Is Domestic Violence Followed by an Increased Risk of Psychiatric Disorders Among Women But Not Among Men? A Longitudinal Cohort Study

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Objective: The association between violence between intimate partners and psychiatric disorders is assumed to reflect a causal link. This assumption is now questioned because several longitudinal studies have documented that adolescents with psychiatric disorders grow up to be overrepresented among adults involved in partner violence.

Method: The study followed a representative birth cohort prospectively. Adolescent mental disorders were diagnosed at age 18 years. Between ages 24 and 26 years, the authors identified individuals involved in nonabusive relationships versus those involved in clinically abusive relationships (i.e., resulting in injury and/or official intervention). At age 26 years, mental disorders were again diagnosed.

Results: Male and female adolescents with psychiatric disorders were at greatest risk of becoming involved in abusive adult relationships. After the authors controlled for earlier psychiatric history, women who were involved in abusive relationships, but not men, had an increased risk of adult psychiatric morbidity.

Conclusions: 1) Psychiatric disorders pose risk for involvement in abusive relationships for both sexes; 2) partner abuse is a contributing source of psychiatric disorders among women but not among men.

Intimate partner violence is associated with high rates of depression, substance abuse, and anxiety disorders (1). This statistical association is assumed to reflect a causal link (2). If so, abuse prevention programs have the potential to reduce the public health burden of mental disorders. However, research has not conclusively ruled out the possibility that partner abuse may be spuriously associated with subsequent psychopathology because it is merely a marker for preexisting psychiatric disorders.

Becoming involved in abusive relationships is not a random process. Men and women with a developmental history of conduct disorder are at high risk for involvement in abusive adult relationships (3–8). Furthermore, there is considerable continuity of psychiatric disorder from childhood to adulthood (9–11), particularly from childhood conduct disorder to adult depression, substance abuse, and anxiety (12). Adult depression also predicts perpetration of partner aggression by both men (13, 14) and women (15). This association may be explained by selective partnering of antisocial men with depressed women, as well as by depression-associated negative affect, irritability, and communication deficits (15). Substance abuse is thought to play an etiological role in men's perpetration of partner abuse (16, 17). These findings must question the assumption that partner abuse is the cause and mental illness is the consequence.

Most studies of partner violence and psychiatric disorder are cross-sectional, rely on retrospective reports of prior psychiatric disorder, and thus are not ideally designed to disentangle the temporal association between partner violence and disorder (18, 19). Moreover, prior studies have tested for differences in psychiatric disorders between groups with and without partner violence (2, 20). Yet such between-group comparisons are not ideal for ruling out confounding differences between groups. A stronger method would test whether an individual's involvement in an abusive relationship increases his or her odds of a psychiatric disorder, after control for pre-abuse history of psychiatric disorders (21). To our knowledge, there are no published prospective studies of within-individual change, using individuals as their own comparison subjects and treating exposure to partner abuse as a “natural experiment.”

We employed a longitudinal research design with an unselected cohort of men and women followed prospectively. We measured psychiatric disorder at age 18, partner abuse at ages 24–26, and psychiatric disorder again at age 26. We first tested the hypothesis that men and women with psychiatric disorders in late adolescence are likely to enter abusive relationships as adults. We then tested whether the experience of partner abuse increases the risk for adult psychiatric disorders, after controlling for any disorder that antedated the relationship. We focused on
FIGURE 1. Proportion of Women With Adolescent or Adult Psychiatric Diagnoses as a Function of Involvement in Partner Abuse

<table>
<thead>
<tr>
<th>Age 18 Diagnoses</th>
<th>Age 26 Diagnoses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major depressive episode</td>
<td>No clinical abuse (N=411)</td>
</tr>
<tr>
<td>Marijuana dependence</td>
<td>Clinical abuse (N=38)</td>
</tr>
<tr>
<td>Alcohol dependence</td>
<td>Alcohol dependence</td>
</tr>
<tr>
<td>Anxiety disorder</td>
<td>PTSD</td>
</tr>
<tr>
<td>Major depressive episode</td>
<td>Generalized anxiety disorder</td>
</tr>
</tbody>
</table>

* Based on 38 clinical abuse cases versus 411 cases with no clinical abuse. The figure shows rates of disorder at age 26, unadjusted for prior psychiatric history. Table 1 presents the odds ratios, adjusted for prior psychiatric history.

Depressive, anxiety, and substance dependence disorders because these have most consistently been reported to be associated with partner abuse in adulthood (1, 20). We examined each disorder while controlling for earlier episodes of the same diagnosis but also controlled for conduct disorder because research consistently finds a link from juvenile conduct disorder to subsequent involvement in abusive relationships (3–6).

We conducted these analyses for both men and women because research shows that prior disorder predicts partner abuse for both sexes, and psychiatric disorders are associated concurrently with partner abuse for both sexes (22). Despite the proliferation of studies on the psychological outcomes of partner abuse in women, we found none that tested directly whether men involved in abuse, particularly as victims, lack concomitant psychiatric consequences (20, 23). Therefore, we sought to test whether women have more mental disorder consequences than men.

Method

Participants and Procedure

The participants were members of the Dunedin Multidisciplinary Health and Development Study (24). The cohort of 1,037 children (52% boys, 48% girls) was constituted at age 3 when the investigators enrolled 91% of the consecutive births between April 1972 and March 1973 in Dunedin, New Zealand. Cohort families represent the full range of socioeconomic status in the general population of New Zealand’s South Island, and the children are primarily white. This report uses data from assessments at ages 18 (N=930) and 26 (N=980) years (96% of the living cohort members). Interviewers were blind to all data about the study members and had tertiary degrees and professional experience in social work, medicine, public health, or clinical psychology. Written informed consent was obtained after complete description of the study protocol.

Assessment of Psychiatric Disorders

At ages 18 and 26 years, the study members were administered the Diagnostic Interview Schedule (25, 26). Psychiatric disorders were diagnosed according to DSM-III-R at age 18 and DSM-IV at age 26, with a reporting period of the past 12 months. For the present study, we analyzed diagnoses at both assessment points for major depressive episodes, alcohol dependence, and marijuana dependence. Posttraumatic stress disorder (PTSD) and generalized anxiety disorder were assessed at age 26; their antecedent at age 18 was a measure of any anxiety disorder (including panic disorder, social phobia, simple phobia, generalized anxiety, and obsessive-compulsive disorder). Finally, we included a lifetime diagnosis of DSM-IV conduct disorder, assessed at ages 11, 13, 15, and 18 (24).

We selected age 18 as the assessment point for prior psychopathology because it was the most recent assessment point that antedated all relationships about which we had partner abuse data. The majority of the participants still lived at home during the reporting year before their 18th birthday, and few had yet cohabited with a partner. None of the relationships on which the study members reported partner abuse at ages 24–26 were ongoing at the age 18 assessment.

Assessment of Partner Abuse

The Partner Conflict Calendar was used to identify individuals in abusive relationships that entailed clinically significant consequences, such as injury, medical treatment, or agency involvement (6). The Partner Conflict Calendar covered relationships in the past 3 years before the interview. The relationships had been ongoing an average of 3.3 years (SD=2.7) before the interview. Before beginning the Partner Conflict Calendar, study members first completed a Life History Calendar, a visual data collection grid for obtaining reliable retrospective reports about demographic changes and other life events. The Partner Conflict Calendar was laid beside the completed Life History Calendar to cue memories about any months in which partner abuse occurred during the past 3 years. This calendar method capitalizes on advances in survey methods and cognitive psychology to collect reliable retrospective data. It is a visual aid and reminds subjects about streams of events rather than isolated events. It contextualizes questions about life events by linking them to other events. We and others have found excellent reliability for the Life History Calendar method, above 90% agreement over test-retest periods up to 5 years (27, 28).

A violent incident on the Partner Conflict Calendar was defined by showing the respondent a card with “pushing, shoving, twisting arm, grabbing, shaking, throwing, choking, strangling, using a...
FIGURE 2. Proportion of Men With Adolescent or Adult Psychiatric Diagnoses as a Function of Involvement in Partner Abuse

a Based on 37 clinical abuse cases versus 419 cases with no clinical abuse. The figure shows rates of disorder at age 26, unadjusted for prior psychiatric history. Table 2 presents the odds ratios, adjusted for prior psychiatric history.

knife or a gun, kicking, biting, punching, and slapping” in large block letters. The respondents were asked to recall months in which any of these things had happened “between you and your partner.” The interviewers then asked follow-up questions about each month to ascertain the frequency of incidents, whether either partner was injured in that month, whether treatment was sought, and whether agencies became involved (police, shelter or refuge, counselor or therapist, lawyers or courts).

The test-retest reliability of the Partner Conflict Calendar reports were evaluated by administering it on two occasions, 1 month apart, to 24 women inmates in the Wisconsin women's community corrections system (6). Those women reported abuse in an average of 8 months of their 36-month calendars, totaling an average of 60 violent incidents per woman. Although the women inmates had extensive substance abuse histories, low cognitive ability, and complex histories of domestic violence, their 1-month test-retest agreement was very good when it was aided by the calendar method, yielding kappas from 0.6 to 1.0 for the precise timing of months with violence. The test-retest correlations were above 0.80 for the number of months with violence, injury, medical treatment, and agency involvement.

We did not attempt in the context of the Partner Conflict Calendar to ascertain which partner had been the perpetrator or victim because prior research documents that more incidents involve mutual violence than one-sided violence. Moreover, our pilot research revealed that retrospective recall of which partner hit first is unreliable. In our earlier work with this group, the most seriously or “clinically abusive” group had the highest level of mutuality on standardized self-report measures of abuse, and both partners’ characteristics predicted reciprocal abuse (6, 29). Others, too, found that frequent partner physical aggression was bidirectional rather than men only or women only (30). Thus, we classified the relationship, rather than the individual, as clinically abusive but with the expectation of studying empirically whether the physical consequences for women outweigh those for men (31). A measure of each study member’s experience as perpetrator and victim was obtained by using the Conflict Tactics Scales (32).

We identified 38 women and 37 men who met criteria for clinical abuse because they endorsed one or more abuse consequences on the Partner Conflict Calendar (for details, see reference 6). Of these, 68% of the women and 60% of the men reported being injured (sprains, bruises, cuts, loss of consciousness, broken bones, loose teeth), 24% of the women and 3% of the men had an injury requiring medical attention, 24% of the men and women reported that the police were called, 3% of the women and no men reported using a shelter, and court records showed that 15% of the men and no women had an official domestic violence conviction. This group of 75 individuals experienced abuse lasting 5 months, on average, in the past 3 years (range=1–32 months).

Of particular importance to the present investigation of mental health consequences of abuse, the men in the clinical abuse group reported being victimized by the same mean number of acts at the hands of their partners as did the women in the group. On the Conflict Tactics Scales (32), both the men and the women in the clinical abuse group reported more victimization experiences than other cohort members of their sex. The effect size for this difference was 1.51 SDs more victimization on the Conflict Tactics Scales for men in clinically abusive relationships (t=9.60, df=454, p<0.001) and 1.63 SDs more victimization for the women (t=10.77, df=447, p<0.001). Furthermore, the men and women in the clinical abuse group did not differ from each other on mean scores on the victimization scale (effect size=0.12 SDs) (t=0.25, df=73, p>0.10). Both men and women in the clinical abuse group also reported perpetrating significantly more physical abuse compared to the rest of the cohort (men: effect size=1.36 SDs) (t=8.47, df=455, p<0.001) (women: effect size=1.29 SDs) (t=8.20, df=447, p<0.001). Men and women in the clinical abuse group did not differ from each other on their mean perpetration scale scores (effect size=0.10 SDs) (t=0.19, df=73, p>0.10). Thus, the 38 women and 37 men in clinically abusive relationships on the Partner Conflict Calendar were involved in abuse to the same extreme extent, whether as perpetrator or as victim, and moreover, they scored the most extreme of all cohort members on the Conflict Tactics Scales abuse measure, thereby validating the Partner Conflict Calendar's identification of serious abusive relationships.

Statistical Analysis

To evaluate the association between intimate partner violence and psychiatric disorder, we calculated odds ratios and their 95% confidence intervals (CIs). To test whether partner violence predicted increases in the risk of psychiatric disorder after controlling for earlier psychiatric disorder, we conducted hierarchical logistic regressions in three steps. The first step controlled for the continuity of disorder by regressing psychiatric disorder at age 26 on the same psychiatric disorder at age 18 (model 1). In the second step, we added juvenile conduct disorder to control for its joint risk for abuse and adult disorders (model 2). In the third step, we added the abuse grouping factors to test whether partner abuse from ages 24 to 26 predicted disorders at age 26, after controlling for preexisting psychopathology (model 3).
Results

Does Psychiatric Disorder at Age 18 Precede Partner Abuse?

Women who became involved in clinical partner abuse between ages 24 and 26 years, compared to those who did not (Figure 1), had significantly higher rates at age 18 of major depressive episodes (odds ratio=2.62, 95% CI=1.29–5.33) and marijuana dependence (odds ratio=3.21, 95% CI=1.01–10.19) but not of alcohol dependence (odds ratio=1.27, 95% CI=0.47–3.43) or any anxiety disorder (odds ratio=1.49, 95% CI=0.73–3.02).

Men who became involved in clinical partner abuse, compared to those who did not (Figure 2), had significantly higher rates at age 18 of major depressive episodes (odds ratio=3.02, 95% CI=1.38–6.61), marijuana dependence (odds ratio=5.28, 95% CI=2.39–11.68), alcohol dependence (odds ratio=2.30, 95% CI=1.15–4.62), and any anxiety disorder (odds ratio=2.42, 95% CI=1.17–5.02).

Is Partner Abuse Between Ages 24 and 26 Associated With Psychiatric Disorder at Age 26?

Women who were involved in clinical partner abuse, compared to those who were not (Figure 1), had significantly higher rates at age 26 of major depressive episodes (odds ratio=3.16, 95% CI=1.57–6.36), marijuana dependence (odds ratio=12.84, 95% CI=5.31–31.07), PTSD (odds ratio=9.76, 95% CI=3.89–24.50), and generalized anxiety disorder (odds ratio=4.22, 95% CI=1.68–10.63). They did not differ on alcohol dependence at age 26 (odds ratio=1.78, 95% CI=0.70–4.51). Clinical abuse was significantly associated with a greater number of psychiatric disorders ($\chi^2$=45.46, df=1, p<0.001). Of the women with clinical abuse, 32% (N=12) had two or more diagnoses at age 26 compared to 9% (N=38) of the women without clinical abuse.

Men involved in clinical partner abuse, compared to those who were not (Figure 2), had significantly higher rates at age 26 of marijuana dependence (odds ratio=2.16, 95% CI=0.97–4.80, p=0.053), alcohol dependence (odds ratio=2.28, 95% CI=1.15–4.53), PTSD (odds ratio=3.96, 95% CI=1.22–12.79), and generalized anxiety disorder (odds ratio=3.47, 95% CI=1.22–9.88). They did not differ on major depressive episodes at age 26 (odds ratio=1.86, 95% CI=0.81–4.25). Clinical abuse was significantly associated with a greater number of psychiatric disorders ($\chi^2$=12.46, df=1, p<0.001). Of men with clinical abuse, 27% (N=10) had two or more diagnoses at age 26 compared to 11% (N=48) of the men without clinical abuse.

Does Psychiatric Disorder at Age 18 Show Continuity With Psychiatric Disorder at Age 26?

Among women (Table 1), a diagnosis of a major depressive episode at age 18 doubled the odds of a diagnosis of major depressive episode at age 26 (odds ratio=2.10, 95% CI=1.27–3.49). Significant continuity was also found for marijuana dependence (odds ratio=17.12, 95% CI=6.15–47.71) but not of alcohol dependence (odds ratio=1.04, 95% CI=0.54–2.01). Clinical abuse was significantly associated with a greater number of psychiatric disorders ($\chi^2$=45.46, df=1, p<0.001). Of the women with clinical abuse, 32% (N=12) had two or more diagnoses at age 26 compared to 9% (N=38) of the women without clinical abuse.

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Does Partner Abuse Predict Increases in Psychiatric Disorders at Age 26?

Hierarchical logistic regression models suggest that involvement in a clinically abusive relationship predicted women's risk at age 26 of major depressive episodes, marijuana dependence, and PTSD and marginally predicted generalized anxiety disorder even after we controlled for diagnosis of the same disorder at age 18 and for lifetime conduct disorder (model 3 in Table 1). Involvement in a clinically abusive relationship had no statistically significant effect on the men's odds of psychiatric diagnoses at age 26 after we controlled for a prior history of disorder at age 18 and for lifetime conduct disorder (see model 3 in Table 2).

Conclusions

The present study used a prospective longitudinal birth cohort design, with repeated measures of mental disorder before and after the experience of an abusive relationship, to show that although many young adults who experience abuse had a preexisting psychiatric history, the experience of abuse is associated with a subsequent increase in psychiatric disorder among women but not among men.

The clinical abuse classification used in this research captured features of recurrence, duration, and severity of the abuse, which are thought to mediate the association of partner violence and psychiatric impairment (20). Women in clinically abusive relationships were more likely than men to experience consequences such as depression, marijuana dependence, and especially PTSD. The present pattern of findings lends support to clinical theories proposing that women who are abused by a partner develop mental health problems (20, 33, 34).

In contrast, the association between partner abuse and mental disorders in men appears to reflect their prior psychopathological profile (14, 35–38). All of the men in the clinical abuse group that we studied said they had been victimized and at the same high rate as the women in that group. Thus, although the self-perception of being a victim was held constant across the sexes, the mental health consequences appeared to differ between the sexes. To our knowledge, this is the first study to document that men do not have mental health consequences of partner abuse by studying men parallel to women within the same research design. Numerous studies have documented higher levels of physical injury among female compared to male partners in abusive relationships (39) and greater fear in female partners, even if the abusive relationship is shown to be bidirectional (40–42). The present study extends this important sex difference to the mental health consequences of abuse.

This study has several limitations. First, we relied on self-reports of partner abuse. However, methodological research suggests that it is reasonable to use a single informant's report of partner abuse in a long-standing study such as this in which respondents are motivated to report accurately because they have developed trust in the confidentiality guarantee (43). Second, we compared psychiat-
Fourth, the findings were for young adults rather than adults in general. Still, we consider a focus on this age group should be warranted because violence toward a partner peaks in this age group (45). Fifth, we interviewed study members at age 26 to collect data about their abuse experiences during the prior 3 years. It is possible that individuals who were depressed or anxious at the time of their interview were more likely to recall negative events such as abuse. However, recall of abuse is not merely a function of a respondent’s current mental status, as we have previously documented high interpartner agreement about partner abuse in this cohort (43). Sixth, a question for future research is how partner violence might lead to increased mental disorder, perhaps by a pathway of failed relationships and associated consequences.

The present study suggests that partner abuse is a contributing source of psychiatric disorders among women of child-bearing age. Findings from several longitudinal studies of representative groups also converge to suggest that exposure to domestic violence influences children’s behavioral (5, 46–49) and intellectual functioning (50), even after exclusion of other risks. Our findings add to this knowledge base by designating partner violence as a critical risk for maternal psychiatric disorder, which is, in turn, known to increase the odds of intergenerational transmission of psychopathology (51–53).

Partner abuse should be assessed routinely during psychiatric evaluations. Failure to do so could result in the omission of important etiological information about presenting problems. Clinicians should be prepared to refer patients to appropriate abuse-prevention services when positive cases are detected. If partner abuse is ongoing and is not treated, important opportunities may be missed to improve women’s psychiatric prognosis.

References

3. Andrews JA, Foster SL, Capaldi D, Hops H: Adolescent and family predictors of physical aggression, communication and satis-

Clinical Partner Abuse

John and Jane had been cohabiting for 7 months with their 4-month old son. Since the birth of their son, Jane reported she and John had been arguing increasingly about childcare and household chores, as well as John’s tendency to stay out late drinking with friends in the evening. On four separate occasions, these arguments had escalated to physical violence, with both John and Jane throwing things at one another and shoving each other. One day, when they quarreled while Jane was cooking, John threatened Jane with a kitchen knife. Last month, an argument culminated in John striking Jane’s face with the back of his hand, twisting her arm, and dislocating her shoulder. Jane left with the baby that evening to stay with a friend and sought medical treatment at a local emergency room. John later moved out but has been phoning Jane repeatedly to attempt reconciliation.

Jane has a history of prior depression, and John has a long-standing history of alcohol abuse and antisocial behavior. Jane reported that she has been depressed in the last month because of the dissolution of her relationship and reported symptoms of posttraumatic stress disorder regarding the most recent violent argument with John.

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DOMESTIC VIOLENCE AND PSYCHIATRIC DISORDERS


