

# Dating Violence Victimization, Relationship Satisfaction, Mental Health Problems, and Acceptability of Violence: A Comparison of Men and Women

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**Abstract** Two of the most common reported consequences of dating violence are its impact on the victim's satisfaction with their romantic relationship and its impact on the victim's mental health. Recent research suggests that the strength of these relationships may be moderated by the degree to which the dating violence is acceptable to the victim. However, studies of these relationships have been limited to samples of women. The purpose of the present research was to examine the relationships among dating violence victimization, relationship satisfaction, mental health problems, and acceptability of violence for a sample that includes not only female victims, but also male victims. Using a sample of 155 male and 417 female college students, hierarchical regression analyses found that dating violence victimization is associated with relationship satisfaction and mental health problems for both men and women. For men, acceptability of violence moderated the relationship between dating violence victimization and the mental health problems of depression, anxiety, and somatization. For women, acceptability of violence moderated the relationship between dating violence victimization and relationship satisfaction only.

**Keywords** Dating violence · Gender · Relationship satisfaction · Mental health

## Introduction

In the last decade, violence in dating relationships has become recognized as a major social problem. In one of the

first studies of dating violence nearly one third of dating couples reported at least one violent episode in their relationship (Sugarman and Hotaling 1989). In another study, nearly two thirds of individuals interviewed personally knew of someone who had been the victim of violence in their dating relationship (Makepeace 1981). More recent estimates suggest that anywhere from 20% (Harned 2002) to 47% (Katz et al. 2002) of men and women were victims of violence perpetrated by their dating partner. Recent research suggests that dating relationships may be even more violent than marital relationships (Straus 2004). As a result of this growing awareness and concern, dating violence victimization and its consequences have become an important focus in the family violence literature.

One major consequence of dating violence is its effect on victims' satisfaction with their relationships with their abusers. Relationship satisfaction typically refers to the extent that an individual feels positively about his or her relationship and partner (Rusbult et al. 1998) and was first focused on in studies of marital violence. However, studies of dating violence have found that the effects of dating violence victimization on relationship satisfaction are consistent with those found in the marital violence literature, with dating violence victims also reporting lower levels of relationship satisfaction (Cramer 2003; Dye and Eckhardt 2000; Weigel and Ballard-Reisch 2002).

Another major consequence of dating violence is its impact on the mental health of its victims. While mental health encompasses a variety of symptoms and types, most of the focus of the mental health effects of violence victimization centers around depression, anxiety, and somatic mental health effects (Coker et al. 2002; Golding 1999; Sutherland et al. 2001; Whitson and El-Sheikh 2003). Research has consistently found that victims of dating violence report more mental health problems than non-

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victims (Carlson et al. 2003; Dye and Eckhardt 2000; Goodkind et al. 2003).

An important moderator of the influence of dating violence on the victim's relationship satisfaction and mental health may be the victim's acceptability of the violence. In one of the few studies focusing on the influence of a closely related variable, negative beliefs about violence, victims who had fewer negative beliefs about violence in their relationship did not suffer as many mental health problems as victims who had more negative beliefs (Jackson et al. 2000). It seems plausible that acceptability of violence may weaken the influence of dating violence victimization on relationship satisfaction as well.

Bringing these studies together, this body of work suggests that relationship satisfaction and mental health may be negatively influenced by dating violence victimization and moderated by the victim's acceptability of the violence. However, this research has focused almost exclusively on female victims, yet studies show that men are victims of dating violence as well (Harned 2002; Katz et al. 2002). Unfortunately, most of this research is limited to studies of its prevalence and understanding how often men are the victims of relationship violence. Very little research is available that examines the consequences of dating violence for male victims. Thus, in the present study, the influence of dating violence on the relationship satisfaction and mental health of its victims, along with the possible moderating effects of acceptability of violence, were examined for both female and male victims of dating violence. It was proposed that dating violence victimization would be negatively related to relationship satisfaction and mental health for both males and females, with a stronger relationship for female victims. It was further proposed that acceptability of violence would influence these relationships, with this effect stronger for female victims than male victims.

### Dating Violence Victimization

As noted above, dating violence victimization has become recognized as a widespread social problem. Dating violence victimization includes being the recipient of a partner's violent acts. These physical attacks range from minor acts such as slapping or pushing to major acts such as punching, kicking, or using a weapon (Capaldi and Crosby 1997). Other forms of violence include verbal acts such as name-calling and/or psychological acts such as threatening or destruction of property (Straus et al. 1996). According to the Center for Disease Control and Prevention, victims of violence are those whose partners have intentionally used force against them with the potential to cause harm, injury,

disability, or death (Smith et al. 2002). Thus, in the present study we focus on dating violence victimization that is not only physical, but also verbal and psychological abuse.

### Consequences of Dating Violence Victimization

A number of consequences of dating violence victimization have been identified. These include increases in physical injuries (Simonelli and Ingram 1998), mental health problems (Carlson et al. 2002; Kasian and Painter 1992; Simonelli and Ingram 1998), levels of anger (Jackson et al. 2000) and fear (Fischbach and Herbert 1997) as well as decreases in self-esteem (Simonelli and Ingram 1998), and relationship satisfaction (Rusbult et al. 1998). In this study, we concentrate on two of these consequences of dating violence victimization relationship satisfaction and mental health problems.

#### Relationship Satisfaction

Studies have found that dating violence victimization is significantly related to relationship satisfaction, with higher levels of dating violence associated with lower levels of victims' satisfaction with their relationships with their abusers (e.g., Capaldi and Crosby 1997; Cramer 2003; Testa and Leonard 2001). These findings have been based on the interdependence and social exchange theory-based ideas of rewards and costs. Using these frameworks, this work postulates that violence between partners is experienced as a significant cost to being in the relationship and negatively impacts the level of relationship satisfaction of the person being victimized (Capaldi and Crosby 1997; Cramer 2003; Kasian and Painter 1992; Kurdek 1994; Testa and Leonard 2001).

#### Mental Health Problems

Another important consequence of dating violence victimization is its impact on the victim's mental health. Research has consistently shown that dating violence victimization is negatively related to mental health. The relationship between dating violence victimization and mental health has been addressed by social strain theory which states that not only do unfulfilling relationships impede the well-being of the relationship partners, a relationship in which violence is present may actually harm the well-being of its partners (Whitson and El-Sheikh 2003). While mental health encompasses a variety of symptoms and types, most of the focus of the mental health effects of violence victimization is on three symptoms—depression, anxiety, and somatic health effects (e.g. Whitson and El-Sheikh 2003).

Of these health outcomes, the most commonly reported mental health problem is depression (e.g., Goodkind et al. 2003; Riger et al. 2002). Carlson et al. (2003) report that victims of violence are more than four times as likely to report depression than nonvictims of violence. Other studies have also found that victims of dating violence report high rates of depression, ranging from 39% (Beach et al. 1985) to 83% (Campbell et al. 1995). Indeed, a meta-analysis of 18 studies of victims of violence revealed that 48% of victims reported depression, thus showing the major impact dating violence victimization has on individual's depression (Golding 1999).

The second mental health problem most commonly studied is anxiety. Research has consistently shown that victims of dating violence report higher levels of anxiety than nonvictims. For instance, Cascardi et al. (1995), who examined college students victimized in their dating relationships, found that 10% reported significant anxiety levels. Carlson et al. (2002) found that over one quarter of the dating violence victims in their study had experienced significant levels of anxiety. Callahan et al. (2003) found similar results in their study of high school students, with victims of dating violence reporting significantly more anxiety than nonvictims.

The third mental health problem commonly associated with dating violence victimization is somatic mental health symptoms. Such symptoms typically include changes in weight, upset stomachs, headaches, and nervousness or dizziness (e.g. Coker et al. 2002). Lown and Vega (2001) found that victims of dating violence were significantly more likely to report one or more of these somatic symptoms than nonvictims. Similar results were obtained in a study of female victims by Sutherland et al. (2001), who found that one in four victims of violence reported at least one somatic health symptom (Sutherland et al. 2001). Somatic symptoms tend to overlap with depressive and anxiety symptoms, with victims of dating violence reporting depression and anxiety also reporting more somatic symptoms. For example, Kimerling and Calhoun (1994) found that psychological distress and somatic complaints frequently overlapped with depression and anxiety symptoms in rape victims. Straight et al. (2003) found similar results in female victims who experienced psychological violence.

### Acceptability of Dating Violence

Although substantial research shows that dating violence victimization has a significant impact on a person's relationship satisfaction and mental health, little is known about factors that might moderate this relationship. One

potentially important variable is the acceptability of dating violence to the victim. The term acceptability of violence is equated with one's attitudes, justifications, or tolerance for violence (Foshee et al. 1992; O'Keefe and Treister 1998). Roscoe (1985), stated that acceptability of violence is a reflection of how appropriate or inappropriate violence is, as prescribed by the social norms. For example, certain situations which call for violence, such as war or self-defense may be justified by social norms, whereas situations including the family or a romantic relationship with an intimate partner may be situations in which violence is much less justified or accepted.

However, very few researchers have examined the influence of acceptability of violence on the relationships between dating violence victimization and mental health problems and dating violence victimization and relationship satisfaction. In fact, only one article was found that examined the effects of acceptability of violence on the relationship between mental health problems and dating violence victimization. Jackson et al. (2000) found a negative association between the level of acceptability of violence and the level of mental health problems resulting from victimization. That is, if a person is the victim of dating violence but is more accepting of that violence, their mental health may not suffer as many negative effects as a person who is the victim of violence but is less accepting of that violence. A careful review of the literature uncovered no research about possible moderating effects of acceptability of violence on the relationship between dating violence victimization and relationship satisfaction. However, in parallel with the research on mental health, it could be argued that victims who are more accepting of the dating violence they experience may experience higher levels of relationship satisfaction than victims who are less accepting of its use. This is based on the logic that an individual who accepts the use of violence in a dating relationship would not consider their victimization as deviant and as negative as someone less accepting of violence (Capaldi and Crosby 1997).

### Gender

#### Dating Violence Victimization

Traditionally, only women have been considered to be victims of dating violence perpetrated by abusive male partners (Dobash et al. 1992). However, more recent research suggests that men are equally likely to be the victims of dating violence (Simonelli and Ingram 1998). Other research suggests that men may actually experience more victimization than women (Jeziel et al. 1996; Katz et al.

2002). Despite the increasing number of studies showing that prevalence rates of dating violence victimization of men are substantial, few have directly examined the differences between dating violence victimization for men and women together in one study.

### Relationship Satisfaction

Dating violence victimization has been found to have a strong influence on relationship satisfaction (see review above). However, this research has focused primarily on female victims of dating violence. Female victims report significantly lower relationship satisfaction scores than do women who are not victims of dating violence (Katz et al. 2002; Rusbult et al. 1998). This emphasis on female victims has overshadowed the fact that male victims of dating violence may suffer similar decreases in relationship satisfaction (Capaldi and Crosby 1997; Dye and Eckhardt 2000). Once again, no direct comparisons of the effects of dating violence victimization on relationship satisfaction for men and women have been performed.

### Mental Health Problems

Research on the mental health problems that result from dating violence victimization has also focused primarily on women (Abel 2001; Campbell and Lewandowski 1997; Campbell and Soeken 1999; Clements et al. 2004; Howard and Wang 2003). However, other research suggests that the mental health effects of dating violence victimization may be damaging for men as well (Dye and Eckhardt 2000; McFarlane et al. 2000; Simonelli and Ingram 1998). While these researchers argue that men suffer from negative mental health effects associated with dating violence victimization, it is still accepted that the mental health of women may be more affected by dating violence victimization than that of men (Jackson et al. 2000).

### Acceptability of Violence and the Consequences of Dating Violence Victimization

As noted previously, research on the moderating effects of acceptability of violence on the consequences of dating violence victimization is sparse. Even less is available about potential gender differences in these relationships. In the only study obtained reporting gender differences in the influence of acceptability of violence, significant differences were found in the mental health impact of dating violence victimization for males and females (Jackson et al. 2000). In their study females suffered more severe mental health consequences as a result of their victimization than did males. The authors attributed these dissimilarities to gender differences in the interpretation of the violent

events. Male victims of dating violence were more likely to report feeling “okay” with the violence and were more accepting of the use of violence in their relationships than were the female victims in the study.

While the above study examined how acceptability influences the consequences of dating violence victimization for both males and females, this study did not include a description about potential gender differences included in their measure of acceptability of violence. To date, no studies have examined the differences that may exist between male-to-female and female-to-male acceptability of violence. It may be that males and females have different levels of acceptability of violence depending on the gender of the perpetrator and the victim. For example, females may be more accepting of female-to-male violence (which could be reflected in their own use of violence) than male-to-female violence (which could be reflected in their experience with violence), while males may be more accepting of male-to-female violence than female-to-male violence. Simply stated, a person may be more accepting of violence that they themselves perpetrate, rather than violence that they experience as victims. Thus in this study we concentrate on how female-to-male acceptability of violence moderates the relationship between dating violence victimization and men’s mental health problems and relationship satisfaction. On the other hand, rather than assessing female-to-male acceptability of violence, we address if male-to-female acceptability of violence moderates these relationships for women.

### Summary

In summary, consequences of dating violence victimization have become an important focus in dating violence research. Dating violence has been shown to have a negative impact on the relationship satisfaction and a positive impact on the mental health problems of depression, anxiety, and somatization of its victims. In addition, in one study, acceptability of violence emerged as a potential moderator of the relationship between dating violence victimization and mental health problems. However, the influence of acceptability of violence on the relationship between dating violence victimization and relationship satisfaction has never been tested. In addition, the differential effects of male-to-female and female-to-male acceptability of violence have also never been tested. Similarly, few studies have included men in their samples of dating violence victims. These problems were addressed in the present research by the following hypotheses:

1. Dating violence victimization would be negatively related to relationship satisfaction and positively related

- to the mental health problems of depression, anxiety, and somatization.
2. Acceptability of violence would diminish the strength of the relationship between dating violence victimization and mental health problems, and between dating violence victimization and relationship satisfaction.
  3. The relationships between dating violence victimization and relationship satisfaction, and between dating violence victimization and mental health problems, would be stronger for women than for men.
  4. The moderating influence of acceptability of male-to-female violence on the impact of dating violence victimization on relationship satisfaction and mental health problems would be stronger for men, while the moderating influence of acceptability of female-to-male violence on the impact of dating violence victimization on relationship satisfaction and mental health problems would be stronger for women.

## Methods

### Sample

A sample of 155 male and 417 female undergraduate college students at a large Midwestern university participated in the study. The sample consisted of both male and female students who are currently in or have had a previous heterosexual dating relationship. In this study, “dating” refers to a person of the opposite sex that an individual is currently involved with, but not in a marital relationship. A total of 25 students who reported that they were married and 47 students who reported that they had never been in a relationship were not included in the study. A total of 645 were returned for a participation rate of 85%, resulting in an overall response rate of 76%. The sample was predominantly upper classmen (seniors 48.1%, juniors 22.7%, sophomores 21.7%), and Caucasians (87.2%), with the remainder of the sample lower classmen (freshman 7.5%) and minorities (3.2% African-American, 3.7% Asian-American, 2.6% Hispanic/Latino, and 3.2% other). The majority of the students were from upper to middle class families with over 85% reporting a parental income of over \$30,000. The majority of the sample was in their early twenties (97.9%) with only 2% of the sample over age 25.

Beyond basic demographic information, students were also asked detailed questions about their dating relationships. The majority of students who were currently dating someone had been in these relationships for a considerable length of time: approximately one-quarter (24.9%) had been with their current partner for over 2 years, nearly 15% had been dating for 1–2 years, 10.6% dating for 6–12

months and 12.4% dating for less than 6 months. A total of 208 students reported they were not currently dating anyone. Nearly half of these students reported (47.6%) that their most previous relationship lasted less than 6 months, 17.3% lasted for 6–12 months, 16.3% lasted for 1–2 years, and 18.7% lasted for 2 years or more. Those not currently dating were also asked when their most recent relationship ended. Almost one-third (29.2%) reported that their most recent relationship ended in the past 3 months, 17.2% in the past 3–6 months, 21.1% 6–12 months ago, and 32.5% more than 1 year ago.

### Procedure

Students were given a 137-item survey to take home and fill out on their own time and were asked to return the completed surveys at the following class period. Students completing the survey were entered into a drawing for one of forty \$10 gift certificates to a local restaurant or two grand prize \$25 gift certificates to a local mall. Follow-up e-mails to each class were sent out prior to the return date of the survey to remind students to bring their surveys back to class.

### Measures

*Dating Violence Victimization* The amount of violence experienced as a victim in the dating relationship was assessed by of the revised Conflict Tactics Scale (CTS2; Straus et al. 1996). The present study included the three subscales of the relationship behavior portion that pertain to respondent-experienced verbal, psychological and physical dating violence victimization. Items are phrased to reflect both respondent and partner as initiators of the specified acts, with response categories for each item ranging from 1 (*never*) to 7 (*more than 20 times*). The 20 items were summed to create a total victimization score ranging from 20 to 140 with higher scores indicating higher reported victimization rates. Studies have consistently found the CTS2 to be highly reliable, with alpha levels well above 0.70 (Harned 2002; Kaura and Allen 2004; Straus et al. 1996). An alpha of 0.87 was found in the present study. Validity for this scale is consistent with the original CTS, which has been well established in a number of studies on violent relationships (Bullcroft and Straus 1975; Steinmetz 1977; Walker 1984).

*Mental Health Problems* The Brief Symptom Inventory (BSI-18; Derogatis 2000) was used to measure mental health problems. The inventory includes three subscales for depression, anxiety, and somatic health problems as well as a total score for overall mental health. In the present study, each six-item subscale was summed to achieve a total score

for each of the three subscales respectively. Items include “How much were you distressed or bothered by feeling tense or keyed up?” Participants responded to each item using a 6-point Likert-type scale ranging from 1 (*not at all*) to 6 (*extremely*) with higher scores indicating higher mental health problems. High internal reliability for the scale has been reported with alpha coefficients over 0.89 (Derogatis 2000). An alpha of 0.92 was found in the present study. The BSI-18 also a strong validity correlation of 0.93 with the Symptom Checklist-90-Revised (SCL-90-R; Derogatis 1994).

**Relationship Satisfaction** The Relationship Assessment Scale (RAS; Hendrick 1988) was used to assess relationship satisfaction for each participant. The 7-item scale includes items such as “How well does your partner meet your needs?” and “In general, how satisfied are you with your relationship?” Participants responded to the seven items using a 5-point Likert-type scale ranging from 1 (*low satisfaction*) to 5 (*high satisfaction*). High internal reliability for the scale has been reported with alpha coefficients ranging from 0.79 (Cramer 2003) to 0.86 (Hendrick 1988). An alpha of 0.83 was found in the present study. The RAS also reports high validity with a 0.80 correlation to the Dyadic Adjustment Scale (Spanier 1976).

**Acceptability of Violence** The Acceptance of Couple Violence Questionnaire developed by Foshee et al. (1992) was used to assess the extent to which violence is accepted in dating relationships. The 11-item scale includes items such as “There are times when violence between dating partners is okay” and was divided into male-to-female, female-to-male, and general acceptability of violence subscales. Participants responded to each item using a 4-point Likert-type scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Scores were summed separately for men (female-to-male acceptability of violence) and women (male-to-female acceptability of violence) to create an acceptability of violence score that ranged from 3 to 12, with higher scores indicating higher acceptability of violence. Moderately high internal reliabilities for this scale have been reported with alpha coefficients at 0.74 (Foshee et al. 1992). An alpha of 0.91 was reported for the present study. A search of the literature failed to uncover reported validity data for this scale.

**Demographics** Each survey included a demographic portion to obtain the respondent’s gender, ethnicity, parental income, and age. A dummy variable was created for gender (0=female and 1=male). Because of the limited number of Hispanics/Latinos and Asian-Americans, ethnicity was collapsed into a dummy variable (0=minorities and 1=Caucasian). Parental income was assessed on a 9-point

scale increasing in increments of \$10,000 and ranged from 1 (\$0–\$10,000) to 9 (\$80,000 and up). To control for relationship duration, two items were included to assess the length of the current relationship for those in a dating relationship and the length of the most recent relationship for those not currently dating. One additional question was also included to control for when their most recent relationship ended. All of these variables were entered into each regression analysis as control variables.

#### Data Analysis Plan

The data for the present study were examined by using descriptive statistics, *t* tests and hierarchical regression analyses. First, *t* tests were performed to assess potential gender differences in the study variables. Next the models were estimated using hierarchical regression analyses. These models included age, ethnicity, parental income, length of relationship, and end of most recent relationship as control factors. The main effects of dating violence victimization and acceptability of male-to-female and female-to-male violence on relationship satisfaction and mental health problems of depression, anxiety, and somatization were examined. Please note, a preliminary set of regression analyses were run separately for individuals in a current dating relationship and those not currently dating anyone. These regressions revealed similar patterns of results with no significant differences. Therefore, regression equations were run for the entire sample together. Finally, the influence of male-to-female and female-to-male acceptability of violence on the association between dating violence victimization and relationship satisfaction and the association between dating violence victimization and the three mental health problems were estimated for the full model. These relationships were then examined again using hierarchical regressions separately for men and women.

## Results

### *t* Tests for Gender Differences

Table 1 displays the *t* tests for differences between men and women on the study variables. No significant gender differences in dating violence victimization were reported ( $t=-0.90$ ,  $p>0.05$ ). However, women reported greater satisfaction with their relationship ( $t=-2.70$ ,  $p<0.01$ ), higher levels of depression ( $t=-2.34$ ,  $p<0.05$ ), anxiety ( $t=-2.78$ ,  $p<0.01$ ), and somatization ( $t=-2.62$ ,  $p<0.01$ ), than did men. Only on one variable, acceptability of violence, did men report higher levels for both male-to-

**Table 1** *t*-Tests for differences between men and women for study variables

Variables	Men, mean (SD)	Women, mean (SD)	Total, mean (SD)	<i>t</i> test score	Significance
Dating violence victimization	28.13 (10.75), <i>N</i> =153	29.00 (9.96), <i>N</i> =414	28.76 (10.18), <i>N</i> =567	-0.90	0.37
Acceptability of male-to-female violence	3.50 (1.11), <i>N</i> =153	3.19 (0.80), <i>N</i> =417	3.27 (0.90), <i>N</i> =570	3.74	0.001***
Acceptability of female-to-male violence	3.90 (1.49), <i>N</i> =153	3.51 (1.15), <i>N</i> =417	3.62 (1.26), <i>N</i> =570	3.31	0.001***
Relationship satisfaction	25.63 (5.80), <i>N</i> =152	27.03 (5.34), <i>N</i> =415	26.66 (5.50), <i>N</i> =567	-2.70	0.01**
Depression	10.18 (3.99), <i>N</i> =154	11.12 (4.37), <i>N</i> =417	10.87 (4.29), <i>N</i> =571	-2.34	0.02*
Anxiety	9.71 (3.90), <i>N</i> =154	10.74 (3.97), <i>N</i> =417	10.46 (3.97), <i>N</i> =571	-2.78	0.006**
Somatization	8.60 (3.40), <i>N</i> =154	9.46 (3.49), <i>N</i> =417	9.23 (3.48), <i>N</i> =571	-2.62	0.01**

*N*s vary due to missing or incomplete responses.

\**p*<0.05

\*\**p*<0.01

\*\*\**p*<0.001

female acceptability (*t*=3.74, *p*<0.001) and female-to-male acceptability (*t*=3.31, *p*<0.001) than women.

**Hierarchical Regression Analyses**

Hierarchical regression analyses were conducted to determine the influence of dating violence victimization and acceptability of male-to-female and female-to-male violence on both relationship satisfaction and the three mental health problems of depression, anxiety, and somatization. Each of the independent variables was examined to determine their potential main effects and any interactive

effects of dating violence victimization and acceptability of male-to-female or female-to-male violence on either relationship satisfaction or the three mental health problems. Regression analyses were conducted first for the total sample; however, due to the significant gender findings, only the separate analyses for men and women are presented. Results will be discussed first for relationship satisfaction, and then for mental health problems.

*Acceptability of Male-to-Female Violence and Relationship Satisfaction* In model 1 of Table 2, ethnicity, parental income, age, length of the relationship, and end of the most

**Table 2** Hierarchical regression models predicting relationship satisfaction from victimization and acceptability of violence

	Males			Females		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<b>Controls</b>						
Caucasian vs minority	-0.02	-0.06	-0.06	0.05	0.01	0.01
Parental income	0.14	0.18*	0.18*	0.13**	0.14**	0.13**
Age	-0.11	-0.13	-0.13	-0.12*	-0.10*	-0.10*
Length of relationship	0.46***	0.49***	0.49***	0.30***	0.41***	0.42***
End of most recent relationship	0.11	0.05	0.04	-0.08	-0.07	-0.06
<b>Key variables</b>						
Dating violence victimization		-0.21**	-0.21*	-0.21*	-0.40***	-0.41***
Acceptability of violence						
Female to male acceptability of violence		-0.09	-0.09			
Male to female acceptability of violence					-0.04	-0.11*
<b>Acceptability×victimization interactions</b>						
Female to male acceptability of violence×victimization			0.01			
Male to female acceptability of violence×victimization						0.12*
<i>F</i> , Prob> <i>F</i>	11.87***	10.18***	8.66***	11.61***	21.49***	19.26***
<i>R</i> <sup>2</sup>	0.23	0.28	0.27	0.11	0.26	0.27
<i>R</i> <sup>2</sup> change		0.01	0.00		0.00	0.01*

Betas or standardized coefficients are reported.

\**p*<.05

\*\**p*<.01

\*\*\**p*<.001

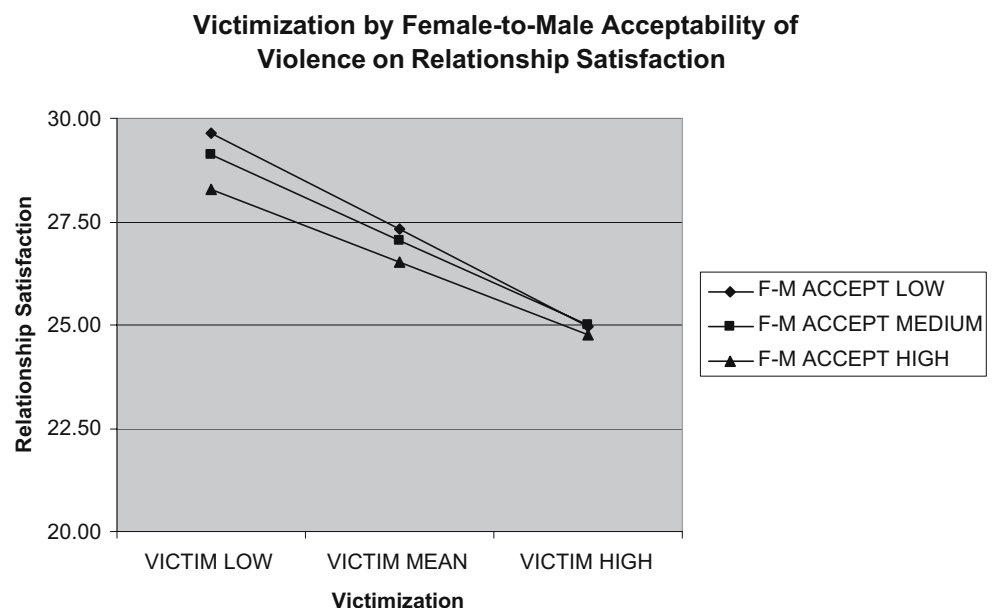
recent relationship were entered as controls first. Of these controls, length of the relationship was associated with relationship satisfaction for both men ( $\beta=0.46, p<0.001$ ) and women ( $\beta=0.30, p<0.001$ ). However, for women age ( $\beta=-0.12, p<0.05$ ) and parental income ( $\beta=0.13, p<0.01$ ) were still significant, but only parental income ( $\beta=0.19, p<0.01$ ) was significant for men. When dating violence victimization and acceptability of male-to-female violence were added in model 2, the amount of variance in relationship satisfaction explained by these variables was significant for both men ( $R^2=0.32, F=10.86, p<0.001$ ) and women ( $R^2=0.26, F=21.49, p<0.001$ ). Dating violence victimization was linked to lower relationship satisfaction for both men ( $\beta=-0.18, p<0.05$ ) and women ( $\beta=-0.40, p<0.001$ ). However, acceptability of male-to-female violence was associated with relationship satisfaction, but only for men ( $\beta=-0.16, p<0.05$ ).

When the interaction between dating violence victimization and acceptability of male-to-female or female-to-male violence was added in model 3, the interaction showed a cross-gender pattern with the interaction of dating violence victimization and acceptability of male-to-female violence only significant for women ( $\beta=0.12, p<0.05$ ), suggesting that the significance of this interaction in the model for the total sample can be explained by the women in the sample. As shown in Fig. 1, when acceptability of male-to-female violence is either medium or high, victimization rates across relationship satisfaction levels are relatively unchanged. However, when acceptability of male-to-female violence rates are low, relationship satisfaction rates decrease across victimization rates with the lowest relationship satisfaction associated with high victimization

and low acceptability rates. To facilitate interpretation of this interaction, an analysis of simple slopes was conducted using the procedure recommended by Aiken and West (1991). This test indicated that all of the three levels of male-to-female acceptability were significantly different from zero, with slopes for low acceptability ( $\beta=-0.47, p<0.01$ ), medium acceptability ( $\beta=-0.40, p<0.001$ ), and high acceptability ( $\beta=-0.34, p<0.01$ ) respectively. Further analysis, following the procedures outlined in Aiken and West (1991) indicated that the slopes of each of these lines were not significantly different from one another based on the non-significant main effect found for acceptability of male-to-female violence ( $\beta=-0.04, p=0.36$ ). Finally, the interaction between dating violence victimization and acceptability of female-to-male violence on relationship satisfaction was not significant for males as hypothesized.

*Acceptability of Violence and Mental Health Problems for Men* In keeping with study design, only analyses for female-to-male acceptability of violence are presented for men, while only analyses for male-to-female acceptability of violence are presented for females. We report males first followed by females. When the controls were added to the model (See Table 3, model 1), only ethnicity was significantly associated with mental health problems, and more specifically, only for depression ( $\beta=-0.20, p<0.05$ ), suggesting that non-Caucasians in the sample reported higher levels of depression than Caucasians. When dating violence victimization and acceptability of female-to-male violence were added in model 2, the amount of variance in each of the mental health problems explained by these variables was significant for depression ( $R^2=0.11, F=2.85$ ,

**Fig. 1** Acceptability of male-to-female violence by victimization on relationship satisfaction scores for women





**Table 3** Hierarchical regression models predicting mental health problems from victimization and acceptability of female-to-male violence for men

	Depression			Anxiety			Somatization		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<b>Controls</b>									
Caucasian vs minority	-0.20*	-0.16	-0.18*	-0.07	-0.04	-0.05	-0.06	-0.01	-0.03
Parental income	-0.10	-0.14	-0.14	-0.10	-0.13	-0.14	-0.07	-0.11	-0.12
Age	-0.01	0.01	0.01	0.07	0.09	0.09	0.07	0.09	0.08
Length of relationship	-0.11	-0.13	-0.14	0.05	0.02	0.02	0.01	-0.02	-0.02
End of most recent relationship	-0.06	-0.01	-0.04	-0.06	-0.01	-0.04	-0.06	-0.01	-0.04
<b>Key variables</b>									
Dating violence victimization		0.21*	0.11		0.20*	0.10		0.20*	0.06
Female-to-male Acceptability of violence		0.08	0.04		0.06	0.01		0.15	0.09
<b>Interactions</b>									
Female-male acceptability × victimization			0.20*			0.21*			0.28**
<i>F</i> , Prob> <i>F</i>	2.17	2.85*	3.10**	0.96	1.80	2.22*	0.54	2.09	3.10**
<i>R</i> <sup>2</sup>	0.06	0.11	0.14	0.03	0.07	0.10	0.02	0.08	0.14
<i>R</i> <sup>2</sup> change		0.01	0.03*		0.00	0.03*		0.02	0.05**

Betas or standardized coefficients are reported.

\**p*<0.05

\*\**p*<0.01

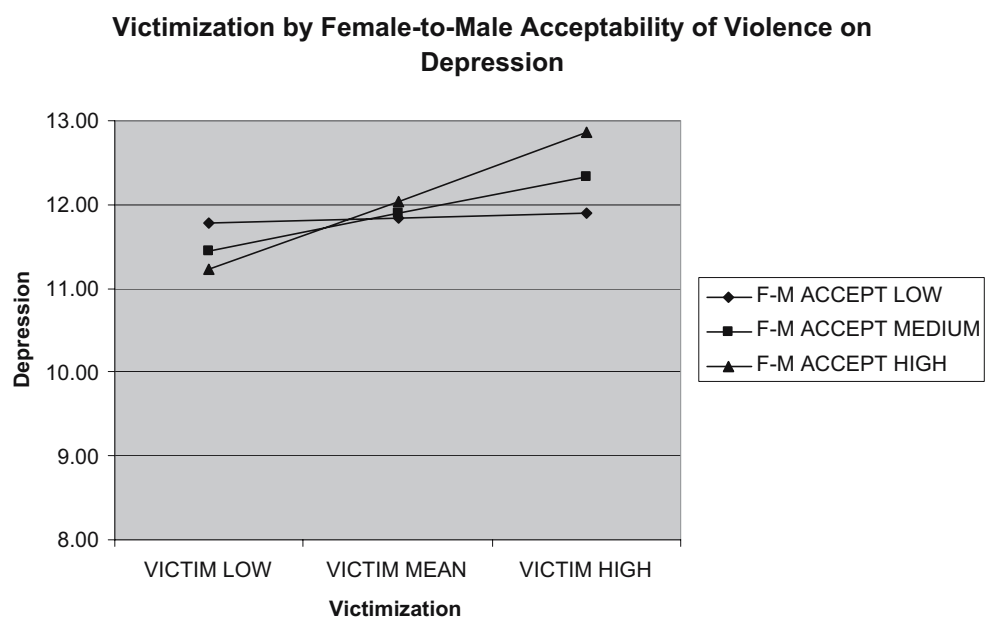
\*\*\**p*<0.001

*p*<0.05), but not for anxiety (*R*<sup>2</sup>=0.07, *F*=1.80, *p*>0.05), or somatization (*R*<sup>2</sup>=0.08, *F*=2.09, *p*>0.05). In addition, dating violence victimization emerged as the sole significant predictor of depression ( $\beta=0.21, p<0.05$ ), anxiety ( $\beta=0.20, p<0.05$ ), and somatization ( $\beta=0.20, p<0.05$ ). Specifically, a standard deviation increase in dating violence victimization was related to a 0.21 standard deviation

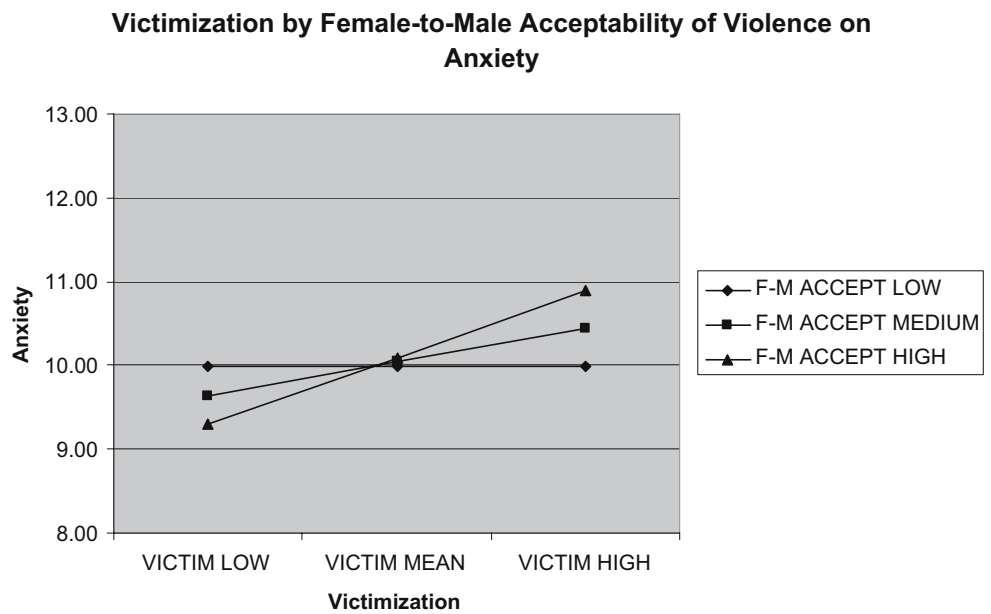
increase in depression and a 0.20 standard deviation increase in anxiety and somatization for men.

The addition of the two-way interaction of dating violence victimization and female-to-male acceptability of violence also accounted for a significant amount of variance in the models for depression (*R*<sup>2</sup>=0.14, *F*=3.10, *p*<0.01), anxiety (*R*<sup>2</sup>=0.10, *F*=2.22, *p*<0.05), and somati-

**Fig. 2** Acceptability of female-to-male violence by victimization on depression scores for men



**Fig. 3** Acceptability of female-to-male violence by victimization on anxiety for men

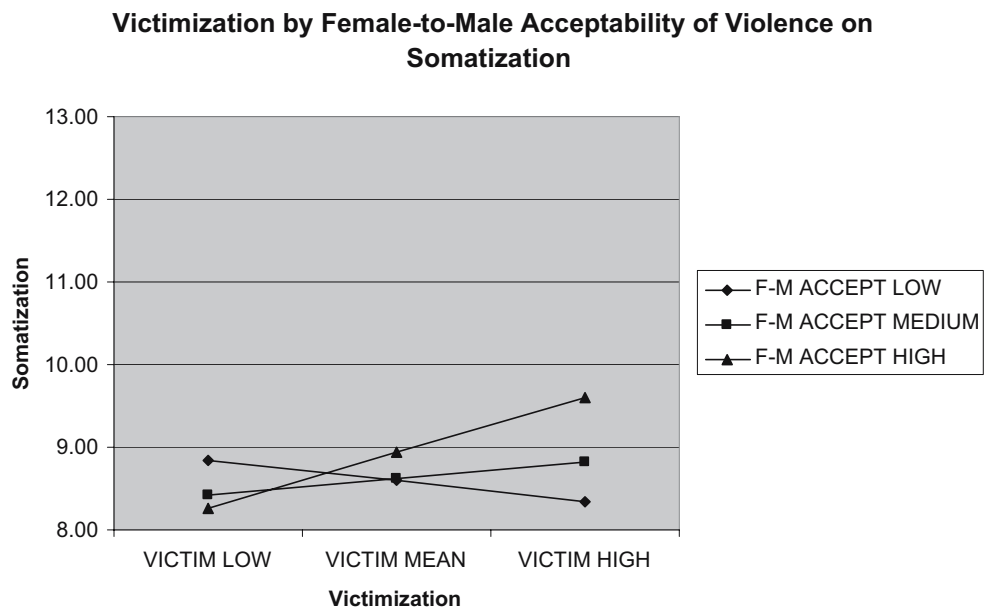


zation ( $R^2=0.14$ ,  $F=3.10$ ,  $p<0.01$ ), and significantly added to each of the models for depression ( $\Delta R^2$  change=0.03,  $F=4.20$ ,  $p<0.05$ ), anxiety ( $\Delta R^2$  change=0.03,  $F=4.46$ ,  $p<0.05$ ), and somatization ( $\Delta R^2$  change=0.05,  $F=8.45$ ,  $p<0.01$ ). In addition, the interactions were significant for depression ( $\beta=0.20$ ,  $p<0.05$ ), anxiety ( $\beta=0.21$ ,  $p<0.05$ ), and somatization ( $\beta=0.28$ ,  $p<0.01$ ) for men.

The significant interactions for men are illustrated in Figs. 2, 3 and 4. Similar patterns were found in all three of the two-way interactions. When acceptability of female-to-male violence is medium, victimization rates across the

three mental health problems are relatively unchanged. However, when acceptability of female-to-male violence rates are low or high, mental health problem rates increase across victimization rates with the highest levels of depression, anxiety, and somatization associated with high victimization and high acceptability rates. To facilitate interpretation of this interaction, an analysis of simple slopes was conducted using the procedure recommended by Aiken and West (1991). This test indicated that for depression and somatization, all of the three levels of female-to-male acceptability were not significantly different

**Fig. 4** Acceptability of female-to-male violence by victimization on somatization scores for men



**Table 4** Hierarchical regression models predicting mental health problems from victimization and acceptability of male-to-female violence for women

	Depression			Anxiety			Somatization		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<b>Controls</b>									
Caucasian vs minority	-0.02	0.01	0.01	0.03	0.06	0.06	-0.07	-0.05	-0.04
Parental income	-0.08	-0.09	-0.09	-0.07	-0.08	-0.08	-0.08	-0.08	-0.09
Age	0.12	0.11	0.11	0.18**	0.17**	0.17**	0.16**	0.15**	0.16**
Length of relationship	-0.11	-0.16**	-0.16**	-0.09	-0.13*	-0.13	-0.07	-0.10	-0.10
End of most recent relationship	-0.17	-0.18*	-0.17	-0.17	-0.18*	-0.17	-0.17	-0.18*	-0.17
<b>Key variables</b>									
Dating violence victimization		0.21***	0.21***		0.13*	0.13		0.13*	0.11
Male-to-female acceptability of violence		0.05	0.05		0.08	0.06		0.06	0.01
<b>Interactions</b>									
Male-to-female acceptability × victimization			-0.01			0.03			0.11
<i>F</i> , Prob > <i>F</i>	2.80*	4.93***	4.22***	3.95**	4.40***	3.80**	3.82**	4.05**	3.90***
<i>R</i> <sup>2</sup>	0.03	0.08	0.08	0.04	0.07	0.07	0.04	0.06	0.07
<i>R</i> <sup>2</sup> change		0.00	0.00		0.01	0.00		0.00	0.01

Betas or standardized coefficients are reported.

\**p*<0.01

\*\**p*<0.05

\*\*\**p*<0.001

from zero. However, for anxiety, slopes for both medium acceptability ( $\beta=0.26, p<0.05$ ), and high acceptability ( $\beta=0.49, p<0.05$ ) were significantly different from zero, while slopes for low acceptability ( $\beta=0.02, p=0.90$ ) were not significantly different from zero. Further analysis, indicated that the slopes of each of these lines were not significantly different from one another based on the non-significant main effect found for acceptability of female-to-male violence for depression ( $\beta=0.04, p>0.05$ ), anxiety ( $\beta=0.01, p>0.05$ ), and somatization ( $\beta=0.09, p>0.05$ ).

*Acceptability of Violence and Mental Health Problems for Women* When the controls were added to the model (see Table 4, model 1), only age was significantly associated with anxiety ( $\beta=0.18, p<0.01$ ) and somatization ( $\beta=0.16, p<0.01$ ) for women. When dating violence victimization and acceptability of male-to-female violence were added in model 2, the amount of variance in each of the mental health problems explained by these variables was significant for each of the mental health problems of depression ( $R^2=0.08, F=4.93, p<0.001$ ), anxiety ( $R^2=0.07, F=4.40, p>0.001$ ), and somatization ( $R^2=0.06, F=4.05, p>0.01$ ) for women. Similar to men, dating violence victimization emerged as the sole significant predictor of depression ( $\beta=0.21, p<0.001$ ), anxiety ( $\beta=0.13, p<0.05$ ), and somatization ( $\beta=0.13, p<0.05$ ) for women. Specifically, a standard

deviation increase in dating violence victimization was related to a 0.21 standard deviation increase in depression and a 0.13 standard deviation increase in anxiety and somatization for men.

While the addition of the two-way interaction of dating violence victimization and male-to-female acceptability of violence also accounted for a significant amount of variance in the models for depression ( $R^2=0.08, F=4.22, p<0.001$ ), anxiety ( $R^2=0.07, F=3.80, p<0.01$ ), and somatization ( $R^2=0.07, F=3.90, p<0.01$ ), none of the two-way interactions of dating violence victimization and male-to-female acceptability of violence on the three mental health problems reached statistical significance.

### Discussion

The current study was conducted to extend the field of research by examining the impact of dating violence victimization and acceptability of violence on relationship satisfaction and mental health problems for both men and women. It was hypothesized that dating violence victimization would be associated with relationship satisfaction and mental health problems, and that acceptability of violence would moderate these relationships. Results from

this study show that dating violence victimization was significantly associated with both relationship satisfaction and mental health problems. It should be noted that while we found that participants in our study reported significant levels of victimization, these levels were still relatively low considering the mean for the total sample was 28.76 and scores on the victimization scale may range from 20–140. In addition, the majority of the victimization reported was minor in nature (over 70%), with the most commonly reported acts including being shouted or insulted at, or being pushed or grabbed by their partner. Less than 1% of the sample reported more severe acts of violence such as being slammed against a wall or being burned by their partner. Thus, higher frequencies of violence victimization reported in this study are not equated with a greater severity in victimization experienced.

Even though the reported levels of victimization in our study were minor, victimization was strongly related to mental health problems. Indeed, the measure we employed to assess mental health problems, the BSI-18, does not have the interpretive complexity of longer mental health tests and is unable to determine if the depression, anxiety, and somatization scores in our sample reached clinical levels. However, when raw scores for each of these subscales were converted into standardized *T*-scores, the average *T*-score value of each subscale was 60. According to the manual, a *T*-score of 60 places the respondent at the 84th percentile of the norm (Derogatis 2000). That is the participants in this study report levels of depression, anxiety, and somatization that are higher than 84% of the general population. It has been estimated that approximately 5–10% of the general population has mental health problems at clinical levels, while an additional 5% are in need of psychological services (Graber 2004). Thus, while our sample may not report behaviors in the top 5–10%, the rates reported are high enough to suggest that the students in our sample would benefit from some form of psychological services or counseling.

Further, it was hypothesized that gender differences would emerge with women reporting more negative consequences of dating violence victimization than men, and differential gender differences reported for acceptability of violence. Contrary to the hypothesis, findings from this study show that dating violence victimization emerged as significantly associated with relationship satisfaction and mental health problems for both men and women. This is consistent with the literature that suggests that dating violence victimization has a significant impact on relationship satisfaction and mental health problems (Carlson et al. 2003; Cramer 2003; Testa and Leonard 2001).

When results were examined for gender, partial support for the hypotheses of the study was found. While the

present study proposed no gender hypothesis for dating violence victimization, the results of this study showed that men and women report similar rates of dating violence victimization. This is consistent with other researchers (e.g. Simonelli and Ingram 1998) who suggest that men and women are equally likely to be the victims of dating violence. In regards to the two outcome variables, women reported significantly higher relationship satisfaction scores and more mental health problems than men. Similarly, results lend support to hypothesis 3, in that the associations between dating violence victimization and relationship satisfaction and dating violence victimization and mental health problems were stronger for women than for men. However, in the present study, men reported higher levels of acceptability of violence than women, which is also consistent with the literature (Lisak 2005; Mahlstedt and Welsh 2005).

In addition, it was hypothesized that acceptability of male-to-female violence would moderate the associations between dating violence victimization and relationship satisfaction and dating violence victimization and mental health problems for women and that female-to-male acceptability of violence would moderate the associations between dating violence victimization and relationship satisfaction and the association between dating violence victimization and mental health problems for men. These hypotheses were partially supported. For women, acceptability of male-to-female violence only emerged as a significant moderator of the association between dating violence victimization and relationship satisfaction, suggesting that women who were victims of dating violence but accepted the use of men's violence against women, did not experience a significant decrease in relationship satisfaction as a result of their victimization. For men, acceptability of female-to-male violence only emerged as a significant moderator of the association between dating violence victimization and mental health problems, suggesting that men who were the victims of dating violence but accepted the use of women's violence against men, were less likely to experience more mental health problems as a result of their victimization.

The non-significant findings for both men and women may be explained by omitted variable biases. Our models are not totally exhaustive and dating violence victimization is a dynamic and complex process. Two such potential variables that may account for the lack of significant findings are self-esteem or social support. It may be that individuals who have high levels of self-esteem are able to separate themselves from their victimization and not equate it to a problem with who they are. Indeed, studies that have included both acceptability of violence and self-esteem as predictors of dating violence have found these two

variables to be significant, yet independent predictors of dating violence (Foshee et al. 1992; Katz et al. 2002; Stith and Farley 1993). Likewise, individuals who have high levels of social support may be able to rely on others to help them process their victimization in ways that allow the person to cope with the stress and fear this may cause and still feel positively toward their relationship. Additionally, these variables may act as buffers for the effects of dating violence victimization and decrease its impact on negative consequences. Current research conducted on the self-esteem of victims and their social support networks has lent support to this hypothesis (e.g. Abel 2001; Clements et al. 2004; Cramer 2003). Thus, future work needs to somehow address the complex interplay between these three constructs.

In addition to the key variables, a number of control variables were added to the model. Of these, age, parental income, and length of relationship emerged as significantly associated with relationship satisfaction and gender emerged as significantly associated with all three mental health problems, while length of relationship was associated with depression and age was associated with anxiety and somatization. These controls showed that anxiety levels and somatization were higher and relationship satisfaction was lower for older individuals suggesting that in comparison to the younger portion of the sample, those who were in their later twenties were experiencing more mental health problems and were less satisfied with their relationships. However, the limited age range of this sample makes it difficult to determine at what age these effects are present. The controls also revealed that mental health problems were lower and relationship satisfaction was higher for individuals in longer relationships. That is, as relationships increase in length, partners feel more happiness and contentment with their relationship and are not suffering from as many mental health problems as individuals in shorter relationships.

There are a few limitations that should be kept in mind when interpreting these results. The findings of this study are based on a survey administered to predominantly white, middle class college students, in their early twenties. Even though this sample represents a major population of dating individuals, further research should include a more diverse sample including a broader age range as well as more economic and racial diversity. Furthermore, participants who may have felt shame or guilt at having been the victim of dating violence may not have been willing to share that information in the survey. Thus, there is the possibility that the frequency of some reported events may have been misrepresented. However, this most likely would lead to underreporting of dating violence victimization. In addition, the measure used in the present study to assess dating

violence victimization (CTS2) assessed the lifetime occurrence of violent behaviors. Some individuals who participated in the study and had longer relationship lengths reported that they could not remember every instance of violence in their relationship and were making rough guesses as to the extent of their victimization.

Finally, while associations were found between dating violence victimization, relationship satisfaction, and mental health problems, the direction of these relationships is not known. It is not known if increases in an individual's level of dating violence victimization leads to decreases in relationship satisfaction and increases in mental health problems, or if decreases in relationship satisfaction and increases in mental health problems lead to increases in dating violence victimization. Therefore, one cannot infer causality from these findings. Rather, the findings suggest only dating violence victimization, relationship satisfaction, and mental health problems are related.

In conclusion, findings from this study suggest the need for continued focus on dating violence victimization for both men and women to determine the similarities and dissimilarities of patterns. As findings from this and other studies have shown, women are not solely the victims of violence nor are men solely the perpetrators. Sensitivity to the possibility of both genders as victims may be more helpful than the typical focus in dating violence intervention and prevention programs that recognize men as perpetrators and women as victims. Additional studies are also needed to help determine the gender similarities and dissimilarities between the variables associated with dating violence victimization. While the relationships present in these results suggest that the outcomes of dating violence victimization are stronger for women, the outcomes of male dating violence victimization are becoming important to recognize and examine.

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