A Meta-Analysis on the Relationship Between Child Maltreatment and Dating Violence in Adolescence and Young Adulthood

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Abstract

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Objective: To investigate the relationship between experiencing child maltreatment and later involvement in an abusive dating relationship during adolescence and young adulthood (under the age of 25) and to examine possible moderators, including gender and maltreatment type.

Method: This study was a meta-analysis comparing findings from 24 published studies. Results: Experiencing any type of child maltreatment was associated with an increased risk of involvement in an abusive dating relationship under the age of 25 (OR = 1.60, 95% CI, 1.47-1.75, p < .001). More specifically, child maltreatment was associated with an increased risk for dating violence victimization (OR = 1.72; 95% CI, 1.53-1.94, p < .001), and DV perpetration (OR = 1.55, 95% CI, 1.40-1.71, p < .001). There were no statistically significant differences between males and females. Additionally, there were no significant differences between various maltreatment types (i.e., IPV exposure, emotional abuse, physical abuse, sexual abuse, and general maltreatment). Conclusions: Child maltreatment is associated with an increased risk for involvement in dating violence, as both a perpetrator and a victim. Results appear not to differ by gender, nor by maltreatment type. Findings and recommendations for research in child maltreatment and dating violence are discussed.
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Review

Dating violence (DV) among adolescents and young adults is a major public health concern (Black et al., 2011). While estimates of DV prevalence rates vary considerably, national statistics suggest that in 2009, 1 in 10 high school students in the United States were victims of physical dating violence (CDCP, 2009). Wave II data from the National Longitudinal Study of Adolescent Health (Add Health) estimate that 1 in 5 adolescents are victims of psychological abuse (Halpern, Oslak, Young, Martin, & Kupper, 2001). Young women between the ages of 16 and 24 are disproportionately affected by DV (Rennison & Welchans, 2000). While some samples of women report perpetrating DV at equal or higher rates than men (Foshee et al., 1996), females generally are victimized more frequently than males (Rennison & Welchans, 2000) and are subject to more severe forms of abuse and violence, some of which lead to serious injuries (Tjaden & Thoennes, 2000).

The consequences of DV are increasingly well documented. For example, research suggests that being the victim of dating violence increases the risk for a variety of internalizing and externalizing behavioral problems, including depression (Banyard & Cross, 2008). Links to alcohol and other drug use (Banyard & Cross, 2008), and suicidal ideation (Ling Chan et al., 2008) also have been identified. Additionally, studies of urban minority males showed that DV perpetration during adolescence is strongly correlated with other forms of youth violence (Gorman-Smith, Tolan, Sheidow, Henry, 2009; Ozer, Tschann, Pasch, & Flores, 2004). Research also has shown that involvement in abusive relationships in adolescence has a cascading effect into early and mid-adulthood (Smith, White, & Hollard, 2003; Smith, et al., 2011). Teens who experience DV in high school are significantly more at risk for involvement in subsequent
abusive dating relationships in college (Smith, et al., 2003). Further, DV in early adulthood is a significant predictor of later adulthood IPV (Smith, et al., 2011).

Child maltreatment (CM), which includes exposure to intimate partner violence, is among the most commonly cited early risk factors for DV in qualitative literature reviews on the topic (Henry & Zeytinoglu, 2012; Lewis & Fremouw, 2001; Shorey, Cornelius, & Bell, 2008). However, research provides inconsistent findings on the link between childhood victimization and subsequent involvement in DV (as a victim or perpetrator) during adolescence and early adulthood. Variation in study methods, for example, the developmentally inappropriate application of violence assessment and measurement tools among both adolescent and adult populations (Foshee, Bauman, & Linder, 1999), are thought to contribute to the some of inconsistent findings in child maltreatment and dating violence research. A meta-analysis could help clarify the relation between various forms of CM and DV outcomes by accounting for method effects in the studies reviewed. Meta-analyses allow for the calculation and comparison of effect sizes within methodologically defined subgroups. For example, effect sizes reported for studies using prospective measures of maltreatment could be compared to studies using retrospective measures.

The current meta-analysis investigation focused on the relation between CM and DV among adolescents and young adults under the age of 25. The study summarized research conducted during the past 15 years. Gender, maltreatment type, and several indices of study quality were included in the study as potential moderators of the relation between CM and DV.
Method

Literature Search

Any study examining the relationship between CM and involvement in an abusive dating relationship was considered for inclusion in the meta-analysis. The studies were located using: 1) computer searchers of online databases; 2) reviews of prior literature reviews; and 3) reference lists of topically relevant articles. The computer searches were conducted between October 2011 and April 2012. PsychInfo, MedLine, and dissertation/thesis abstract databases were searched using multiple combinations of the terms: CM, IPV exposure, emotional abuse, sexual abuse, physical abuse, cycle of violence, and dating aggression or DV. English language restrictions were imposed on all searches.

For the current review, DV is defined as the experience of physical, sexual, or psychological aggression within the context of a romantic dating relationship. Dating relationships were defined as any romantic relationship in which the individuals involved were under 25 years of age and not married. Dating relationships that involved individuals over the age of 25 were not included because the goal was to focus on adolescent and early adult developmental periods. Physical, psychological, and sexual forms of dating violence were considered. Physical dating violence included hitting, punching, biting, shoving, and slapping within dating relationships. Psychological dating violence included verbal aggression and the use of manipulating or ridiculing behaviors within dating relationships. Sexual dating violence included forced sexual contact or intercourse. DV perpetration was defined as the perpetration of physical, psychological, or sexual aggression against one’s dating partner. DV victimization included receiving physical, psychological, or sexual aggression within a romantic dating
relationship. Any *DV involvement* included all forms of perpetration and victimization in an abusive dating relationship.

Indicators of CM are: *physical abuse, sexual abuse, emotional abuse, general maltreatment, and IPV exposure.* We adopted the World Health Organization’s (WHO 2006) definition of CM for this review. The WHO (2006) defined the types of maltreatment as follows: *physical abuse* included the intentional use of physical force against a child (e.g., hitting, beating, kicking, shaking, biting, strangling, scalding, burning, poisoning, and suffocating). *Sexual abuse* was defined as the involvement of a child in sexual activity (e.g., fondling, oral sex, penetration, and indecent exposure). *Emotional abuse* included depriving a child of a developmentally supportive and nurturing environment (e.g., belittling, threatening, and ridiculing behaviors). The WHO’s definition also included neglect, but few studies have examined the relationship between neglect and DV. For the purpose of this study, child neglect data were included in the *general maltreatment* variable, along with effect size data on childhood experiences which were reported as “child abuse” or “CM.”

Although not included in the WHO’s definition of maltreatment, there is currently a move to include childhood exposure to intimate partner violence as another measure of CM (Herrenkohl, 2011). Evidence suggests that childhood exposure to intimate partner violence carries similar developmental consequences for child victims (Kitzmann et al., 2003; Stith et. al., 2000; Wolfe et al., 2003). Thus, childhood exposure to intimate partner violence was included in the current review. This form of exposure included a child’s witnessing and otherwise knowing of adults’ physical and verbal aggression toward one another in the home (Kitzmann et al., 2003).
Study selection criteria included: 1) examination the relationship between one or more forms of CM (i.e., physical abuse, sexual abuse, emotional abuse, childhood exposure to intimate partner violence) and DV; 2) effect size data for any CM predictor variable that was reported independently of other traumatic childhood experiences; 3) data for DV perpetration and victimization that were reported independently of one another; 4) samples’ mean age under 25; 5) using an original sample; 6) sufficient quantitative data that permitted the calculation of at least one effect size; and 7) data reported as group comparisons that included a sample of maltreated and non-maltreated youth (Kitzmann et al., 2003).

Coding Procedures

A coding manual was developed to guide the coding of study variables, including: research question, definitions, sample characteristics (e.g., college, high school, community), methodological quality (e.g., prospective/retrospective, longitudinal/cross-sectional), measures (e.g., self report or official report), instruments (e.g., CTS, CTS2 adapted, other), and effect size data (e.g., correlation coefficients, unadjusted odds ratios). Inclusion criteria were developed a priori and then revised throughout the coding process. The author adapted six of Thornberry and colleagues’ (in press) eleven standards of methodological quality to determine the coding form indices of study quality. Study quality-related variables informed the coding process, but were not used to determine inclusion in the meta-analysis.

Statistical Analysis

A random effects meta-analyses was conducted using Comprehensive Meta-Analysis Software, version 2 (Borenstein, Hedges, Higgins, & Rothstein, 2004). Data were extracted from studies and input in the CMA software program as: correlation coefficients, unadjusted odds
ratios, odds ratios, means and standard deviations. Standardized multiple regression coefficients (beta coefficients) were input as correlations when correlation matrixes were not present (Peterson & Brown, 2005). Studies reporting two effect sizes for one CM variable (i.e., mother inflicted physical abuse and father inflicted physical abuse, Wave 1 and Wave 2 data) were coded using dummy variables and averaged. The CMA 2 statistical software program transformed the effect size data and calculated odds ratios with standard errors of 95% confidence intervals. Type I error rates less than .05 were considered statistically significant. Gender (i.e., male, female, combined) was coded as a subgroup and utilized as the unit of analysis (Borenstein, Hedges, & Higgins, 2009). A pooled estimate of Tau Squared was used because there was no reason to believe that rates of dispersion would vary significantly within the subgroups (Borenstein, Hedges, & Higgins, 2009). Heterogeneity analyses were conducted between groups to compare effect sizes (e.g., by type of maltreatment experienced). In total, 23 separate analyses were conducted.

**Results**

The computer data base searches yielded a combined 356 studies. From the 356 articles retrieved, an additional eight articles (unduplicated) were pulled from reference lists. In total, 364 articles were retrieved. Fifty-seven full text articles were reviewed, and, of those, 24 were included in the final meta-analysis. Reasons for exclusion were: a sample mean age above 25, duplicate sample (McCloskey & Lichter, 2003; Gover et al., 2008), maltreatment variables were not reported separately from other traumas (e.g., community violence exposure, parental death),
“parental discipline” was used as the childhood predictor, no control group in studies using clinical samples of CPS involved youth, and inadequate effect size data.

**Study Quality**

Of the 24 studies included, 6 studies used samples from longitudinal cohorts. Longitudinal samples came from: the Rochester Youth Development Study (Smith et al., 2011), a Safe Dates cohort of North Carolina public school students (Foshee, Benefield, Ennett, Bauman, & Suchindran, 2004), the Raising Healthy Children Project (Maas, Fleming, Herrenkohl, & Catalano, 2010), the National Study of Adolescent Health (Gomez, 2011), the Oregon Youth Study (Capaldi & Clark, 1998), and the Christchurch Health and Development Study (Fergusson, Boden, & Horwood, 2006). Two studies used cross-sectional designs with community and at-risk samples (Hamby, Finkelhor, & Turner, 2012; Laport, et al., 2011). Ten studies used cross-sectional surveys among college samples, and 6 studies used cross-sectional surveys with high school or middle school samples.

Three studies included in the analysis reported effect size data that had been adjusted for potentially confounding variables (Hamby et al., 2012; Laport et al., 2011) or the main treatment effect (Foshee, et al., 2004). Multiple studies applied multivariate models to examine pathways leading to DV perpetration of victimization (Foshee, et al., 2004; Maas et al., 2011)). These studies also reported bivariate or correlational data for the relationship between CM and DV. The gender-identified subgroups within each of the 24 included studies were treated as the unit of analysis. Eleven studies reported separate data for males and females. Consequently, there were
35 total independent study-level units on which the analysis was performed. These 35 units of analysis (i.e., subgroups within studies) produced 150 effect sizes.

**CM and DV Involvement**

<table>
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<tr>
<th>Table 1: Child Maltreatment (overall) and Dating violence (by type)</th>
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<tr>
<td>Overall</td>
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<td>Perpetration</td>
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<td>Victimization</td>
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<tr>
<td>Sample Type</td>
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<tr>
<td>College</td>
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<tr>
<td>High School</td>
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<tr>
<td>Community</td>
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All subgroups are included and averaged in this analysis. No. Studies=subgroups within study (i.e., male, female, combined). *** p <.001

Experiencing any type of CM increases the risk of involvement in an abusive dating relationship (OR, 1.60, 95% CI, 1.47-1.75), and significant heterogeneity exists within the overall relationship examined (I=87%). Table 1 shows the relationship between overall child maltreatment (i.e., all types of child maltreatment averaged) and dating violence by type. CM increases the risk for DV victimization (OR, 1.72; 95% CI, 1.53-1.94), and DV perpetration (OR, 1.55, 95% CI, 1.40-1.71). In examining reasons for heterogeneity in both groups, types of DV (i.e, physical, sexual, psychological) were examined. CM increased the risk for physical DV perpetration (OR, 1.53, 95% CI, 1.38-1.70) at a lesser rate than for psychological (OR, 1.82, 95% CI, 1.30-2.53) and sexual (OR, 1.70, 95% CI, 1.28-2.25; 3 studies) DV perpetration. Separate
analyses conducted on victimization data revealed a slightly different pattern, particularly for psychological abuse. CM increased the risk for sexual (OR, 1.99, 95% CI, 1.63-2.44), physical (OR, 1.71, 95% CI, 1.53-1.92), and psychological (OR, 1.66, 95% CI, 1.22-2.25) DV victimization.

**Gender**

An analysis of heterogeneity between all three subgroups (males, females, and combined) showed that maltreated males experienced an increased risk for involvement in dating violence at a rate of 1.70 and 1.75 times that of non-maltreated individuals, respectively (table 2). Studies that combined male and female data (combined) reported lower estimates (OR, 1.34, 95% CI, 1.12-1.60) that were significantly different than female and male subgroups (Q-value, 6; df=2, p<.05). Of note, 4 of the 7 studies reporting data for combined genders used longitudinal cohorts (Fergusson et al., 2006; Hamby et al., 2012; Lichter & McCloskey, 2004) or controlled for confounding variables (Hamby et al., 2012; Laport, Jiang, Pepler, & Chamberland, 2011).

In order to test for heterogeneity between male and female gender groups, the combined gender studies were excluded from the following analyses. In the male and female only analyses, male risk for involvement in DV (OR, 1.80, 95% CI, 1.45-2.23) is very similar to female (OR, 1.81, 95% CI, 1.45-2.25) risk. Tests for heterogeneity between gender groups revealed that there was no significant difference between males and females (Q-value, .001; df=1, p > .05). Maltreated females reported being victims of DV at a rate of almost twice that of non-maltreated females (OR, 1.98, 95% CI, 1.69-2.30). Maltreated males were also at an increased risk for being victimized in dating relationships (OR, 1.70, 95% CI, 1.44-2.01). Maltreated males perpetrated
DV at a rate of more than one and a half times that of non-maltreated males (OR, 1.84, 95% CI, 1.45-2.32), as was also the case for maltreated females compared to non-maltreated females (OR, 1.61, 95% CI 1.26-2.05).

Maltreatment types and DV

Table 2: Child maltreatment by type and dating violence

<table>
<thead>
<tr>
<th>Maltreatment Type</th>
<th>Overall</th>
<th>Perpetration</th>
<th>Victimization</th>
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<tbody>
<tr>
<td>Emotional</td>
<td>1.99 (1.55-2.56)**</td>
<td>1.96 (1.59-2.41)**</td>
<td>2.14 (1.49-3.08)**</td>
</tr>
<tr>
<td>IPV Exposure</td>
<td>1.45 (1.27-1.67)**</td>
<td>1.45 (1.29-1.62)**</td>
<td>1.43 (1.14-1.79)**</td>
</tr>
<tr>
<td>General Maltreatment</td>
<td>1.98 (1.58-2.48)**</td>
<td>2.04 (1.59-2.61)**</td>
<td>2.06 (1.53-2.77)**</td>
</tr>
<tr>
<td>Physical Abuse</td>
<td>1.69 (1.47-1.94)**</td>
<td>1.45 (1.30-1.63)**</td>
<td>1.81 (1.44-2.28)**</td>
</tr>
<tr>
<td>Sexual Abuse</td>
<td>1.67 (1.30-2.14)**</td>
<td>1.49 (1.23-1.80)**</td>
<td>1.93 (1.37-2.74)**</td>
</tr>
</tbody>
</table>

All subgroups are included and averaged in this analysis. No. Studies=subgroups within study (i.e., male, female, combined). *** p < .001

Analyses of heterogeneity showed that there were no significant differences between maltreatment types (Q-value: 7.92, df=4, p<.09). However, few studies reported data on emotional abuse, general maltreatment, and sexual abuse, thereby limiting the statistical power of each of those respective variables. Despite the small number of studies that provided relevant data, results showed that experiencing emotional abuse or general maltreatment resulted in the highest risk increases for involvement in an abusive dating relationship, suggesting a rate for DV of almost twice that for non-abused youth. Emotional abuse results in the highest increase in risk for DV victimization among maltreatment types (OR, 2.14, 95% CI, 1.49-3.08). General maltreatment (maltreatment not defined by type) resulted in the highest risk increase for DV perpetration among the maltreatment types (OR, 2.04, 95% CI 1.59-2.61). Childhood exposure to intimate partner violence was associated with the lowest increase in risk (among all of the maltreatment types; OR, 1.45, 95% CI, 1.27-1.67); but the increase in DV risk was nonetheless
significant. An analysis of heterogeneity between childhood exposure and intimate partner violence and physical abuse on the overall risk for involvement in DV showed a nonsignificant difference (Q-value: 2.64, df=1, $p$ value > .05).

Study Samples

Average effect sizes varied slightly by sample population. Among samples of college students, the relationship between CM and DV was significant and moderately strong (OR, 1.71, 95% CI, 1.49-1.98). Findings were similar for samples of high school students (OR, 1.65, 95% CI, 1.34-1.96). Though still significant, findings of an association between CM and DV for community samples were somewhat weaker overall (OR, 1.46, 95% CI, 1.28-1.67).

Discussion

This study demonstrates the strength of the relationship between child maltreatment and dating violence for individuals who have been involved in romantic dating relationships under the age of 25. There were no statistically significant differences between males and females. However, multiple prospective, longitudinal studies did not report effect size data separately for males and females. Accordingly, male and female comparisons in this analysis did not include data from some of the most methodologically rigorous studies, as defined by Thornberry et al. (in press) and others in the field. Therefore, research on CM and DV would benefit from more longitudinal studies—particularly those that provide data for both males and females.

The results of this analysis provide direction for future research and prevention efforts in the field of dating violence and child maltreatment. Findings indicate that of all the maltreatment types examined, emotional abuse results in the highest increase in risk for DV victimization.
However, very few studies examined emotional abuse, which limits the extent to which these data can be used to tailor prevention efforts. Generally, more research on the effects of emotional abuse is needed. Child maltreatment not defined by type was most predictive of an increased risk for dating violence perpetration. However, the lack of refinement in these general measures limit what can be gleaned for future research and practice. Additionally, most of the studies of this review that included a measure of general maltreatment variable relied on data from Child Protective Services (CPS) and focused on CPS-involved youth. CPS samples include severe cases in which the majority of youth experience multiple forms of maltreatment (Wekerle, et al., 2009). Thus, findings may reflect an elevation in risk of DV associated more so with chronic and multiple types of abuse than with any one type alone. The risk effects associated with polyvictimization are well-documented (Hamby, et al., 2012). Although it was not possible to fully account for differences in research quality in the current investigation because of the small number of studies overall, analyses did examine variation in findings according to sample population. Findings from samples of college students showed the strongest link between CM and DV, followed by high school samples. Findings from studies based on community samples were less strong. However, the smaller effects of CM for community samples may also be attributable to other aspects of the study design, such as the use of longitudinal data.

Several limitations should be considered when interpreting results of this meta-analysis. First, this analysis provides a quantitative summary of a collection of published studies, some of which include convenience samples drawn from single geographic regions. Generalizability of study findings in this regard are somewhat limited. Many studies lack a methodologically rigorous design and are comprised of homogenous populations which may not be representative
of the general public. Second, the largest composite effect sizes were obtained by the variables with the fewest relative studies (i.e., emotional abuse). Third, the meta-analysis examined the role of various outcomes that were reported for the same sample within one study. Assuming independence among correlations which are reporting on the same sample does not impact the effect size, but does result in a very conservative estimate of precision (Borenstein, Hedges, Higgins, & Rothstein, 2004). Lastly, these findings are subject to the “file drawer bias,” which suggests that studies reporting non-significant results are less likely to be published than studies with significant findings. However, the fail-safe N calculation, which attempts to address this bias by estimating the number of nonsignificant findings that would be needed to negate the significance of the overall effect, estimates that approximately 57 studies with null findings would need to exist in order to negate the positive effect of the relationship as examined herein.

Multiple mediating variables influence youth and young adults’ propensity for perpetration or risk for victimization of violence in romantic relationships. Researchers should continue to emphasize the use of multivariate models in exploring this relationship. Overall, this review of literature supports the hypothesis that child maltreatment significantly increases the risk for involvement in later dating violence in adolescence and young adulthood. In this regard, attention should be given to prevention and intervention programs that have capacity to lessen the correlates and consequences of child maltreatment (Herrenkohl et al., 2008). These findings could inform the development of prevention programs which distinguish between perpetration and victimization risk factors. Additionally, researchers should continue to examine emotional abuse as well as assess for abuse related variables, such as: severity, duration, and whether multiple types of maltreatment we experienced. Lastly, results of this study emphasize the
importance of early identification of child maltreatment and a need for universal screening for
dating violence among teens and young adults (Hamby, et al., 2012).
References
*indicates inclusion in meta-analysis


violence among child protective services-involved youth. *Child Abuse & Neglect, 33,* 1, 45-58.
