

# Insecure Attachment Mediates Effects of Partners' Emotional Abuse and Violence on Women's Relationship Quality

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**Abstract** Men's emotional abuse and violence have a broad and pervasive impact on women that may include long-term effects on women's attachment and relationship quality. In this longitudinal study, women's Wave 6 ratings of their insecure attachment were hypothesized to mediate the relationship between partners' Wave 5 abuse (emotional and physical) and Wave 6 relationship quality, with differences in associations by women's Wave 5 self-classification as secure or insecure. Mediation was tested with data from a sample of 574 African American, Euro-American, and Mexican American community women who had completed at least three waves of a six wave study. Differences occurred in the final structural equation models by women's Wave 5 attachment style, with direct paths from emotional abuse to insecure attachment and from violence to relationship quality for both groups, but direct effects of violence on relationship quality only for insecurely attached women.

**Keywords** Women's relationships · Ethnicity · Relationship dissolution · Partner violence · SEM

Major reviews have shown that men's abusive behaviors adversely affect women's self-concept and mental health in a variety of ways (American Psychological Association 1996; National Research Council 1996). However, despite a negative relationship between abuse and relationship outcomes, such as satisfaction and quality, the expected

negative effects of abuse have been inconsistent. Indeed, many researchers have addressed the issue of women staying with violent partners (e.g., Barnett 2001) with inconclusive results. This has led some investigators to study mediating factors, such as positive behavior (Marshall et al. 2000). Another potential mediator is adult romantic attachment.

The association between adult attachment and relationship outcomes is well-documented (e.g., Collins and Read 1990; Hazan and Shaver 1987), with insecure attachment linked to negative outcomes (Feeney and Noller 1990; Simpson et al. 1999). An insecure attachment style has also been associated with perpetration of emotionally abusive behaviors and violence in relationships (Dutton et al. 1994; Henderson et al. 2005; Holtzworth-Munroe et al. 1997; Roberts and Noller 1998). It may be that emotional and physical abuse have a negative effect on attachment similar to the demonstrated effects on mental health, self-esteem and self-concept. Thus, abuse may alter women's attachment style, which, in turn, affects their relationship outcomes. Specifically, emotional abuse and violence may have the potential to affect attachment styles by increasing insecure attachment. The possibility that attachment style can change is supported by Bowlby's (1988) contention that adult experiences may change an individual's attachment style and by research showing up to 30% (Kirkpatrick and Hazan 1994) of samples differ across time. Alternatively, like other relationship factors (Gallo and Smith 2001), perceptions of partners' emotional abuse and violence may vary with women's attachment style, affecting the way they perceive and interpret men's abuse, thereby mediating effects on relationship outcomes. With either possibility, the first step is to determine whether mediation occurs.

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## Emotional Abuse and Violence

There is clear evidence of the association between violence and emotional abuse in relationships (e.g., Follingstad et al. 1990; O'Leary et al. 1994). The impact of physical violence on selected relationship outcomes has also been repeatedly demonstrated. Studies indicate as violence increases, relationship satisfaction decreases (Bookwala et al. 1994). Relationship quality tends to be negatively affected by violence and verbal aggression (O'Leary et al. 1994). Whether the association of violence with relationship outcomes is a function of violence or emotional abuse accompanying the violence has yet to be determined.

Emotional abuse may have a greater impact than violence on relationship outcomes. For example, emotional abuse, but not violence, predicted divorce in one sample (Jacobson et al. 1996). Marshall (1999) found that subtle and overt psychological abuse as well as men's violence, respectively, predicted relationship quality, while psychological abuse and sexual aggression predicted relationship duration. Similar associations between attachment and relationship outcomes allow for the possibility that attachment style may mediate effects of partner abuse and violence on relational outcomes.

## Attachment Style

In general, the relationships of securely attached individuals are less turbulent and more satisfying than those of insecurely attached individuals (e.g., Collins and Read 1990; Simpson et al. 1999). Simpson et al. found that individuals with insecure attachment styles were more likely than others to initiate break-ups. They trust their partners less than those who are securely attached (Hazan and Shaver 1987) and tend to be more jealous (Shaver and Hazan 1993). Overall, research suggests that insecure attachment would be predictive of relationship instability and decreased quality.

## Associations between Emotional Abuse, Violence, and Attachment

Most studies examining attachment and violence have focused on perpetration, more often linked with insecure rather than secure attachment (Dutton et al. 1994; Follingstad et al. 2002). Violent men (Holtzworth-Munroe et al. 1997) and women (Roberts and Noller 1998) were more likely to have an anxious-ambivalent attachment style than were nonviolent partners. Dutton et al. (1994) found a positive relationship between insecure attachment and men's psychological abuse. Senchak and Leonard (1992) reported

more frequent verbal aggression when either wives or both partners were insecurely attached. Only three studies (Bookwala 2002; Henderson et al. 2005; Wekerle and Wolfe 1998) have shown an association between insecure attachment and partner violence victimization.

There are at least two ways attachment may mediate the effects of abuse on relationship outcomes. The well-documented pervasive effects of abuse on women may extend to their attachment style. Thus, experiencing violence and emotional abuse may alter aspects of women's attachment style. Alternatively, women's attachment style likely affects the way they perceive and interpret their partners' violence and emotional abuse. These attachment-based perceptions and interpretations would then affect relationship outcomes.

The notion that violence and emotional abuse perpetrated by partners may alter women's attachment style is supported by a great deal of research showing adverse effects on women's self-perceptions and emotional symptoms. For example, partner violence has been associated with low self-esteem, negative self-views, and stress (Cascardi and Vivian 1995; Vogel and Marshall 2001) among women. Yet, Follingstad et al. (1990) and Marshall (1999) showed that emotional abuse had a more severe impact than physical violence. Others have found emotional abuse alone impacts women's general functioning (Tolman and Bhosley 1991), self-esteem (Marshall 1999), and mental health (American Psychological Association 1996; National Research Council 1996). With such negative and pervasive effects, it may be that physical violence and emotional abuse impact women's attachment style.

Regardless of whether abuse changes attachment style, research has shown attachment provides a framework for experiencing and reacting to distress (Mikulincer and Florian 1998). Specifically, securely attached individuals tend to be more likely to acknowledge stressful events and seek support. Secure attachment functions as an internal resource, resulting in more adaptive adjustment to distress than does insecure attachment. Thus, attachment plays a role in women's interpretation of and reaction to relational events. These considerations suggest attachment would mediate the impact of emotional abuse and violence on relationship outcomes, but that mediation may also vary by attachment style. In other words, partners' abusive behaviors may have a direct effect on stability for women with a secure attachment style, but may only indirectly affect stability for women with an insecure attachment style.

## Hypotheses

Two general hypotheses were tested in this longitudinal study. First, interrelationships among partners' emotional

abuse and violence, and women’s insecure attachment and relationship quality were tested. The mediation model is shown in Fig. 1. Insecure Attachment is a composite of separate ratings for women’s anxious-ambivalent and avoidant attachment. Emotional Abuse was expected to be correlated with Violence (Path A). Both Emotional Abuse and Violence were expected to directly affect Insecure Attachment (Paths B and C, respectively). Specifically, partners’ abusive behaviors were expected to increase insecure attachment ratings. Finally, Insecure Attachment was hypothesized to have a direct, negative effect on Relationship Quality (Path D).

The second hypothesis was that the interrelationships among the factors would differ by women’s initial attachment style (i.e., mediation would be moderated by attachment). The dashed paths in Fig. 1 represent the expected direct negative effects of Emotional Abuse (Path E) and Violence (Path F) on Relationship Quality among secure women. Using women’s forced choice, the model was tested separately for women who self-identified as secure or insecure in their attachment to their partners.

**Method**

**Sample**

Data were from Waves 5 and 6 of Project HOW: Health Outcomes of Women, a study of low-income community women in the Dallas metroplex. To participate in Wave 1 interviews, volunteers had to be between 20 and 49 years old, in a long-term heterosexual relationship for at least one year, and have a household income less than twice the poverty level or be receiving public assistance. In addition,

Mexican Americans had to have been educated in the United States as were the ten immigrants in the study. Each of the three ethnic groups in the obtained sample of 835 women was generally representative of low-income women in the area (Honeycutt et al. 2001).

A subsample of 574 women completed the fifth and sixth interviews from which data for the current study were drawn. This subsample consisted of African Americans ( $n=228$ ; 39.7%), Euro-Americans ( $n=171$ , 29.8%), and Mexican Americans ( $n=175$ ; 30.5%). On average, women were 33.97 (SD=7.73) years old at Wave 1, and self reported as dating ( $n=143$ , 24.9%), cohabiting ( $n=61$ , 10.6%), in a common-law marriage ( $n=119$ , 20.7%), or legally married ( $n=251$ , 43.7%). These relationships had lasted an average of 8.21 (SD=6.83) years. When the cash value of public assistance was included in the household income, women lived 7% above the poverty threshold (SD=58.46%), the equivalent of \$15,455 for a four-person household in 1995 when the study began.

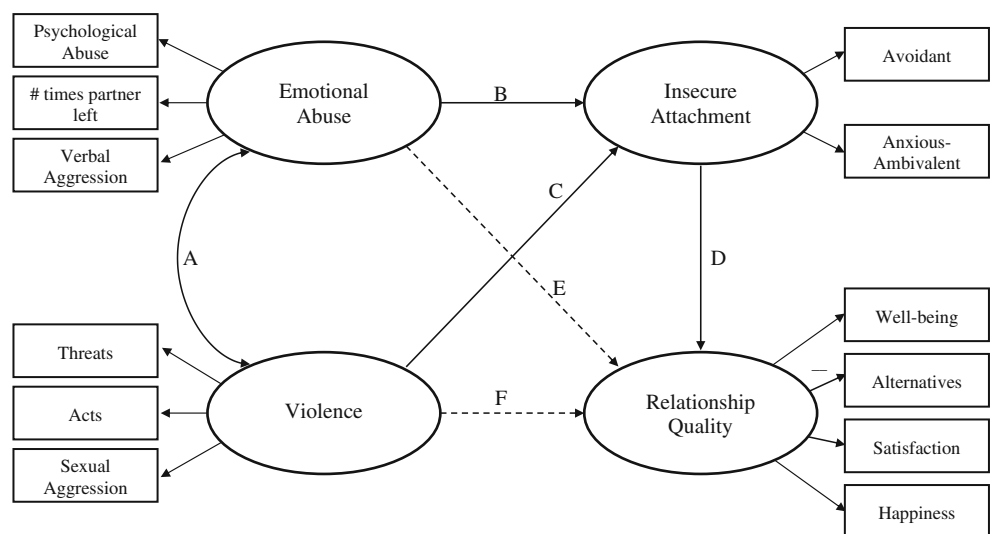
**Procedures**

Undergraduate and graduate female students conducted all interviews. Wave 5 interviews lasted approximately 3.5 h, and women received \$60, a bus pass, Project HOW t-shirt, and gift bag. The sixth interview was designed to take four hours for which women received \$75, a gift bag, and a keychain with the Project HOW logo.

**Measures**

Interviewers read questions aloud and recorded participants’ responses verbatim. They referred participants to numbers in a notebook containing response scales. Inter-

**Fig. 1** Conceptual structural model. *Dashed paths* indicate hypothesized for women with secure attachment styles only



viewers also gave women a calendar to facilitate recall of events. Additional information on the sample, representativeness and interviewing procedures is readily available (Kallstrom-Fuqua et al. 2004; Marshall 1999; Marshall et al. 2000; Vogel and Marshall 2001). All interviews included questions on topics including health, stressors, employment, personal and social relationships, and abuse. Only the measures used in this study are described here.

**Emotional Abuse** The three indicators of emotional abuse are from Wave 5 data. Men's psychological abuse was measured with the Subtle and Overt Psychological Abuse Scale (SOPAS; Marshall 2001), a revision of the measure described in Marshall (1999). Women were told "Men may do these acts in a loving way, a joking way, or a serious way." On a scale from *never* (0) to *almost daily* (9) women reported their partners' behavior in the last year. The mean of the 35 items ( $\alpha=0.98$ ) was the psychological abuse indicator.

The frequency of partners' verbal aggression was measured with seven items (i.e., How often does he...seem like he disagrees with you just to be disagreeing, call you hurtful names, go on and on about something in a way that wears you down, mock you or make fun of you, put you down to other people, swear at you, yell at you). Items were answered on the same 10-point response scale used for psychological abuse, with  $\alpha=0.90$ . The third indicator for the Emotional Abuse was the number of times partners had left women since their last interview.

**Violence** Marshall's (1992) Severity of Violence Against Women Scale (SVAWS) assessed the threats and acts of physical violence and sexual aggression perpetrated by women's partners at Wave 5. Women reported the frequency of 46 behaviors on a scale from *never* (0) to *almost daily* (9) since Wave 3. Threats of violence, acts of physical violence, and sexual aggression were sums for each subscale,  $\alpha$ s=0.94, 0.93, and 0.85, respectively.

**Attachment Style** A modified version of Hazan and Shaver's (1987) three paragraphs included in Wave 5 specified attachment to the partner. (Although Bartholomew's [1990; Bartholomew and Horowitz 1991] four-category model of attachment would have been, in retrospect, a more logical choice, the brevity of Hazan and Shaver's measure was quite attractive for inclusion in an already long interview.) After interviewers read each statement, women chose the paragraph that was most representative. The resulting proportions were similar to those found in the literature with 320 (56.4%) of women classifying themselves as secure, 186 (32.8%) describing themselves as avoidant, and the remaining 61 (10.8%) categorizing their attachment as anxious-ambivalent. The two insecure groups were com-

bined ( $n=247$ , 43.6%) to test the moderating effects of attachment style.

**Insecure Attachment Wave 6** included 34 items from Brennan, Clark, and Shaver's (1998) revised Experiences in Close Relationships, which measures attachment avoidance and anxiety. Items were modified to reflect attachment to women's current partner, and answered on a six-point scale from *strongly disagree* (1) to *strongly agree* (6). Women not in a relationship at Wave 6 ( $n=116$ , 18.2%) were asked to respond to questions thinking about their most recent partner. Alpha coefficients were 0.91 for the avoidant subscale and 0.90 for anxious-ambivalent attachment, similar to those reported by Brennan et al.

**Relationship Quality** Relationship quality was represented with four Wave 6 indicators. For all items/measures, women not currently in a relationship were asked to respond thinking of their most recent partner. The first indicator was a modified version of the measure of relational well-being of Acitelli, et al. (1993). Women responded to six items on a seven-point scale from *not at all/never* to *completely/extremely often* (e.g., "When you think about your relationship—what each of you puts into it and gets out of it, how happy do you feel," "How certain are you that you'll be together one year from now,"), with  $\alpha=0.92$ .

One item assessed women's perceptions of alternatives. Using a scale ranging from *very much worse* (1) to *very much better* (6), women indicated how a relationship with another man would be, compared to their current (most recent) relationship. One item each assessed women's satisfaction with their relationship and their happiness in the relationship. Both items were rated on six point scales, with 1 indicating dissatisfaction and unhappiness, respectively, and 6 indicating satisfaction and happiness, respectively.

## Results

### Attrition

The possibility that Wave 5 and 6 data were missing systematically was addressed. Two MANOVAs compared women who completed Waves 5 and 6 ( $n=574$ , 68.7%) to women who had not completed both interviews ( $n=261$ , 31.3%). The first MANOVA compared groups on a set of demographic variables including number of moves in the last three years, years living in the area, age, years of education, and poverty level. A multivariate main effect occurred, Pillai's Trace  $F(5, 810)=7.99$ ,  $p<0.001$ ,  $\eta^2=.05$ . Univariate main effects occurred for all variables except poverty level. Women who completed Waves 5 and 6 had

moved less frequently ( $M=1.94$  moves,  $SD=3.60$ ), lived in the area longer ( $M=2.06$  years,  $SD=0.97$ ), were older ( $M=33.83$ ,  $SD=7.68$ ), and more educated ( $M=12.07$  years,  $SD=1.91$ ) than women who had not completed Waves 5 and 6 ( $M_s=2.76, 1.68, 31.91, \text{ and } 11.72$ , respectively;  $SD_s=2.92, 1.06, 7.71, \text{ and } 2.35$ ). Differences indicated that women who remained in the study tended to be more geographically stable than women who left the study.

A second MANOVA compared groups on a set of variables related to women’s relationships, including relationship length, ratings of Hazan and Shaver’s (1987) secure, avoidant, and anxious-ambivalent attachment descriptions, emotional abuse, partner violence, relational well-being, satisfaction, happiness, and number of times the partner left since relationship initiation. Although a multivariate main effect occurred, Pillai’s Trace  $F(10, 816)=2.47, p<0.05, \eta^2=0.03$ , univariate main effects occurred only for relationship length,  $F(1, 826)=10.26, p<0.01, \eta^2=.01$ , and for partners’ threats of violence,  $F(1, 826)=7.92, p<.05, \eta^2=0.01$ . Women who had completed Waves 5 and 6 had been in relationships longer ( $M=8.18$  years,  $SD=6.80$ ) and reported less frequent threats ( $M=0.64, SD=0.80$ ) at Wave 1 than women who had dropped out of the study ( $M_s=6.61$  and  $0.82$ , respectively;  $SD_s=5.88$  and  $0.95$ ). Although the difference in relationship length may have indicated systematic differences between dropouts and completers, the means for both groups represented long-term relationships. A lack of differences in other relational variables suggests that the groups had generally similar relationship experiences, including attachment styles.

Attachment and Relationship Status

The next step was to compare women on attachment styles and relationship status. Because longitudinal data were

used, it was possible that relationship dissolution interacted with attachment style and impacted indicator variables. This possibility was first tested by determining whether one attachment style (i.e., secure, insecure) was more likely to be associated with relationship dissolution. Second, a 2 (attachment style)  $\times$  2 (relationship status) MANOVA tested for group differences in each of the indicators shown in Fig. 1. Third, correlations between all indicators were calculated separately for each group.

A nonparametric analysis was conducted to test for differences in relationship termination by Wave 5 attachment. A significant difference occurred,  $\chi^2(1, N=512)=5.23, p<0.05$ . Of the 294 women whose primary attachment style was secure, 186 (63.3%) were still with Wave 5 partners at Wave 6. In contrast, 116 (53.2%) of 218 women with an insecure attachment style had remained with Wave 5 partners.

All indicators were included in a MANOVA to test for differences by attachment style while considering the potential for attachment to interact with relationship status. Multivariate main effects occurred for attachment, Pillai’s Trace  $F(12, 450)=3.11, p<.001, \eta^2=0.08$ , and for relationship status, Pillai’s Trace  $F(12, 450)=10.39, p<0.001, \eta^2=.22$ , but no interaction occurred, Pillai’s Trace  $F(12, 450)=1.26, ns, \eta^2=.03$ . Table 1 shows univariate main effects of Wave 5 attachment style occurred for all indicators except partners’ recent sexual aggression, perceived alternatives, and relational happiness. Differences were as expected, with securely attached women reporting less emotional abuse and physical violence and more positive relational outcomes. Univariate main effects for relationship status, shown in Table 2, were also as expected. Women still with Wave 5 partners reported less emotional abuse and violence, less insecure attachment, and greater relational quality than women no longer with Wave 5 partners.

**Table 1** Main effects for model indicators by Wave 5 primary attachment style

Indicator (scale range)	Secure ( $n=271$ )	Insecure ( $n=194$ )	<i>F</i>	$\eta^2$
Wave 5 Emotional abuse				
Psychological abuse (0–9)	1.52	2.35	11.78**	0.03
Number of times partners left	0.42	0.79	4.53*	0.01
Verbal aggression (0–9)	1.67	2.29	7.06**	0.02
Wave 5 Violence				
Threats (0–9)	0.44	0.80	10.33**	0.02
Acts (0–9)	0.14	0.31	10.06**	0.02
Sexual aggression (0–9)	0.16	0.26	1.71	0.00
Wave 6 Insecure attachment				
Avoidant (1–6)	2.39	2.78	9.09**	0.02
Anxious-ambivalent (1–6)	2.67	3.18	21.16**	0.04
Wave 6 Relationship quality				
Well-being (1–7)	5.41	4.94	4.07*	0.01
Alternatives (1–6)	2.81	3.01	0.20	0.00
Satisfaction (1–6)	4.88	4.41	6.05*	0.01
Happiness (1–7)	5.45	5.10	2.38	0.01

For all main effects,  $df=1, 465$   
 \*  $p<0.05$   
 \*\*  $p<0.01$

**Table 2** Main effects for model indicators by women’s Wave 6 relationship status

Indicator (scale range)	Same partner (n=280)	New/no partner (n=185)	F	$\eta^2$
<b>Wave 5 Emotional abuse</b>				
Psychological abuse (0–9)	1.57	2.31	8.68**	0.02
Number of times partners left	0.36	0.90	14.10**	0.03
Verbal aggression (0–9)	1.71	2.26	5.30*	0.01
<b>Wave 5 Violence</b>				
Threats (0–9)	0.50	0.73	2.81	0.01
Violence (0–9)	0.16	0.29	4.63*	0.01
Sexual aggression (0–9)	0.11	0.32	10.06**	0.02
<b>Wave 6 Insecure attachment</b>				
Avoidant (1–6)	2.26	3.00	50.10**	0.10
Anxious-ambivalent (1–6)	2.73	3.10	9.46**	0.02
<b>Wave 6 Relationship quality</b>				
Well-being (1–7)	5.84	4.26	99.71**	0.18
Alternatives (1–6)	2.54	3.43	29.75**	0.06
Satisfaction (1–6)	5.09	4.07	41.54**	0.08
Happiness (1–7)	5.66	4.77	27.94**	0.06

For all main effects,  $df=1, 465$   
 \*  $p<0.05$   
 \*\*  $p<0.01$

Finally, bivariate correlations for both attachment groups are shown in Table 3. Differences in the pattern of correlations suggest moderation is likely. For example, in the secure group, acts of violence and sexual aggression were significantly and negatively correlated, but correlations were nonsignificant for the insecure group.

**Model Estimation**

All models were tested with Bentler’s (1995) SEM software, EQS version 6.1, using Maximum Likelihood estimation. The first step was to determine whether expected differences by attachment existed in any of the estimated parameters. The

**Table 3** Correlations between all indicators for secure (n=295) and insecure (n=212) groups<sup>a</sup>

Indicator	1	2	3	4	5	6	7	8	9	10	11	12
<b>Emotional abuse</b>												
Psychological abuse	–	0.37**	0.89**	0.77**	0.63**	0.50**	0.35**	0.17**	–0.30**	0.21**	–0.21**	–0.21**
Number of times partner left	0.29**	–	0.34**	0.42**	0.39**	0.33**	0.18*	0.11	–0.26**	0.06	–0.23**	–0.11
Verbal aggression	0.91**	0.36**	–	0.74**	0.57**	0.44**	0.26**	0.10	–0.24**	0.17**	–0.16**	–0.17**
<b>Violence</b>												
Threats	0.72**	0.32**	0.70**	–	0.74**	0.47**	0.25**	0.04	–0.23**	0.09	–0.13*	–0.08
Acts	0.49**	0.29**	0.47**	0.71**	–	0.51**	0.20**	0.06	–0.25**	0.09	–0.11	–0.04
Sexual aggression	0.38**	0.16*	0.34**	0.44**	0.32**	–	0.22**	0.02	–0.27**	0.07	–0.24**	–0.10
<b>Insecure attachment</b>												
Avoidant	0.37**	0.19**	0.31**	0.25**	0.16*	0.14*	–	0.33**	–0.63**	0.40**	–0.55**	–0.51**
Anxious-ambivalent	0.11	0.13	0.05	0.04	0.06	0.12	0.20**	–	–0.18**	0.16**	–0.17**	–0.18**
<b>Relationship quality</b>												
Well-being	–0.25**	–0.16*	–0.22**	–0.11*	–0.06	–0.07	–0.65**	–0.18**	–	–0.50**	0.79**	0.72**
Alternatives	0.15*	0.08	0.10	0.04	0.00	–0.07	0.36**	0.13	–0.49**	–	–0.40**	–0.36**
Satisfaction	–0.23**	–0.14*	–0.24**	–0.08	0.02	–0.05	–0.56**	–0.16*	0.86**	–0.45**	–	0.75**
Happiness	–0.25**	–0.19**	–0.25**	–0.13	–0.02	–0.13	–0.57**	–0.20**	0.75**	–0.41**	0.79**	–

<sup>a</sup> Correlations on the upper right diagonal are for securely attached women, on the lower left for insecurely attached women  
 \*  $p<0.05$   
 \*\*  $p<0.01$

existence of these differences in the measurement model can be determined by constraining all parameter estimates across groups in a multisample confirmatory factor analysis (with covariances estimated between factors) then re-estimating the multisample model with all constraints released. The fit of the constrained and unconstrained models is then compared. A significant difference in chi-square values indicates that the unconstrained model is a better fit, and that the model parameters differ by group.

**Confirmatory Factor Analysis** The fit of the fully constrained CFA, scaled  $\chi^2(126, N=507)=220.32, p<0.001$ , was poorer than that of the unconstrained CFA, scaled  $\chi^2(96, N=507)=119.79, p=0.05$ . A significant difference occurred when the fit of the two models was compared,  $\Delta\chi^2(30, N=507)=100.53, p<0.001$ , indicating that the fit of the CFA differed by attachment style and supporting attachment as a moderator. For both groups, all path loadings were significant and no evidence of potential cross-loading indicators was observed, suggesting that the measurement model was acceptable.

**Structural Model** The next step was to estimate the proposed structural model (i.e., all lettered paths shown in Fig. 1). The multigroup model was first estimated with all parameters constrained to equality across groups. These constraints were released and the model was reestimated. The improvement in fit was significant,  $\Delta\chi^2(30, N=507)=100.54, p<0.001$ , when the fit of the unconstrained model, scaled  $\chi^2(96, N=507)=119.77, p=0.05$ , was compared to the fit of the fully constrained model, scaled  $\chi^2(126, N=507)=220.31, p<0.001$ . With evidence that the structural models differed by group, it was necessary to estimate the

proposed model and alternate models for each group separately.

*Securely Attached* Table 4 summarizes three goodness of fit indices for the proposed model with all 6 paths. Weston and Gore (2006) reviewed guidelines for fit and reported that a nonsignificant  $\chi^2$  value, Comparative Fit Index (CFI; Bentler 1990) of 0.90 or greater, and a Root Mean Squared Error of Approximation (RMSEA; Steiger and Lind 1980) less than 0.08 with the upper bound of a 90% confidence interval not greater than 0.10 are generally accepted as indicators of good fitting models. Using these guidelines, all fit indices (shown in Table 4) indicated an acceptable fit to the data. Table 4 also shows that a greater proportion of variance was explained for Relationship Quality,  $R^2=0.45$ , than for Insecure Attachment,  $R^2=0.12$ . All proposed path loadings were significant. However, three of the six path coefficients (Paths C, E and F in Fig. 1) were nonsignificant,  $\beta_s=-0.07, -0.11, \text{ and } 0.05$ , respectively. Rather than simultaneously removing all three nonsignificant paths, a cautionary approach was used and only one path was removed at a time, with each path replaced after removal. Theoretical considerations suggested the least important paths were F and E. By leaving Path C in the model, Violence could still impact Relationship Quality indirectly.

As shown in Table 4, the removal of Path F from Violence to Relationship Quality did not change model fit appreciably. A nonsignificant  $\Delta\chi^2$  indicated that the fit of the nested models did not differ significantly. With Paths C and E remaining nonsignificant,  $\beta_s=-0.07$  and  $-0.06$ , respectively, and a 1% increase in explained variance for Relationship Quality, the next step was to test the effect of eliminating a different nonsignificant path. Removing Path E

**Table 4** Fit indices for proposed and alternate models in with chi-square difference tests for nested models

Model	df	scaled $\chi^2$	Robust CFI	RMSEA (90% CI)	$\Delta df$	$\Delta\chi^2$	R <sup>2</sup> (IA)	R <sup>2</sup> (RQ)
<b>Securely attached<sup>a</sup></b>								
Proposed model	48	60.63	0.98	0.03 (0.00–0.05)	–	–	0.12	0.45
<b>Alternate models<sup>c</sup></b>								
Path F removed	49	61.44	0.98	0.03 (0.00–0.05)	1	0.81	0.12	0.46
Path E removed	49	61.56	0.98	0.03 (0.00–0.05)	1	0.93	0.13	0.49
Paths E and F removed	50	62.21	0.98	0.03 (0.00–0.05)	2	10.58	0.14	0.51
<b>Insecurely attached<sup>b</sup></b>								
Proposed model	48	58.52	0.99	0.03 (0.00–0.06)	–	–	0.19	0.63
<b>Alternate Models<sup>c</sup></b>								
Path F removed	49	60.63	0.99	0.03 (0.00–0.06)	1	2.11	0.26	0.83
Path E removed	49	58.76	0.99	0.03 (0.00–0.06)	1	0.24	0.20	0.67
Paths E and F removed	50	62.27	0.99	0.03 (0.00–0.02)	2	3.75	0.17	0.55

CFI Comparative fit index, RMSEA root mean square error of approximation, IA insecure attachment, RQ relationship quality

<sup>a</sup> For all models, n=295

<sup>b</sup> For all models, n=212

<sup>c</sup> All modified models were compared to the proposed model

\* p<0.05

(with Path F estimated) eliminated the direct effect of Emotional Abuse on Relationship Quality, while still allowing for a mediated relationship between the constructs.

Fit statistics in Table 4 indicate the model did not differ significantly from the initial and first alternate models. Paths C and the re-estimated Path F remained nonsignificant,  $\beta$ s = -0.09 and -0.03, respectively. The next step was to remove Paths E and F simultaneously. Table 4 shows that the model in Fig. 2 did not differ significantly from the previously estimated models. Although Path C remained nonsignificant, research supports a relationship between physical violence and insecure attachment. Therefore, the model in Fig. 2 was the final model. With the exception of the path from Violence to Insecure Attachment, all paths were significant and in the expected direction. The indirect effect of Emotional Abuse on Relationship Quality through Insecure Attachment was also significant,  $\beta = -0.32$ .

*Insecurely Attached* Fit indices in Table 4 suggested the proposed model fit the data from the insecure group well. Compared to the secure group, explained variance was higher for Relationship Quality and for Insecure Attachment, as might be expected. All path loadings were significant, but coefficients for Paths C, E, and F were nonsignificant,  $\beta$ s = -0.07, -0.04, and 0.16, respectively, as was the case for the secure group. Paths were constrained to zero and re-estimated following the same steps used in estimating models for the secure group.

Removing Path F did not change model fit, as shown in Table 4. However, explained variance increased for both outcomes. Paths C and E remained nonsignificant,  $\beta$ s = -0.19 and 0.22, respectively. In the second alternate model, Path E

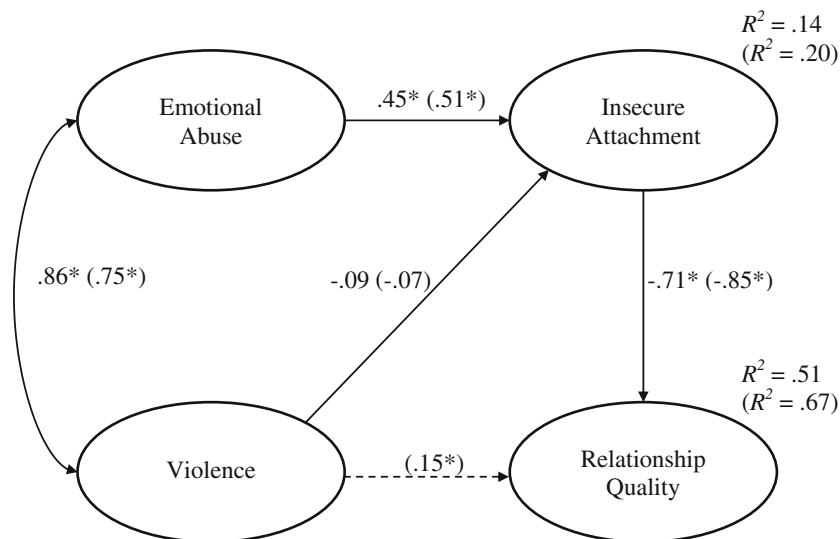
was constrained to zero and Path F was estimated. No significant improvement in fit occurred, yet Path F was significant,  $\beta = 0.15$ , and opposite the expected direction. Only Path C was nonsignificant.

To replicate the final model for securely attached women, a third alternate model was tested, where Paths E and F were simultaneously constrained to zero. Table 4 shows that the fit of this model was not significantly different from previous models, yet explained variance was decreased for both outcome variables, and Path C remained nonsignificant,  $\beta = -0.11$ .

The fit of the first and second alternate models (with Paths F and E removed, respectively) was comparable. Although the amount of variance in the outcome constructs was considerable in the first alternate model, Path E was nonsignificant. In contrast, the model with a dashed path in Fig. 2, explained less variance in the outcomes, yet contained only one nonsignificant path. Therefore, the model in Fig. 2 was retained. The indirect effect of Emotional Abuse on Relationship Quality through Insecure Attachment was significant,  $\beta = -0.43$ , but the indirect effect of Violence on Relationship Quality was not,  $\beta = 0.22$ .

## Discussion

Two hypotheses were tested, with a goal of determining how attachment mediates the effects of partners' negative behaviors on the quality of women's relationships. SEM provided evidence for the mediation hypothesis, with three of the six paths proposed in Fig. 1 significant for both



**Fig. 2** Final model for both groups. Results for secure group listed above or to the left, results for insecure group listed below or to the right and in parentheses. Fit for the secure group, scaled  $\chi^2(50, N=295)=62.21, p=0.12$ ; Comparative fit index=0.98; root mean square

error of approximation=0.03 (0.00–0.05). Fit for the insecure group, scaled  $\chi^2(49, N=212)=58.76, p=0.16$ ; comparative fit index=0.99; root mean square error of approximation=0.03. Dashed path was estimated only for insecure group. \*Path is significant at  $p < 0.05$



attachment groups. The expected association between Emotional Abuse and Violence was found for both groups. Although Violence did not have the expected effect on Insecure Attachment in either group, Emotional Abuse had a direct effect on Insecure Attachment and an indirect effect on Relationship Quality for both groups.

#### Emotional Abuse and Insecure Attachment

Only 14% of variance in Insecure Attachment was explained for secure women, compared to 20% for insecurely attached women. It may be that for securely attached women, insecure attachment is less affected by negative relationship experiences. Instead, the insecure aspects of attachment may remain fairly stable with a secure attachment to the partner buffering the impact of negative events. Positive coping strategies associated with secure attachment (Mikulincer and Florian 1998) may shield women from the impact of partners' abuse, suggesting attachment mediates effects of abuse for constructs likely to be impacted by positive and negative coping strategies such as self-esteem, depression, and support seeking.

#### Violence and Insecure Attachment

A positive association between Violence and Insecure Attachment was expected for both groups but there was clearly no support for this hypothesis. Similar results have been reported in the literature when comparing the effects of emotional abuse and physical violence on other variables. Emotional abuse has been a stronger predictor than violence for self-esteem, stress, emotional distress, depression, relationship quality (Marshall 1994, 1999) and had a stronger impact than physical violence (Follingstad et al. 1990). Marshall (1994, 1999) suggested subtle psychologically abusive behaviors might undermine women's sense of self by creating uncertainty about their perceptions in a way overt acts would not. Women may more clearly attribute threats and acts of violence, which are overt and readily recognized as abusive, to their partners. These tendencies could provide some protection for the way women view themselves (e.g., the way they view their attachment) when in violent relationships.

#### Moderated Mediation

The expected negative effect of Insecure Attachment on Relationship Quality was supported for both groups. This finding, in conjunction with the lack of significance for a direct path from Emotional Abuse to Relationship Quality, suggests Insecure Attachment fully mediated the effects of Emotional Abuse on Relationship Quality. For both groups, partners' emotionally abusive behaviors were associated

with increased insecure attachment, which was a negative predictor of stability, increasing the *instability* of women's relationships. Surprisingly, the association between partners' violence and women's relational quality was positive for the insecure group. It may be that, after controlling for effects of emotional abuse, a positive association exists due to attributional effects.

Using longitudinal data to test the association between attachment and emotional abuse addressed the direction of causality, a shortcoming of previous research noted by Henderson et al. (2005). Results suggest that an argument can be made for the effect of emotional abuse on attachment. Taking the extensive body of research that suggests insecure attachment is associated with perpetration (e.g., Babcock et al. 2000; Dutton et al. 1994; Holtzworth-Munroe et al. 1997) with findings here that suggest emotional abuse increases women's insecure attachment, the possibility arises that violent victimization may lead to increased insecure attachment, which then results in perpetration.

In summary, the results supported the notion that attachment provides women with a means for interpreting and responding to the actions of their partners. This addresses an often neglected aspect of attachment theory. As some have noted (Mikulincer et al. 1990), attachment is primarily a theory of affect regulation. Thus, different styles reflect differences in ways of coping with negative affect. Researchers have used stressful events to activate working models of attachment and examined how interpretations and responses differ by primary attachment style (Mikulincer and Florian 1998). Negative relationship behaviors may also activate resources such as coping strategies associated with attachment in a more holistic way than the moderation hypothesis would have suggested. Consequently, there may be differences by attachment style in women's responses to and interpretations of events.

#### Limitations

This study was conducted using data from a convenience sample of women who completed at least three long interviews. Consequently, there are at least four limitations. First, data regarding violence consisted of women's perceptions of subjective frequency, which may not reflect reality. However, when considering effects, perceptions may have more emotional and psychological impact than what actually occurred. Second, a volunteer rather than random sample was used. The most obvious disadvantage to using volunteers in studies concerning intimate violence is the possibility that partners of nonvolunteers may have prevented their participation. Therefore, the results may not be generalizable to women in severely violent relationships. On the other hand, 31% of the sample had experienced

severe, life threatening acts of violence (Marshall 1999). Third, two different measures of attachment were used. Thus, the long-term impact of partners' abuse on attachment could not be as clearly determined. Fourth, the sample was limited to women who completed at least three interviews. Although the initial sample was representative of low-income women in each ethnic group (Honeycutt et al. 2001), completers tended to be older, have longer relationships, and have lived in the area longer than those who dropped out. However, there were no differences between groups on many other relationship or demographic variables.

## Conclusions

In considering the potential for mediation by attachment, the results have implications both for the link between abusive behaviors and attachment and effects on relational outcomes. Finding victimization was associated with insecure attachment extended previous research (Dutton et al. 1994; Senchak and Leonard 1992) that has focused on attachment and perpetration. Overall, there are at least four inferences to be drawn from this study.

First, experiencing psychological abuse and/or sexual aggression may have indirect effects on women's perpetration. For example, past research has shown that violence was more likely when both partners had insecure attachment styles than when one or both partners were securely attached (Bookwala 2002; Follingstad et al. 2002). Therefore, increases in insecure attachment may lead to an increase women's perpetration of violence. Consequently, research is needed to determine the long-term impact of partners' negative behaviors on women's insecure attachment and any resultant changes in the mutuality of violence.

Second, the results have implications for the controversy on stability of attachment in adulthood. Associations between partners' emotional abuse and insecure attachment raised the possibility that negative relationship behaviors increase the likelihood of insecure attachment to subsequent partners. Because insecurely attached individuals report less relationship satisfaction (Collins and Read 1990) and quality (Feeney and Noller 1990) than those who are securely attached, a history of abuse may affect future relationship quality.

Third and fourth are practical implications. In recent years, practitioners have become more aware of the prevalence and consequences of violence in relationships. However, the same awareness has not occurred for emotional abuse despite the increasing evidence that it may be more generally harmful than violence. The strong relationship between emotional abuse and women's view of

themselves suggests practitioners should address emotional abuse, especially if violence is also present. Further, practitioners' experience with other subtle and difficult to describe behaviors could help researchers develop brief, effective screening tools for emotional abuse.

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