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Psychiatric and Cognitive Functioning in Adolescent Inpatients with Histories of Dating Violence Victimization

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Abstract

The presence of dating violence victimization as well as its relation to psychiatric diagnosis and cognitive processes was examined in a sample of 155 adolescents hospitalized in a psychiatric facility. Participants and their parents completed semi-structured diagnostic interviews. Participants also completed self-report measures of dating violence victimization and cognitive functioning. Seventy-seven percent of adolescents who had initiated dating reported psychological, physical, and/or sexual abuse by a dating partner over the past year. Victims of psychological abuse alone as well as physical and/or sexual violence endorsed higher rates of major depressive disorder compared to non-victims. Physical/sexual dating violence victims also endorsed significantly higher rates of PTSD and alcohol use disorders, more frequent co-occurrence of externalizing and internalizing disorders, and more frequent negative cognitive biases, relative to non-victimized adolescents. Findings suggest that psychiatrically hospitalized adolescents with dating violence histories represent a subgroup of adolescent inpatients with a particularly serious clinical picture.

Keywords

Dating Violence; Adolescents; Psychiatric Disorders

Adolescent dating violence has increasingly become the focus of clinical and research attention during the past two decades. The emerging picture is that it is highly prevalent, associated with negative psychological consequences, and represents a major public health problem. To date, the research that has been conducted on dating violence victimization has predominantly focused on community samples of youth. Rates of victimization among psychiatrically hospitalized adolescents, a group known to have high rates of a range of adversities (Cohen et al., 1996; Hart, Mader, Griffith, & deMendonea, 1989), have not been examined. As a result,

one goal of the present study was to examine rates of victimization in a psychiatrically hospitalized sample of adolescents.

A growing number of investigations have documented a link between negative psychiatric outcomes and various forms of dating violence victimization. Research suggests that dating violence victimization is associated with depressive symptoms (Ackard, Eisenberg, & Neumark-Sztainer, 2007; Howard & Wang, 2003a,b), anxiety (Amar & Gennaro, 2005), disordered eating (Ackard & Neumark-Sztainer, 2002; Thompson, Wonderlich, Crosby, & Mitchell, 2001), poor psychosocial functioning (Howard & Wang, 2003a,b), suicidality (Ackard et al., 2007; Ackard & Neumark-Sztainer, 2002; Howard & Wang, 2003a,b; Olshen, McVeigh, Wunsch-Hitzig, & Vaughn, 2007; Silverman, Raj, Mucci, & Hathaway, 2001), internalizing and externalizing behaviors (Davila, Steinberg, Kachadourian, Cobb, & Fincham 2004; Zimmer-Gembeck, Siebenbruner, & Collins, 2001), and substance use (Buzy et al., 2004; Silverman et al., 2001) among community based and epidemiologic samples. Only a few empirical studies have systematically investigated the relation between this type of violence and rates of DSM-IV based mental health disorders using well validated diagnostic interviews. One longitudinal community based investigation revealed that young womens' abusive relationships during adolescence increased risk for major depressive disorder, posttraumatic stress disorder (PTSD), and substance dependence at age 26, even when controlling for these disorders at age 18 (Ehrensaft, Moffitt, & Caspi, 2006). In a national epidemiologic sample of adolescents, dating violence victimization was associated with posttraumatic stress disorder and major depressive episodes after controlling for demographic variables, other traumatic stressors, and stressful events (Wolitzky-Taylor et al., 2008).

To date, a theoretical model explaining the link between dating violence and mental health symptoms has not been tested. Nevertheless there is a large body of literature connecting the experience of interpersonal stress and risk for mental health disorders, such as major depression (e.g., Rudolph, Hammen, & Daley, 2006). For some, incidents of dating violence may be experienced as traumatic events that cause fear and helplessness associated with PTSD or chronic worry associated with generalized anxiety. For others, the stress of dating violence may be managed with alcohol or drug use, leading to a pattern of abuse or dependence. Moreover, violence victimization may undermine a victim's self-esteem and produce thinking patterns, such as cognitive errors and negative views of the world, that are characteristic of depression. There is also a growing body of literature that describes dating violence as an outcome of mental health disorders. Depressed females have been found to select aggressive dating partners, resulting in elevated rates of violence victimization (Kim & Capaldi, 2004). Williams, Connolly, Pepler, Craig, and Laporte (2008) described a "delinquency trajectory" whereby teens that exhibit symptoms of a disruptive behavior disorder (e.g., conduct disorder, oppositional defiant disorder) select a peer group that is similarly disruptive and aggressive. They then select dating partners from this delinquent peer group who, due to their pre-existing aggressive style, engage in dating violence as a means of conflict resolution. In sum, there are a number of potential pathways linking dating violence and mental health problems. Regardless of the direction of effects, mental health issues are likely to be highly salient for adolescent dating violence victims.

Adolescents presenting for psychiatric hospitalization exhibit, by nature, a greater number and severity of psychiatric symptoms than adolescents in the community. Given the relatively strong and consistent association found between dating violence victimization and a range of mental health problems among community based samples, it is likely that dating violence may be associated with higher rates of mental health disorders even within a psychiatrically hospitalized sample. Further, as research suggests that more severe forms of dating violence are related to higher levels of posttraumatic stress (Callahan, Tolman, & Saunders, 2003), it is also likely that those adolescent inpatients who report more serious forms of violence

victimization, such as physical and sexual violence, will have higher rates of mental health disorders than those who report less severe forms of dating violence victimization such as psychological abuse. Consequently, a second goal of this study was to examine rates of mental health disorders using a well validated semi-structured diagnostic interview among adolescent inpatients who have been the victim of dating violence and to examine the differential impact of physical and sexual victimization versus psychological forms of violence on morbidity.

In addition to higher rates of mental health disorders, dating violence victimization may also be associated with maladaptive cognitive processing, which is often found to underlie psychopathology. For example, cognitive distortions in the form of cognitive processing errors and the tendency to exhibit a negative view of oneself, the world, and the future have been linked to depression and distress in adolescents (Ingram, Nelson, Steidtmann, & Bistricky, 2007) as well as suicidality (Keinhorst, de Wilde, Diekstra, & Wolters, 1992; Levy, Jurkovic, & Spirito, 1995). These are common presenting problems for adolescents hospitalized on an inpatient unit. Although there are likely numerous developmental pathways that result in cognitive dysfunction, the experience of interpersonal trauma may be one such route. For example, research has shown that adult victims of severe trauma, such as childhood sexual abuse, report higher levels of cognitive distortion than non-victims (Cukor & McGinn, 2006; Rose, Abramson, Hodulik, Halberstadt, & Leff, 1994). Given the link between interpersonal trauma and cognitive dysfunction, as well as the salience of romantic relationships during the adolescent years (Furman & Schaffer, 2003), violence victimization within the dating context is likely to be associated with cognitive distortion. As such, a third goal of the present study was to examine the relation between two forms of cognitive distortion, negative self-talk and negative views of oneself, the world, and the future (a.k.a., the cognitive triad), and dating violence victimization.

In sum, there were three primary aims of this study. The first was to characterize dating violence victimization among a sample of psychiatrically hospitalized adolescents who have initiated dating behavior. The second aim was to examine rates of mental health disorders among dating violence victims compared to non-victims as well as the differential impact of various forms of violence. The third aim was to examine cognitive correlates of dating violence victimization among a group of psychiatrically hospitalized adolescents. A stringent test of these associations was conducted by controlling for potential confounding variables such as age and prior trauma history.

Method

Participants

Two-hundred sixty-three adolescents admitted to an adolescent psychiatric inpatient unit over the course of a two year period were eligible to participate in the larger NIMH-funded (MH065885) assessment study. Adolescents met inclusion criteria for participation if: (a) they were English speaking; (b) adolescent assent and parental consent were provided; (c) they had a Verbal IQ estimate ≥ 70 ; and (d) they met criteria for a mood, anxiety, or disruptive behavior disorder. Exclusion criteria included current psychosis or full placement in the custody of the Department of Children, Youth, and Families (DCYF), as documented in the inpatient admission materials. Assent and parental consent were obtained for 201 adolescents (76%). Of these, a subsample of 155 participants (mean age = 15.0, $SD = 1.3$) who reported that they had initiated dating behavior by the time of the assessment were retained for the current analyses. There were no significant age, gender, race, or ethnic differences between the 46 youth who were enrolled in the study but not included in analyses and 155 youth who were included in analyses.

All participants were recruited from the adolescent inpatient unit of a regional children's psychiatric hospital in southern New England. This hospital serves all patients regardless of insurance status. According to state census tract data, socioeconomic status (SES) for the population served at this facility includes 16% high SES, 39% middle SES, 15% low SES, and 12% poverty conditions. The median family income was \$50,001 – \$60,000; 21% of participant's families reported an annual income of \$20,000 or below. Self-reported race of the sample was 81% Caucasian/European American, 11% Hispanic, 3% Asian American, 3% African American, and 2% mixed ethnicity-other.

Procedure

Study staff conducted chart reviews of all consecutive admissions to the adolescent psychiatric unit within two days of admission. Adolescents who meet inclusion criteria were approached for recruitment by a trained bachelor level research assistant after family meetings or during family visits on the adolescent inpatient unit. Based on our recruitment procedure, youth who were admitted and discharged from the hospital on the same day were not recruited for the study because their charts were not typically available for review.

If parental consent and adolescent assent were provided, the family was enrolled in this assessment study. Adolescents and their parent/guardian completed the assessments while the adolescent was hospitalized on the inpatient unit. In the small number of cases where youth who agreed to participate were discharged prior to completing the study, staff made every attempt to contact the participant to arrange for them to complete the study instruments within one week of discharge. The research assistant administered the assessment battery with the exception of the diagnostic interview, which was administered by trained masters and doctoral level clinicians. The parent version of the diagnostic interview and assessments were administered in a two hour session. The child version of the diagnostic interview and intelligence test were administered in a separate two hour session.

All adolescents received four movie tickets and their parent/guardian received a \$50 money order for their participation. A feedback form summarizing responses to clinical measures (with the exception of substance related information) was placed in each adolescent's inpatient file upon completion of the full assessment battery so that it could be reviewed by the adolescent's inpatient treatment team to aid in treatment and discharge planning. Substance related information was not shared in this feedback form because teens' self-reported substance use has been shown to be most accurate and reliable under conditions of confidentiality (Needle, McCubbin, Lorence, & Hochhauser, 1983). However, the inpatient treatment team was not precluded from gathering substance related information from participants on their own, through standard clinical intake and treatment procedures. In cases where a participant reported child abuse or neglect that qualified for a mandated report under Rhode Island state guidelines, details of the abuse were immediately shared with the psychiatric inpatient team who then filed a report to Child Protective Services within 24 hours. All participants were informed of the mandated reporting guidelines as part of the informed consent process, prior to giving their consent to participate. This study was approved by the affiliated University and Hospital Institutional Review Boards.

Measures

Schedule for Affective Disorders and Schizophrenia for School-Age Children—Present and Lifetime Version—(K-SADS-PL; Kaufman et al., 1997). The K-SADS-PL is a widely used semi-structured diagnostic interview that provides a reliable and valid measurement of DSM-IV psychopathology in children and adolescents. Interrater agreement for scoring screens and diagnoses is high (range: 93% to 100%). Test-retest reliability and kappa coefficients are excellent for diagnoses of major depressive, bipolar, generalized anxiety,

conduct, and oppositional defiant disorders (.77 to 1.00) and good for other diagnoses (.63 to .67) (Kaufman et al., 1997). Only the *current* mood, anxiety, disruptive behavior, and alcohol/substance use sections were administered to both the adolescent and parent.

All interviewers were extensively trained in the K-SADS-PL through didactic training, rating audiotapes and in-person K-SADS-PL interviews, administering in-person interviews while being observed, and audiotaping full interviews for reliability reviews. Upon completion of training, all interviews were audiotaped and 10% were randomly selected and rated for reliability. Kappa coefficients reflected strong agreement for major depressive disorder, dysthymia, and mood disorder NOS (Kappa = .89-1.0) as well as all anxiety disorders (Kappa = .92-1.0), disruptive behavior disorders (Kappa = 1.0), and substance use disorders (Kappa = .79-1.0). In addition to conducting regular reliability ratings, all cases were staffed during weekly clinical consensus team meetings. This clinical consensus team comprised doctoral level child psychologists in addition to the interviewers. During this meeting, all K-SADS-PL symptoms and assessment data were reviewed, including traumas included in the PTSD screen. A best-estimate clinical consensus procedure was used to resolve discrepancies between adolescent and parent report as well as confirm diagnoses, traumas, and suicidal/non-suicidal self-injurious behavior. A best-estimate clinical consensus procedure is commonly used to reconcile discrepancies (Cantwell, Lewinsohn, Rohde, & Seeley, 1997, Klein, Ouimette, Kelly, Ferro, & Riso, 1994; Klein, Lewinsohn, Seeley, & Rohde, 2001) and yields good to excellent reliability (Klein et al., 1994, 2001).

With regard to the PTSD screen, participants were coded for the presence or absence of being a witness to domestic violence as well as whether they were ever a victim of childhood interpersonal trauma (i.e., child sexual abuse or child physical abuse by an adult caretaker). Adolescent participants and their parent/guardian were asked to recount if and at what age the adolescent had experienced any of these traumatic events. The presence or absence of child abuse was then confirmed by the research team using the clinical consensus approach.

Dating violence—Dating violence victimization over the past year was assessed using the Conflict in Adolescent Dating Relationships Inventory (CADRI; Wolfe, Scott, Wekerle, & Pittman, 2001). The CADRI is a 35-item measure completed by teens in reference to actual conflict or disagreement with a current or recent dating partner. It assesses abuse perpetration and victimization. Adolescents were considered to have experienced a particular form of abuse (i.e., sexual, physical, and psychological) if they reported at least one indicator of that type of violence as measured by the CADRI. Indicators included “I insulted her with put downs” (psychological abuse), “I threw something at my dating partner” (physical abuse), and “I touched him/her sexually when he/she didn’t want me to” (sexual abuse). For the purposes of the present study, only victimization was assessed. The CADRI has strong internal consistency (total $\alpha = .83$) and 2-week test retest reliability, $r = .68, p < .01$ (Wolfe et al., 2001), as well as acceptable partner agreement, $r = .64, p < .01$, (Wolfe, Crooks, Lee, McIntyre-Smith, & Jaffe, 2003). Internal consistency in the present sample was good, $\alpha = .91$.

Cognitive Triad Inventory for Children—(CTI-C; Kaslow, Stark, Printz, Livingston, & Tsai, 1992). The CTI-C is a 36-item self-report measure that assesses self-perceived competencies and global self-worth in children and adolescents. It is comprised of three 12-item subscales: View of the Self, View of the World, and View of the Future. Examples of items include “I am a good person” (positive self), “Most people are friendly and helpful” (positive world), “I will solve my problems” (positive future), “I am a failure” (negative self), “The world is a very mean place” (negative world), and “Nothing is likely to work out for me” (negative future). Responses are given on a three-point Likert scale by circling yes, maybe, or no. In the present study, the CTI-C was scored such that higher scores represented the presence of more positive views. Strong reliability and concurrent and

discriminant validity have been demonstrated for the CTI-C (Kaslow et al., 1992). Internal consistency in the present sample was good, $\alpha = .95$.

Negative Affect Self-statement Questionnaire—(NASSQ; Ronan, Kendall, & Rowe, 1994). The adolescent version of the NASSQ is a 39-item self-report instrument that assesses frequency of anxious and depressive self-talk experienced within the past week. Each item is rated on a 5-point Likert type rating scale ranging from 0 (*not at all*) to 5 (*all the time*). Adequate internal consistency, test-retest reliability, and convergent/divergent/construct validity have been demonstrated with adolescents (Lehrer, Buka, Gortmaker, & Shrier, 2006; Ronan et al., 1994). Internal consistency for the NASSQ in the present study was high, $\alpha = .96$.

Data Analysis Plan

Study participants were classified into one of three mutually exclusive groups based on their history of dating violence in the past 12 months: non-victim ($n = 36$), psychological victim only ($n = 78$), or physical and/or sexual victim ($n = 41$). Participants in the physical/sexual victimization category included those with a co-occurring history of psychological victimization. Examining physical and sexual violence as one category is consistent with other studies (e.g., Silverman et al. 2001) and supported by the recent National Violence Against Women Survey indicating that sexual violence victimization rarely occurs in the absence of physical victimization (Tjaden & Thoennes, 2000). For preliminary analyses across groups, bivariate relationships between dating violence, demographic variables, and psychiatric diagnostic status are described using logistic regression. In order to explore group differences in diagnostic rates while adjusting for age and history of other interpersonal trauma (i.e., witness to domestic violence, child sexual or physical abuse by an adult caretaker), multiple logistic regression was performed to adjust odds ratios (ORs).

When examining diagnostic status, conduct disorder was collapsed with oppositional defiant disorder to create a disruptive behavior disorder diagnostic category. Collapsing disruptive behavior was considered acceptable owing to the low rate of conduct disorder in the sample as whole ($n = 24$). Given that 76% of the sample was diagnosed with two or more Axis I disorders, comorbidity was examined with regard to the co-occurrence of one or more internalizing disorders (major depression, generalized anxiety, social phobia, and/or PTSD) with one or more externalizing disorders (attention-deficit/hyperactivity disorder, oppositional defiant disorder/conduct disorder, alcohol abuse or dependence, substance abuse or dependence).

For continuous variables ANOVA's were conducted. Posthoc tests (Tukey's HSD) were used to detect significant differences between specific groups when the ANOVA was significant. In order to explore group differences in continuous variables while adjusting for age and history of other interpersonal trauma, ANCOVA's were conducted.

Results

Demographics

Comparisons of sociodemographic characteristics (age, race/ethnicity, gender) revealed that groups differed significantly on age, with older adolescents more likely to have been physically and/or sexually victimized by a dating partner in the past year relative to non-victims (see Table 1). No significant gender differences in dating violence victimization were reported (psychological dating violence, $\chi^2 = 0.79$, *ns*; physical dating violence, $\chi^2 = 0.02$, *ns*; sexual dating violence, $\chi^2 = 1.51$, *ns*). In addition, no differences were found between boys and girls with regard to having a history of childhood interpersonal trauma, $\chi^2 = 0.19$, *ns*. With regard to mental health disorders, girls were more likely to be diagnosed with PTSD (boys = 8.1%,

girls = 35.6%; $\chi^2[1, N = 155] = 10.32, p < .001$); whereas boys were more likely to be diagnosed with disruptive behavior disorders (boys = 67.6%, girls = 40.7%; $\chi^2[1, N = 155] = 8.17, p < .01$), ADHD (boys = 48.6%, girls = 28.8%; $\chi^2[1, N = 155] = 4.97, p < .05$), and substance use disorders, (boys = 51.4%, girls = 24.6%; $\chi^2[1, N = 155] = 9.45, p < .01$). *T*-tests revealed no significant differences between girls and boys on the negative views of the self, world, and future, $t = -1.32, ns$. However girls reported greater negative self talk, $t(154) = 2.52, p < .05$, than did boys.

Dating Violence Victimization and Childhood Trauma History

Seventy-seven percent of adolescents who had initiated dating behavior reported psychological, physical, or sexual abuse by a dating partner over the past year; 51% reported being the victim of psychological abuse only and 26.3% reported experiencing sexual and/or physical violence (5.8% reporting physical abuse only, 10.9% reporting sexual victimization only, and 9.6% reported both). Forty-eight percent of the sample endorsed a history of other interpersonal trauma (i.e., witness to domestic violence, child sexual or physical abuse by an adult caretaker).

Bivariate Relations with Psychiatric Disorders, Comorbidity, and Cognitive Factors

Bivariate logistic regression analyses indicated that the experience of psychological victimization alone (OR = 2.56, 95% CI = 1.14-5.76, $p < .05$) as well as physical/sexual dating violence (OR = 3.39, 95% CI = 1.27-8.84, $p = .01$) were associated with elevated rates of major depressive disorder. The experience of physical/sexual dating violence was also associated with elevated rates of PTSD (OR = 4.13, 95% CI = 1.32-12.88, $p < .05$), alcohol use disorders (OR = 4.14, 95% CI = 1.48-11.63, $p < .01$), and psychiatric comorbidity (co-occurrence of at least one internalizing and externalizing disorder; OR = 2.68, 95% CI = 1.02-7.08, $p < .05$). Unadjusted odds ratios are shown in Table 2.

One-way ANOVA analyses revealed significant group differences with regard to frequency of negative self-talk, $F(2, 153) = 3.99, p < .05$, and negative views of the self, world, and future, $F(2, 153) = 4.75, p = .01$. Post-hoc analysis revealed that physical/sexual dating violence victims ($M = 109.2, SD = 38.5$), evidenced a greater frequency of negative self talk than non-victims ($M = 82.0, SD = 39.2$), $p < .05$. Physical/sexual dating violence victims ($M = 41.9, SD = 17.1$) reported more negative views of the self, world and future compared to non-victims ($M = 52.8, SD = 15.2$), $p < .01$. Victims of psychological dating violence did not differ significantly from physical/sexual violence victims or non-victims with regard to cognitive characteristics.

Multivariate Analyses of Relationships between Dating Violence with Psychiatric Disorders, Comorbidity and Cognitive Factors

In Table 2, we report adjusted odds ratios for associations between psychiatric disorders with dating violence group. As described above, bivariate analyses revealed that the risk of major depressive disorder was 3.39 times greater for victims of physical/sexual dating violence and 2.56 times greater for victims of psychological dating violence only. After controlling for age and a history of other interpersonal trauma, the adjusted risk of major depressive disorder was slightly higher for physical/sexual dating violence (AOR, 3.57; 95% CI, 1.27-10.05) and psychological dating violence (AOR, 2.95; 95% CI, 1.24-6.76). Similarly, the adjusted odds of PTSD increased slightly for victims of physical/sexual dating violence (AOR, 5.30; 95% CI, 1.48-18.99). The adjusted odds of an alcohol use disorder decreased slightly for victims of physical/sexual dating violence but remained significant (AOR, 3.50; 95% CI, 1.12-10.97).

Analysis of covariance was used to examine mean differences in cognitive variable by dating violence group status while controlling for age and history of interpersonal trauma (see Table

3). Results indicated that even when controlling for age and a history of other interpersonal trauma, victims of physical/sexual dating violence reported higher rates of negative self-talk $F(3, 156) = 6.11, p < .05$, and were more likely to endorse negative views of the self, the world, and the future $F(3, 156) = 8.17, p < .01$, when compared to non-victims.

Discussion

This investigation represents one of the first studies to examine dating violence frequency among psychiatrically hospitalized adolescents and its association with psychopathology and cognitive functioning within this group. All forms of dating violence victimization were found to be highly prevalent in this sample. Seventy-seven percent of adolescents who had initiated dating behavior reported psychological, physical, or sexual abuse by a dating partner over the past year with 26% reporting physical and/or sexual abuse. This prevalence rate is high compared to surveys of community samples, which indicate that 59% of adolescents who have initiated dating report experiencing at least one incident of dating violence within the past year (Jezl, Molitor, & Wright, 1995), 12% report physical violence victimization (Halpern, Oslak, Young, Martin, & Kupper, 2001), and 9% report sexual victimization (Centers for Disease Control and Prevention, 2003).

Our examination of sociodemographic differences indicated that older adolescents were more likely to have experienced any form of dating violence. These findings are likely due to the fact that as teens age they are exposed to an increasing number of dating partners, which increases their chances of entering into a violent relationship. In addition, older teens are more likely to have initiated some of the behaviors that may increase risk for violence, such as drinking and drug use. Consistent with other studies, rates of psychological and physical dating violence victimization in our sample did not differ by gender (Volz & Kerig, in press). Interestingly, however, there was also no gender difference in the rate of sexual violence victimization, despite prior investigations that have found sexual violence victimization more prevalent among girls (e.g., Coker, Smith, McKeown, & King, 2000; Foshee, 1996). Many studies that have examined sexual violence victimization have focused predominantly on forced sex, whereas the current study also examined moderate forms of sexual victimization such as unwanted touching and kissing. The fact that sexual victimization was more broadly defined in the current investigation may account for the absence of gender differences on this variable.

For adolescent victims of any type of dating violence victimization (psychological, physical, sexual) rates of major depressive disorder were elevated. The increased frequency of major depression among these adolescent victims is consistent with the literature linking dating violence to depressive symptoms and suicidality (Ackard et al., 2007; Foshee, Luz McNaughton Reyes, & Ennett, this issue). Social-cognitive models of depression generally suggest that negative interpersonal experiences, and individuals' interpretations of these experiences, can be significant predictors of depressive symptoms (e.g., Abramson, Metalsky, & Alloy, 1989; Rudolph & Hammen, 1999). However, depression is also known to increase the risk for later victimization by a dating partner (Lehrer et al., 2006; Rao, Hammen, & Daley, 1999). In the present study, participants were assessed for incidents of dating violence that occurred over the course of the last year and assessed for the presence of a current major depressive disorder; consequently, the possibility of prior depressive episodes exists. Therefore, future longitudinal research is needed to better evaluate the direction of effects with regard to the dating violence victimization - depression link.

While victims with any form of dating violence appeared at elevated risk for major depressive disorder, only adolescents with a recent history of serious dating violence (i.e., physical and/or sexual victimization) were more likely than non-victims to be diagnosed with PTSD and

alcohol use disorders. These differences remained significant when age and history of childhood interpersonal trauma were controlled. Our findings are consistent with research suggesting that severe violence, often defined as being hit, beaten, attacked with a weapon, or sexually assaulted, is associated with serious health risk behaviors (Coker, McKeown, Sanderson, Davis, Valois, & Huebner, 2000; Silverman et al., 2001). Although previous research has suggested that psychiatric symptoms associated with physical violence might be largely due to concomitant psychological abuse (Arias & Pape, 1999; Orava, McLeod, & Sharpe, 1996), results of the present study suggest that psychological abuse alone does not account for the elevated rates of PTSD and alcohol use disorders in this population. The fact that these differences emerged in this acute psychiatric sample of adolescents, who as a group manifest high levels of psychopathology, suggest that the co-occurrence of PTSD and alcohol use disorders with serious forms of dating violence victimization necessitate further attention and investigation.

In the present study, serious dating violence victimization was also found to be associated with comorbid internalizing and externalizing disorders. The co-occurrence of internalizing and externalizing behaviors is significant because adolescents who exhibit both forms of maladjustment appear to have a more pernicious clinical course compared to individuals who exhibit only internalizing or externalizing symptoms (Capaldi, 1992; Zoccolillo, 1992). The concurrence of both affective and behavioral dysfunction requires the use of clinical intervention tools that can address both issues, a task that presents inherent clinical challenges for clinicians.

As predicted, adolescents with a recent history of serious dating violence reported greater severity of cognitive distortion, including negative self-statements and negative views of the self, world, and future (a.k.a., the cognitive triad), than non-victims. These findings are consistent with the larger literature on the cognitive effects of interpersonal trauma (e.g., Owens & Chard, 2001). However, as with other findings, it is striking that the victims of serious dating violence evidenced significantly higher rates of dysfunctional cognitive processes when compared to non-victims in this acute psychiatric population. Although it is unknown whether the cognitive distortion reported by victims was a cause or consequence of their diagnostic status, it is clear that victims of severe dating violence who present for psychiatric hospitalization may require cognitive restructuring work to attenuate cognitive dysfunction.

Several limitations of this research should be noted. First, the data are cross-sectional so causality cannot be determined. However, information about dating violence victimization and its clinical correlates is valuable and informative in the context of designing clinical interventions for these youth. Future studies could examine the interplay of dating violence victimization with psychiatric disorders and cognitive functioning in a longitudinal design. Second, our participants included adolescents from an inpatient setting who provided their consent to participate in a research study. Our findings may not generalize to other populations, including community-based samples of adolescents or adolescents who choose not to participate in research studies. Additionally, the sample was predominantly Caucasian and of non-Hispanic ethnicity; thus results may not be applicable to ethnically diverse samples. Lastly, participants were informed that their reports of childhood abuse and neglect may be reported to inpatient staff and child protective services, as per mandated reporting guidelines. As a result, some participants may have chosen not to disclose their abuse history due to fear of a mandated report. However, the majority of psychiatrically hospitalized youth included in the present study had a history of mental health treatment and had previously disclosed their abuse in the context of that relationship.

Collectively, the current work suggests that dating violence victimization is a common interpersonal trauma among psychiatrically hospitalized adolescents. Although all forms of

violence victimization (psychological, physical, sexual) were associated with an increased risk of major depressive disorder, serious victimization (physical and/or sexual acts) was associated with elevated rates of PTSD, alcohol use disorders, as well as the co-occurrence of internalizing and externalizing diagnoses when compared to non-victimized adolescent inpatients. These victims also reported more cognitive distortion in the form of negative self-talk and negative views of self, world, and future, relative to non-victims. Although others have demonstrated links with substance use (Ackard, Neumark-Sztainer, & Hannan, 2003; Coker, Smith et al., 2000; Kreiter et al., 1999) as well as depression and anxiety (Howard & Wang, 2003a, b) among community samples of youth, our data suggest that dating violence victimization is associated with a particularly serious clinical picture even among adolescents presenting with levels of psychological distress warranting psychiatric hospitalization. Although we do not know the long term implications of this serious clinical picture for victims of physical and sexual violence nor the direction of the associations found in the present study, our findings do indicate that adolescents who present for psychiatric hospitalization should be routinely screened for dating violence victimization. Preventive interventions for dating violence victimization that specifically target adolescents with mental health problems, such as psychiatric samples, have yet to be developed and are sorely needed.

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Table 1
Descriptive Characteristics

Characteristic	Sample		
	Psychological Only (<i>n</i> = 79)	Psychological and/or Sexual (<i>n</i> = 41)	Non-victim (<i>n</i> = 36)
Age, mean (SD) years [*]	14.9 (1.3) ^b	15.7 (1.1) ^a	14.9 (1.2) ^b
Race/Ethnicity (%)			
Black	2.5%	2.4%	2.7%
Hispanic	13.9 %	5.0%	8.3%
Asian/Pac. Islander	5.1%	0.0%	0.0%
Other	16.5%	4.9%	11.1%
Gender (% female)	77.2%	80.5%	69.4%
Internalizing Disorders			
Major Depressive Disorder	69.6%	73.2%	47.2%
Generalized Anxiety Disorder	19.0%	34.1%	19.4%
Social Anxiety	36.7%	31.7%	38.9%
Posttraumatic Stress Disorder	30.4%	39.0%	13.9%
Externalizing Disorders			
Alcohol Use Disorders	16.5%	48.8%	19.4%
Substance Use Disorders	19.0%	51.2%	33.3%
ADHD	27.8%	41.5%	27.8%
Disruptive Behavior Disorders	54.4%	56.1%	61.1%
Comorbidity [§]	54.4%	73.7%	52.8%
Other Interpersonal Trauma	44.3%	31.7%	33.3%

Note.

[§] Comorbidity was defined as the co-occurrence of at least one internalizing and one externalizing disorder. ADHD = attention deficit/hyperactivity disorder, disruptive behavior disorders = conduct disorder and/or oppositional defiant disorder, other interpersonal trauma = witness to domestic violence, physical or sexual abuse by a caretaker.

^{*} $F(2, 153) = 6.5, p > .01$

Table 2
Unadjusted and Adjusted Odds Ratios for Psychiatric Characteristics based on Dating Violence Victimization Status

Variable	Psychological Victim Only		Psychological and/or Sexual Victim	
	OR (95% CI)	AOR [†] (95% CI)	OR (95% CI)	AOR [†] (95% CI)
Internalizing				
MDD	2.56* (1.1-5.8)	2.95* (1.2-6.8)	3.39** (1.3-8.8)	3.57* (1.3-10.1)
GAD	0.97 (0.4-2.6)	1.10 (0.4-3.1)	2.23 (0.8-6.4)	0.38 (0.1-1.2)
Social Anxiety	0.91 (0.4-2.1)	1.14 (0.5-2.7)	0.76 (0.3-1.9)	1.48 (0.5-4.3)
PTSD	2.71 (0.9-7.8)	3.09 (0.9-10.0)	4.13* (1.3-12.9)	5.36* (1.5-19.0)
Externalizing				
AUD	0.82 (0.3-2.3)	0.83 (0.3-2.5)	4.14** (1.5-11.6)	3.50* (1.1-11.0)
SUD	0.47 (0.2-1.1)	0.44 (0.2-1.1)	2.21 (0.9-5.6)	1.94 (0.7-5.7)
ADHD	0.57 (0.3-1.31)	1.54 (0.2-1.3)	1.16 (0.5-2.9)	1.30 (0.5-3.6)
Disruptive	0.94 (0.4-2.1)	1.15 (0.5-2.7)	1.12 (0.5-2.7)	2.08 (0.7-6.1)
Comorbidity	1.07 (0.5-2.4)	1.17 (0.5-2.7)	2.68* (1.0-7.1)	3.06* (1.1-8.6)

Note. The non-victim group was used as the reference. MDD = major depressive disorder, GAD = generalized anxiety disorder, PTSD = posttraumatic stress disorder, AUD = alcohol use disorder (abuse or dependence), SUD = substance use disorder (abuse or dependence), ADHD = attention deficit/hyperactivity disorder, disruptive = disruptive behavior disorders (conduct disorder or oppositional defiant disorder).

[†] Adjusted odds ratios control for age and history of other interpersonal trauma.

[§] Comorbidity was defined as the co-occurrence of at least one internalizing and one externalizing disorder.

**
 $p \leq .01$

*
 $p \leq .05$

Table 3
ANCOVA Examining Cognitive Characteristics by Dating Violence Victimization Status
(controlling for age and history of other interpersonal trauma)

Variable	Psychological Victim (<i>n</i> = 79)	Physical and/or Sexual Victim (<i>n</i> = 41)	Non-Victim (<i>n</i> = 36)	<i>F</i>
Negative Self-Talk	95.0 (38.5)	109.2 (38.5) _a	82.0 (39.2) _b	4.75**
Negative Cognitive Triad [†]	47.7 (17.6)	41.9 (17.1) _a	52.8 (15.2) _b	3.99*

Note. The mean score of groups with different subscripts significantly differed at the .05 level on the basis of the Tukey's HSD post-hoc test.

[†] Higher scores represent the presence of more positive views.