 16.3$	Not specified	Self-report	.47
	Reed et al. (2011)[b]	USA	275	14–20 $M = 16.8$	45% Caucasian; 47% AA	Self-report	.37
	Sears et al. (2007)	Canada	633 (51% male)	12–18 $M = 14.64$	85% English Canadian	Self-report	.21 (m) .25 (f)
2. Peer aggressive and antisocial behaviors	Brendgen et al. (2002)	Canada	336	12 (at T1) 16–17 (at T2)	Not specified	Peer-report	.15
	Foshee and Langwick (2010)	USA	1,666	Not specified (8th–10th graders)	25% AA; 75% Caucasian	Peer-report	.03
	Grasley (2002)[a]	Canada	450	$M = 15.38$	81% Caucasian	Self-report	.36
	Howard et al. (2003)	USA	444	12–17	80% AA	Self-report	.33
	Miller et al. (2009)	USA	2,824 (49% male)	(6th graders)	48% AA; 18% Caucasian; 21% Latino	Self-report	.35 (m) .36 (f)
	Ramirez et al. (2012)[b]	USA	2,993	$M = 16.35$	58% Caucasian; 17% AA; 15% Hispanic	Peer-report	−.07
	Rivera (2008)[a]	USA	136	(10th–12th grade)	95% Caucasian	Self-report	.19
	Schnurr & Lohman (2008)	USA	765	10–15 (at T1) 16–20 (at T2)	42% AA; 53% Latino	Self-report	.10
	Vezina et al. (2011)	Canada	550	$M = 15.75$	Canadian	Self-report	.21
3. Victimization by peers	Boivin et al. (2012)	Canada	1,347 (38% male)	14–19 $M = 16.22$	87% Canadian	Self-report	.21 (m) .29 (f)
	Brendgen et al. (2002)	Canada	336	12 (at T1) 16–17 (at T2)	Not specified	Peer-report	.07
	Brooks-Russell et al. (2013)[b]	USA	2,566 (48% male)	$M = 14.6$	44% Caucasian; 56% AA	Self-report	.06 (m) .06 (f)
	Chiodo et al. (2009)	Canada	1,897 (46% male)	(9th and 11th graders)	Canadian	Self-report	.27 (m) .48 (f)
	Hamby et al. (2012)[b]	USA	1,680	12–17 $M = 14.65$	58% Caucasian; 19% AA; 18% Hispanic	Self-report	.21
	Hipwell et al. (2014)	USA	475	10–17	40% Caucasian; 54% AA	Self-report	−.09
	Leadbeater et al. (2008)	Canada	149	12–19 $M = 15.35$	85% Euro-Canadian	Self-report	.13
	Swahn et al. (2008)	USA	4,131	(7, 9, 11, 12 graders)	45% Hispanic; 28% AA	Self-report	.46
	Williams et al. (2008)	Canada	621	14–19 $M = 15.35$	70% Euro-Canadian	Self-report	.41

Note. AA = African American; T2 = Time 2.
[a] Unpublished dissertation/thesis. [b] Data from this article were supplemented with information provided by the authors.
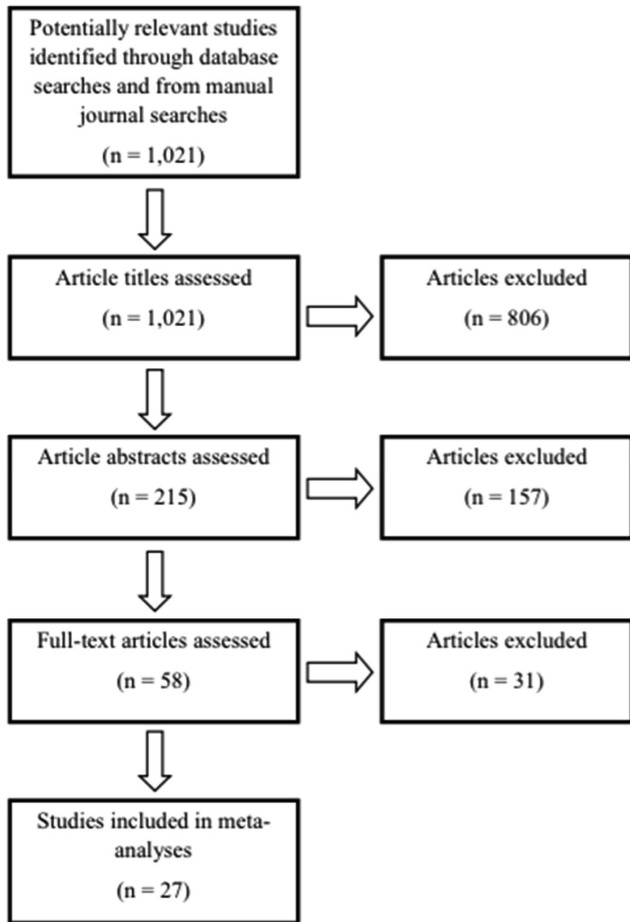
Figure 1. Exclusion/inclusion process.

coefficients were not made available in articles, correlation coefficients were calculated with formulas converting between odds ratios and *r* (Ferguson, 1966). Some studies reported correlations or effect sizes across multiple time points or across different types of dating violence. These effect sizes were calculated and then averaged to produce an overall effect size for the study's sample (effect sizes are listed in Table 1).

Results

The majority of studies used self-report measures: Adolescents rated their perceptions of peer behavior. These studies prompted adolescents to rate (a) how many of their friends engaged in a particular behavior, (b) how often friends engaged in a particular behavior, or (c) self-reports of being victimized by peers. Only three of the 27 studies used independent reports of peers. These studies used friend or peer nomination methods and then matched these peer behaviors with the adolescent's dating violence behaviors. Additional details from the studies included in the meta-analyses are found in Table 1.

Peer Dating Violence

To address the first research aim, the effect size for the relation between peer dating violence and individuals' dating violence was

significant ($r = .30$, 95% CI = 0.24, 0.35, $p < .001$; Table 2) in a heterogeneous set of studies ($Q = 78.54$, $p < .001$). A heterogeneous set of studies is one in which there is variance in the effect sizes that cannot reasonably be attributed to random sampling error. The nonsampling error variance may be due to substantive moderators (e.g., differences across studies in sex of sample), measurement moderators (e.g., differences across studies in how constructs are measured), and statistical artifacts (e.g., differences across studies in the measurement error of variables or in the range of variability in variables). The statistical artifacts, particularly measurement error, will also cause the observed correlations to underestimate their population parameters. As such, the reported mean correlations in this study are very likely underestimates of their population parameters and the variances across effect sizes very likely overestimates the variance of effect sizes in the population. The I^2 indicates a substantial percentage of the variance (80.90%) is not due to sampling error, which supports the search for moderators. To address the second research aim, the mean effect size for the relation between peer dating violence and dating violence perpetration was statistically significant ($r = .29$, 95% CI = 0.22, 0.37, $p < .001$) in a heterogeneous set of studies ($Q = 44.92$, $p < .001$). The effect size for the relation of peer dating violence and dating violence victimization was statistically significant ($r = .28$, 95% CI = 0.24, 0.33, $p < .001$) in a homogenous set of studies ($Q = 8.14$, $p < .32$).

For the third research aim, studies that examined females ($r = .33$, $p < .001$, $k = 6$), males ($r = .31$, $p < .001$, $k = 7$), and studies where sex was combined ($r = .16$, $p < .001$, $k = 3$) yielded a significant between Groups Q (see Table 2). A comparison of confidence intervals indicated that the male and female samples were not statistically significantly different (i.e., their confidence intervals notably overlapped), but both the male and the female samples were significantly different from the aggregated group (i.e., the samples that did not report results separately by sex). Thus, the statistically significant effect is due to the differences between the homogeneous sex groups and the three studies in the aggregated category. The second moderator tested, sampling techniques, was not found to be significant using a between group Q test and the I^2 statistic.

Peer Aggressive and Antisocial Behaviors

To examine the first research aim, the effect size for the relation between aggressive and antisocial peer behaviors and individuals' dating violence was significant ($r = .20$, 95% CI = 0.08, 0.32, $p < .001$; Table 3) in a heterogeneous set of studies ($Q = 338.33$, $p < .001$). The I^2 suggests a substantial percentage of the variance (97.43%) is not due to random sampling error, which supports the search for moderators. Assessing the second research aim, we found that the effect size for the relation between aggressive and antisocial peer behaviors and dating violence perpetration was significant ($r = .19$, 95% CI = 0.05, 0.32, $p < .001$) in a heterogeneous set of studies ($Q = 317.25$, $p < .001$). The effect size for the relation between aggressive and antisocial peer behaviors and dating violence victimization was significant ($r = .28$, 95% CI = 0.20, 0.35, $p < .001$) in a heterogeneous set of studies ($Q = 9.64$, $p < .05$).

Finally, moderators were tested for the third research aim. As seen in Table 3, the sex and sampling moderators were not found to be significant using between group Q tests and the I^2 statistics.

Table 2

Results of Meta-Analysis of Studies Examining the Relationship Between Peer Dating Violence and Dating Violence, Sex and Sample Group Moderators, and Studies Examining the Relationships Between Peer Dating Violence and Dating Violence Perpetration and Victimization

Level of analysis	Moderator level	k	N	r	95% CI	Moderator test			I^2
						Q (between group)	df	p value	
Overall: Peer dating violence and dating violence		16	7,127	.30	[.24, .35]				80.90
Moderated by sex						24.59	2	.001	
	Female only	6	2,249	.33	[.26, .39]				66.23
	Male only	7	1,873	.31	[.25, .37]				50.68
	Aggregated	3	3,005	.16	[.11, .20]				26.59
Moderated by sample type						.21	1	.646	
	All relationship statuses	9	2,852	.31	[.22, .40]				82.64
	Current daters only	7	4,275	.29	[.21, .35]				81.39
Peer dating violence and dating violence perpetration		10	3,900	.29	[.22, .37]				79.96
Peer dating violence and dating violence victimization		8	2,175	.28	[.24, .33]				13.98

Studies that examined antisocial peer behaviors ($r = .29$, $p < .001$, $k = 6$) showed greater effect sizes on individuals' dating violence, compared to studies that examined aggressive peer behaviors ($r = .06$, $p = .17$, $k = 4$). The between groups Q test was statistically significant ($Q = 11.75$, $p < .001$) supporting peer behavior as a moderator. A comparison of confidence intervals indicated that the two types of peer behavior were significantly different (i.e., their confidence intervals do not overlap). Finally, evidence in support of a peer behavior moderator is that the I^2 (the percent of variance due to nonsampling error sources) is smaller in the peer subgroups (90.34 and 89.03) than for the overall sample (97.43) suggesting that type of peer behavior accounts for some of the nonsampling error variance.

Being Victimized by Peers

In order to assess the first research aim, the effect size for the relation between being victimized by peers and individuals' dating

violence was significant ($r = .22$, 95% CI = 0.11, 0.33, $p < .001$; Table 4) in a heterogeneous set of studies ($Q = 477.08$, $p < .001$). The magnitude of the I^2 (97.69%) suggests large amounts of variance that cannot be attributed to sampling error and which supports the search for moderators. To assess the second research aim, the effect size for the relation between being victimized by peers and dating violence perpetration was significant ($r = .25$, 95% CI = 0.11, 0.37, $p < .001$) in a heterogeneous set of studies ($Q = 105.97$, $p < .001$). The effect size for the relation between being victimized by peers and dating violence victimization was also significant ($r = .28$, 95% CI = 0.16, 0.40, $p < .001$) in a heterogeneous set of studies ($Q = 463.37$, $p < .001$).

Moderators were tested to assess the third research aim. Sex as a moderator was not supported by either the between group Q test and the examination of I^2 values. Studies that utilized a sample of adolescents with all relationship statuses ($r = .36$, $p < .001$, $k = 4$) indicated greater effect sizes on individuals' dating violence,

Table 3

Results of Meta-Analysis of Studies Examining the Relationship Between Peer Aggressive and Antisocial Behaviors and Dating Violence, Sex, Sample Group, and Peer Behavior Moderators, and Studies Examining the Relationships Between Peer Aggressive and Antisocial Behaviors and Dating Violence Perpetration and Victimization

Level of analysis	Moderator level	k	N	r	95% CI	Moderator test			I^2
						Q (Between groups)	df	p value	
Overall: Peer aggressive and antisocial behaviors and dating violence		10	10,164	.20	[.08, .32]				97.43
Moderated by sex group						.97	2	.615	
	Female only	2	1,990	.29	[.14, .42]				98.97
	Male only	3	4,713	.15	[−.16, .44]				89.06
	Aggregated	5	3,461	.20	[.05, .34]				93.83
Moderated by sample type						3.29	1	.070	
	All relationship statuses	3	1,030	.32	[.24, .39]				42.98
	Current daters only	7	9,134	.17	[.01, .31]				98.03
Moderated by peer behavior						11.75	1	<.001	
	Antisocial	6	5,033	.29	[.20, .37]				90.34
	Aggression	4	5,131	.06	[−.05, .16]				89.03
Peer aggressive and antisocial behaviors and dating violence perpetration		9	9,170	.19	[.05, .32]				97.48
Peer aggressive and antisocial behaviors and dating violence victimization		5	1,580	.28	[.20, .35]				58.52

Table 4

Results of Meta-Analysis of Studies Examining the Relationship Between Victimization by Peers and Dating Violence, Sex and Sample Group Moderators, and Studies Examining the Relationship Between Victimization by Peers and Dating Violence Perpetration and Victimization

Level of analysis	Moderator level	k	N	r	95% CI	Q (Between groups)	df	p value	I^2
Overall: Victimization by peers and dating violence		12	13,034	.22	[.11, .33]				97.69
Moderated by sex group						2.45	2	.29	
	Female only	4	3,499	.20	[−.06, .43]				98.24
	Male only	4	2,954	.16	[.04, .27]				89.34
	Aggregated	4	6,581	.31	[.15, .46]				97.25
Moderated by sample type						5.49	1	.020	
	All relationship statuses	4	7,628	.36	[.22, .49]				97.59
	Current daters only	8	5,406	.15	[.03, .26]				94.10
Victimization by peers and dating violence perpetration		6	6,496	.25	[.11, .37]				95.28
Victimization by peers and dating violence victimization		10	12,223	.28	[.16, .40]				98.05

Note. The "Moderator test" spans the columns Q (Between groups), df, and p value.

compared to samples that only used adolescents who were currently in a relationship ($r = .15$, $p = .012$, $k = 8$). A comparison of confidence intervals indicated that the two types of samples were significantly different (i.e., their confidence intervals do not overlap). Although the between Q statistic ($Q = 5.49$, $p < .02$) supported the sample type moderator, a review of the I^2 statistics did not provide compelling evidence of a moderator.

Discussion

The current study highlighted that across 27 studies peers influenced adolescent dating violence through a variety of behaviors, including peer dating violence, peer aggression and antisocial behaviors, and being victimized by peers. Previous literature suggested that peers are major socialization agents, directly influencing adolescent behavior (Miller-Johnson & Costanzo, 2004). The findings across our three meta-analyses suggest that not only are peers influential, but a variety of peer behaviors are distinctly related to dating violence. Additionally, analyses were run to examine potential differential effects on relations between peer variables and dating violence perpetration and victimization. All of these meta-analyses results were significant, which suggested that all peer influences tested in the current study were related to both dating violence perpetration and victimization. Last, the role of moderating variables that could not be explored in primary studies was analyzed in this review. Results indicated that how authors aggregate or disaggregate sex in relations between peer risk factors and dating violence might influence results. Additionally, restricting samples may also impact findings.

The Role of Peers in Adolescent Dating Violence

This meta-analytic review adds to the growing body of theoretical work and empirical studies that underscore the impact of peers on adolescent dating violence. Overall, the current study findings underscore that peer behaviors significantly influenced adolescents' behaviors in their own dating relationships. According to interdependence theory (Thibaut & Kelley, 1959), adolescents may make comparisons of what their friends are doing and act in

similar ways. Conger, Cui, Bryant, and Elder (2000) suggested that these influential interactions within peer relationships and friendships could then translate to romantic relationships, as peer group beliefs, attitudes, and values may set norms for platonic and romantic relationships. For example, hostility in one relationship may predict and transfer increased hostility to other relationships. Similarly, if peers are violent toward other peers and their partners, adolescents may learn, imitate, or initiate similar violent behaviors (Harris, 1995). Peers are among the most powerful socialization agents of adolescent behavior, and the current study provides a synthesis of the research to date on peer risk factors for adolescent dating violence.

Peer dating violence. According to social learning theory (Bandura, 1986), adolescents may see how their peers and friends are handling conflict, perhaps through anger, violence, or aggression, and may use these behaviors as an example of how to handle their own relationship conflicts. Additionally, adolescents may see positive consequences resulting from peer-based violence, such as obtaining power or social goals. Exemplifying this theory, in our first meta-analysis, violent peer behaviors in dating contexts were associated with higher individual rates of dating violence perpetration and victimization. Though the meta-analysis included a number of articles with longitudinal research designs, the directionality of the relation between peer and individual dating violence should be considered. We found evidence that the role of peer modeling impacted rates of individual dating violence perpetration and victimization. In contrast, individuals who are involved in dating violence may be more likely to have friends or engage with peers who are also involved with dating violence or other violent behaviors. However, both scenarios suggest that modeling through social learning theory may drive the dynamics of these relationships. Therefore, further longitudinal research is needed to explore the directionality of these relations.

Peer aggressive and antisocial behaviors. In the second meta-analysis, support was found for the premise of homophily (Prinstein & Dodge, 2008), which suggests that individuals may choose to affiliate with and be socialized by individuals who are similar or like-minded. Consequently, adolescents who engage in

aggressive behaviors may become entrenched in peer groups where aggression routinely occurs. Brown (1999) argued that romantic self-identity originates from group identity, and a peer group identity characterized by aggression and/or antisocial behavior may grow to encompass these types of behaviors in dating contexts as well. This may eventually lead adolescents to adopt a romantic self-identity that includes aggression. It is also important to note that a few studies have examined and supported the role of peer contexts in the selection of dating partners, as couples were alike in popularity and the size of their peer networks (Furman & Simon, 2008; Simon, Aikins, & Prinstein, 2008). Although homophily has been shown to be important in initiating relationships, it may not be a predictor of longevity of relationships (Prinstein & Dodge, 2008). However, the results from our second meta-analysis suggest that homophily may be one relevant concept in explaining the relation between peer aggressive or antisocial behaviors and adolescent dating violence.

Being victimized by peers. Our findings of relations between being victimized by peers and dating violence perpetration and victimization were consistent with the social augmentation hypothesis. Prior literature has found that negative social experiences such as marginalization and rejection by peers may result in affiliation with aggressive or antisocial peers (Dishion et al., 2008). Therefore, one reason that peer victimization may be related to dating violence perpetration and victimization is through the influence aggressive or antisocial peers. Characteristics of youth who are victimized (e.g., passive) or aggressive victims (e.g., hostility and irritability) (Schwartz, Proctor, & Chien, 2001) may also result in a greater likelihood of victimization experiences across peer group and dyadic friendship and romantic relationships. Another potential explanation for the relation between being victimized by peers and dating violence is provided by Kazdin (2011) and Turner et al. (2010), who suggested that most aggression and abuse are interrelated (e.g., polyvictimization). Hamby et al. (2012) also found that 100% of victims of adolescent dating violence reported at least one other form of victimization. Overall, our findings help to better understand studies that show being victimized by peers is related to violent behaviors and victimization experiences in dating relationships. Further research is needed to better understand how these peer-based risk factors are related to patterns of dating violence perpetration and victimization, their role of the selection of dating partners, and their relative influence on peer versus romantic partner socialization processes that may impact trajectories of dating violence.

In conclusion, possible explanations for the findings of this meta-analysis stem from a variety of theoretical frameworks and this meta-analysis also allowed specific insight into how peers are related to adolescent dating violence. Observing negative peer behaviors including dating violence and aggressive or antisocial behaviors or being the victim of peer-based aggression was related to higher rates of dating violence. Our findings underscore the importance of better understanding these romantic relationships dynamics both on their own and within the broader peer context.

Moderators

The final aim of our study was to test the role of moderators on relations between peer risk factors and dating violence that could not be tested in the primary studies. We explored the influence of whether authors chose to analyze statistics separately by sex or to combine results across sex on study findings. In the first meta-analysis examining relations between peers' engagement in dating violence and individual dating violence, studies in which female and male subgroups were analyzed separately both produced significantly higher effect sizes than studies where the full sample (including males and females) was analyzed. Although this moderation effect was only found in the first meta-analysis, this result suggests that authors should consider the implications of these findings. There was no statistically significant difference between effect sizes for male versus female samples. Both the male sample effects and the female sample effects differed from the samples that did not report results separately by sex. Thus, the difference appears to be between aggregated versus disaggregated samples, and this difference could be due to other factors that covary with the sex group moderator. For example, the data used in the current study cannot be defined as representative of all adolescents, and could best be described as samples of convenience.

In the second meta-analysis, studies that examined relations between antisocial peer behaviors and individual dating violence had stronger effect sizes than those that examined aggressive peer behaviors. Aggressive and antisocial peer behaviors are similar in nature, both with intentions or motivation of harm. However, although the two are often correlated with one another, they represent two dimensions of behavior. Aggressive behaviors may include relational, physical or verbal subtypes of aggression. Antisocial behaviors may include alcohol/drug use, and minor/major delinquent behaviors (Marcus, 2007). Thus, it is important to consider both dimensions of peer behaviors, as certain types of peer behaviors may be more closely associated with adolescent dating violence. This result also highlights that authors should consider examining these behaviors separately, particularly when testing their relation to dating violence.

Finally, in the third meta-analysis, studies that used a sample of all relationship statuses (i.e., including adolescents who were currently dating, had dated in the past, or had never dated) showed stronger effect sizes between being victimized by peers and dating violence, in comparison to studies that used a sample of current daters only. Authors should consider the implications of restricting their samples. Adolescents who are not currently in a relationship may have experienced dating violence, peer aggression, or peer victimization in the past, and these prior experiences could provide meaningful information.

Limitations

The range of research presented in this review covers a wide variety of ages, geographical locations and measures, and represents a portrayal of what we know so far regarding three important areas of peer influences on adolescent dating violence. Literature examining influences on adolescent dating violence is relatively new, which resulted in our meta-analyses having a small number of articles. Although this is a limitation, the current study is foundational, highlighting the need for more research in this area. However, this paper could not meaningfully address publication bias (Rothstein, Sutton, & Borenstein, 2005) due to the small number of samples. Publication biases analyses should be conducted when additional studies become available. Although this meta-analysis makes a substantial contribution to the literature, the relatively small number of effect sizes should necessi-

tate caution when interpreting the results. Most of the distributions of effect sizes had substantial nonsampling error variance even when moderators were addressed so additional moderators analyses are warranted as this research area grows. Still, this paper represents a comprehensive summary of our knowledge concerning these three peer influences and adolescent dating violence.

Research Implications

There was a mix of cross-sectional and longitudinal research designs in this review; however, the temporal sequence of peer risk factors and dating violence needs to be further researched. Methodological limitations of research in this area need to be considered; there were a variety of measures used in these articles, as authors conceptualized dating violence using a variety of definitions and self-report measures. Future research would benefit from the ability to control for the reliability of measures. Finally, a few other peer influences on dating violence were found in the literature review, such as peer norms for dating violence and peer attitudes. However, due to the small number of studies and different conceptualizations of norms and attitudes within them, this peer influence was omitted from this review. Thus, peer influences need to continue to be explored, particularly with longitudinal designs. Once more literature exists, a review should examine the potential differential peer influences on specific forms of dating violence (i.e., sexual, psychological, physical).

Future research should delve into questions such as how these peer influences work together to influence dating violence. Additional research is also needed to examine potential differential influences for specific negative peer behaviors, such as aggression and antisocial behaviors, and dating violence. It would also be informative to examine peer risk factors for adolescent dating violence in early versus late adolescence, to see potential changes in the relative influence of peer and dating partners.

Another important future research direction would be test the moderating role of sex on the relations between peer risk factors and adolescent dating violence. Many studies in the first meta-analysis chose to examine relations between peer dating violence and dating violence behaviors using separate samples by sex. However, these analyses do not offer insight into actual sex differences in the relations between peer and individual dating behaviors. Instead, authors should consider included sex as a moderating variable in studies examining relations between peer dating violence and dating violence. This methodological consideration is important for future studies, and it is recommended that researchers include sex as a predictor and/or a moderator in studies so that sex differences can be more accurately evaluated and compared.

Finally, an important research implication from this study is for researchers to consider the measurement of peer variables. Of the studies available for the current meta-analysis, the majority of studies used self-reported perceptions of peer behaviors. Future research needs to consider the advantages and disadvantages of using both types of reports (i.e., self-and peer-report) in obtaining information about peer behavior. Peer-reports typically use friend or peer nomination methods. These methods are useful in identifying youth in aggressive or victim roles (e.g., Smith, Madsen, & Moody, 1999), and reduce biases of self-report measures (Pellegrini, 2001). However, youth may be reluctant to nominate aggressive peer behavior if they are worried about confidentiality (Orpinas & Horne, 2006). Cillessen

(2009) also warned researchers about how peer nomination scores are correlated with the size of the nominating pool, which may skew estimates of frequency (Smith et al., 1999) and thus, make it difficult to compare or replicate findings (Solberg & Olweus, 2003). Self-report measures of peer behaviors are useful as victims and perpetrators of aggression experience abuse more directly, enhancing the validity of their reports (Pellegrini, 2001). On the other hand, Henry, Kobus and Schoeny (2011) found support for the false consensus effect: adolescent reports of their friends were biased in the direction of their own behavior. Individuals who did not engage in substance use were more likely to endorse that their friends did not engage in substance use either. Furthermore, individuals who engage in aggression or antisocial behavior may overestimate the prevalence of these behaviors among their peers, confirming the false consensus effect (Henry et al., 2011; Prinstein & Wang, 2005). For example, individuals may have inaccurate beliefs about their peers' aggressive attitudes and behaviors (Dardis, Murphy, Bill, & Gidycz, 2015).

Future research assessing peer behaviors should consider the implications of the type of measure used. Brechwald and Prinstein (2011) suggested that understanding adolescent perceptions of peer behavior is important to study in tandem with actual peer behaviors. Intervention and prevention work could focus on changing perceptions of and actual peer behavior, which could in turn, change an individuals' own behavior. Once more literature exists on peer risk factors and adolescent dating violence, the type of peer measure would be a useful and meaningful moderator to test on a meta-analytic level.

Clinical and Policy Implications

Adolescent dating violence is a national public health concern, and the United States Senate and House are calling for prioritizing efforts and programs that promote awareness of adolescent dating violence (Library of Congress, 2011). The current study informs public health and policy and also highlights the relevance of addressing peer factors (e.g., witnessing dating violence) in dating violence prevention programs. Existing dating violence prevention programs primarily target individual and relationship-level risk factors. For example, *Dating Matters* and *Safe Dates* target peers and friend groups, and this review provides additional support for such interventions that address specific peer behaviors as a key influence on dating violence both in the context of perpetration and victimization experiences (Foshee & Langwick, 2010; Teten Tharp, 2012). Adolescent dating relationships provide a foundation for future romantic relationships (Capaldi & Gorman-Smith, 2003), and peer risk factors during adolescence may impact dating aggression into adulthood (Linder, Crick, & Collins, 2002), highlighting the need to better understand the development of adolescent dating violence in early relationships. Overall, the current study allowed for a needed synthesis of the literature on three distinct peer risk factors of adolescent dating violence.

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