Longitudinal Effects of Conflict Behaviors on Depressive Symptoms in Young Couples

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Abstract

This study investigated relationship dynamics contributing to gender differences in depression by testing longitudinal associations between observed conflict behaviors and depressive symptoms in young couples. Direct effects of psychological aggression, positive engagement, and withdrawal, as well as indirect effects via relationship satisfaction were considered. Participants were 68 heterosexual couples involving men from the Oregon Youth Study who remained in a stable relationship across at least 2 and up to 10 years from their early 20's to early 30's. Hierarchical linear modeling was used to test both between-couple differences in symptom trajectories predicted by partner behaviors and within-couple covariation between behaviors and depressive symptoms across five time points. Higher levels of women's positive engagement predicted lower symptom levels for both partners, and higher women's withdrawal predicted higher own symptom levels. Relative increases in couples' psychological aggression and decreases in positive engagement were additionally associated with increases in women's symptoms over time. Whereas between-couple behavior effects on women's symptoms were mediated by relationship satisfaction, within-couple effects proved independent of satisfaction. Implications for mechanisms of depression risk and maintenance in couples are discussed.

Keywords

couples; conflict behavior; depression; relationship satisfaction; longitudinal

A large body of research suggests that stress within couples' relationships is a potent cause and effect of depression and, further, that the overlap between relationship distress and personal distress is particularly great for women (see review by Whisman, 2001). Identifying differential vulnerability to relationship stress could thus help to explain gender differences in depression prevalence and suggest better avenues for prevention/intervention. However, the specific processes by which aspects of couples' interactions fuel depression over the course of the relationship, and which of these are gender-specific, remain inadequately understood. Furthermore, the question of whether couples' interaction styles influence depression directly,

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as opposed to indirectly through effects on relationship satisfaction, remains unresolved. We sought to shed further light on the interpersonal dynamics underlying gender differences in depression by examining longitudinal associations between particular positive and negative interaction patterns – i.e., positive engagement, psychological aggression, and withdrawal – observed in couples' conflict and both partners' depressive symptoms. To probe the developmental mechanisms by which these interaction patterns shape partners' adjustment, we considered both direct effects and mediation through relationship satisfaction, as well as between-couple differences in trajectories and more subtle within-couple covariation across an extended period of 10 years.

Couples Interaction and Depression: Gender-Specific and Nonspecific Links

According to the marital discord model of depression (Beach, Sandeen, & O'Leary, 1990), destructive interpartner interactions play an important role in the onset and maintenance of depression. Relationship discord is thought to lead to depression by reducing social support and increasing stress and hostility to which partners are exposed. Given this framework, it is not surprising that negative couples' interaction patterns, characterized by low levels of support provision and high levels of aggression, have been consistently linked to depression in one or both partners (e.g., Gotlib & Whiffen, 1989; Johnson & Jacob, 1997, 2000; see also Gotlib and Beach, 1995, for a review). A romantic stress generation model proposing paths from depression-prone partners' negative conflict styles (involving low support giving and receiving) to increases in depression was supported for women only (Davila, Bradbury, Cohan, & Tochluk, 1997), and other studies have confirmed larger prospective effects of marital discord on women's depression (e.g., Dehle & Weiss, 1998). Thus, this type of model seems particularly applicable to explaining the maintenance of women's depression.

The reasons for this differential vulnerability by gender likely have to do both with social roles and biological mechanisms. As pointed out by Koerner, Prince, and Jacobson (1994), gender role socialization emphasizing intimacy needs for women puts them at increased risk for depression when these needs are not met by romantic relationships. The emotional importance of maintaining high-quality relationships may give rise to women's extended neuroendocrine stress response to unsupportive partner interactions (e.g., Kiecolt-Glaser & Newton, 2001; Robles, Shaffer, Malarkey, & Kiecolt-Glaser, 2006), which in turn is associated with depression. These findings provide a sociobiological frame for understanding the differential burden of couples' conflict on women, yet there is more to be learned about which specific behavior patterns – from negative engagement/aggression to disengagement/withdrawal to positive engagement – are most important for adjustment and which show consistently gender-specific effects.

Aggression, and psychological aggression in particular, is generally acknowledged to lead to maladjustment, and couples research has shown woman-specific links between psychological aggression and concurrent depression (e.g., Taft et al., 2006; though see also Coker et al., 2002, for depression-aggression associations in both men and women) and between earlier negative marital interactions characterized by aggression and/or withdrawal and later depression (Whitton et al., 2007). Prior research within the larger sample from which the current study sample is drawn also points to stronger and more generalized associations between women's depression and both of the partners' aggression, both cross-sectionally and over time (Kim & Capaldi, 2004; Kim, Laurent, & Capaldi, in press). Findings for withdrawal have been mixed, with many researchers finding deleterious effects of wife-demand/husband-withdraw patterns (see Eldridge & Christensen, 2002 for a review) whereas others have found evidence for a protective value for men (Laurent, Kim, & Capaldi, in press; Verhofstadt, Buysse, De Clercq, & Goodwin, 2005). Finally, fewer studies have addressed positive aspects of couples' interactions as a buffer against depression, though lower levels of positivity in

couples with a depressed spouse, and particularly a depressed wife, have been documented (Johnson & Jacob, 1997).

Studies in this area have found effects of depression on couples' interactions and vice versa. The purpose of the current study is to illuminate factors driving depression; therefore, we focus on effects of couples' interactions on depression, while acknowledging that these effects are almost certainly bidirectional. Regardless of the direction in which investigations have been framed, relatively little is known about mechanisms by which specific positive/negative behavior patterns during conflict relate to partners' depression. Another point of confusion lies in the definition of couples' "adjustment"; some studies use dyadic adjustment (relationship satisfaction) to judge the positive/negative impact of conflict, whereas others use individual adjustment (depressive symptoms). The interrelationship of these different types of adjustment with observed conflict behavior, as well as with one another, requires further explication.

The Role of Relationship Satisfaction

Relationship satisfaction is known to be closely associated with both interaction patterns and depression, and a review of the literature has shown it to relate more strongly to women's than men's depression at both the symptom and diagnostic levels (Whisman, 2001). However, the role of relationship satisfaction as a mediator explaining links between quality of couples' interactions and depression, or as an independent marker of couples' adjustment, is far from clear. Prior research including all three constructs has at times been able to demonstrate only partial linkages along the mediational chain. Some studies indicate an effect of negative marital interactions on marital adjustment and on depression, but no link between the latter two variables (Whitton et al., 2007), and other work suggests that there is no unique relationship between couples' positive/negative communication behaviors and depression but that there is an association between couples' behavior and marital satisfaction (Baucom et al., 2007). On the other hand, research testing an exploratory multivariate model of couples' aggression lent support to a mediational model by showing that men's and women's depressive symptoms related to aggression via marital adjustment (O'Leary, Slep, & O'Leary, 2007).

It is important to know if relationship satisfaction mediates the effect of interaction patterns on depression for both theoretical and practical purposes. If conflict behavior relates to depression through effects on partners' evaluations of the relationship, and women's relationship evaluations overlap more with self-evaluations, this would help to clarify the gender role socialization model of women's depression. On the other hand, if there is no such mediating process, we would need to look for other mechanisms that make these behaviors relevant for adjustment and evaluate how these differ by gender. Clinically, the question of mediation is important in deciding whether couples interventions should target relationship satisfaction and/or behavior directly to alleviate depression. If the two factors have independent effects, both should be addressed to ensure a successful outcome, whereas a mediated effect could imply that choosing one or the other provides an adequate starting point. Clearly, an understanding of how couples' interactions relate to depression must delineate how relationship satisfaction plays a part (or fails to), and the current study is designed in part to address this issue.

Effects over Time: Using Growth Curve Analysis to Describe Couples' Development

A further impediment to our understanding of couples' processes underlying depression is the lack of long-term longitudinal studies that examine ways in which partners' interactions and the consequences of such interactions play out over the course of the relationship. Recent work by Lawrence and Bradbury (2007) highlights the importance of examining trajectories of

partners' behaviors, such as aggression, to understand the full impact on couples' adjustment and to begin to distinguish proximal influences governing within-couple changes. In particular, growth curve analysis has been recommended for studying the developmental processes underlying depression in couples (see Karney, 2001). This framework allows us to investigate effects of partners' behavior during conflict on each partners' depressive symptoms over time while distinguishing between-couple differences in trajectories and within-couple dynamics contributing to deviations from those trajectories. Such a multilevel longitudinal investigation has the potential to greatly expand our understanding of real-world processes by which men's and women's depression unfold within romantic relationships.

The Current Study

The current study was proposed to address some of the gaps or inconsistencies described above in the body of couples' research relating partners' conflict behavior to depression. In particular, we tested longitudinal effects of couples' positive and negative conflict behaviors on men's and women's depressive symptoms, considering both direct effects and possible mediation through relationship satisfaction. In keeping with marital discord and romantic stress generation models emphasizing opportunities for support giving/receiving to promote partner adjustment, positive engagement was used as an index of positive behavior and both psychological aggression and withdrawal were examined as negative behaviors. On the basis of the existing literature and informed by sociobiological theories of gender differences in the impact of couples' conflict, we hypothesized that high levels of negative and low levels of positive behavior would relate more strongly to women's than to men's depression over time. In the absence of prior research distinguishing within- vs. between-couple effects of couples' behavior, we predicted similar effects at both levels of analysis. Finally, we expected that relationship satisfaction would add to the prediction of partners' depressive symptoms and could mediate conflict behavior-depression associations; though given conflicting reports from prior research, this was a somewhat tentative prediction.

Several features of the current study that add to the existing literature bear noting. In contrast to the bulk of couples research conducted with middle-class married dyads, hypotheses were tested in a sample of community couples from at-risk backgrounds who were not necessarily married but remained in a stable relationship across at least 2 years and up to a decade. Measures of couples' behavior included moment-by-moment coding of specific positive and negative patterns at five separate waves of data collection, allowing for a more precise and reliable test of conflict behavior effects. Finally, by examining both within- and between-couple levels of variations, we were able to look at proximal effects of within-couple changes in the relationship climate, over and above differences in couples' overall ability to manage conflict.

Method

Participants

This study used data from the Couples Study of a community sample of young couples with at-risk backgrounds. The men in the study were originally recruited for the Oregon Youth Study (OYS), which is an ongoing longitudinal study. The men were recruited through fourth-grade classes (ages 9–10 years) in higher-crime areas of a medium-size metropolitan region in the Pacific Northwest. When the men were ages 17–18 years, the Couples Study started to examine the OYS men and their intimate partners' adjustment in young adulthood. The men and their partners were assessed at six time points; ages 17–20 (Time 0; T0), ages 20–23 (Time 1; T1), ages 23–25 (Time 2; T2), ages 25–27 (Time 3; T3), ages 27–29 (Time 4; T4), and ages 29–31 (Time 5; T5). For the present study, data from T1 through T5 were used because many men were not in a steady relationship and did not participate in T0 assessment. A total of 194 OYS men participated in the Couples Study at least once over the years. The current study included

the 68 couples who participated in at least 2 and up to all 5 consecutive time points with the same partner and did not participate at any time point with a different partner. Descriptive information for the participants at each time point is presented in Table 1.

Procedures

Assessment for the Couples Study included a separate interview and questionnaires for the OYS men and their partners and a series of six discussion tasks that were videotaped, including a warm-up session. The entire Couples Study assessment lasted approximately 2 hours. For the current study, coding of two problem-solving discussion tasks was used. The man and his partner were each directed to pick an issue in their relationship either from the list provided (the Partner Issue Checklist; Capaldi, Wilson, & Collier, 1994) or of their own choosing. Examples of issues selected included partner's jealousy, not having enough money for dates or activities, and having a hard time talking to each other. The couples discussed each partner's issue for 7 minutes for a total of 14 minutes. For further information regarding the discussion tasks, see Capaldi and Crosby (1997) and Capaldi, Shortt, and Crosby (2003).

Coding of the interaction tasks—The Family and Peer Process Code (Stubbs, Crosby, Forgatch, & Capaldi, 1998) was used to code the interaction tasks at each time point. A computer was used to record, in real time, the interpersonal behavioral and emotive content of each couple's interaction. The 24 content codes included verbal, vocal, nonverbal, physical, and compliance behaviors that were judged a priori as having a positive, neutral, or negative impact. Six affective ratings described the participant's emotional tone: happy, caring, neutral, distress, aversive, and sad. An affect rating was assigned to each content code on the basis of tone and inflection of voice, body posture, nonverbal gestures, and facial expressions. Each partner's behavior was coded continuously with a particular content/affect code combination, which did not change until a change in content and/or affect occurred; in other words, behavior was coded by duration of a codeable state rather than by discrete events. All coders were professional research assistants who received an initial 3-month training. To assess coder reliability at each wave, a minimum of 14% of videotaped tasks were selected to be coded independently by two coders, and kappas were computed. Content and affect kappas ranged from .73 to .85 for T1-T5 (see www.oslc.org/resources/codingsystems.html for a description of the coding system). See also Capaldi and Crosby (1997) for evidence of FPP code validity.

Measures

Couples interaction patterns—Behavioral clusters defined by pertinent combinations of content codes and affects were created, and duration proportions (time spent exhibiting the behavior cluster/total discussion time) for two of these clusters and a qualifier code were examined in the following analyses.

Positive engagement—This cluster included neutral behaviors (talk, tease, advise, vocal, neutral nonverbal) combined with positive affect, as well as positive behaviors (positive interpersonal, endearment, self-disclose, positive nonverbal, touch/hold) combined with positive or neutral affect. Examples of positive engagement could include a partner telling about something that happened to him/her (talk) with a happy or caring demeanor (positive affect) and a partner complimenting the other (endearment) or giving him/her a hug (touch/hold) with neutral to positive affect.

Psychological aggression—This cluster was defined by negative behaviors (negative interpersonal, verbal attack, coerce) combined with neutral, distressed, aversive, or sad affect. Behaviors such as name calling, threats, and criticism or humiliation were included in this coding. For example, a partner demanding that the other change his/her behavior while

threatening negative consequences if he/she fails to comply, accompanied by a neutral to angry emotional tone, would be coded as psychological aggression.

Withdrawal—This code was used as a qualifier of the interaction and was defined independent of the content codes as "a lack of engagement with or attention to ongoing interaction." No single behavior defined withdrawal, rather it was defined from a gestalt of behaviors including such indicators as closed-off body language and failure to respond to the partner. For example, a partner in withdrawal might show intermittent eye contact or a "glazed" expression and make brief responses only after repeated prompting. At least 3 seconds of observed withdrawal were required before a state of withdrawal was coded. Kappas for the specific content and affect clusters comprising these constructs ranged from .89–.94 for positive engagement, from .59–.77 for psychological aggression, and from .95–.99 for withdrawal across the five time points.

Depressive symptoms—Partners' depressive symptoms at T1 through T5 were assessed with a 20-item self-report scale (CES-D, Center for Epidemiological Studies of Depression Scale; Radloff, 1977) designed to measure depressive symptomatology among adults in the general population. Internal consistencies ranged from .81 to .92 for the men and .88 to .93 for the women partners in this sample. See Figure 1 for partners' mean scores at each wave.

Relationship satisfaction—Partners' relationship satisfaction at each wave was assessed with a 32-item self-report scale designed to measure the quality of marriage and other similar dyads (Dyadic Adjustment Scale [DAS]; Spanier, 1976). The alphas of the total score ranged from .91 to .93 for the men and .88 to .95 for the women.

Relationship control variables—Length of relationship, presence of children in the home, and relationship status were assessed as possible control variables relevant to couples' adjustment. Two variables were used to assess length of the relationship: 1) *number of waves with same partner* was the sum of time points in which the couple participated together, and 2) the average of the two partners' reported length of relationship (in weeks) at the first assessment they completed together indexed *initial length of time together*. A dichotomous variable indicating whether the couple had *children living in the home* with them (1) or not (0) was assigned at each time point. An ordinal variable indicating more committed *relationship status*, ranging from dating (1), to living together (2), to married (3) was measured at each wave.

Analytic Strategy

The data under investigation are dependent (i.e., nested, scores over time are clustered within an individual, and individuals' scores are clustered within a couple); thus, a multilevel modeling strategy, specifically dyadic growth curve modeling as outlined by Raudenbush, Brennan, and Barnett (1995), was used. In this framework, variability is modeled separately for within-couple and between-couple components, taking into account the interdependence of partners' trajectories. At Level 1, within-couple variation in depressive symptoms over time is modeled with partner-specific growth parameters that may vary across couples. At Level 2, these growth parameters from Level 1 are modeled as outcomes to be explained by characteristics of the couple. This modeling approach is preferred for examining couples longitudinal data when both similarities and differences between partners' trajectories are of interest (see Atkins, 2005). This approach also allows for unbalanced data at Level 1 – i.e., participants could have varying numbers of time points – while using full maximum likelihood estimation to compute model parameters.

Hierarchical Linear Modeling (Raudenbush & Bryk, 2003) was used to test a series of models examining the impact of couples' conflict behaviors (i.e., positive engagement, psychological aggression, and withdrawal) – both directly and indirectly through relationship satisfaction – on depressive symptoms at within- and between-couple levels. At Level 1, couples' conflict behavior and relationship satisfaction were entered as time-varying covariates (centered around each couple's mean) to examine the extent to which changes in partners' behaviors and/or satisfaction were associated with changes in their depressive symptoms over time. At Level 2, time-invariant effects indicated the extent to which each partner's mean conflict behavior and satisfaction scores (centered around the men's or women's mean for the sample) predicted growth parameters of depressive symptom trajectories. To balance parsimony with specificity of effects, the impact of individual partner behaviors was considered at the between-couple level, whereas the within-couple level considered variation in dyadic (mean of his and hers, which tended to be highly related) behavior scores.[1]

As an example, in the model testing the effect of psychological aggression on partners' depressive symptoms, a significant Level 2 effect would mean that his or her average level of psychological aggression from T1–T5 predicts a higher level (intercept) and/or less steep decline (slope) in one or both partners' depressive symptoms. A significant Level 1 effect in this example would mean that, above and beyond the effect of being generally higher or lower on psychological aggression for the sample, a relatively higher level of psychological aggression *for the couple* is associated with increased depressive symptoms over time.

As an illustration, the two-level model for psychological aggression predicting depressive symptoms (with the underlying baseline growth model highlighted in bold) is as follows:

Level 1 (within-couple)

$$\text{CES–D} = (\text{men})_{it} [\boldsymbol{\pi_{m0i}} + \boldsymbol{\pi_{m1i}}(\text{linear})_{it} + \pi_{m2i}(\text{dyadic psychological aggression})_{it}] + (\text{women})_{it} [\boldsymbol{\pi_{w0i}} + \boldsymbol{\pi_{w1i}}(\text{linear})_{it} + \pi_{w2i}(\text{dyadic psychological aggression})_{it}] + \boldsymbol{e_{it}}$$

Level 2 (between-couple)

$$\boldsymbol{\pi_{m0i}} = \boldsymbol{\beta_{m00}} + \beta_{m01} (\text{avg. man's psychological aggression}) + \beta_{m02} (\text{avg. woman's psychological aggression}) + \boldsymbol{u_{m0i}}$$

(Similar equations describing π_{m1i} and π_{w0-1i} ; $\pi_{m/w2i}$ are simply modeled with intercepts and no variability.)

Results

Following initial models describing partners' baseline depressive symptom trajectories and determining which control variables to retain, we ran a sequence of explanatory models to test direct and indirect effects of partners' conflict behaviors. First, each conflict behavior was tested on its own (e.g., men's and women's mean positive engagement at Level 2, dyadic positive engagement scores at each wave at Level 1), and then partners' relationship satisfaction scores were added (at both levels) to predict their depressive symptoms[2]. In order to test

[1]Models reported below were also run with dyadic scores at Level 2 to make sure that controlling for partner behaviors did not impact results; the same pattern of effects was found, including those for mediation.
[2]The reverse direction of effects was also tested (i.e., partners' depressive symptom scores used to predict conflict behaviors). In keeping with the acknowledgment of reciprocal effects, similar patterns of association to those reported below were found; in particular, women's T1-T5 depressive symptoms predicted lower positive engagement and higher psychological aggression and withdrawal in the relationship.

possible indirect effects via relationship satisfaction for behavior effects that had a significant total effect in the initial model, an additional model using that conflict behavior variable to predict relationship satisfaction was run, and mediation was tested with the Prodclin program (MacKinnon, Fritz, Williams, & Lockwood, 2007). Prodclin uses a version of the product of coefficients test but adjusts the confidence limits for an asymmetrical distribution (see Krull & MacKinnon, 1999, and for support on using a coefficient product method to test multilevel mediation when mediated effects are not random see Kenny, Korchmaros, & Bolger, 2003).

Depressive Symptoms: Baseline Model

A linear growth model was fit to describe couples' depressive symptoms across the five waves of data collection spanning approximately 10 years; men's and women's intercepts and slopes were modeled at Level 1, which were in turn entered as outcomes at Level 2. The baseline and subsequent models were centered at the final time point (T5); thus, intercept terms represent men's and women's depressive symptoms *at the end* of the period under study. This centering allows us to survey partners' depressive symptoms after a decade together, making the contribution of earlier interaction patterns (from T1–T5) more meaningful as a predictor. On average, women showed a significant linear decrease in depressive symptoms across time points, whereas men did not increase or decrease significantly. Significant between-couple variability was found for men's and women's intercepts but not for their slopes; fixing the latter terms so that they were not allowed to vary at Level 2 did not result in significantly worse model fit, $\chi^2(7) = 7.54$, *ns*, though removing them entirely did. Therefore, the final unconditional model included both intercept and slope terms to describe partners' depressive symptom trajectories, but only partners' intercept terms served as outcomes to be explained at Level 2.

A significant correlation between partners' intercepts (*tau* = .50) underlined the interdependency of the men's and women's depressive symptoms within couples. Planned contrasts of coefficients showed that women, on average, had higher levels of depressive symptoms at T5 (intercept of 7.93 vs. 6.17 for men, $\chi^2[2] = 105.75$, $p < .001$), even after declining more rapidly from T1–T5 (slope of $-.73$ vs. .15 for men, $\chi^2[2] = 13.10$, $p = .002$). At the same time, significant Level 2 variability in intercepts suggested that this pattern varied across couples, and significant Level 1 variability additionally pointed to deviations from these trajectories that could be explained by adding time-varying predictors.

Control Variables

Of the possible couple characteristics tested as controls, only relationship status was found to relate to partner's depressive symptoms. For men, being in a more committed relationship across T1–T5 predicted a lower depressive symptom intercept (Level 2), and for women, an increase in relationship status (e.g., from living together to married) from one time point to another was associated with a decrease in depressive symptoms (Level 1). Therefore, relationship status was included as a control variable in subsequent models reported below.

Effects of Positive Engagement

At the between-couple level, women's mean positive engagement across the study period predicted lower levels of depressive symptoms at T5 (intercepts) for both partners. At the within-couple level, there was a negative relationship between dyadic positive engagement and women's depressive symptoms, suggesting that relative increases in couples' positive engagement were additionally associated with decreases in women's depressive symptoms over time. Adding relationship satisfaction to the model (at both levels) revealed that the Level 2 effect of women's positive engagement on their own depressive symptoms was fully mediated by increased relationship satisfaction (indirect path value -21.93, 95% confidence limits -40.26 to -7.40, $z = -2.60$), whereas the effect on men's depressive symptoms was not

mediated by relationship satisfaction. The Level 1 effect of positive engagement on women's depressive symptoms also remained unaffected (see Table 2 for effects of positive engagement with and without relationship satisfaction). This explanatory model showed a significant improvement in fit over the baseline model according to the deviance test, $\chi^2(12) = 282.71$, $p < .001$, and it explained 8.1% of the variance in men's and 31.6% of the variance in women's intercepts (8.3% in men's and 12.0% in women's intercepts without relationship satisfaction).

Effects of Psychological Aggression

There were no significant effects of partners' mean psychological aggression at Level 2, but relative increases in dyadic psychological aggression paralleled increases in women's depressive symptoms at Level 1. Adding relationship satisfaction to the model again left a unique Level 1 effect on women's depressive symptoms (see Table 3). This explanatory model showed a significant improvement in fit over baseline, $\chi^2(12) = 271.44$, $p < .001$, and it explained 1.9% of the variance in men's and 31.6% of the variance in women's intercepts (0% in men's and 14.1% in women's intercepts without relationship satisfaction).

Effects of Withdrawal[3]

A between-couple effect of withdrawal showed that higher levels of women's mean withdrawal across the study period predicted higher depressive symptom intercepts for women. There were no significant within-couple effects. Adding relationship satisfaction to the model did not reduce the Level 2 effect on women to nonsignificance, but it was reduced in magnitude, and the indirect path via relationship satisfaction was significant (indirect path value = 41.68, confidence limits 3.52 to 97.26, $z = 1.71$), suggesting partial mediation (see Table 4). This explanatory model also improved significantly in fit over baseline, $\chi^2(12) = 256.02$, $p < .001$, and it explained 14.0% of the variance in men's and 40.8% of the variance in women's intercepts (0.7% in men's and 22.7% in women's intercepts without relationship satisfaction).

Gender Differences

To explicitly test gender differences in the effects of conflict behaviors, a series of follow-up contrasts of model coefficients (using the Wald statistic) was run. At Level 1, the effect of a dyadic behavior on men's depressive symptoms was contrasted against the effect on women's symptoms; at Level 2, the combined effect of both partners' behaviors on men's vs. women's depressive symptom intercepts was compared. Results of these contrasts confirmed a larger effect of couples' Level 1 positive engagement, $\chi^2(2) = 23.56$, $p < .001$, Levels 1 and 2 psychological aggression, $\chi^2(2) = 11.18$, $p = .004$ and $\chi^2(2) = 8.90$, $p = .012$, respectively, and marginally larger effect of couples' Level 2 withdrawal, $\chi^2(2) = 5.55$, $p = .06$, on women's depressive symptoms. The only behavior effect that proved larger for men was couples' Level 2 positive engagement, $\chi^2(2) = 13.63$, $p = .001$.

Discussion

This study set out to probe relationship-based sources of gender differences in depression by testing multilevel paths from couples' conflict behaviors and relationship satisfaction to partners' symptoms across a decade. As predicted, women's depressive symptoms were more intimately linked to couples' behavior through multiple pathways, whereas men's depressive symptoms showed a more limited association with couples' behavior. Effects of between-couple differences in women's use of positive/negative behaviors on their depressive symptom trajectories were mediated by differences in relationship satisfaction, whereas within-couple

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[3]The withdrawal scores showed strong positive skew (> 3), so models were run using log-transformed withdrawal scores; all reported effects are for log-transformed withdrawal.

variations in these observed behaviors were uniquely and directly predictive of changes in women's depressive symptoms over time. Below, we discuss the nature of these effects and implications for work with couples at risk.

Results at the between-couple level showed that partnerships characterized by low women's positive engagement and high withdrawal tended to yield the highest levels of depressive symptoms by the end of the study period. This pattern echoes some of the prior findings describing high negative/low positive behaviors in couples with a depressed spouse (e.g., Gotlib & Whiffen, 1989; Johnson & Jacob, 2000) while offering a more detailed assessment of how the female partner's behavior may contribute to both partners' adjustment. When women were able to engage constructively in conflict, both they and their partners were protected against depression, making female positive engagement a particularly potent indicator of a couple's resilience. These findings fit with the more general marital discord model and the woman-specific model of romantic stress generation proposed by Davila et al. (1997); women who are not engaging positively with partners, but who are withdrawing, are clearly less able to give and receive support. As suggested by sociobiological considerations highlighted earlier, this type of interaction should be particularly stressful for women because it interferes with meeting valued intimacy needs and could contribute to stress dysregulation at the neuroendocrine level. At the same time, the impact on men's depression levels suggested that while their own behavior was not indicative of depression vulnerability, they were relying on their partners to maintain a positive emotional climate.

This group of between-couple effects likely points to relatively stable individual differences that mark women who lack the emotion regulation skills necessary to negotiate difficult interpersonal situations and, as such, may point to risk profiles of couples most in need of intervention to alter these trajectories. Although causal effects cannot be inferred from this design, the fact that women's behaviors across the period from age 20–30 years predicted depression levels at the end of this period suggests that what partners are doing during this stage of relationship building can be decisive for their adjustment at midadulthood. These effects further point to types of interventions that might be helpful; women may need more opportunities to practice and be reinforced for a proactive, collaborative problem-solving style early in relationships. In light of research showing detrimental effects of increasing women's positivity at the expense of directly discussing concerns (e.g., Baucom, Hahlweg, Atkins, Engl, & Thurmaier, 2006), as well as the harmful implications of women's withdrawal in this study, it would be important to allow for both positive and negative aspects of assertive communication necessary to move the couple toward conflict resolution.

Beyond these broad effects of couples' typical conflict styles, within-couple variations in positive/negative behavior impacted women's level of depressive symptoms across time points. These effects of more subtle shifts in the couple's own established dynamic suggest that even in couples with a fairly healthy conflict style overall, fluctuations in the relationship climate were important for women's adjustment. Specifically, increasing psychological aggression and decreasing positive engagement heralded a rise in women's depressive symptoms. Given evidence from other research on interpersonal aspects of depression (i.e., Coyne, 1976), as well as the romantic stress generation model mentioned earlier (Davila et al., 1997), it would make sense that such behavioral shifts both fuel and reflect an intensification of women's depression. From an intervention standpoint, this implies that in targeting problem relationships, we must consider not only how well the couple seems to be doing compared with other couples but also how the current mode of interaction compares to what is normal for the couple. Distinguishing these within-couple effects further suggests areas of plasticity and a focus for interventions in established couples. Knowing that women show significant deviations from their own basic depression trajectories related to variability in the couple's psychological aggression and positive engagement, skills training aimed at increasing the

positive-to-negative balance in interactions should be an effective agent of change. Withdrawal, on the other hand, may be more a stable marker of women's depression that is less susceptible to direct intervention.

An unexpected finding that emerged from the multilevel modeling approach dealt with the role of relationship satisfaction. Whereas couples' conflict behavior directly affected within-couple variability in women's depressive symptoms, between-couple effects on women's depression were partially or fully mediated by relationship satisfaction. Current results are consistent with the view that women's ability to engage in constructive problem-solving and provide support during conflict contributes to feeling satisfied with the relationship, which in turn contributes to feeling satisfied with themselves (as suggested by Koerner et al.'s 1994 model). Mechanisms whereby women's behaviors impact partner adjustment, on the other hand, do not appear to be as relationship-specific. Men's mean relationship satisfaction did depend on partner positive engagement, but the latter did not predict men's depressive symptoms, pointing to a higher separability of men's satisfaction with the relationship from their overall adjustment. It could be that women's positive behavior benefited men by bolstering their self-esteem, soothing emotional reactivity, or through some other extra-relationship variable.

Although the level-of-analysis distinction we draw regarding the intermediary role of relationship satisfaction is preliminary and requires replication, it may help to explain why prior research has been inconclusive regarding the overlap among these three constructs. If relationship satisfaction acts as an intervening process at the level of explaining between-couple differences in depression, but not at the level of within-couple change, this introduces the possibility of different processes operating within and between couples with implications for intervention. We may be able to help obviously compromised couples characterized by low positive engagement/high withdrawal conflict styles, in part, through broad measures to enhance satisfaction with the relationship, but less severe changes over time may require working directly on behaviors. For women, in particular, working to increase the overall quality of the relationship and to build a positive sense of self in the relationship (without being defined entirely by the relationship) could head off long-term trajectories of depressive problems.

Although the results of the current study offer potentially important advances in our theoretical and practical approach to couples processes and depression, limitations to the research must be acknowledged and used to guide the next steps in this research. The sample, although somewhat unique for the couples' literature, was relatively small and did not offer the extremes of a clinical sample. It may be that different processes are operating in couples suffering from more severe depression and/or relationship distress. As discussed earlier, we have framed this study in terms of effects on depressive symptoms, but effects are likely to go both ways, and we cannot make statements about definite cause and effect. At the same time, establishing consistent patterns of covariation for processes known to be bidirectional does advance our knowledge of targets for prevention and intervention efforts. Finally, although the current findings help to delineate the level at which relationship satisfaction plays a role in couples behavior-depression associations, we need a better sense of what is truly mediated by partners' evaluation of the relationship and what other intervening processes might help to explain changes in between-couple effects when accounting for satisfaction. Other variables not measured in this study, such as relationship confidence or efficacy, relationship attributions, or perceived stress, may better tap the mechanisms by which couples' behaviors during conflict influence partners' depression.

These caveats aside, the current study was able to make several important contributions to the couples and psychopathology literatures. A greater impact of quality of couples' interaction on women's adjustment in a sample of at-risk, nonmarital couples was found that is in keeping with findings of higher socioeconomic status marital samples. The current study thus helps to

explain gender difference in vulnerability to and maintenance of depression across adulthood for a broad subset of the population. The findings also indicated more specific longitudinal mechanisms for these effects (i.e., both positive and negative conflict behaviors operating at within- and between-couple levels across 10 years) and to clarify overlap with relationship satisfaction by demonstrating both unique within-couple and mediated/shared between-couple effects of these behaviors. It is our hope that this work will inform future integration of a couples framework within developmental and psychopathology research by showing how each can inform the other for the enrichment of all.

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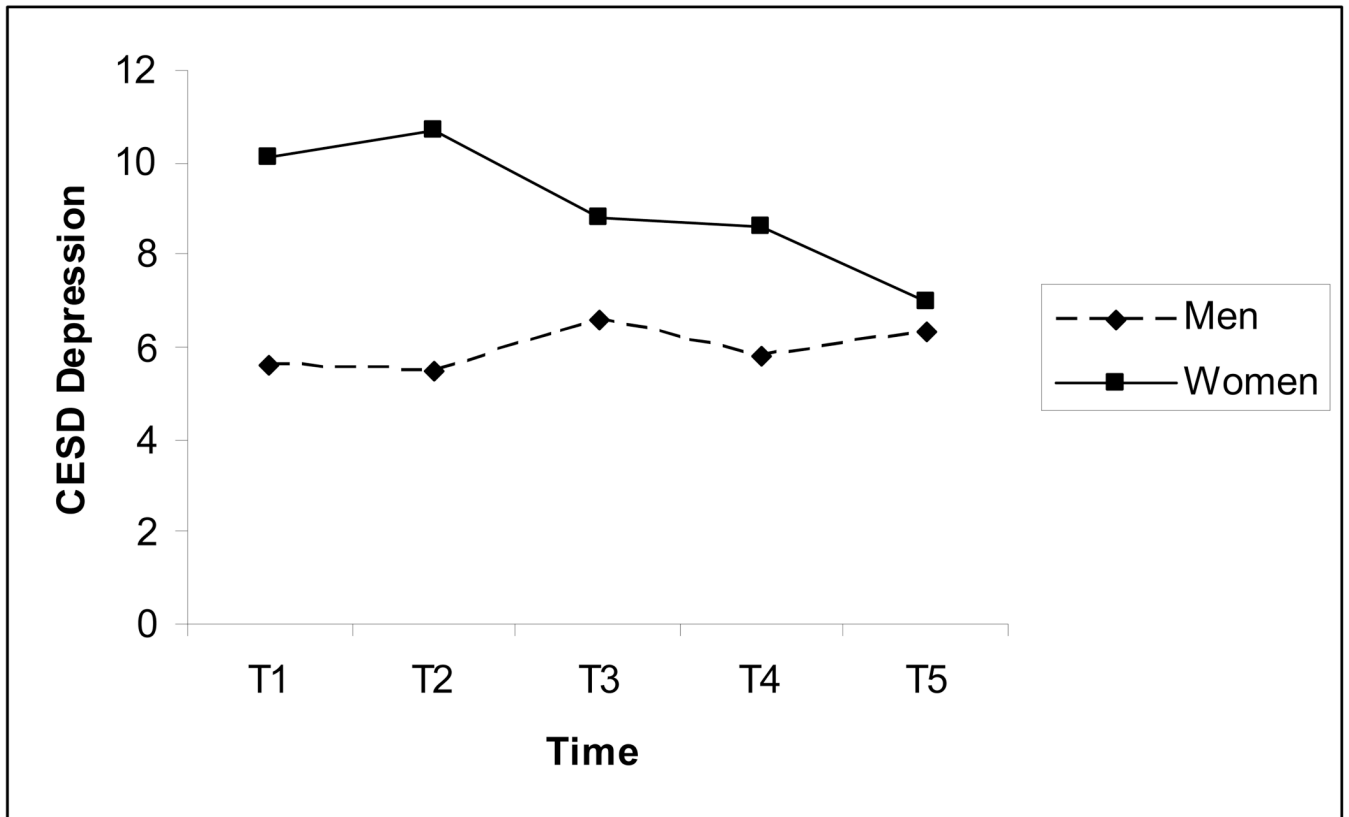
Acknowledgements

Figure 1.
Men's and women's observed mean CESD scores T1'T5.

Table 1

Descriptive Information for Couples T1–T5

	T1 (20–23) n = 53	T2 (23–25) n = 60	T3 (25–27) n = 64	T4 (27–29) n = 60	T5 (29–31) n = 57
Relationship Length (weeks) at Initial Assessment	93.45 (74.65)				
Relationship Status					
Dating	30%	15%	6%	3%	2%
Living Together	44%	35%	27%	23%	16%
Married	26%	50%	67%	74%	82%
Children in the Home	35%	60%	63%	66%	71%
DAS Relationship Satisfaction					
Men	114.00 (18.50)	110.88 (18.72)	112.03 (15.56)	110.62 (17.08)	109.75 (17.07)
Women	112.85 (15.62)	112.40 (18.60)	113.87 (17.11)	111.87 (19.43)	111.03 (18.23)
FPP Behaviors (duration proportions)					
Psychological Aggression					
Men	.039 (.069)	.023 (.036)	.022 (.026)	.016 (.021)	.024 (.035)
Women	.050 (.056)	.028 (.035)	.032 (.039)	.022 (.037)	.026 (.038)
Positive Engagement					
Men	.115 (.085)	.093 (.059)	.102 (.078)	.082 (.069)	.097 (.077)
Women	.182 (.106)	.138 (.086)	.156 (.095)	.123 (.078)	.116 (.066)
Withdrawal					
Men	.021 (.049)	.002 (.007)	.007 (.033)	.002 (.016)	.005 (.028)
Women	.027 (.058)	.003 (.017)	.009 (.042)	.011 (.064)	.008 (.037)

Note. Unless expressed as a percentage, numbers represent means and standard deviations.

Table 2

Longitudinal Effects of Couples' Positive Engagement on Depressive Symptoms

Predictor	Men				Women			
	FPP Only		FPP + DAS		FPP Only		FPP + DAS	
	Coeff, *SE*	*p*	Coeff, *SE*	*p*	Coeff, *SE*	*p*	Coeff, *SE*	*p*
Level 1 (time-varying) Effects								
Dyadic Pos. Engagement	−.71, 4.36	.87	4.50, 4.18	.28	−22.66, 4.72	<.001	−19.19, 4.66	<.001
Own DAS			−.16, .04	<.001			−.12, .03	.001
Level 2 Effects (on T5 CES-D)								
His Mean Pos. Engagement	−9.02, 10.77	.41	−11.47, 9.32	.22	16.22, 16.59	.33	19.47, 17.16	.26
Her Mean Pos. Engagement	−30.80, 9.14	.002	−25.77, 10.44	.02	−35.30, 12.00	.005	−16.22, 12.00	.18
Own Mean DAS			−.01, .05	.82			−.19, .06	.003

Table 3

Longitudinal Effects of Couples' Psychological Aggression on Depressive Symptoms

	Men				Women			
	FPP Only		FPP + DAS		FPP Only		FPP + DAS	
Predictor	Coeff, *SE*	*p*	Coeff, *SE*	*p*	Coeff, *SE*	*p*	Coeff, *SE*	*p*
Level 1 (time-varying) Effects								
Dyadic Psych. Aggression	12.48, 7.95	.12	4.04, 6.48	.53	31.33, 9.83	.002	24.03, 9.48	.01
Own DAS			−.15, .04	< .001			−.12, .04	.001
Level 2 Effects (on T5 CES-D)								
His Mean Psych. Aggression	38.71, 33.01	.25	20.81, 33.99	.54	63.83, 38.15	.10	25.19, 38.07	.51
Her Mean Psych. Aggression	17.62, 27.43	.52	8.15, 28.07	.77	38.73, 38.98	.32	20.14, 37.03	.59
Own Mean DAS			−.04, .05	.38			−.17, .07	.01

Table 4

Longitudinal Effects of Couples' Withdrawal on Depressive Symptoms

Predictor	Men				Women			
	FPP Only		FPP + DAS		FPP Only		FPP + DAS	
	Coeff, *SE*	*p*	Coeff, *SE*	*p*	Coeff, *SE*	*p*	Coeff, *SE*	*p*
Level 1 (time-varying) Effects								
Dyadic Withdrawal	11.26, 32.31	.73	8.38, 30.40	.78	23.67, 14.94	.11	13.30, 13.78	.34
Own DAS			−.15, .04	< .001			−.13, .036	.001
Level 2 Effects (on T5 CES-D)								
His Mean Withdrawal	−6.32, 24.79	.80	−8.80, 25.12	.67	−51.57, 28.14	.07	−33.83, 21.68	.12
Her Mean Withdrawal	60.90, 35.59	.09	48.55, 36.92	.19	143.97, 39.77	.001	99.04, 29.05	.001
Own Mean DAS			−.05, .05	.34			−.16, .06	.007