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Depression among couples in the United States in the context of intimate partner violence

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Abstract

This paper examines the relationship between intimate partner violence (psychological/physical/sexual aggression) (IPV) and depression. A multi-cluster random household sample of U.S. couples was interviewed in 2000 as part of a five-year national longitudinal study (response rate, 72%). Couples were of White (n = 406), Black (n = 232), Hispanic (n = 387), and mixed (n = 111) ethnicity. Depression was assessed with the CES-D. The multivariate analyses for men showed that the odds of depression did not vary significantly by type of male-to-female (MF) or female-to-male (FM) aggression. Men who engaged in infrequent binge drinking, compared to those who never binged, were less likely to be depressed (OR = 0.30, 95% CI = 0.10–0.94), as were men with greater collective efficacy (OR = .47, 95% CI = 0.28–0.78). For women, the multivariate analysis, showed that FM aggression (physical, and minor and severe psychological) was associated with a greater likelihood of depression (OR = 2.18, 95% CI = 1.04–4.59; OR = 4.57, 95% CI = 1.25–16.62; and OR = 4.33, 95% CI = 1.67–14.81). Exposure to parental violence was also associated with depression (OR = 2.87, 95% CI = 1.22–6.76).

Medical providers should be aware that both psychological and physical aggression is associated with depression in women and that depression can result even if women are the perpetrators rather than the victims of violence. Providers should be attentive and prepared to screen, refer, or treat depression among women involved in violent relationships. Providers should be attentive and prepared to screen, refer or treat depression among women involved in violent relationships.

Keywords

Intimate partner violence; depression

Introduction

Intimate partner violence (IPV) is an important public health problem. According to the National Violence Against Women Survey, approximately 1.5 million American women and 830,000 American men are victimized by an intimate partner each year (Tjaden & Thoennes, 2000). Previous analyses of the data used in the current study have shown the prevalence of male to female partner violence (MFPV) and female to male partner violence (FMPV) to be 13.6% and 18.2% respectively (Schafer, Caetano, & Clark, 1998). The prevalence of IPV has been shown to be higher among Black and Hispanic couples than among White couples (Caetano, Cunradi, Clark, & Schafer, 2000; Caetano, Field, Ramisetty-Mikler, & McGrath, 2005). IPV is also more prevalent among men and women

with alcohol-related problems; however this differs by ethnicity (Caetano, et al., 2000; Cunradi, Caetano, Clark, & Schafer, 1999).

A strong association between IPV and mental distress has been documented by several studies, with the use of both clinical (McCauley, Kern, Kolodner, Derogatis, & Bass, 1998; Pico-Alfonso, 2005; Romito, Molzan Turan, & De Marchi, 2005) and general population samples (Bonomi, et al., 2006; Caetano, Ramisetty-Mikler, & McGrath, 2003; Carbone-López, Kruttschnitt, & Macmillan, 2006). Analyses of 1995 first wave data from the current study, showed that the prevalence of depression among both men and women was higher in the violence versus no violence group (Caetano & Cunradi, 2003). These 1995 data indicated that FMPV but not MFPV was associated with both male and female depression. While this study differentiated between moderate and severe physical aggression, it did not address the relationship between psychological aggression and depression. This is important to consider given the established association between psychological abuse and depressive symptoms (Coker, et al., 2002).

In addition to the association between IPV and depression, a growing body of research indicates that both real and perceived neighborhood factors are associated with both IPV (Miles-Doan & Kelly, 1997), and depression (Caetano & Cunradi, 2003; Galea, et al., 2007; Latkin & Curry, 2003; Matheson, et al., 2006; Yen & Kaplan, 1999). There is literature that indicates that collective efficacy acts as a mediator in the association between neighborhood disadvantage (Browning, 2002) and community violence (Raghavan, Mennerich, Sexton, & James, 2006) and IPV. The concept of collective efficacy was developed by Sampson et al. (1997) and is composed of two concepts: social cohesion and informal social control. Social cohesion represents the ability of neighborhood residents to act in socially cohesive ways. Informal social control is the ability of residents to implement informal social controls that maintain public order thus minimizing crime.

Several studies have also shown that adverse childhood experiences such as having witnessed one's mother being abused, having experienced emotional, physical, or sexual abuse, or having grown up with a problem drinker, alcoholic or drug abuser are associated with mental distress, including recent and lifelong depression and attempted suicide (Anda, et al., 2002; Chapman, et al., 2004; Dube, et al., 2001). These studies have also found an association with alcohol and drug use and mental distress (Anda, et al., 2002; Chapman, et al., 2004; Dube, et al., 2001). These findings are not surprising, given that several major studies have similarly found alcohol to be strongly associated with depression (Hasin, Goodwin, Stinson, & Grant, 2005; Manninen, Poikolainen, Vartiainen, & Laatikainen, 2006; Regier, et al., 1990).

This paper examines the relationship between IPV and depression, while controlling for sociodemographic characteristics as well as additional factors which have been associated with depression in previous studies. These include alcohol related factors (Hasin, et al., 2005; Manninen, et al., 2006; Regier, et al., 1990), childhood exposure to violence (Anda, et al., 2002; Chapman, et al., 2004), and collective efficacy (Caetano & Cunradi, 2003). Importantly, IPV is examined in relation to physical, sexual and psychological aggression, and in addition, both male-to-female (MF) and female-to-male (FM) aggression are examined. It is expected that the results will show that couples reporting IPV will have higher rates of depression than those not reporting IPV. Further, we hypothesize that depression will be highest among couples reporting physical and sexual aggression, followed by those reporting severe psychological aggression and then by couples reporting minor psychological aggression.

Methods

Sample and Data Collection

Subjects (18 years or older) in this study constituted a multistage random probability sample representative of married and cohabiting couples in 48 contiguous United States. In 1995, a total of 1,635 couples out of 1,925 eligible couples completed the interview for a response rate of 85%. Black and Hispanic couples were over sampled. In 2000, those couples previously interviewed were re-contacted to participate in the five-year follow-up. Interviews were successfully completed with 1,392 couples, or 72% of the original eligible couples (1,925) from 1995. Among these couples, 1,136 were still married or cohabitating with the same partner (intact) as during the baseline 1995 interview and it is these couples on which the analyses are based. Couples that had broken up between the 1995 and 2000 interviews were excluded from the analysis ($n=191$), as were couples in which one of the partners had died ($n=65$).

The Committee for the Protection of Human Subjects of the University of Texas Houston Health Science Center approved this study. All subjects signed a written informed consent before being interviewed. In both 1995 and 2000, face-to-face interviews (either in Spanish or English) were conducted in respondents' homes with standardized questionnaires. Members of the couple were always interviewed separately. This methodology has been identified as leading to more accurate identification of IPV than methods that rely on one person's report (Schafer, et al., 1998; Szinovacz & Egley, 1995). Interviews in which this independence appeared to be compromised were discarded ($n=20$).

Non-Response Analysis

No data are available to describe couples who were not interviewed in 1995. Details of the non-response analysis for 2000 are described elsewhere (Caetano, et al., 2003). Couples who were lost to follow up did not have higher rates of violence than those who were successfully followed in 2000. Non-response was not associated with ethnicity, education, income, marital status, alcohol consumption, drinking problems, or a history of observed violence between parents. Men who were under age 30 or unemployed, and women who were age 40–49 or who did not report being victimized by violence during their childhood, were more likely than others to be lost to follow-up.

Measurements

Depression (outcome variable)—Self-reported past-week depressive symptomatology was assessed using the 20-item Center for Epidemiologic Studies Scale (CES-D) (Radloff, 1977). This scale has been widely used as a measure of depressive symptomatology in epidemiologic research and as an initial screening tool for clinical depression in community-based samples. The scale has a high level of internal consistency and a good level of agreement between the cut-off point of 16 or more symptoms and a clinical diagnosis of depression (Radloff & Locke, 1986). For this paper, depression for both men and women was analyzed primarily as a dichotomous variable (no depression=0, depression=1); however mean scores are compared in relation to level of MF and FM aggression. The scale's reliability for use with these data was good (Cronbach α , .88 and .90 and Guttman split-half method, .79 and .84 for the male and female depression scales respectively).

Physical, sexual and psychological aggression—This variable was developed from the Revised Conflict Tactics Scale (Straus, 1990). Couples were asked about the occurrence of aggressive behaviors perpetrated by them and by their partners, during the past year. Both minor and major acts of physical aggression were combined due to the small number who reported severe aggression. These items included the following: threw something that could

hurt; twisted arm or hair; pushed or shoved; grabbed; slapped; kicked; punched or hit with something that could hurt; choked; slammed against wall; beat up; burned or scalded; used a knife or gun. Sexual aggression was assessed with the following: forced sex through threats; forced sex by hitting, holding down, or using weapon; forced oral or anal sex through threats; forced oral or anal sex by hitting, holding down, or using weapon. Psychological aggression was measured in relation to both minor (insulted or swore; shouted or yelled; stomped away during an argument; did something to spite) and severe (called ugly; destroyed belongings; accused of being a lousy lover; threatened to hit or throw something) aggression. MF and FM abuse variables were computed based on the gender of the perpetrator. Aggression was considered present when at least one member of the couple reported an aggressive incident, not necessarily corroborated by the other. Based on the positive responses to these items, a five-level variable was computed: 1) those who reported no psychological, sexual, or physical aggression (reference group); 2) those who reported minor psychological aggression only; 3) those who reported severe psychological aggression; 4) those who reported physical aggression; and 5) those who reported sexual aggression.

Alcohol variables—Binge Drinking. This four-level variable used combined data on the quantity and frequency of drinking any alcoholic beverage (beer, wine, and liquor) to estimate the frequency of times that five or more drinks were consumed during a single occasion. Respondents were first asked to consider the previous 12 months and to report how often they drank beer, wine, and liquor (3 or more times per day; twice per day; once per day; nearly every day; 3–4 times per week; 1–2 times per week; 2–3 times per month; about once a month; less than once a month but at least once per year; less than once per year; and never in the past year). This, in combination with how often they drank five or more of these drinks (nearly every time; more than half the time; less than half the time; once in a while; and never) allowed for the categorization of respondents by their frequency of binge drinking: 1) not in the past year/abstainers (reference group); 2) less than once per month; 3) one to three times a month; and 4) four or more times per month. Alcohol problems. Respondents were asked to report whether or not they had experienced social and alcohol dependence related problems within the previous 12 months (see Hilton, 1991). Problems in 14 specific areas were addressed with 27 questions: salience of drinking; impaired control; withdrawal; relief drinking; tolerance; binge drinking; belligerence; accidents; health-related problems; work-related problems; financial problems; problems with the police; problems with the spouse; and problems with persons other than the spouse. Respondents were divided into two groups: those who reported any problem versus those who reported no problems (reference group).

Childhood exposure to violence—Because of the established association between exposure to violence as a child and depression (Bensley, Van Eenwyk, & Simmons, 2003), both childhood victimization and exposure to parental violence were included in the analysis. Childhood violence victimization. Respondents were asked whether or not they had been hit with something, beaten up, choked, burned or scalded, threatened with a knife or gun, or had a knife or gun used against them by a parent or caregiver during their childhood or adolescence. Those reporting no history of these forms of victimization served as the reference group. Exposure to violence between parents. Respondents indicated whether they had very often, often, sometimes, or never observed threats of or actual violence between their parents or guardians during their childhood or adolescence. A dichotomous variable was created by combining responses of very often, often, sometimes versus never. Those reporting no history of such violence served as the reference group.

Neighborhood factors—Collective efficacy was measured using an additive scale that addressed perceptions of social cohesion and social control in one's neighborhood. The scale included five items which addressed social cohesion and five items that addressed social control. Social cohesion was assessed by asking respondents to indicate on a five-item Likert-type scale how strongly they agreed (strongly agree, agree, neither agree nor disagree, disagree, strongly disagree) with the following statements: "people around here are willing to help their neighbors;" "this is a close-knit neighborhood;" "people in this neighborhood can be trusted;" "people in this neighborhood generally don't get along with each other;" and "people in this neighborhood do not share the same values." For social control, respondents were asked to indicate the likelihood (very likely, likely, neither likely nor unlikely, unlikely, or very unlikely) that neighbors would intervene if: children skipped school; children spray-painted graffiti; children were disrespectful toward adults; fights broke out in front of their house; and the fire station was closed due to budget cuts. These together are termed "collective efficacy" (Sampson, et al., 1997). Mean social cohesion scores for both men and women were 3.8, SE=.02. The scale's reliability for use with these data was good (Cronbach's α , .83 and .94 and Guttman split-half method, .58 and .57 for the male and female social equity scales respectively).

Sociodemographic variables—Ethnicity: This was based on self-identification. Couples were grouped in relation to whether or not each partner shared the same ethnic identification and were categorized as follows: Black couples; Hispanic couples; White couples (reference group); and mixed ethnicity couples. Age: The age of respondents was measured continuously in years. Couples were classified as either married (reference group) or cohabiting. Education: Respondents were asked about the highest grade or year in school that had been completed and were categorized into three groups: 1) those with less than a high school education; 2) those with a high school diploma or GED (general equivalency diploma); and 3) those with more than a high school education (college, college or professional degree, or vocational training). This last group served as the reference category. Employment: Male respondents were categorized as those who were unemployed (unemployed or laid off and looking for work, unemployed and not looking for work, never worked for pay, and other (disabled, in school, volunteer, in job training)), retired and employed either full-time, part-time, or self-employed (reference group). Female respondents were categorized into 3 employment categories: homemaker, unemployed; and employed (reference group).

Data Analysis

To take into account the multistage, multicluster design used in the survey sampling frame, all analyses were conducted with the Software for Survey Data Analysis (SUDAAN) (Research Triangle Institute, 2005). Analyses were conducted on data weighted to correct for unequal probabilities of selection into the sample. In addition, a post-stratification weight was applied, which corrects for non-response and adjusts the sample to known population distributions on certain demographic variables (e.g., education, age, ethnicity, and gender).

For bivariate analyses, t-tests were performed to detect statistically significant associations between the MF and FM aggression variables and mean depression scores. In addition, chi-square tests were performed to detect statistically significant associations between the outcome variable, depression and MF aggression, FM aggression, alcohol variables and other covariates. Logistic regression analyses were performed separately for depression in men and women and included the variables of interest (MF aggression and FM aggression variables), as well as alcohol variables (binge drinking and alcohol problems), exposure to violence variables (childhood abuse and exposure to parental violence), collective efficacy, and sociodemographic variables (ethnicity, age, education, and employment status). All

these predictors were entered at the same time in the regression models. All analyses were conducted on weighted data, but in all tables, unweighted Ns are reported.

Results

Sample Characteristics

Of the total 1,136 couples, just over one third were white, approximately another third were Hispanic, one-fifth were Black, and the remaining were of another ethnicity or the couple was of mixed ethnicity (Table 1). Most of the couples were married (versus cohabitating) and had relationships lasting ten or more years. The average relationship length was 25.2 years ($SE=0.85$ (data not shown)). Men in this sample were slightly older (mean age of 52 years, $SE=0.83$) compared to women (mean age 50 years, $SE=0.8$) (data not shown). Close to half of the couples had total annual household incomes of $\geq \$40,000$. The majority of men and women had at least a high school diploma. Nearly two-thirds of women and over three-quarters of men were employed at the time they were interviewed.

Mean CES-D Scores in Relation to Aggression

The mean depression score for men was 5.70 ($SE=0.29$) and for women it was 6.77 ($SE=0.28$) (data not shown). The mean depression scores for men involved in relationships with MF aggression increased significantly with each level of aggression in a stepwise fashion (Table 2). For men in relationships with FM aggression, the mean depression scores significantly differed between those in relationships with severe psychological FM aggression and physical FM aggression (both compared to the mean score for men in non-aggressive relationships). A pattern similar to that of men existed for women in relation to mean depression scores and the levels of MF aggression. Among women in relationships with FM aggression, the mean depression scores significantly differed between those in relationships with severe psychological FM aggression and physical FM aggression (both compared to the mean scores for women in non-aggressive relationships).

Depression in Relation to Aggression, Alcohol, and Childhood Exposure to Violence

Eight percent of the men and 11% of the women had CES-D scores of 16 or greater. Using this score to assess the prevalence of depression among men showed that the rates of depression did not vary significantly in relation to MF or FM aggression (Table 3). Among women, however, the rates of depression varied significantly in relation to both MF and FM psychological and physical aggression. For each category of aggression, a higher prevalence of depression was seen than in the no aggression groups. A higher prevalence of depression was also seen among women, but not men, who had been victimized by violence as a child, as well as among those who had observed parental threats of, or actual violence.

Logistic Regression Models

The logistic regression analyses for men showed that the likelihood of depression did not vary significantly by the type of MF or FM aggression (Table 4). Alcohol consumption, however, was associated with depressive symptomatology. Men who engaged in binge drinking less than once a month were less likely to experience depressive symptoms in comparison to those who did not drink or those who drank, but never engaged in binge drinking. In addition, as collective efficacy increased, the likelihood of depression decreased. None of the other study variables were significantly associated with depression for men.

For women, MF aggression was not associated with depression, however, FM aggression was. Both minor and severe psychological FM aggression, as well as physical FM aggression was associated with a greater likelihood of depression, whereas there was no

association between FM sexual aggression and depression. For women, exposure to parental violence was associated with a greater likelihood of depression. None of the other study variables were associated with depression.

Discussion

It was expected that couples reporting IPV would have higher rates of depression than those not reporting IPV and that depression would be highest among couples reporting physical and sexual aggression, followed by those reporting severe psychological aggression and then by couples reporting minor psychological aggression. The results of the bivariate analysis confirmed this expectation. The rates of depression among individuals involved in relationships with severe psychological and physical aggression were elevated, especially for women, regardless of whether they were involved in MF or FM aggression. The mean CES-D scores for both men and women also increased in a stepwise fashion as the level of aggression became more severe. The extent to which the presence of depressive symptoms, may lead to clinically diagnosable depression is unclear. Evidence suggests, however, that mild to moderate depression is a risk factor for major depression and should therefore be targeted for preventive intervention and treatment (Keller, 1994; Kessler, et al., 2003).

Among men, the bivariate analysis showed an association between childhood abuse and depression; however, this association became non-significant in the logistic regression analysis. The logistic regression analyses showed that among men, infrequent binge drinking of less than once per month in comparison to no binge drinking was associated with a decreased likelihood of depression. It is possible that infrequent binge drinking served as a means to moderate the likelihood of depression (Hill & Angel, 2005). Surprisingly, men who binge drink one or more times per month (i.e. one to three times and four or more times per month) were not at increased risk for depression. There was no association, however, between drinking and depression among women. Also surprisingly, the presence of alcohol problems was not associated with depression among either men or women. This is in contrast to much of the existing literature and is most likely due to the fact that these analyses utilize data from the general population rather than clinical samples (Brennan, Moos, & Mertens, 1994; Brown & Schuckit, 1988; Charney, Paraherakis, Negrete, & Gill, 1998). In general population samples, in contrast to clinical samples, subjects report less drinking, fewer and less severe alcohol problems, and less severe depression, which most probably affects the association between these variables.

The logistic regression analysis also showed that collective efficacy was associated with depression. This finding is in accordance with previous findings in this area (Hadly-Ives, Stiffman, Elze, Johnson, & Dore, 2000; Latkin & Curry, 2003; Ross, 2000). It is possible that the daily stress associated with living in a neighborhood with low collective efficacy could lead to depressive symptomatology (Ross, 2000). These findings were only significant for men, and could be due to the differences in the nature and size of social support systems between men and women (G. Moore, 1990; Munch, McPherson, & Smith-Lovin, 1997). Such support may serve to buffer the effects of low collective efficacy. Latkin and Curry (2003), however did not find social support to have a mediating effect on depression.

The bivariate analysis for women showed that depression was associated with MF and FM aggression. In the logistic regression analysis, however, after controlling for the effects of other variables, the presence of FM, but not MF aggression was associated with depression. Particularly, FM psychological (both minor and severe) and physical aggression increased the likelihood of depression. Interestingly, women in relationships with FM sexual aggression did not have a significantly increased likelihood of being depressed. Women exhibiting minor psychological FM aggression, however, were approximately twice as likely

to be depressed in comparison to their counterparts in non-aggressive relationships. More dramatically, the presence of FM severe psychological and physical aggression was associated with an elevation in the risk of depression that was nearly five times greater than that found among women in non-aggressive relationships. Because of the cross-sectional design of this study, however, it is not possible to determine whether depression is antecedent to or a consequence of FM aggression.

It is interesting that women in relationships with MF psychological, physical, and sexual aggression were not at increased risk of being depressed. Previous analyses of the first wave (collected in 1995) of these data also showed that FMPV, but not MFPV was associated with an increased likelihood of depression (Caetano & Cunradi, 2003). It has been suggested that the relationship of FM aggression with depression may be caused by a conflict of role expectations, i.e., that the expected nurturing role of women is in conflict with an aggressive role (Caetano & Cunradi, 2003).

The finding of an association between exposure to parental violence as a child and depression among women is consistent with existing literature (Anda, et al., 2002; Bensley, et al., 2003; Chapman, et al., 2004). Data from the 2003 National Survey of Children's Health indicate that exposure to violence among household members is not rare among children in the US population, with 10.3% reporting exposure to violent disagreements (i.e. family members hit or throw things) and 31.5% reporting exposure to heated disagreements (i.e. family members argue heatedly or shout) (C. G. Moore, Probst, Tompkins, Cuffe, & Martin, 2007).

This study did not find an association between ethnicity and depression among men or women. This is in contrast to the findings of Caetano and Cunradi (Caetano & Cunradi, 2003). Their analyses of the first (1995) wave of these data found that Black and Hispanic men were less likely to experience symptoms of depression than their White counterparts. There was, however, no statistically significant effect among women. The differences between these findings may be due to the fact that the first wave of data included a total of 1635 couples, whereas these analyses of the 2000 wave of data included 1136 intact couples. In addition, the outcome measure of IPV in the 1995 analysis included only physical violence, whereas these analyses examined both minor and severe psychological aggression as well.

This study has several methodological strengths. First, couples were selected at random from the general population, which allows results to be generalized to all couples in the U.S. Second, bilingual interviewers were employed, allowing for the inclusion of Spanish-speakers in the Hispanic population. Third, it is based on reports from both partners, probably resulting in more valid estimates of spousal violence (Stets & Straus, 1990; Szinovacz & Egley, 1995). In addition, data were collected during face-to-face interviews, which allows for the collection of more detailed and complex data.

While one of the strengths of this study is the face-to-face interview format, it may be a possible limitation as well, since respondents may have felt inhibited about reporting events associated with IPV. The reporting of IPV has also been shown to vary by gender. For example, women have been found to be more likely to report acts of FMPV, whereas men are less likely to report FMPV (Caetano, Schafer, Field, & Nelson, 2002). Men may under-report FMPV because they are reluctant to admit to being victimized by women (Szinovacz & Egley, 1995). Men are also more likely to under-report MFPV (Caetano, et al., 2002). If as has been suggested, that FMPV is a defensive response to male initiated MFPV (Saunders, 1986; Stets & Straus, 1990), then men as the initiators of aggression may be

more likely to under-report perpetration. Women may, in turn, under-report MFPV because of fear of reprisal (Caetano, et al., 2002).

An additional limitation is that these analyses focus on intact couples. This may bias results since couples who may have separated because of violence were excluded. Other limitations of the study include its cross-sectional design which does not allow for causal inferences. The use of sexual, psychological and physical aggression as a “predictor” of depression is not meant to imply a temporal order or a causal association between violence and depression. The identification of depression with the CES-D is not based on clinical criteria. However, data show a good level of agreement between the cut-off point of 16 or more and a clinical diagnosis of depression (Radloff & Locke, 1986; Weissman, Sholomskas, Pottenger, Prusoff, & Locke, 1977).

Future research on this topic should take advantage of longitudinal designs, which allow for causal inference. These designs will also lead to better insights on the relationship between psychological and physical aggression and depression, by allowing researchers to study the progression of these phenomena from less to more severe and their relationship in time. This future research, however, should continue to be couple-based, that is, both members of the dyad and not one member only should be interviewed.

These findings have important implications for clinical practice. Medical providers who work with women should be aware that psychological as well as physical aggression is associated with depression. In addition, awareness that women experience depression as a result of IPV, regardless of whether they are the perpetrator or the victim of IPV, is important so that providers can be prepared to screen, refer or treat depression among such women.

Abbreviations

IPV	intimate partner violence
MFPV	male-to-female partner violence
FMPV	female-to-male partner violence
MF	male-to-female
FM	female-to-male
CES-D	Center for Epidemiologic Studies Depression Scale
OR	odds ratio
CI	confidence interval

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Table 1

Selected Sample Characteristics (n=1136 couples).

	<u>Couple % (n)</u>		
Ethnicity			
White	36 (406)		
Black	20 (232)		
Hispanic	34 (387)		
Other/Mixed	10 (111)		
Marital Status			
Married	97 (1019)		
Cohabiting	3 (60)		
Length of Relationship			
≤10 years	24 (368)		
10 to < 20 years	33 (370)		
20 to < 30 years	20 (228)		
30 to < 40 years	10 (113)		
≥ 40 years	12 (153)		
Annual Household Income			
< \$10,000	7 (73)		
\$10,000–\$19,999	16 (176)		
\$20,000–\$29,999	14 (151)		
\$30,000–\$39,999	15 (163)		
≥ \$40,000	48 (509)		
		<u>Men % (n)</u>	<u>Women % (n)</u>
Level of Education			
< High school		30 (323)	25 (275)
High school graduate		33 (355)	34 (370)
Some collage/collage graduate		37 (390)	40 (438)
Employment Status			
Unemployed		8 (86)	6 (69)
Retired		14 (152)	9 (96)
Homemaker			23 (253)
Employed		78 (841)	62 (692)

Table 2

Mean Level of Depression by Level of Aggression for Men and Women

<u>Men</u>		
	Mean Depression Score (se) *	p[†] value
Partner Aggression		
Male to female aggression (N)		
No Aggression (228)	4.21 (0.45)	
Minor psychological only (436)	5.57 (0.37)	.01
Severe psychological (104)	6.78 (1.21)	.05
Physical (107)	6.55 (0.66)	.003
Sexual (177)	8.18 (0.79)	<.0001
Female to male aggression (N)		
No Aggression (241)	4.64 (0.51)	
Minor psychological only (451)	5.57 (0.38)	.11
Severe psychological (110)	7.43 (0.87)	.01
Physical (135)	6.05 (0.52)	.09
Sexual (115)	8.87 (1.02)	.0001
<u>Women</u>		
	Mean Depression Score (se)	p value
Partner Aggression		
Male to female aggression (N)		
No aggression (228)	5.23 (0.53)	
Minor psychological only (436)	6.77 (0.41)	.03
Severe psychological (109)	8.20 (1.30)	.02
Physical (109)	6.67 (0.81)	.08
Sexual (181)	9.16 (0.76)	.0001
Female to male aggression (N)		
No Aggression (241)	5.14 (0.61)	
Minor psychological only (451)	6.57 (0.40)	.08
Severe psychological (112)	8.53 (1.31)	.02
Physical (139)	9.05 (1.03)	.0005
Sexual (119)	9.42 (0.95)	.0001

Note: Mean depression scores are compared to the "no aggression" group.

*
se=standard error

†
Student t-test

Table 3

Prevalence of Male and Female Depression by Selected Variables (N=1136 couples)

	Men % Depressed	χ^2	Women % Depressed	χ^2
Partner Aggression				
Male to female aggression (N)				
No Aggression (228)	8.04	1.75	3.65	20.35 [‡]
Minor psychological only (436)	6.89		12.18	
Severe psychological (104)	11.21		17.62	
Physical (107)	8.42		5.63	
Sexual (177)	9.79		21.74	
Female to male aggression (N)				
No Aggression (241)	7.98	1.21	4.56	17.09 [‡]
Minor psychological only (451)	7.46		11.01	
Severe psychological (110)	9.15		18.33	
Physical (135)	7.12		18.27	
Sexual (115)	11.84		19.50	
Alcohol Variables				
Binge drinking (N)				
Not in the past year (711)	8.23	2.71	11.01	1.15
Less than once per month (117)	4.66		15.18	
1 – 3 times per month (94)	4.73		30.06	
4 or more times per month (156)	9.56		13.64	
Alcohol problems (N)				
No (928)	7.71	0.09	11.06	2.24
Yes (150)	8.75		24.80	
Violence Exposure				
Childhood abuse (N)				
No (312)	7.63	0.02	8.45	4.12 [*]
Yes (756)	8.05		14.25	
Exposure to parental violence (N)				
No (677)	7.01	1.32	9.05	5.33 [*]
Yes (380)	10.40		19.29	

Note: percentages are weighted and numbers in parenthesis are unweighted Ns.

*
p , .05‡
p ≤ .01,‡
p ≤ .001.

Table 4

Multiple Logistic Regression Models of the Association between Depression and Selected Variables¹ for Men and Women (n=1040 couples)

	<u>Men</u>		<u>Women</u>	
	OR²	95% CI³	OR	95% CI
Ethnicity (reference: White)				
Black	0.58	0.25, 1.36	0.83	0.44, 1.56
Hispanic	0.59	0.24, 1.41	0.91	0.48, 1.70
Other/Mixed	0.61	0.19, 1.95	1.20	0.39, 3.64
Male to female aggression (reference: No aggression)				
Minor psychological only	0.88	0.14, 5.37	0.71	0.35, 1.44
Severe psychological	1.35	0.16, 11.68	0.43	0.11, 1.59
Physical	1.83	0.19, 17.48	0.45	0.09, 2.21
Sexual	1.11	0.12, 10.65	1.17	0.44, 3.18
Female to male aggression (reference: No aggression)				
Minor psychological only	1.13	0.17, 7.57	2.18 ⁴	1.04, 4.59
Severe psychological	0.77	0.08, 7.60	4.57 ⁴	1.25, 16.62
Physical	0.56	0.05, 6.62	4.33 ⁴	1.67, 14.81
Sexual	1.42	0.07, 27.91	1.33	0.39, 4.48
Binge drinking (reference: Not in the past year)				
Less than once per month	0.30 ⁴	0.10, 0.94	0.64	0.04, 10.77
1 – 3 times per month	0.56	0.14, 2.25	1.12	0.18, 7.05
4 or more times per month	1.07	0.32, 3.56	1.68	0.56, 5.09
Alcohol problems (reference: No problems)				
One or more	1.61	0.60, 4.31	0.83	0.08, 9.06
Childhood abuse (reference: No abuse)				
Yes	1.08	0.38, 3.06	0.91	0.47, 1.75
Exposure to parental violence (reference: No exposure)				
Yes	1.26	0.62, 2.56	2.87 ⁴	1.22, 6.76
Collective efficacy (continuous)	0.47 ⁵	0.28, 0.78	0.67	0.37, 1.19

Note: All data are weighted

¹ Controlling for age, education, employment status, and marital status.

² OR=odds ratio

³ CI=confidence interval

⁴ p < .05,

⁵ p < .01