Caught in a Bad Romance: Perfectionism, Conflict and Depression in Romantic Relationships

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Abstract

According to the social disconnection model, perfectionistic concerns (i.e., harsh self-scrutiny, extreme concern over mistakes and others' evaluations, and excessive reactions to perceived failures) confer vulnerability to depressive symptoms indirectly through interpersonal problems. This study tested the social disconnection model in 226 heterosexual romantic dyads using a mixed longitudinal and experience sampling design. Perfectionistic concerns were measured using three partner-specific self-report questionnaires. Conflict was measured as a dyadic variable, incorporating reports from both partners. Depressive symptoms were measured using a self-report questionnaire. Perfectionistic concerns and depressive symptoms were measured at Day 1 and Day 28. Aggregated dyadic conflict was measured with daily online questionnaires from Days 2 to 15. Data were analyzed using structural equation modeling. There were four primary findings: (a) Dyadic conflict mediated the link between perfectionistic concerns and depressive symptoms, even when controlling for baseline depressive symptoms; (b) depressive symptoms were both an antecedent and a consequence of dyadic conflict; (c) perfectionistic concerns incrementally predicted dyadic conflict and depressive symptoms beyond neuroticism (i.e., a tendency to experience negative emotions) and other-oriented perfectionism (i.e., rigidly demanding perfection from one's partner); and (d) the relationships among variables did not differ based on gender. As the most rigorous test of the social disconnection model to date, this study provides strong support for this emerging model. Results also clarify the characterological and the interpersonal context within which depressive symptoms are likely to occur.

Keywords: perfectionism; conflict; depression; dyads; longitudinal

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Perfectionistic concerns and depressive symptoms are robustly associated, but the mechanisms linking perfectionistic concerns to depressive symptoms are not well understood. Clarifying such mechanisms is important, as these mechanisms point toward assessment and treatment targets. The social disconnection model (e.g., Hewitt, Flett, Sherry, & Caelian, 2006; Sherry, Law, Hewitt, Flett & Besser, 2008) is an emerging theoretical framework clarifying how perfectionistic concerns generate depressive symptoms through negative social behaviors (e.g., conflictual interactions), cognitions (e.g., perceiving others as uncaring), and outcomes (e.g., romantic breakups). A distressing sense of social disconnection (i.e., conflict with and alienation from others) is thus seen as central to the struggles of depressed perfectionists. According to this model, perfectionistic concerns confer vulnerability for depressive symptoms indirectly by leading to interpersonal problems. Most tests of this model rely on perceptions of social support and relationship satisfaction, rather than relationship conflict and verbal criticism (Sherry, et al., 2008). Perfectionism research tends to place the onus of responsibility for depressive symptoms on the individual (e.g., seeing depressive symptoms as a consequence of irrational cognitions), despite interpersonal theories highlighting the importance of social contexts (e.g., Weissman, Markowitz, & Klerman, 2000). The present research helps to overcome the limitations of cross-sectional, individually-focused research by examining dyadic conflict (i.e., a series of hostile, critical, rejecting, and inconsiderate interactions between romantic partners) as a measure of social disconnection in a longitudinal and experience sampling design. The present investigation thus represents the most methodologically rigorous test of the social disconnection model to date.

Defining Perfectionism

Research has identified three dimensions of perfectionism (e.g., Dunkley, Zuroff & Blankstein, 2003; Hewitt & Flett, 1991). *Perfectionistic strivings* include setting unrealistically high personal standards and rigidly demanding perfectionism of oneself. *Other-oriented perfectionism* includes rigidly demanding perfection from others in a demanding and entitled way. *Perfectionistic concerns*[1] include harsh self-scrutiny, undue concern over mistakes and others' evaluations, and excessive reactions to perceived failures. Only perfectionistic concerns and other-oriented perfectionism are clearly linked to relationship problems and depressive symptoms, with perfectionistic concerns emerging as the most robust predictor (Habke & Flynn, 2002). Research shows perfectionistic strivings are unrelated to relationship problems (Ashby, Rice & Kutchins, 2008) and depressive symptoms (Graham et al., 2010), particularly once controlling for perfectionistic concerns. Rigidly demanding perfectionism of oneself (i.e., perfectionistic strivings) is also typically not a problem in social relationships (Stoeber & Otto, 2006). In contrast, believing love and respect from others is contingent on being perfect (i.e., perfectionistic concerns) and, to a lesser extent, demanding perfection from others in an entitled way (i.e., other-oriented perfectionism) confer risk for and impede treatment of relationship problems and depressive symptoms (Shahar, Blatt, Zuroff, Krupnick & Sotsky, 2004). Thus, we focused on perfectionistic concerns and other-oriented perfectionism in the present research.

We measure perfectionistic concerns as a latent variable combining questionnaires from cognitive-behavioral (Frost, Marten, Lahart, & Rosenblate, 1990), psychodynamic (Blatt, 1974) and personality (Hewitt & Flett, 1991) traditions – the three dominant traditions in perfectionism research. When reviewing prior work, we refer to the global construct "perfectionistic concerns" rather than single questionnaires (e.g., concern over mistakes; Frost et al., 1990) as a way of drawing paralells between research traditions. As in previous studies of romantic relationships

(Lopez, Fons-Scheyd, Morúa, & Chaliman, 2006), we conceptualize perfectionistic concerns and other-oriented perfectionism as partner-specific. We define partner-specific perfectionistic concerns as a composite of three core beliefs: "My partner expects me to always be perfect" (socially prescribed perfectionism; Hewitt & Flett, 1991), "The fewer mistakes I make, the more my partner likes me" (concern over mistakes; Frost et al., 1990) and "My partner is not satisfied with who I am" (interpersonal discrepancies; Blatt, 1974). We define partner-specific other-oriented perfectionism as demanding perfection from one's romantic partner in an entitled way. These definitions are closely aligned with conventional definitions of perfectionistic concerns and other-oriented perfectionism (Graham et al., 2010), but may have little to do with whether a person rigidly holds unrealistically high standards for herself or himself (i.e., perfectionistic strivings). Partner-specific perfectionistic concerns may be thought of as dysfunctional schemata about oneself vis-à-vis one's romantic partner. We proposed these dysfunctional schemata lead people high in perfectionistic concerns to attack their partner, resulting in a conflictual romantic relationship conducive to depressive symptoms (see also Hewitt et al., 2006).

Defining Dyadic Conflict

Conflict may be defined as "a serious disagreement or argument; typically a protracted one" (Oxford Dictionaries Online, 2011). In the present study, we operationally define dyadic conflict as a series of hostile, critical, rejecting, and inconsiderate interactions between romantic partners over a two-week period. We further conceptualize dyadic conflict as a property of dyads, rather than individuals within that dyad; it is something that exists in the interpersonal space in between people. This conceptualization underscores our rationale for analyzing conflict at the dyadic level. This operational definition was derived from theory and research on social negativity (i.e., expressed anger, hostility, criticism, social hindrance and communicative

disengagement). Moreover, dyadic conflict is distinct from other interpersonal processes such as perceived social support (i.e., the cognitive appraisal of the availability of a social support network in times of need), received social support (i.e., how often participants receive specific supportive behaviors from loved ones), and global relationship satisfaction (i.e., overall satisfaction with the quality of the relationship; see Ibarra-Rovillard & Kuiper, 2011).

Theory suggests dyadic conflict is the chief interpersonal consequence of perfectionistic concerns (e.g., Flett, Hewitt, Shapiro, & Rayman, 2001). People high in partner-specific perfectionistic concerns believe that a close interpersonal relationship with their romantic partner is contingent on being perfect. Of course, true perfection is unattainable and, sooner or later, people high in perfectionistic concerns will fall short of the impossibly high standards they feel have been thrust upon them – and with that perceived failure, they feel as though they have also lost the love, trust, and respect of their partner. Partners are perceived as demanding impossible, unfair standards of perfection in exchange for their love. In the face of these perceived demands, people high in perfectionistic concerns often lash out in anger and hostility, resulting in dyadic conflict and, ultimately, depressive symptoms. In this way, studying perfectionistic concerns and dyadic conflict is thought to come closer to the underlying reason why people high in perfectionistic concerns become depressed. Though this theory has long been endorsed by perfectionism theorists (e.g., Hewitt et al., 2006), there is little longitudinal evidence to directly test these assertions. The present study addresses this gap by testing dyadic conflict as a mediator of the perfectionistic concerns – depressive symptoms relationship.

The Social Disconnection Model

The social disconnection model (Hewitt et al., 2006) proposes three testable hypotheses supported by research: (a) Perfectionistic concerns confer vulnerability[2] to depressive symptoms,

but perfectionistic concerns do not change as a function of depressive symptoms (Graham et al., 2010; Rice & Aldea, 2006; Zuroff, Mongrain & Santor, 2004); (b) perfectionistic concerns confer vulnerability to increased hostility, rejection, criticism, and inconsiderate behaviors in close relationships (Habke & Flynn, 2002; Holm-Denoma, Otamendi, & Joiner, 2008; Vettese & Mongrain, 2000); and (c) relationship conflict mediates the perfectionistic concerns – depressive symptoms link (Dunkley et al., 2003; Shahar et al., 2004). Researchers largely ignore the social environment in conceptualizing the relation between perfectionism and depressive symptoms. In particular, researchers rarely examine perfectionistic concerns in both members of a romantic dyad, despite theory linking perfectionistic concerns to dyadic conflict (Flett et al., 2001). The present study makes a novel contribution by testing dyadic conflict as a potential mediator of the perfectionistic concerns – depressive symptoms link.

Conflict and Depressive Symptoms

Testing the social disconnection model in romantic couples builds on the notion that depressive symptoms are maintained by dyadic conflict. Intimate relationships are fundamental for a person's well-being (Baumeister & Leary, 1995). Some research suggests depressive symptoms are an antecedent of dyadic conflict; for instance, Liu and Chen (2006) found that marital conflict predicted depressive symptoms two years later over and above prior levels of depressive symptoms. Dyadic conflict can also impede treatment outcomes for depression: Denton et al. (2010) found participants were 2.8 times less likely to recover from depression after a 12-week treatment program when high levels of dyadic discord were present at baseline. Other research supports a link in the reverse direction: Prominent features of depressive symptoms, such as irritability and lethargy, may alienate romantic partners, leading to dyadic conflict (e.g., depressive symptoms prospectively predict relationship conflict; Vujeva &

Furman, 2011). Interactional models of depression (Coyne, 1976; Joiner, Coyne, & Blalock, 1999) integrate both sets of findings by proposing a bidirectional relationship between dyadic conflict and depressive symptoms. Whisman and Uebelacker (2009) found a bidirectional relationship between depressive symptoms and marital discord in a 2-year longitudinal study. Following interactional models of depression, we expect depressive symptoms and dyadic conflict to be self-propagating, each contributing to the other in a vicious cycle.

Gender Differences

From adolescence onwards, women are about twice as likely to experience depressive symptoms as men (Mead, 2002). In contrast, there are typically no gender differences in mean levels of perfectionistic concerns (Dunkley, Zuroff, & Blankstein, 2006) or interpersonal conflict (Murray, Griffin, Rose, & Bellavia, 2003). Whether the social disconnection model differs across gender remains an empirical question. Answering this question is important, since provision of gender-sensitive clinical services requires an understanding of whether etiological models such as the social disconnection model are applicable to both men and women.

Gaps in the Literature

Perfectionism research tends to emphasize the self-in-isolation from others while neglecting the self-in-relation to others. When perfectionism research does examine interpersonal phenomena associated with depressive symptoms, the focus is typically on individually-held, subjective perceptions of social environments (e.g., perceived social support; Dunkley et al., 2003). Interpersonal models hold that psychopathology cannot be separated from its interpersonal context (Weissman et al., 2000). To our knowledge, no perfectionism research has studied how perfectionistic concerns influence the functioning of romantic couples as a unit. Attempts to parse out the impact of individual personality while ignoring a person's broader

interpersonal context may miss the bigger picture. Perhaps it is not the individual, but rather the couple that is "sick." The goal of the present research is to place the perfectionism – depression relation in its broader interpersonal context by studying daily relationship conflict as a dyadic variable which includes reports from both members of the couple (Ledermann & Macho, 2009).

Longitudinal research with three or more measurement occasions reduces temporal confounding and permits researchers to control for base rates of dependent variables. Despite clear advantages, longitudinal research on perfectionistic concerns and depressive symptoms is comparatively rare (c.f., Graham et al., 2010). Our study addresses this limitation by using a 3-wave longitudinal design. Our study also uses an experience sampling design involving 14 daily reports. In addition to greater ecological validity, an experience sampling design increases reliability through repeated assessments and diminishes recall bias by asking participants to report events closer to their actual occurrence (Laurenceau & Bolger, 2005).

There is also a need to test the incremental validity of perfectionistic concerns. Enns, Cox, and Clara (2005) questioned if perfectionistic concerns predict incremental variance relative to higher-order personality domains, such as neuroticism (i.e., a tendency to experience negative emotions). Others suggest other-oriented perfectionism is more strongly related to interpersonal conflict because such tendencies elicit negative responses from others (Habke, Hewitt, & Flett, 1999). Neuroticism and other-oriented perfectionism are thus suitable covariates for testing the incremental validity of perfectionistic concerns in the social disconnection model.

Objectives

The present study research involved three hypotheses: (a) Partner-specific perfectionistic concerns will lead to higher depressive symptoms indirectly through dyadic conflict, even when controlling for prior levels of depressive symptoms; (b) Depressive symptoms will lead to dyadic

conflict, which in turn will lead to depressive symptoms; and (c) the hypothesized paths in our model will remain significant even when statistically controlling for neuroticism or partner-specific other-oriented perfectionism. In addition, there is one exploratory research question: (d) Do the relationships between partner-specific perfectionistic concerns, dyadic conflict, and depressive symptoms differ across gender? See Figure 1 for a depiction of the structural model.

Method

Participants

Participants were screened using the following criteria: (a) They had been in the same romantic relationship for at least 3 months; (b) they had face-to-face contact at least 5 days a week; (c) they had a computer and Internet access at home; and (d) at least one member of the couple was a university student. We recruited a sample of 226 heterosexual romantic dyads (226 men; 226 women). Most participants were Caucasian (men = 88.5%; women = 88.5%), Canadian-born (men = 85.4%; women = 88.5%), and attending university (men = 74.3%; women = 92.5%). Dyad members were in a relationship with their partner for an average of 2.10 years (SD = 2.23), had face-to-face contact with their partner an average of 6.44 (SD = 0.84) days per week, rated their relationships as "very serious" (M = 3.37, SD = 0.59 on a 4-point scale), and 38.9% were cohabitating. For dyadic demographic variables, discrepancies between partner ratings were resolved by averaging ratings from both partners. Partners were classified as cohabitating if at least one partner reported cohabitation. Our sample resembles other samples of romantically-involved participants from our region (Sherry, Mackinnon, & Mackinnon, 2011).

Procedure

Our study was approved by an Ethics Board. Participants provided informed consent by reading and signing a consent form. Heterosexual couples were recruited through the participant

pool in the Department of Psychology and by posting flyers. At Phase 1, participants completed

a questionnaire package in the laboratory, which included measures of perfectionistic concerns

and depressive symptoms. Both members of the couple arrived at Phase 1 together, but filled out

the questionnaire package individually. Phase 2 began the next day, and lasted for 14 days.

During Phase 2, participants filled out an online questionnaire on daily conflict every night

before bed. Participants were sent a daily email reminder to improve response rates. Online

questionnaires were time-stamped to verify when participants completed each questionnaire.

Participants were encouraged to complete these reports independently from their partner. Daily

reports provided between 7:00 P.M. and 5:00 A.M. were retained for analysis. In Phase 3,

participants filled out a questionnaire package in the laboratory similar to Phase 1. Participants

returned to complete Phase 3 an average of 30.76 ($SD = 2.07$) days after Phase 1. Participants

were sent an email reminder to complete their assessments as scheduled. As an incentive, each

participant was given $25 or bonus points towards a psychology class.

Materials

   Psychometric data. Because measures in the present study were modified from their

original format, a supplementary cross-sectional study was conducted to assess the psychometric

properties of these modified measures. Both the modified versions and the original, unmodified

versions of measures were included in this study. Using similar recruitment methods, 109

undergraduates were recruited. Participants had a mean age of 21.66 years ($SD = 4.80$), were

mostly Caucasian (81.7%), had been in a relationship with their partner for an average of 2.33

years ($SD = 3.07$), had face-to-face contact with their partner an average of 5.99 ($SD = 1.27$)

days per week, rated their relationships as "very serious" ($M = 3.18$, $SD = 0.77$ on a 4-point

scale), and 29.4% were cohabitating. This study is referenced as Sherry et al. (2011).

Perfectionistic concerns. We modified perfectionism measures to be partner-specific, as in past studies of dyads (Lopez et al., 2006). We measured the latent construct of perfectionistic concerns using modified 5-item, partner-specific, short-form versions of socially prescribed perfectionism ("The better I do, the better my partner expects me to do;" Hewitt & Flett, 1991), concern over mistakes ("If I fail partly, my partner thinks it is as bad as being a total failure;" Frost et al., 1990) and self-criticism ("My partner tends not to be satisfied with who I am;" Bagby, Parker, Joffe, & Buis, 1994) subscales. Participants responded to items on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*) based on how they usually felt or behaved since the relationship with their partner began. Our cross-sectional psychometric study revealed these modified, partner-specific short-form scales correlate moderately with the original measures (*r*s > .46) and have acceptable internal consistency (αs > .82; Sherry et al., 2011).

Conflict. We measured the latent construct of conflict using a 5-item short form subscale of negative behaviors on the *Interpersonal Qualities Scale* ("critical/judgemental;" Oishi & Sullivan, 2006) and a 7-item scale of rejecting interpersonal behaviors (Murray et al., 2003; "I snapped or yelled at my partner"). Items were measured on a 9-point scale from 1 (*not at all characteristic*) to 9 (*completely characteristic*). Participants responded to these scales every night for 14 days; each measurement occasion asked participants to respond based on "the past 24 hours." A latent dyadic conflict variable was created by aggregating self-reported conflict over 14 days (i.e., the mean value for each partner averaged across all days) and combining reports from both partners into a single latent variable (see Ledermann & Macho, 2009). Dyadic conflict had four indicators: Two measures of conflict from men and two measures from women. Our psychometric study revealed these scales have acceptable internal consistency (αs > .81), and correlate moderately (*r*s from -.45 to -.48) with dyadic satisfaction (Spanier, 1976). Two

doctoral-level psychologists independently rated the potential overlap of items measuring

perfectionistic concerns and dyadic conflict. No overlap was found, suggesting perfectionistic

concerns and dyadic conflict are conceptually distinct.

Depressive symptoms. We measured depressive symptoms using the 20-item *Center for*

Epidemiological Studies – Depression Scale (CES-D; Radloff, 1977). To create a latent

depression construct, we randomly assigned items into one of three item parcels using a random

number generator.[3] Participants responded to items on a 4-point scale from 0 (*rarely or none of*

the time) to 3 (*most or all of the time*) based on "the past 14 days." A sample item is "I felt

depressed." Our psychometric study shows the CES-D has acceptable internal consistency ($\alpha >$

.85), and correlates highly (rs > .50) with negative affect (Sherry et al., 2011).

Other-oriented perfectionism. Other-oriented perfectionism was measured using a

modified 6-item, partner-specific, short-form indicator of other-oriented perfectionism (Hewitt &

Flett, 1991). Participants responded to items on a 7-point scale from 1 (*strongly disagree*) to 7

(*strongly agree*) and responded based on their experiences since the relationship with their

partner began. A sample item is "I cannot stand to see my partner make mistakes." This scale has

adequate internal consistency ($\alpha = .75$) and correlates moderately with Hewitt and Flett's (1991)

original 15-item measure ($r = .55$; Sherry et al., 2011).

Neuroticism. Neuroticism was measured using the 8-item neuroticism subscale of the

Big Five Inventory (BFI-N; Benet-Martínez & John, 1998). Participants responded using a 5-

point scale from 1 (*disagree strongly*) to 5 (*agree strongly*) based on how they usually felt since

the relationship with their partner began. A sample item is "Gets nervous easily." The BFI-N has

high internal consistency (αs > .80) and correlates strongly ($r = .83$) with neuroticism as assessed

by the *NEO Five-Factor Inventory* (Benet-Martínez & John, 1998; Sherry et al., 2011).

Results

Data Analytic Strategy

Structural equation modeling (SEM) was used to test the measurement and structural

models for Figure 1. Conflict was analyzed as a dyadic common fate variable (Ledermann &

Macho, 2009). This approach allows us to analyze conflict as a dyadic variable using a structural

equation modeling framework. Error terms for manifest conflict variables were correlated within

genders (Ledermann & Macho, 2009) and error terms of the item parcels for depressive

symptoms were correlated across phases (Gerbing & Anderson, 1984). Factor loadings for

depressive symptoms were constrained to equality across phases. We tested for gender

differences by comparing unconstrained models to models with paths constrained to equality

across gender (Byrne, 2001). Mediation was tested using bootstrapping with 20,000 resamples

using 95% confidence intervals (95% CI). Incremental validity analyses tested if paths in our

structural model were significant after controlling for either other-oriented perfectionism or

neuroticism in two separate analyses.

Protocol Compliance and Missing Data

At Phase 1, 1.0% of data were missing, with covariance coverage from .96 to 1.00. Phase

2 contained 5075 usable daily reports, meaning 80.2% of all of possible daily reports (452

participants multiplied by 14 days = 6328) were usable. A total of 943 reports (14.9%) were lost

due to participant non-response (e.g., participants did not complete a report). Other reports were

omitted as they did not fall within the 7:00 P.M. to 5:00 A.M. timeframe ($n = 262$; 4.1%) or

because reports were not attributable to an identifiable participant ($n = 48$; 0.1%). Some reports

were outside of the 14-day period (e.g., participants continued completing the questionnaire on

Day 15). These reports ($n = 73$; 1.2%) were retained as data for purposes of aggregation. On

average, participants completed 11.23 (*SD* = 2.83) daily reports with a range from 0 to 18. Few

participants (*n* = 3; 0.7%) provided only one report. Response rates were relatively consistent

across all 14 days, ranging from a high of 84.1% on Day 5 to a low 75.2% on Day 10. Most daily

reports were completed roughly 24 hours apart; 66.5% of daily reports were completed within 1

hour of the prior day's submission, 86.4% of daily reports were completed within 2 hours of the

prior day's submission, and 94.5% of daily reports were completed within 3 hours of the prior

day's submission. At Phase 3, only 3.1% of data were missing, with covariance coverage from

.95 to .98. By Phase 3, few participants (*n* = 11; 2.4%) dropped out of the present study. Missing

data for Phase 2 conflict were handled by aggregating data across 14 days and using the mean

value for each participant. Otherwise, missing data were handled using multiple imputation for

preliminary analyses and full maximum likelihood estimation for SEM analyses.

Preliminary Analyses

Means, standard deviations and alpha reliabilities appear in Table 1, and bivariate

correlations[4] appear in Table 2. Means and standard deviations for conflict were aggregated

across 14 days. All means fell within one standard deviation of means from Sherry et al. (2011).

Table 1 displays alpha reliabilities for conflict measures based on aggregated means. Alpha

reliabilities were acceptable (.68 to .90) for measures. Conflict measures showed moderate test-

retest reliability correlations (.21 to .61) from one day to the next and test-retest correlations

between Phases 1 and 3 were consistently high for self-criticism (.65-.72), socially prescribed

perfectionism (.62-.66), concern over mistakes (.58-.64), depressive symptoms (.67-.70),

neuroticism (.80-.83), and other-oriented perfectionism (.67-.73), supporting their reliability.

In both partners, perfectionism measures correlated significantly with conflict and

depressive symptoms. Conflict correlated significantly with depressive symptoms in both

partners. Neuroticism in both partners and other-oriented perfectionism in men correlated significantly with all other variables. Other-oriented perfectionism in women was weakly and inconsistently correlated with study variables. Overall, these analyses support using neuroticism and other-oriented perfectionism as covariates. Age and relationship duration were significantly correlated with self-criticism and Phase 1 depression in men, and other-oriented perfectionism in both partners. University attendance status, perceptions of relationship seriousness, and cohabitation status were unrelated to variables in our model ($p > .05$). Race, country of birth, and average weekly face-to-face contact had insufficient variability to analyze. Relationship duration did not predict unique variance in outcomes beyond age when both predictors were entered as simultaneous predictors. Thus, of our demographic variables, only age was used as a covariate. Moderate to strong within-dyad correlations for our conflict variables support their use as dyadic common fate variables. However, the within-dyad correlations for other variables in our model were generally weaker, suggesting they are better seen as individual-level variables.

Structural Equation Modeling

SEM was conducted using Mplus 6.0 software with maximum likelihood estimation.[5] We tested measurement models before structural models (Byrne, 2001). Phase 2 conflict variables were aggregated across 14 days. Model fit was assessed using the χ^2/df ratio, the comparative fit index (CFI), Tucker-Lewis Index (TLI) and 90% confidence interval of the root-mean-square error of approximation (RMSEA). A χ^2/df ratio around 2.00, CFI and TLI's around .95, and an RMSEA around .05 suggest a well-fitting model (Kline, 2005). We used the Bayes information criterion (BIC), Akaike information criterion (AIC), and ΔCFI for model comparison. Smaller BIC and AIC values suggest better fit and parsimony. An AIC or BIC difference of 4 or higher provides strong evidence of model superiority, a difference of 2-4 provides weak evidence, and a

difference of 0-2 is inconclusive (Burnham & Anderson, 2002). Cheung and Rensvold (2002) show a ΔCFI $\leq$ -0.01 provides strong support for the constrained model (i.e., gender invariance).

Measurement model. Confirmatory factor analysis tested if the measurement model was a valid construct. Two models were fit. The first model left all correlations to be unconstrained. The second model constrained all correlations to and from dyadic conflict and the autoregressive path for depressive symptoms across phases to equality across genders. The unconstrained model fit the data well, χ^2 (183, N = 226) = 245.09, p = .30; χ^2/df = 1.34; CFI = .97; TLI = .96; RMSEA = .04 (90% CI: .03, .05), AIC = 23772.64, BIC = 24087.33. The constrained model also fit the data well, χ^2 (193, N = 226) = 260.30, p < .001; χ^2/df = 1.35; CFI = .96; TLI = .96; RMSEA = .04 (90% CI: .03, .05), AIC = 23767.85, BIC = 24048.33. An AIC difference of 4.79, BIC difference of 39.00 and ΔCFI of -0.002 favored the constrained model. We also examined ΔCFI when constraining individual correlations to equality. In these analyses, ΔCFI ranged from -.003 to .001, suggesting no single correlation varied by gender. Standardized factor loadings in the constrained model were significant (p < .001), ranging from .59 to .91 for perfectionistic concerns, from .55 to .63 for dyadic conflict, and from .40 to .80 for depressive symptoms.

Structural model. Both an unconstrained model and a model with paths constrained to equality were estimated. The unconstrained model fit the data well, χ^2 (191, N = 226) = 256.79, p < .001; χ^2/df = 1.34; CFI = .96; TLI = .96; RMSEA = .04 (90% CI: .03, .05), AIC = 23768.34, BIC = 24055.67. The constrained model was also well-fitting, χ^2 (199, N = 226) = 274.07, p < .001; χ^2/df = 1.38; CFI = .96; TLI = .95; RMSEA = .04 (90% CI: .03, .05), AIC = 23769.62, BIC = 24029.58. A BIC difference of 26.09 and a ΔCFI of -.003 favored the constrained model. An AIC difference of -1.28 was inconclusive. We also considered ΔCFI when individual paths were constrained to equality. In these analyses, ΔCFI ranged from -.002 to -.001, suggesting no single

path varied by gender. Given support for the constrained measurement model, and our preference

for model parsimony, we conclude paths do not differ by gender. Path coefficients in Figure 2,

meditational analyses, and incremental validity analyses present the constrained model.[6]

As hypothesized, paths from perfectionistic concerns to dyadic conflict were significant.

The paths from Phase 1 depressive symptoms to dyadic conflict were also significant. Paths from

dyadic conflict to Phase 3 depressive symptoms were significant even after controlling for Phase

1 depressive symptoms. Paths from perfectionistic concerns to Phase 3 depressive symptoms

were no longer significant when controlling for all other variables in the model. These results

support testing for indirect effects.

Bootstrapped mediation. We calculated indirect effects by multiplying (a) the path

coefficient from perfectionistic concerns to dyadic conflict and (b) the path coefficient from

dyadic conflict to Phase 3 depressive symptoms. Because we constrained paths to and from

dyadic conflict to equality across genders, we tested a single indirect effect with unstandardized

values rather than separate indirect effects for men and women.[7] Bootstrap analyses tested the

significance level of the hypothesized indirect effect in our structural model (see Figure 2). We

used random sampling with replacement to create 20,000 ($n = 226$) bootstrap samples. Using

these bootstrapped samples, we estimated bias-corrected standard errors and 95% CIs for indirect

effects. If zero is not included in the 95% CI, then the indirect effect is significant at $p < .05$.

Results showed a significant indirect effect of perfectionistic concerns on depressive symptoms

through dyadic conflict, $B = 0.05$, $SE = 0.02$, 95% CI [0.01, 0.10].

Incremental validity. Age, neuroticism and other-oriented perfectionism were controlled

for by entering them one at a time into the constrained model with paths matching those of

perfectionistic concerns. As hypothesized, the indirect effect of perfectionistic concerns on Phase

3 depressive symptoms through dyadic conflict was significant when age, neuroticism, or other-oriented perfectionism were added to the structural model. Age, neuroticism, and other-oriented perfectionism were unrelated to Phase 3 depressive symptoms in the structural model. Only neuroticism (men $\beta = .14$, $p < .05$; women $\beta = .17$, $p < .05$) predicted dyadic conflict. These results support the incremental validity of perfectionistic concerns.

Discussion

The present study supported all three hypotheses using a novel mixed longitudinal and experience sampling design. Perfectionistic concerns conferred vulnerability to depressive symptoms indirectly through dyadic conflict, even when controlling for prior levels of depressive symptoms. This supports Hewitt et al.'s (2006) social disconnection model and extends research in this area by examining conflictual interactions with romantic partners in a dyadic context. Consistent with interactional models of depression, depressive symptoms were both an antecedent and consequence of dyadic conflict (Coyne, 1976; Joiner et al., 1999). Results also remained significant above and beyond neuroticism and other-oriented perfectionism, supporting the incremental validity of perfectionistic concerns. Consistent with previous investigations (e.g., Whisman & Uebelacker, 2009), no significant gender differences in relationships among perfectionistic concerns, dyadic conflict, and depressive symptoms were observed. This study represents the most rigorous, comprehensive test of the social disconnection model to date. By testing the social disconnection model in romantic dyads, our results point toward perfectionistic concerns as a treatment target when working with couples experiencing dyadic conflict and depressive symptoms in clinical practice.

People high in perfectionistic concerns experience both the *generation* of negative social experiences (e.g., conflict) and the *degeneration* of positive social experiences (e.g., intimacy).

Though it is often argued that perfectionistic concerns are linked with the generation of negative social experiences (e.g., Habke & Flynn, 2002), this argument is rarely tested using longitudinal methods or within an ongoing relationship. Perfectionistic concerns in either partner led to more hostile, inconsiderate, critical, and rejecting conflicts, which in turn led to increased depressive symptoms in both partners. It was not possible to examine relationship dissolution in this short-term study. However, it seems likely perfectionistic concerns predict not only difficult relationships, but also a shrinking pool of close relationships as these conflicts – and the accompanying depressive symptoms – isolate perfectionistic people from close relationships vital for psychological well-being.

Our study illuminates the characterological and the interpersonal context of depressive symptoms. Relationship conflict thwarts the basic human need for close, intimate relationships with others (Baumeister & Leary, 1995), leading to an increase in depressive symptoms. On the other hand, depressive symptoms are also tied to irritability and other interpersonal difficulties, which can evoke negative responses from others (Coyne, 1976; Joiner et al., 1999). In this way, members of romantic dyads can become locked into a vicious cycle of depression and conflict. Perfectionistic concerns play a role in driving this maladaptive cycle by leading to depressive symptoms and dyadic conflict. Though there are numerous longitudinal studies of relationship conflict and depression (e.g., Denton et al., 2010; Liu & Chen, 2006; Vujeva & Furman, 2011; Whisman & Uebelacker, 2009), to our knowledge, this study is the first longitudinal test of the social disconnection model in romantic couples. These findings incrementally advance our understanding of the links among perfectionistic concerns, depressive symptoms, and dyadic conflict. They also highlight the importance of assessing and treating perfectionistic concerns when helping distressed couples. Though current treatment protocols for perfectionism are all

one-on-one, individual therapies (Antony & Swinson, 2009), our results suggest perfectionism treatments with a dyadic focus are also needed (e.g., couples therapy addressing perfectionistic concerns). Integrating current treatment protocols for perfectionism (Antony & Swinson, 2009) into couples therapy may lead to more effective, comprehensive interventions for distressed couples characterized by high levels of conflict.

No gender differences were found when testing the social disconnection model in the present study. Perfectionistic concerns in each partner contributed to dyadic conflict in a roughly equal way. The relationships among perfectionistic concerns, dyadic conflict, and depressive symptoms thus appear to be similar for both men and women. This highlights the need to treat not only individual problems, but also the way heterosexual couples communicate and resolve conflict as a unit (Barbato & D'Avanzo, 2009).

Perfectionistic concerns predicted variables in our model over and above neuroticism. Neuroticism is a broad, encompassing personality trait that is robustly linked to numerous mental health problems (Lahey, 2009). Enns et al. (2005) showed perfectionistic concerns did not incrementally predict depressive symptoms beyond neuroticism. A credible model including perfectionistic concerns should predict unique variance in outcomes beyond neuroticism. In our model, perfectionistic concerns uniquely predicted dyadic conflict and depressive symptoms, supporting the incremental validity of perfectionistic concerns. Interestingly, both neuroticism and perfectionistic concerns predicted dyadic conflict, suggesting each trait contributes uniquely to dyadic conflict. Our manner of assessing perfectionism (i.e., a partner-specific, perfectionistic concerns latent variable) differs from Enns et al.'s (2005) use of single perfectionism indicators, which may explain the increased predictive power of perfectionistic concerns in our study.

Perfectionistic concerns also predicted incremental variance in dyadic conflict and in depressive symptoms beyond other-oriented perfectionism. Other-oriented perfectionism was unrelated to the variables in our model once controlling for perfectionistic concerns, despite research suggesting other-oriented perfectionism is correlated with relationship conflict in married couples (Haring, Hewitt, & Flett, 2003). This may suggest other-oriented perfectionism plays a role only in more committed relationships. It may also highlight the need for a revised measure of other-oriented perfectionism. There is a seeming discrepancy between the conceptualization of other-oriented perfectionism (e.g., entitlement and demandingness) and the measurement of other-oriented perfectionism, which focuses more on high standards for others. Developing a measure that more clearly captures the entitlement and the demandingness central to other-oriented perfectionism might allow researchers and clinicians to assess the other-oriented perfectionism construct in a more encompassing manner.

This research has limitations that should be acknowledged. Participants in this study were mostly unmarried young adults attending university. Married couples differ from dating and cohabitating couples in important ways (e.g., Hsueh, Morrison, & Doss, 2009); future research should attempt to replicate our findings in a sample of married adults from the community. Moreover, though mean levels of depressive symptoms in our sample were comparable to other romantically-involved young adult samples from this geographical area (Sherry et al., 2011), our sample was, on average, relatively well-adjusted. Thus, our findings may not generalize to less well-adjusted populations (e.g., clinical samples). Future research should examine participants who demonstrate more severe perfectionistic concerns, depressive symptoms, or dyadic conflict. Our measurement of depressive symptoms used a single indicator; though item parceling is a useful tool in many circumstances (Little, Cunningham, Shahar, & Widaman, 2002), using

multiple questionnaires for latent variables is advisable in future studies. Our model did not control for baseline dyadic conflict. Controlling for baseline levels of conflict would have allowed us to infer that dyadic conflict increased over time as a function of our predictors. Thus, our model could not examine changes in dyadic conflict over time. Because of this methodological limitation, our ability to make causal inferences for paths leading to dyadic conflict is limited. Future studies should measure both depressive symptoms and dyadic conflict simultaneously across at least three measurement occasions. Long-term, longitudinal research examining the links among perfectionistic concerns, dyadic conflict, relationship dissolution, and depressive symptoms would be an advance for the social disconnection model. Given the short timeframe of our study, we were unable to prospectively examine relationship dissolution.

Depressive symptoms appear best understood when situated within their interpersonal context (Weissman et al., 2000). Partner-specific perfectionistic concerns confer vulnerability to depressive symptoms indirectly through dyadic conflict. Moreover, dyadic conflict and depressive symptoms influence each other in a vicious cycle. By studying individuals removed from their interpersonal context, researchers may miss the complex interpersonal processes that maintain depressive symptoms. Attempting to understand depression without understanding a person's close relationships may miss the broader picture: The relationship itself may be "sick," rather than just the individuals within that relationship. Future research would do well to pursue this idea in a range of relationships (e.g., parent-offspring dyads). By better understanding how perfectionistic concerns confer vulnerability to depressive symptoms, we can develop greater understanding – and ultimately, better assessment and treatment options – for people suffering from depressive symptoms.

References

Antony, M. M., & Swinson, R. P. (2009). *When perfect isn't good enough: Strategies for coping with perfectionism*. Oakland, CA: New Harbinger.

Ashby, J. S., Rice, K. G., & Kutchins, C. B. (2008). Matches and mismatches: Partners, perfectionism, and premarital adjustment. *Journal of Counseling Psychology*, *55,* 125-132. doi:10.1037/0022-0167.55.1.125

Bagby, R. M., Parker, J. D. A., Joffe, R. T., & Buis, T. (1994). Reconstruction and validation of the Depressive Experiences Questionnaire. *Assessment*, *1,* 59-68. doi:10.1177/1073191194001001009

Barbato A., & D'Avanzo B. B. D. (2009). Marital therapy for depression. *Cochrane Database of Systematic Reviews, 2,* 1-27. doi:10.1002/14651858.CD004188.pub2

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117,* 497-529. doi:10.1037/0033-2909.117.3.497

Benet-Martínez, V., & John, O. P. (1998). Los Cinco Grandes across cultures and ethnic groups: Multitrait-multimethod analyses of the Big Five in Spanish and English. *Journal of Personality and Social Psychology, 75,* 729-750. doi:10.1037/0022-3514.75.3.729

Blatt, S. J. (1974). Levels of object representation in anaclitic and introjective depression. *Psychoanalytic Study of the Child, 29*, 107-157.

Burnham, K. P., & Anderson, D. R. (2002). *Model selection and multimodel inference: A practical information-theoretic approach* (2nd ed.). New York, NY: Springer.

Byrne, B. M. (2001). *Structural equation modeling with AMOS: Basic concepts, applications and programming*. Mahwah, NJ: Lawrence Erlbaum.

Cheung, G., & Rensvold, R. (2002). Evaluating goodness-of-fit indices for testing measurement invariance. *Structural Equation Modeling, 9*, 233-255. doi:10.1207/S15328007SEM0902_5

Cohen, J. (1992). A power primer. *Psychological Bulletin*, *112*, 155-159. doi:10.1037/0033-2909.112.1.155

Conflict. (2011). In *Oxford Dictionaries Online*. Retrieved from http://oxforddictionaries.com/definition/conflict

Coyne, J. C. (1976). Depression and the response of others. *Journal of Abnormal Psychology, 85,* 186-193. doi:10.1037/0021-843X.85.2.186

Coyne, J. C., & Whiffen, V. E. (1995). Issues in personality as diathesis for depression: The case of sociotropy-dependency and autonomy-self-criticism. *Psychological Bulletin, 118*, 358-378. doi:10.1037/0033-2909.118.3.358

Denton, W. H., Carmody, T. J., Rush, A. J., Thase, M. E., Trivedi, M. H., Arnow, B. A., & ... Keller, M. B. (2010). Dyadic discord at baseline is associated with lack of remission in the acute treatment of chronic depression. *Psychological Medicine*, *40,* 415-424. doi:10.1017/S0033291709990535

Dunkley, D. M., Zuroff, D. C., & Blankstein, K. R. (2003). Self-critical perfectionism and daily affect: Dispositional and situational influences on stress and coping. *Journal of Personality and Social Psychology*, *84,* 234-252. doi:10.1037/0022-3514.84.1.234

Dunkley, D. M., Zuroff, D. C., & Blankstein, K. R. (2006). Specific perfectionism components versus self-criticism in predicting maladjustment. *Personality and Individual Differences, 40,* 665-676. doi:10.1016/j.paid.2005.08.008

Enns, M. W., Cox, B. J., & Clara, I. P. (2005). Perfectionism and neuroticism: A longitudinal

study of specific vulnerability and diathesis-stress models. *Cognitive Therapy and Research, 29,* 463-478. doi:10.1007/s10608-005-2843-04

Flett, G. L., Hewitt, P. L., Shapiro, B., & Rayman, J. (2001). Perfectionism, beliefs, and adjustment in dating relationships. *Current Psychology*, *20,* 289-311. doi:10.1007/s12144-001-1013-4

Frost, R. O., Marten, P., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Therapy and Research, 14,* 449-468. doi:10.1007/BF01172967

Gerbing, D. W., & Anderson, J. C. (1984). On the meaning of within-factor correlated measurement errors. *Journal of Consumer Research, 11,* 572-580. doi:10.1086/208993

Graham, A. R., Sherry, S. B., Stewart, S. H., Sherry, D. L., McGrath, D. S., Fossum, K. M., & Allen, S. L. (2010). The existential model of perfectionism and depressive symptoms: A short-term, four-wave longitudinal study. *Journal of Counseling Psychology*, *57,* 423-438. doi:10.1037/a0020667

Habke, A., & Flynn, C. A. (2002). Interpersonal aspects of trait perfectionism. In G. L. Flett & P. L. Hewitt (Eds.), *Perfectionism: Theory, research, and treatment* (pp. 151-180). Washington, DC: American Psychological Association. doi:10.1037/10458-006

Habke, A., Hewitt, P. L., & Flett, G. L. (1999). Perfectionism and sexual satisfaction in intimate relationships. *Journal of Psychopathology and Behavioral Assessment, 21,* 307-322. doi:10.1023/A:1022168715349

Haring, M., Hewitt, P. L., & Flett, G. L. (2003). Perfectionism, coping, and quality of intimate relationships. *Journal of Marriage and Family, 65*, 143-158. doi:10.1111/j.1741-3737.2003.00143.x

Hewitt, P. L., & Flett, G. L. (1991). Perfectionism in the self and social contexts:

Conceptualization, assessment, and association with psychopathology. *Journal of Personality and Social Psychology, 60,* 456-470. doi:10.1037/0022-3514.60.3.456

Hewitt, P. L., Flett, G. L., Sherry, S. B.**,** & Caelian, C. F. (2006). Trait perfectionism dimensions and suicide behavior. In T. E. Ellis (Ed.), *Cognition and suicide: Theory, research, and practice* (pp. 215-235). Washington, DC: American Psychological Association.

Holm-Denoma, J. M., Otamendi, A., & Joiner, T. E., Jr. (2008). On self-criticism as interpersonally maladaptive. In E. C. Chang (Ed.), *Self-criticism and self-enhancement: Theory, research, and clinical implications* (pp. 73-86). Washington, DC: American Psychological Association. doi:10.1037/11624-005

Hsueh, A. C., Morrison, K., & Doss, B. D. (2009). Qualitative reports of problems in cohabiting relationships: Comparisons to married and dating relationships. *Journal of Family Psychology*, *23,* 236-246. doi:10.1037/a0015364

Ibarra-Rovillard, M., & Kuiper, N. A. (2011). Social support and social negativity findings in depression: Perceived responsiveness to basic psychological needs. *Clinical Psychology Review*, *31,* 342-352. doi:10.1016/j.cpr.2011.01.005

Joiner, T., Coyne, J. C., & Blalock, J. (1999). On the interpersonal nature of depression: Overview and synthesis. In T. Joiner & J. C. Coyne (Eds.), *The interactional nature of depression: Advances in interpersonal approaches* (pp. 3-19). Washington, DC: American Psychological Association. doi:10.1037/10311-013

Kline, R. B. (2005). *Principles and practice of structural equation modeling*. New York, NY: Guilford.

Lahey, B. B. (2009). Public health significance of neuroticism. *American Psychologist, 64,* 241-256. doi:10.1037/a0015309

Laurenceau, J., & Bolger, N. (2005). Using diary methods to study marital and family

    processes. *Journal of Family Psychology*, *19,* 86-97. doi:10.1037/0893-3200.19.1.86

Ledermann, T., & Macho, S. (2009). Mediation in dyadic data at the level of the dyads: A

    structural equation modeling approach. *Journal of Family Psychology, 23,* 661-670.

    doi:10.1037/a0016197

Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to

    parcel: Exploring the question, weighing the merits. *Structural Equation Modeling*, *9,*

    151-173. doi:10.1207/S15328007SEM0902_1

Liu, R. X., & Chen, Z. (2006). The effects of marital conflict and marital disruption on

    depressive affect: A comparison between women in and out of poverty. *Social Science

    Quarterly*, 87, 250-271. doi:10.1111/j.1540-6237.2006.00379.x

Lopez, F. G., Fons-Scheyd, A., Morúa, W., & Chaliman, R. (2006). Dyadic perfectionism as a

    predictor of relationship continuity and distress among college students. *Journal of

    Counseling Psychology, 53,* 543-549. doi:10.1037/0022-0167.53.4.543

Mead, D. E. (2002). Marital distress, co-occurring depression and marital therapy: A

    review. *Journal of Marital and Family Therapy, 28,* 299-314. doi:10.1111/j.1752-

    0606.2002.tb01188.x

Murray, S. L., Griffin, D. W., Rose, P., & Bellavia, G. M. (2003). Calibrating the sociometer:

    The relational contingencies of self-esteem. *Journal of Personality and Social

    Psychology, 85,* 63-84. doi:10.1037/0022-3514.85.1.63

Oishi, S., & Sullivan, H. W. (2006). The predictive value of daily vs. retrospective well-being

    judgments in relationship stability. *Journal of Experimental Social Psychology, 42,* 460-

    470. doi:10.1016/j.jesp.2005.07.001

Radloff, L. S. (1977). The CES-D Scale: A self-report depression scale for research in the

    general population. *Applied Psychological Measurement*, *1,* 385-401.

    doi:10.1177/014662167700100306

Rice, K. G., & Aldea, M. A. (2006). State dependence and trait stability of perfectionism: A

    short-term longitudinal study. *Journal of Counseling Psychology, 53,* 205-213.

    doi:10.1037/0022-0167.53.2.205

Shafer, A. B. (2006). Meta-analysis of the factor structures of four depression questionnaires:

    Beck, CES-D, Hamilton, and Zung. *Journal of Clinical Psychology, 62,* 123-146.

    doi:10.1002/jclp.20213

Shahar, G., Blatt, S. J., Zuroff, D. C., Krupnick, J. L., & Sotsky, S. M. (2004). Perfectionism

    impedes social relations and response to brief treatment for depression. *Journal of Social*

    and Clinical Psychology, 23, 140-154. doi:10.1521/jscp.23.2.140.31017

Sherry, S. B., Law, A., Hewitt, P. L., Flett, G. L., & Besser, A. (2008). Social support as a

    mediator of the relationship between perfectionism and depression: A preliminary test of

    the social disconnection model. *Personality and Individual Differences*, *45,* 339-344.

    doi:10.1016/j.paid.2008.05.001

Sherry, S. B., Mackinnon, S. P., Mackinnon, A. (2011). [Psychometric data]. Unpublished raw

    data.

Spanier, G. B. (1976). Measuring dyadic adjustment: New scales for assessing the quality of

    marriage and similar dyads. *Journal of Marriage and the Family*, *38,* 15-28.

    doi:10.2307/350547

Stoeber, J., & Otto, K. (2006). Positive conceptions of perfectionism: Approaches, evidence,

    challenges. *Personality and Social Psychology Review*, *10,* 295-319.

    doi:10.1207/s15327957pspr1004_2

Vettese, L. C., & Mongrain, M. (2000). Communication about the self and partner in the

    relationships of dependents and self-critics. *Cognitive Therapy and Research, 24,* 609-

    626. doi:10.1023/A:1005587009681

Vujeva, H. M., & Furman, W. (2011). Depressive symptoms and romantic relationship qualities

    from adolescence through emerging adulthood. *Journal of Clinical Child and Adolescent*

    Psychology, 40, 123-135. doi:10.1080/15374416.2011.533414

Weissman, M. M., Markowitz, J. C., & Klerman, G. L. (2000). *Comprehensive guide to*

    interpersonal psychotherapy. New York, NY: Basic Books.

Whisman, M. A., & Uebelacker, L. A. (2009). Prospective associations between marital discord

    and depressive symptoms in middle-aged and older adults. *Psychology and Aging*, *24*,

    184-189. doi:10.1037/a0014759

Zuroff, D. C., Mongrain, M., & Santor, D. A. (2004). Conceptualizing and measuring personality

    vulnerability to depression: Comment on Coyne and Whiffen (1995). *Psychological*

    Bulletin, *130,* 489-511. doi:10.1037/0033-2909.130.3.489

Footnotes

[1] Terminology is a point of contention among perfectionism researchers, so other research groups might prefer different names for perfectionistic concerns (e.g., self-critical perfectionism) and perfectionistic strivings (e.g., personal standards perfectionism). These different labels reflect very similar underlying constructs across studies.

[2] Though some researchers (Coyne & Whiffen, 1995) argue perfectionistic concerns could be an outcome, rather than a predictor of depressive symptoms (i.e., a "scar" effect), the magnitude of such findings is often small (Zuroff et al., 2004). Thus, we expect perfectionistic concerns will be an antecedent of depressive symptoms, instead of an outcome.

[3] Other methods of including CES-D depression into our model were examined to ensure our results are not specific to this particular set of item parcels. The findings presented in this study remain virtually unchanged when using a single non-latent indicator, or when creating item parcels based on a 3-factor or 4-factor structure identified in a meta-analysis (Shafer, 2006).

[4] Latent correlations were similar to bivariate correlations and are available upon request.

[5] There were no severe departures from multivariate normality. When using a robust estimation procedure in Mplus (MLR), conclusions based on model fit using our outlined criteria and the statistical significance of individual paths at $p < .05$ were identical to the results we present in the main text. Thus, we used maximum likelihood estimation in our study.

[6] Results for the unconstrained model are available upon request.

[7] When constraining paths to equality, Mplus forces the unstandardized paths to be equal. Because variability often differs between groups, calculations using standardized variables may be unequal despite the equality constraint. For this reason, Kline (2005) suggests researchers do not compare standardized values between groups in the same sample.

Table 1

Possible Ranges, Means, Standard Deviations, and Alpha Reliabilities

		Men			Women		
	Possible Range	*M*	*SD*	α	*M*	*SD*	α
1. P1 Self-criticism	5 to 35	13.16	5.79	.80	9.87	5.28	.80
2. P1 Socially prescribed perfectionism	5 to 35	14.76	5.72	.78	10.77	4.68	.73
3. P1 Concern over mistakes	5 to 35	8.10	3.22	.68	6.88	3.28	.77
4. P2 Conflict (Murray)	7 to 63	13.02	5.98	.93	13.19	6.39	.93
5. P2 Conflict (Oishi)	5 to 45	10.50	5.42	.90	11.32	6.17	.91
6. P1 Depressive symptoms	0 to 60	11.85	7.64	.86	12.29	8.55	.89
7. P3 Depressive symptoms	0 to 60	12.82	9.07	.89	13.23	9.09	.90
8. P1 Neuroticism	8 to 40	18.75	5.19	.76	23.41	6.16	.81
9. P1 Other-oriented perfectionism	6 to 42	16.04	5.67	.72	16.59	5.95	.72
10. Age	--	22.35	4.52	--	21.48	4.13	--

Note. P1, P2, and P3 indicate Phases 1, 2, and 3.

Table 2

Bivariate Correlations

Variable	Men: Phase 1							Men: Phase 2 and 3			Women: Phase 1							Women: Phase 2 and 3		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Men: Phase 1																				
1. Self-criticism	--	.49	.43	.41	.31	.22	.20	.36	.34	.34	**.27**	**.10**	**.10**	**.16**	**.26**	**.13**	**.20**	**.19**	**.18**	**.13**
2. Socially prescribed		--	.45	.26	.18	.32	-.06	.29	.24	.23	**.22**	**.11**	**.13**	**.10**	**.17**	**.11**	**-.03**	**.08**	**.08**	**.03**
3. Concern over mistakes			--	.26	.18	.42	-.03	.25	.23	.22	**.18**	**.04**	**.03**	**.09**	**.11**	**.07**	**.02**	**.11**	**.11**	**.04**
4. Depressive symptoms				--	.55	.19	.18	.29	.37	.67	**.11**	**.07**	**.01**	**.16**	**.12**	**.10**	**.15**	**-.01**	**.04**	**.08**
5. Neuroticism					--	.08	.08	.21	.31	.51	**.16**	**.20**	**.13**	**.07**	**.09**	**.14**	**.04**	**.08**	**.07**	**.10**
6. Other-oriented						--	.17	.27	.29	.13	**.24**	**.16**	**.14**	**.05**	**.05**	**.13**	**.14**	**-.05**	**.01**	**.02**
7. Age							--	.04	.13	.05	**.02**	**-.01**	**-.08**	**.09**	**.04**	**.24**	**.87**	**-.09**	**-.82**	**.02**
Men: Phase 2 and 3																				
8. Conflict (Murray)								--	.78	.26	**.36**	**.19**	**.33**	**.19**	**.26**	**.08**	**.08**	**.42**	**.30**	**.21**
9. Conflict (Oishi)									--	.33	**.31**	**.24**	**.26**	**.23**	**.24**	**.07**	**.11**	**.32**	**.33**	**.26**
10. Depressive symptoms										--	**.19**	**.09**	**.03**	**.21**	**.18**	**.13**	**.05**	**.09**	**.12**	**.26**
Women: Phase 1																				
11. Self-criticism											--	.53	.55	.38	.32	.16	.05	.37	.30	.38
12. Socially prescribed												--	.48	.19	.12	.22	-.01	.17	.17	.18
13. Concern over mistakes													--	.16	.16	.12	-.04	.21	.19	.20
14. Depressive symptoms														--	.55	.12	.11	.29	.30	.67
15. Neuroticism															--	.18	.06	.39	.40	.44
16. Other-oriented																--	.25	.11	.11	.14
17. Age																	--	-.11	-.12	.05
Women: Phase 2 and 3																				
18. Conflict (Murray)																		--	.76	.34
19. Conflict (Oishi)																			--	.37
20. Depressive symptoms																				--

Note. Socially prescribed = socially prescribed perfectionism; Other-oriented = other-oriented perfectionism. Within-dyad correlations between men and women are indicated in bold.

Missing data were handled using multiple imputation in PASW 17.0 (20 imputations; $N = 226$). A correlation of .10 is a small effect size, a correlation of .30 is a medium effect size, and a correlation of .50 is a large effect size (Cohen, 1992). Bivariate correlations greater than .14 are significant at $p < .05$, correlations greater than .17 are significant at $p < .01$, and correlations greater than .22 are significant at $p < .001$.

Figure 1. Hypothesized structural model testing the indirect effect of perfectionistic concerns on

depressive symptoms through dyadic conflict while controlling for Phase 1 depressive

symptoms. Ovals represent latent variables. The double-headed black arrow represents a latent

correlation. Single-headed black arrows represent direct effects. Grey arrows represent paths

hypothesized to be nonsignificant. When comparing models, the unconstrained model allows all

paths to vary normally. The constrained model constrains all paths to and from dyadic conflict,

and the paths from Phase 1 to Phase 3 depressive symptoms, to equality across genders. In the

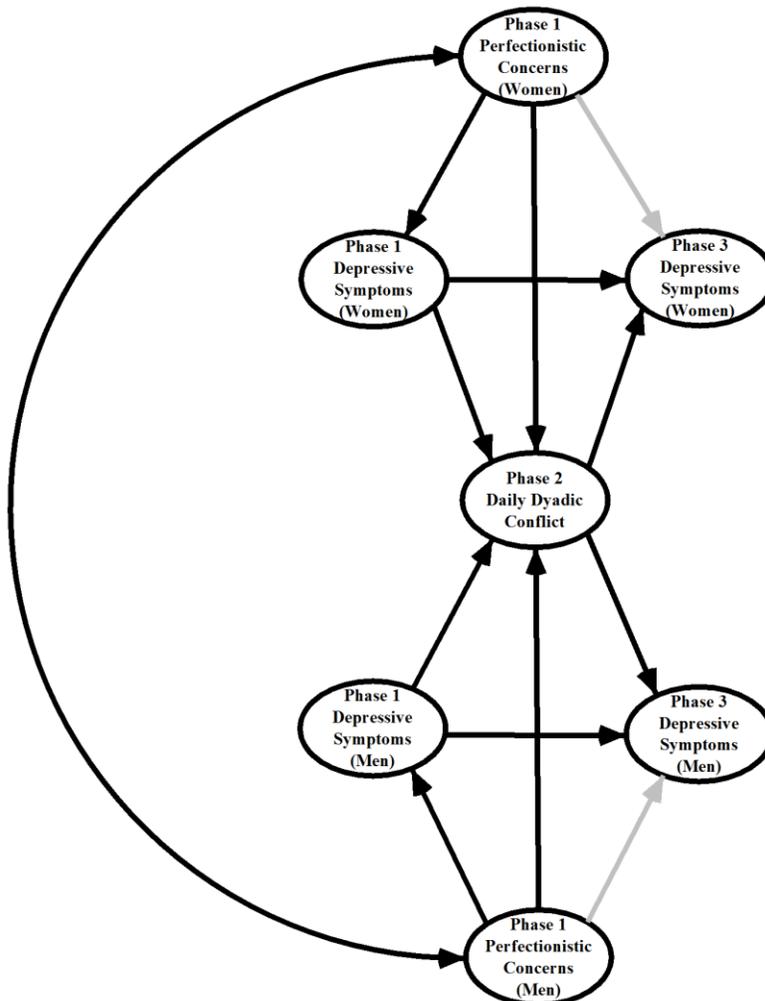interest of clarity, manifest variables are not shown.

Figure 2. Structural model testing the indirect effect of perfectionistic concerns on depressive symptoms through dyadic conflict while controlling for Phase 1 depressive symptoms. Ovals represent latent variables. The double-headed black arrow represents a significant latent correlation and single-headed black arrows represent significant paths ($p < .05$). Grey arrows represent nonsignificant paths ($p > .05$). Standardized path coefficients appear in bold. Italicized numbers represent the proportion of variance accounted for by exogenous variables. All paths to and from dyadic conflict, and the autoregressive path for depressive symptoms across phases were constrained to equality across genders. Manifest variables are not shown.