Perfectionistic concerns, social negativity, and subjective well-being:

A test of the social disconnection model

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Abstract

Objective: Partner-specific perfectionistic concerns (PC) include concern over mistakes, self-criticism, and socially-prescribed perfectionism as it pertains to one's partner.   The social disconnection model proposes that PC influences well-being indirectly through interpersonal problems. Thus, we hypothesized that social negativity (expressed anger, hostility, and rejection) would mediate the relationship between dyadic PC and subjective well-being.

Method: Data from 203 romantic dyads (92.1% heterosexual) were collected using self-report surveys and a 4-wave, 4-week longitudinal design. Participants were predominantly female (53.1%), young ($M = 22.69$ years) and Caucasian (82.3%).

Results: Data were analyzed using an actor-partner interdependence model with multilevel structural equation modelling. There were significant actor effects at the between-subjects and within-subjects levels, and significant partner effects for the relationship between PC and social negativity at the within-subjects level. Social negativity mediated the relationships between PC and both negative affect and life satisfaction. However, positive affect was more weakly related to PC and social negativity.

Conclusions: The social disconnection model was supported. PC was positively associated with one's own social negativity and evoked hostile behaviours from one's partner. Hostile, rejecting behaviours reduced the well-being of the actor, but not the partner. Results suggest perfectionism may be best understood within an interpersonal context.

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Perfectionistic concerns have been long linked to deficits in well-being, and are a constellation of comorbid personality traits associated with a wide range of psychopathology. However, the mechanisms by which perfectionistic concerns confer risk for decreased well-being are not as well-understood. Self-determination theory suggests people have deficits in well-being when their needs for autonomy, competence, and/or relatedness are frustrated (Ryan & Deci, 2000). People high in perfectionistic concerns tend to feel as though love and acceptance from others are contingent upon perfect performance (Blatt, 1995), frustrating their need for relatedness. Thus, perfectionistic people may experience social disconnection from others, which in turn inhibits their capacity for well-being. This process has been codified and elaborated on in the social disconnection model (Sherry, Mackinnon, & Gautreau, in press), which proposes perfectionism indirectly leads to psychopathology via subjective and objective forms of social disconnection. The present study is a test of the social disconnection model in romantic dyads using a 4-wave, 4-week longitudinal design.

Defining perfectionism

Perfectionism has been variably defined across time and research traditions, with dozens of definitions, measures and subscales presently in use. One common tripartite model suggests three core dimensions of perfectionism: (a) Perfectionistic concerns, (b) perfectionistic strivings, and (c) other-oriented perfectionism (Hewitt & Flett, 1991; Nealis, Sherry, Sherry, Stewart, & Macneil, 2015; Stoeber & Otto, 2006). Perfectionistic concerns are a constellation of personality traits including perceptions that others are placing unrealistic demands on you, undue concern over mistakes, doubts about getting things "right," and harsh self-criticism. Unsurprisingly,

perfectionistic concerns tend to be a maladaptive personality trait associated with decreased well-being (Sherry et al., in press). Perfectionistic strivings involve high personal standards and demanding perfection of oneself. However, the impact of perfectionist strivings on well-being is somewhat controversial, with some suggesting they are positively related to well-being after controlling for perfectionistic concerns (Stoeber & Otto, 2006), while others suggest they are unrelated to well-being (Graham et al., 2010). Other-oriented perfectionism involves demanding perfection of others, and is more closely related to narcissism (Nealis et al., 2015). Though we acknowledge the important debate surrounding the potential adaptiveness of perfectionistic strivings (Stoeber & Otto, 2006), and the growing literature examining other-oriented perfectionism (Nealis et al., 2015), the present study focuses on perfectionistic concerns based on evidence suggesting perfectionistic concerns are a robust correlate of well-being, and theory highlighting their role in generating social negativity (Sherry et al., in press).

In the present study, we focus on a related construct known as "partner-specific perfectionistic concerns." As in past work on perfectionism in romantic dyads (Mackinnon et al., 2012; Stoeber, 2012), partner-specific perfectionistic concerns place the perfectionistic emphasis on the relationship with one's partner. Thus, in this paradigm, participants are asked to consider the perfectionistic demands of their partner. Consistent with Mackinnon et al. (2012), partner-specific perfectionistic concerns were operationalized as a latent variable comprised of three constructs adapted to be partner-specific: Socially prescribed perfectionism ("My partner expects me to be perfect;" Hewitt & Flett, 1991), concern over mistakes ("The fewer mistakes I make, the more my partner will like me; Frost, Marten, Lahart, & Rosenblate, 1990), and self-criticism ("Often, I feel that I have disappointed my partner"; Blatt, 1974). Partner-specific perfectionistic concerns may have little to do with whether a person holds themselves or others to unrealistically

high standards (i.e., perfectionistic strivings and other-oriented perfectionism). Indeed, it is perhaps most closely related to Hewitt and Flett's (1991) socially-prescribed perfectionism – with the core difference being that our measure focuses on the partner specifically, rather than other people more generally. Of course, it may not be clear (or truly knowable) if perceptions that others expect perfection of oneself represent reality (e.g., a demanding partner) or if it represents a maladaptive, inaccurate perception of one's social world. Nonetheless, much prior research and theorizing has focused on socially-prescribed perfectionism (and thus, by proxy, partner-specific perfectionistic concerns) as an individual difference variable that remains relatively stable over time (e.g., Cox & Enns, 2003). Moreover, these interpersonal features of perfectionism have been shown to be core to the construct (Hewitt, Flett, Besser, Sherry & McGee, 2003). Early theorizing on perfectionism suggested that contingent self-worth (e.g., to receive love, I must be perfect) is a core interpersonal feature of perfectionism (Pacht, 1984). Moreover, from a psychodynamic perspective, socially-prescribed perfectionism may represent a form of projection. For instance, Horney (1950) describes a perfectionistic person by saying: "Again he may primarily experience his expectations of himself as coming from others. And, whether these others actually do expect something or whether he merely thinks they do, their expectations then turn into demands to be fulfilled" (pg. 78, as cited in Hewitt et al., 2003). When considering literature on the self, partner-specific perfectionistic concerns might be thought of as a discrepancy between the ought and actual selves (Higgins, 1987) – indeed, this notion of perceived self-discrepancy is central to the definition of perfectionistic concerns by some authors (Slaney, Rice, Mobley, Trippi, & Ashby, 2001). In sum, despite being a perception of one's partner's demands on the self, the present study conceptualizes partner-specific perfectionistic concerns as an individual difference variable that resides within the person.

However, as noted in the quote from Horney (1950) above, even if these perceptions are an accurate representation of reality for some persons, the outcomes (i.e., increased social negativity and decreased well-being) should be the same.

Defining subjective well-being

Much of the existing research linking perfectionistic concerns to well-being has focused on negative affect, most notably depression and anxiety, rather than the absence of positive outcomes. However, research in the field of positive psychology suggests that well-being is a broad construct that expands beyond negative affect. Indeed, Ryan and Deci (2001) make a distinction between hedonic well-being (i.e., attaining pleasure and avoiding pain) and eudaimonic well-being (i.e., achieving personal meaning and purpose). Subjective well-being (i.e., a form of hedonic well-being) is generally operationalized as positive affect, life satisfaction, and absence of negative affect (Diener, Eunkook, Lucas, & Smith, 1999). Though some theoretical models suggest these variables can be combined into a single latent variable (Linley et al., 2009), other research suggests each component is unique, and should be considered separately (Busseri & Sadava, 2011). This is consistent with findings in the emotion literature suggesting positive and negative affect are not merely opposite poles of a single continuum, but rather separate constructs with distinct factor structures (Watson, Clark, & Tellegen, 1988). Thus, the present study focuses on negative affect, positive affect, and life satisfaction as separate outcomes. Though we acknowledge the importance of eudaimonic well-being (Ryan & Deci, 2001), the present study focuses exclusively on subjective well-being.

The social disconnection model

It has long been noted that perfectionistic people have difficulties in their interpersonal relationships (Habke & Flynn, 2002) and that they tend to experience more negative emotions,

such as depression and anxiety (Hewitt & Flett, 1991). The social disconnection model is a theoretical model that proposes a causal link between perfectionistic concerns, social disconnection, and psychological distress (Sherry et al., in press). Specifically, this theory proposes that perfectionistic concerns generate social disconnection, which in turn results in psychological distress. Thus, this theory proposes a one-way directionality of relationships (i.e., perfectionistic concerns confer risk for social disconnection and psychological distress, rather than the reverse) and proposes a mechanism by which perfectionistic concerns lead to emotional problems. In the social disconnection model, Hewitt, Flett, Sherry, and Caelian (2006) distinguish between subjective social disconnection (i.e., the psychological experience of isolation) and objective social disconnection (i.e., actual deficits or problems in relationships). Though both are proposed as mediators, the present study focuses on social negativity, which is closer to Hewitt et al.'s (2006) description of objective social disconnection. Social negativity is a latent construct that can be defined as negative social interactions such as hostility, expressed anger, communicative interference, stonewalling, and being insensitive to others' feelings (Ibarra-Rovillard & Kuiper, 2011). Although early theoretical work on the social disconnection model focused primarily on suicidal behaviours (Hewitt et al., 2006), later theorizing has broadened this model to include a wide variety of psychopathological outcomes, such as depression, anxiety and eating disorders (Sherry et al., in press). In the present study, we focus on subjective well-being as an overall index of psychological health, and social negativity in romantic couples as a mediator.

Literature review

Consistent with the postulates of the social disconnection model, longitudinal research on perfectionism has generally suggested perfectionistic concerns predict subjective well-being,

rather than the reverse. In one 3-wave, 130-day longitudinal study of freshman students, Mackinnon and Sherry (2012) found that perfectionistic concerns longitudinally predicted decreases in a composite index of subjective well-being. When analyzed as separate components, perfectionistic concerns predicted decreases in positive affect and increases in negative affect, but no changes in life satisfaction. Milyavskaya et al.'s (2014) 7-wave, 1-year longitudinal study of students found that self-criticism (i.e., a facet of perfectionistic concerns) was longitudinally associated with increased negative affect and decreased positive affect, though the magnitude of this predictive effect was larger for negative affect. In contrast, perfectionistic strivings were weakly associated with the opposite pattern: decreased negative affect and increased positive affect. In a combined longitudinal and daily diary design, Dunkley, Ma, Lee, Preacher, and Zuroff (2014) found that the trait-like component of self-critical perfectionism strongly and positively predicted negative affect, but was unrelated to positive affect. Rice and Aldea (2006) found that discrepancies (a close analogue of perfectionistic concerns) predicted increases in depressive symptoms over time using a 3-wave, 10-week longitudinal study of undergraduates. Moreover, using a 4-wave, 4-week longitudinal design, Graham et al. (2010) demonstrated that perfectionistic concerns – but not perfectionistic strivings – longitudinally predicted increases in depressive symptoms. Overall then, existing longitudinal research supports the notion that perfectionistic concerns confer risk for decreased subjective well-being, with increases in negative affect, in particular, receiving the strongest support.

Two systematic reviews of the literature suggest there are robust links between perfectionistic concerns and social negativity, with people high in perfectionistic concerns perceiving more social disconnection in their day-to-day lives and engaging in more conflictual behaviours (Habke & Flynn, 2002; Holm-Denoma, Otamendi, & Joiner, 2008). When

considering romantic relationships specifically, a few studies link perfectionistic concerns to social negativity. In a cross-sectional study of 58 romantic dyads, Stoeber (2012) found that partner-prescribed perfectionism (i.e., partner-specific socially-prescribed perfectionism) and partner-oriented perfectionism (i.e., other-oriented perfectionism) both negatively predicted relationship satisfaction. However, these relationships held only for actor effects (i.e., perceptions that one's partner expects perfection predicting own satisfaction); there were no significant partner effects (i.e., perceptions that one's partner expects perfection predicting that partner's satisfaction). In two cross-sectional studies of dating university students, Flett, Hewitt, Shapiro, and Rayman (2001) found that socially-prescribed perfectionism was correlated with lower dyadic adjustment, and an increased desire to ignore the other partner or to break up after conflict. Haring, Hewitt, and Flett (2003) examined a sample of cohabitating couples in a cross-sectional study and found that socially-prescribed perfectionism led to decreased marital adjustment for the actor and the partner, though actor effects were generally larger in magnitude. Overall then, it's clear that perfectionistic concerns are positively associated with social negativity in romantic relationships.

Social negativity also displays clear links to decreased subjective well-being. Self-determination theory posits the need for relatedness (i.e., the need to be connected to others, to love and be loved) is a fundamental human need necessary for well-being (Ryan & Deci, 2000). Thus, Ibarra-Rovillard et al. (2011) theorize that social negativity reduces subjective well-being by frustrating this fundamental need for relatedness. In a meta-analysis of 48 studies ($N =$ 14,516), Finch et al. (1999) found social negativity significantly predicted psychological distress (weighted mean $r = .26$). Moreover, in a follow-up study of 906 college students, Finch et al. (1999) demonstrated that social negativity predicts depression beyond social support and Big

Five personality characteristics. Denton et al. (2010) found that clinically depressed participants were much less likely to recover from depression during a 12-week treatment program when there were high levels of social negativity in their romantic relationships at baseline. Moreover, in a 2-year longitudinal study, Liu and Chen (2006) found that marital conflict predicted increases in depression over time, though this effect was moderated by socioeconomic status with poverty further increasing risk for depression. Clearly, social negativity within a romantic relationship has a clear, deleterious effect on subjective well-being, with the strongest evidence again emerging for negative affect, particularly for depressive symptoms.

A few full mediational tests of the social disconnection model have been published. In a cross-sectional study of undergraduates, Sherry et al. (2008) found that lower perceived social support mediated the relationship between socially-prescribed perfectionism and depressive symptoms. In a study of 144 patients with major depressive disorder, Shahar, Blatt, Zuroff, Krupnick, and Sotsky (2004) found that self-criticism led to an impoverished social network and decreased therapeutic alliance, which in turn predicted poorer treatment outcomes for depression. In a 2-wave, 3-year longitudinal study of mental health clinic-recruited participants, Dunkley, Sanislow, Grilo, and McGlashan (2006) found that self-criticism had an indirect effect on depressive symptoms through decreased perceived social support and increased social negativity. Roxborough et al. (2012) found that social hopelessness mediated the relationship between socially-prescribed perfectionism and suicide risk in child and adolescent psychiatric inpatients. Finally, in the first mediational test among couples, Mackinnon et al. (2012) used a mixed longitudinal and daily-diary design over 28 days and found that dyadic conflict (i.e., a latent variable comprised of social negativity from both partners) mediated the relationship between

partner-specific perfectionistic concerns and depressive symptoms. Overall, there is good support

for the social disconnection model; however, research has tended to focus on depressive affect.

Rationale and literature gaps

Past tests of the social disconnection model have tended to narrowly focus on negative

affect, with depressive affect receiving considerable focus. This is perhaps not surprising, as the

social disconnection model originally was designed to explain how perfectionism confers risk for

suicidal behaviours – an outcome closely linked to depression (Hewitt et al., 2006). Though

some past perfectionism research has focused on subjective well-being as an outcome

(Mackinnon & Sherry, 2012), no prior test of the social disconnection model has examined

subjective well-being more broadly. The present research advances prior work by examining

negative affect, positive affect, and life satisfaction in a single study, which results in a more

comprehensive definition of well-being.

More importantly, comparatively few studies have examined the role of perfectionistic

concerns within specific social contexts. Indeed, much of the perfectionism literature could be

criticized for taking an intrapersonal approach, without considering the role of close

relationships. Correspondingly, there are few studies of romantic dyads in perfectionism research

(c.f., Haring et al., 2003; Mackinnon et al., 2012; Stoeber, 2012). Dyadic data creates

opportunities to examine interesting questions using actor-partner interdependence models

(Kenny & Ledermann, 2010). That is, in addition to actor effects (e.g., *intra*personal; perceptions

that one's partner expects perfection predicting own social negativity and well-being), it is also

important to examine potential partner effects (e.g., interpersonal; perceptions that one's partner

expects perfection predicting the partner's social negativity and well-being). Though it has long

been theorized that perfectionistic people evoke conflictual behaviours from others, most studies

have focused on intrapersonal features of perfectionism (i.e., how perfectionistic people themselves tend to engage in hostile, rejecting, and overly needy behaviours; Habke & Flynn, 2002). Thus, more research is needed to tease apart the extent to which people high in perfectionistic concerns engage in socially negative behaviours (actor effects) versus evoking social negativity from other people (partner effects). We predict that partner-specific perfectionistic concerns will have both actor and partner effects on social negativity. Theory suggests that perceptions of unrealistic, perfectionistic demands will often lead to resentment, and social negativity in the perceiver (Hewitt et al., 2006). However, these same perceptions frequently result in an overly dependent, needy interpersonal style where perfectionistic people place undue focus on receiving approval, admiration, and nurturance from others (Hewitt et al., 2006). Thus, the needy, approval-contingent interpersonal style of perfectionistic people might also evoke social negativity from their partner. Thus for the relationships between partner-specific perfectionistic concerns and social negativity, we predicted both actor effects (i.e., my perceptions of my partner having perfectionistic demands of me leads to my own greater social negativity) as well as partner effects (my perceptions of my partner having perfectionistic demands of me leads to greater social negativity in my partner).

Another important limitation of past research has been the reliance on cross-sectional methods (e.g., Haring et al., 2003; Stoeber, 2012). Longitudinal studies allow for stronger causal inferences, as they can assess temporal precedence and/or co-occurring changes over time (Little, Preacher, Selig, & Card, 2007). Until recently, longitudinal dyadic data has been challenging to analyze, as many of the existing tools for researchers were unsuitable for 3 levels of nesting (i.e., repeated measures, participants, couples) . However, recent advances in the statistical literature have generated a new data analytic approach that greatly simplifies analysis of this kind of data.

Multilevel structural equation modelling (Preacher, Zyphur, & Zhang, 2010) is a hybrid statistical model that retains the flexibility of structural equation models and the variance partitioning properties of multilevel models that allows for testing more complex hypotheses, such as longitudinal actor partner interdependence models (APIM). To our knowledge, only a single study in the perfectionism literature has used multilevel structural equation modelling; Dunkley et al. (2014) presented a complex multilevel structural equation model that examined the relationship between perfectionism, coping, social support and affect in a sample of non-dyadic community adults. However, (to our knowledge) no study on perfectionism has used multilevel structural equation modelling in romantic dyads. The present research advances prior research by applying multilevel structural equation modelling to longitudinal, dyadic data, for one of the most rigorous tests of the social disconnection model to date.

Hypotheses

Based on the above review and rationale, this study had four hypotheses:

H1: Partner-specific perfectionistic concerns would predict increased social negativity, which in turn would predict increased negative affect, decreased life satisfaction, and decreased positive affect. That is, perfectionistic concerns would have an indirect effect on well-being through social negativity.

H2: The indirect effect proposed in H1 would hold at the between-subjects (averaged across all four weeks) and within-subjects (co-occurring changes within any given week) levels.

H3: Partner-specific perfectionistic concerns would lead to increased social negativity from the actor (i.e., actor effects), and would also evoke increased social negativity from the partner (i.e., partner effects).

H4: Similarly, social negativity in one partner, would lead to decreased well-being in oneself (i.e., actor effects), as well as decreased well-being in one's partner (i.e., partner effects).

Method

Participants

Two samples of romantic dyads were collected from Halifax Regional Municipality using highly similar procedures (see Procedure for notable differences). Social negativity data from Sample 1 was presented in a previous publication examining alcohol use (Lambe, Mackinnon, & Stewart, 2015), and data from Sample 2 has not been previously published. Sample 1 consisted of 100 romantic dyads (89 heterosexual and 11 same-sex female). Data from both samples were combined together prior to analysis. Participants were predominately young ($M = 22.69$, $SD = 5.49$ years old), Caucasian (83.5%), 59.2% were full-time students, reported having face-to-face contact with their partner most days per week ($M = 6.21$, $SD = 1.39$ days/week), and were in a relationship for an average of 840.76 days ($SD = 879.33$). Moreover, 51.7% of couples were cohabitating, with a minority of married participants (8.4%)

Materials

Partner-specific perfectionistic concerns. Consistent with Mackinnon et al. (2012), partner-specific perfectionistic concerns were measured as a latent variable comprised of three short-form perfectionism subscales consisting of 5 items each: Socially-prescribed perfectionism ("My partner expects me to be perfect;" Hewitt & Flett, 1991), concern over mistakes ("If I fail at work/school, my partner thinks I am a failure as a person;" Frost et al., 1990), and self-criticism ("Often, I feel that I have disappointed my partner;" Bagby, Parker, Joffe, & Buis, 1994). Participants responded to items using a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). These subscales were modified from their original form to be partner-

specific by Mackinnon et al. (2012), who also demonstrated that these measures have good reliability, criterion validity, and a unidimensional factor structure.

Social negativity. Partner-specific relationship social negativity was measured using a latent variable comprised of 3 subscales. The Social Conflict Scale ("Acted in an unpleasant or angry way towards your partner;" Abbey & Andrews, 1985) is a 5-item subscale rated on a 5-point scale ranging from 1 (*not at all)* to 5 (*a great deal*). The 7-item Partner-Specific Rejecting Behaviors Scale ("I insulted my partner;" Murray, Griffin, Rose, & Bellavia, 2003), and the 5-item Interpersonal Qualities Scale (Oishi & Sullivan, 2006) were both rated on a 9-point scale ranging from 1 (*strongly disagree*) to 9 (s*trongly agree*). These measures have demonstrated good internal consistency and criterion validity, and cohere as a single factor in prior research (Mackinnon et al., 2012; Lambe et al., 2015).

Positive and Negative Affect Scale (PANAS). The PANAS (Watson, et al., 1988) asks participants to rate how much single emotion words have applied to them over the past 7 days. It consists of a 10-item negative affect subscale (e.g., afraid, upset, distressed) and a 10-item positive affect subscale (e.g., excited, inspired, enthusiastic). Participants rated items on a 5-point scale ranging from 1 (*very slightly or not at all*) to 5 (*extremely*). This measure has been well-researched, and has excellent reliability and validity when participants were asked to report on their feelings over the past 7 days (Watson & Clark, 1994).

Satisfaction with Life Scale. The 5-item satisfaction with life scale ("The conditions of my life were excellent;" Diener, Emmons, Larson, & Griffin, 1985) asked participants to rate the quality of their life as a whole using a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), when considering the past 7 days. The measure has demonstrated good reliability, and discriminant validity from other well-being measures (Pavot & Diener, 1993).

Procedure

Participants in Sample 1 were recruited from Halifax Regional Municipality using flyers, online ads, and the psychology subject pool. To be eligible for this study, all participants needed to: (a) Currently be in a romantic relationship and (b) have consumed at least 12 alcoholic beverages in the past year.[1] Participants in Sample 1 always arrived at the lab together, and completed all questionnaires at the same time in the lab in pen-and-paper format. All questionnaires asked participants to consider only "the past 7 days" when responding to items. Participants were scheduled to complete these questionnaires once a week for 4 weeks, with each appointment 7 days apart, and completing the same questionnaires at each wave. To maximize retention, if couples missed an appointment, researchers attempted to schedule a make-up survey as close to the original appointment day as possible. However, there was always a minimum of 7 days and a maximum of 13 days in between all appointments, to avoid any overlap in reporting days. Thus, participants had a 6-day window to complete a questionnaire at any given wave. If participants completed a make-up survey, they reported on the past 7 days, not the originally scheduled 7-day period. When a make-up survey was completed, follow-up appointments were re-scheduled to fall 7 days after the make-up survey. At the end of the study, each participant was compensated $5.00 or one credit point for each wave completed, and was fully debriefed.

Participants in Sample 2 were recruited in a similar manner using the same eligibility criteria; however, some modifications were implemented to improve recruitment. First, all

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[1]The latter criterion was required to answer other research questions related to alcohol consumption in these data (see Lambe et al., 2015), but is unlikely to substantially influence the questions of interest in the present paper.

questionnaires were completed using Opinio online software on computers. Participants were required to come to the lab together only for the first wave, and were able to complete the follow-up surveys online at home. Each participant had a unique ID number, and a secure web-link was sent to their email address to avoid partners filling out questionnaires for each other during the follow-ups. Participants who failed to complete a wave were sent make-up surveys using a secured web link in an email which was active for only the day it was sent out. These make-up surveys were sent out every day for up to six days after the originally scheduled questionnaire. After 6 days, participants were considered to have missed that wave. Unlike Sample 1, if a participant filled out a make-up survey, they were still required to report on the seven days prior to the date of the original follow-up survey. For example, if the original day to fill out a survey was January 8, but the participant filled out a make-up survey on January 10, the participant was still required to answer questions based on the week of January 1 to 7. In contrast, a participant in Sample 1 would have reported on the January 3 to January 9 period. Moreover, to encourage both members of the couple to complete the study as scheduled, participants were awarded an extra $5 each if they both filled out the survey on the originally-scheduled day. At the end of the study, participants in Sample 2 were debriefed by email.

Data Analytic Strategy

Missing data patterns and compliance with protocol were examined by analyzing the proportion of make-up surveys required and missing data. Next, we examined intraclass correlations (ICCs) for each variable to assess if multilevel modeling was appropriate. ICCs indicate the proportion of the variance available to be explained at the between-subjects level, with ICCs larger than.05 considered suitable for multilevel analysis (Preacher et al., 2010). Basic descriptive statistics were then calculated, including means, standard deviations, multilevel

correlations, and internal consistencies. Internal consistencies were calculated at the within- and between-subjects levels using Cronbach's alpha (Geldhof, Preacher, & Zyphur, 2014).

Hypotheses were tested using Mplus 7.3 using a robust estimator of model fit and standard errors (MLR estimator). Prior to testing hypotheses, a measurement model confirming the factor structure of our latent variables was assessed. Latent variables for perfectionistic concerns were comprised of three indicators: Socially-prescribed perfectionism, self-criticism, and concern over mistakes. Latent variables for social negativity were also comprised of three indicators: The Social Conflict Scale, the Partner-Specific Rejecting Behaviors Scale, and the Interpersonal Qualities Scale. Subjective well-being measures were analyzed as three separate variables: Negative affect, positive affect, and life satisfaction.[2] Because each of these constructs was measured with only a single subscale, we used item parceling with random assignment of items to one of three parcels to create latent variables for all three subjective well-being measures, respectively (Little et al., 2002).

Hypotheses were tested using an Actor-Partner Interdependence model (APIM; Kenny & Ledermann, 2010) which decomposes paths into actor effects (e.g., own partner-specific perfectionism predicting own social negativity) and partner effects (e.g., own partner-specific perfectionism evoking social negativity from one's partner). To account for the longitudinal

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[2]Some researchers suggest that subjective well-being may be a single latent variable comprised of negative affect, positive affect, and life satisfaction (Linley et al., 2009). This unidimensional structure was not supported in the present data, so analyses proceeded with each component of subjective well-being as a separate construct. More information on these preliminary factor analyses performed are available upon request from the first author.

component of the data, we used multilevel structural equation modeling (Preacher et al., 2010), which partitions the variance into between-subjects and within-subjects components. In this framework, the between-subjects model represents the portion of the variance that did not change across 4 weeks (e.g., when averaged across 4 weeks, were perfectionism and social negativity positively related?). The within-subjects model represents changes within any given week (e.g., did perfectionism and social negativity co-occur in the same direction within any given week?). This model is depicted visually in Figure 1. Ninety-five percent confidence intervals for indirect effects were assessed using a Monte Carlo method with 20,000 repetitions (Lachowicz, Sterba, & Preacher, 2015). When interpreting model fit for structural equation modelling analyses, a comparative fit index (CFI) and Tucker-Lewis Index (TLI) around .95, a root-mean-square error of approximation (RMSEA) around 0.05, and standardized root-mean-square residuals (SRMR$_{between}$/SRMR$_{within}$) around .08 suggest excellent model fit (Kline, 2005). When model constraints were added and nested models compared, a ΔCFI $\geq$ .01 was used as a critical value for comparing the model fit of each model, with higher CFI values indicating better fit (Cheung & Rensvold, 2002).

The primary results that are presented pooled data from Sample 1 and Sample 2 into single sample for analysis to increase statistical power, and to reduce the number of statistical tests. Follow-up analyses controlling for sample were conducted at the end of the results to defend this choice. Moreover, to accommodate several same-sex romantic dyads, data were analyzed as indistinguishable dyads. However, gender differences were explored by analyzing only the heterosexual dyads in follow-up analyses to defend this choice.

Results

Missing Data and Protocol Compliance

Across both samples, couples completed most waves ($M = 3.70$, $SD = 0.76$), with 81.8%

completing all four waves. At wave 2, 76.60% completed their survey as scheduled, 12.60%

completed a make-up survey, and 10.80% did not complete the survey. At wave 3, 66.70%

completed their survey as scheduled, 16.00% completed a make-up survey, and 17.20% did not

complete the survey. At wave 4, 69.00% completed their survey as scheduled, 13.10% completed

a make-up survey, and 18.00% did not complete the survey. On average, there were 7.45 days

($SD = 1.00$) between study appointments, further suggesting good compliance. Overall, 7.9% of

data were missing, ranging from 0.5% to 11.2% across individual subscales across all four

waves. A non-significant Little's MCAR test, $\chi^2(1270) = 1213.88$, $p = .87$ and inspection of

separate variance t-tests suggested that other variables in the model (i.e., perfectionism, social

negativity and well-being) did not predict missingness.

Descriptives, reliability and bivariate correlations

Means and standard deviations collapsed across both samples are presented in Table 1.

Means were broadly comparable (i.e., within 1 standard deviation) of previously collected

samples using similar recruitment techniques in the same geographic area (Mackinnon et al.,

2012; Mackinnon & Sherry, 2012). Within-subjects and between-subjects bivariate correlations

are presented in Table 2. Overall, most variables were inter-correlated in the expected manner.

The perfectionistic concerns and social negativity subscales were all strongly correlated with

medium to large effect sizes. Subjective well-being subscales were generally correlated with

perfectionism and social negativity with negative affect emerging as the most consistent

correlate, and positive affect emerging as the least consistent correlate. When internal

consistencies were examined, alphas ranged from .74 to .89 (within) and from .87 to .97

(between), suggesting adequate to excellent reliability. Intraclass correlations suggested that

around 51% to 72% of the variance was at the between-subjects level, supporting our decision to

use a multilevel model. Overall, descriptive statistics and bivariate correlations suggested the

proposed model was worth testing using multilevel structural equation modelling.

Multilevel SEM

Three separate models were specified, with each model varying the outcome variable

(i.e., negative affect, positive affect, life satisfaction).[3] These models are depicted visually in

Figure 1, and were analyzed as indistinguishable dyads including both same-sex and

heterosexual couples in the same analysis.

Negative affect. The measurement model for negative affect fit well, χ^2(*252, N = 203*) =

544.90 $p < .001$, CFI = .95; TLI = .94; RMSEA = .04; SRMR$_{within}$ = .04, SRMR$_{between}$ = .06.

Standardized factor loadings were substantial and statistically significant ($p \leq .001$) at the within-

subjects (.51 to .83) and between subjects levels (.79 to .98), supporting the proposed factor

structure. The structural model (Figure 1) also fit well, χ^2(*268, N = 203*) = 555.81 $p < .001$, CFI

= .95; TLI = .94; RMSEA = .04; SRMR$_{within}$ = .05, SRMR$_{between}$ = .07. Unstandardized path

coefficients and correlations are presented in Table 3. Generally speaking, actor effects were

strong, positive and statistically significant at the within-subjects and between-subjects levels, as

expected. Partner effects were much weaker, with only the partner effect for perfectionistic

concerns on social negativity emerging as significant at the $p < .05$ level. Significant correlations

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[3]A model including all three subjective well-being variables simultaneously had more

parameters than clusters, leading to nonidentification. The presented models approach the

maximum level of complexity possible for our sample size, limiting our ability to add additional

variables to these models.

between partners at the within-subjects level indicated that, when one partner changed their levels of perfectionistic concerns or social negativity from week to week, the other partner tended to change in a similar way. A significant correlation between partners for perfectionistic concerns at the between-subjects level indicated that partners were more similar on their trait-like levels of perfectionistic concerns than expected by chance.

Positive affect. The measurement model for positive affect fit well, χ^2(*252, N = 203*) = 537.09 *p* < .001, CFI = .95; TLI = .94; RMSEA = .04; SRMR$_{within}$ = .05, SRMR$_{between}$ = .07. Standardized factor loadings were substantial and statistically significant (*p* ≤ .001) at the within-subjects (.51 to .88) and between subjects levels (.78 to .99). The structural model (Figure 1; Table 3) also fit well, χ^2(*268, N = 203*) = 545.37 *p* < .001, CFI = .95; TLI = .94; RMSEA = .04; SRMR$_{within}$ = .05, SRMR$_{between}$ = .08. Overall, social negativity did not predict positive affect (i.e., neither actor nor partner effects), contrary to hypotheses. Other paths and correlations remained the same as in the negative affect model.

Life satisfaction. The measurement model for negative affect fit reasonably well, χ^2(*252, N = 203*) = 515.93, *p* < .001, CFI = .94; TLI = .92; RMSEA = .04; SRMR$_{within}$ = .05, SRMR$_{between}$ = .07. Standardized factor loadings were substantial and statistically significant (*p* ≤ .001) at the within-subjects (.44 to .88) and between subjects levels (.75 to .98). The structural model (Figure 1; Table 3) also fit fairly well, χ^2(*268, N = 203*) = 544.00, *p* < .001, CFI = .94; TLI = .93; RMSEA = .04; SRMR$_{within}$ = .04, SRMR$_{between}$ = .08. Overall, there was a significant

actor effect of social negativity on life satisfaction at both the between and within-subjects levels, replicating the general pattern of results for negative affect. No partner effects emerged.[4]

Effect sizes. Estimates of standardized effect sizes for outcome variables (i.e., social negativity and well-being) were calculated using R^2 values at the between-subjects and within-subjects levels. Because variances can differ across partners, the standardized values such as R^2 values can vary slightly across partners despite the equality constraints placed on the model for indistinguishable dyads (Kline, 2011). Thus, a range of values is reported for R^2 values here. R^2 values for social negativity ranged from medium to large ($R_w^2 = .18$ to $.31$; $R_B^2 = .44$ to $.52$) across models. Effect sizes were large and substantial when predicting negative affect ($R_w^2 = .28$ to $.30$; $R_B^2 = .42$ to $.49$), medium to large for life satisfaction ($R_w^2 = .13$ to $.15$; $R_B^2 = .21$ to $.34$), and close to zero for positive affect ($R_w^2 = .004$; $R_B^2 = .06$ to $.08$).

Indirect Effects

All indirect effects testing mediation are located in Table 4. Overall, the most robust findings were for actor-only effects for negative affect and life satisfaction: The actor's partner-specific perfectionistic concerns led to increased social negativity in the actor, which in turn lead to increased negative affect and decreased life satisfaction in the actor. The indirect effects also suggest a role for partner effects at the within-subjects level for the negative affect model only.

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[4]Relationship length was considered as a between-subjects covariate. When entered into the model with correlations with all endogenous variables, and paths to all exogenous variables, we found that relationship length was unrelated to all variables in the model. Furthermore, all conclusions based on the output reported in Table 3 remained identical. Thus, we chose to exclude relationship length as a covariate in the final presented.

As noted in Table 3, perfectionistic concerns evoked social negativity from the partner when co-occurring changes over time were assessed (i.e., within-subjects). Thus, indirect effects including these pathways also tended to be significant. Consistent with results presented in Table 3, few indirect effects for positive affect were statistically significant, as social negativity did not tend to be related to positive affect at either the between- or within-subjects levels. Generally speaking, we have robust evidence supporting the social disconnection model when predicting negative affect and life satisfaction at an intra-personal level (actor effects), and some evidence, albeit weaker, that perfectionistic people affect the mood of their dyadic partners (partner effects).

Sample comparisons

There were few differences in means across samples when compared using t-tests. A set of 36 t-tests were conducted (9 variables, 4 waves: 9x4 = 36), using a sequential Bonferroni correction to control for Type I error rate. Only one mean comparison was statistically significant: Positive affect at wave 4 was slightly higher in Sample 1 compared to Sample 2, $t(361) = 3.42$, $p = .001$, $d = 0.36$. If no correction for multiple comparisons is applied, there are 4 significant differences at $p < .05$: Wave 4 positive affect, wave 2 life satisfaction, wave 4 life satisfaction, and wave 3 socially-prescribed perfectionism (ds from .22 to .36). In all these comparisons, Sample 1 had a higher mean than Sample 2. When sample was entered as a between-subjects dichotomous covariate into the structural model, it was unrelated to all outcomes except for the relationship with positive affect noted above. Importantly, none of the conclusions reached in Table 3 were altered when controlling for sample, save one correlation: The p-value for the between-subjects correlation between both partners' positive affect went from .04 to .07 when controlling for sample. Thus, it appears that the minor methodological

differences between the samples did not substantially impact results, and our choice to combine both samples together to maximize statistical power was acceptable.[5] Full details on these analyses are available from the first author upon request.

Sex comparisons

We also explored the potential for sex differences, to defend our choice to use indistinguishable dyads. Structural models were re-run on heterosexual couples only ($N = 185$ couples), and analyzed as distinguishable dyads split by sex. We compared models constrained equality across sex to unconstrained models where paths and covariances were allowed to freely vary across sex. The CFI values were virtually identical in both the constrained and unconstrained models when predicting negative affect ($\Delta CFI = .000$), positive affect ($\Delta CFI = -.002$), and life satisfaction ($\Delta CFI = .000$). Thus, the constrained model is to be preferred (Cheung & Rensvold, 2002). The pattern of results observed in the constrained heterosexual-only models was the same as displayed in Table 3. Thus, there do not appear to be substantial sex differences in the magnitude of paths, and results remain the same when same-sex couples are omitted.

Discussion

Overall, results supported the disconnection model (Sherry et al., in press). That is, social negativity mediated the relationship between perfectionism and subjective well-being, supporting hypothesis 1. Notably, all variables had significant between- and within-subjects variance. That

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[5]Given the complexity of the model, we decided against testing moderation effects by sample by analyzing each sample separately, or running a multigroup comparison. Because of the large number of parameters in the model relative to the sample size, such tests would be underpowered, with high rates of Type I and Type II error.

is, all the variables in the present data are best conceptualized as trait-states, with both stable trait-like aspects and more malleable, state-like components. Multilevel structural equation modelling (Preacher et al., 2010) partitions out these two components into separate models, representing an advance over prior research. The between-subjects model represented the stable, trait-like variance (i.e., the proportion of the variance that did not change across the 4 weeks of the study). In contrast, the within-subjects model represents the state-like, changeable portion of the variance that varied across the 4 weeks of the study. In many ways, this part of the model is a more substantial theoretical advance over prior research, as it allows us to test for co-occurring changes over time which permits stronger causal inferences (Little et al., 2007).

In the present data, trait-like partner-specific perfectionistic concerns were associated with increased trait-like social negativity in the actor, but not did not influence the trait-like social negativity of the partner. Trait-like social negativity in the actor predicted the trait-like component of all three subjective well-being outcome variables. That is, people who tended to interact with their romantic partners in a hostile, critical, and rejecting way tended to be less happy, overall. Consistent with these findings, social negativity significantly mediated the relationship between partner-specific perfectionistic concerns and subjective well-being.

Broadly similar results were found at the within-subjects level, with some notable differences. When partner-specific perfectionistic concerns changed from week-to-week, social negativity tended to change with it in a similar direction. That is, when people began to believe that their partner expected perfection of them, they tended to react in hostile, critical, and rejecting ways to their partner. Of particular interest was the presence of both actor and partner effects. That is, changes in partner-specific perfectionistic concerns both generated social negativity in the actor, and evoked social negativity from his/her partner, though the actor effects

tended to be larger in size than partner effects. When social negativity increased from week-to-week, negative affect tended to increase and life satisfaction tended to decrease. However, changes in social negativity did not predict positive affect changes. Accordingly, state-like partner-specific perfectionistic concerns had an indirect effect on life satisfaction and negative affect through social negativity. Overall, hypotheses regarding mediation were supported for negative affect and life satisfaction, which partially supported hypotheses 1 and 2. Partner effects only reached statistical significance for the perfectionism to social negativity link at the within-subjects level but did not reach statistical significance for the social negativity to subjective well-being links. This supported hypothesis 3, but failed to support hypothesis 4.

Perfectionistic concerns and social negativity

As predicted by theory (Hewitt et al., 2006), people high in partner-specific perfectionistic concerns tended to engage in more socially negative behaviours with their romantic partner, such as arguing, yelling, criticizing, or otherwise acting in an unpleasant, relationship-harming way. These significant actor effects are consistent with theorizing on the social disconnection model. Specifically, Sherry et al. (in press) suggest many social disconnection variables are "personality-dependant," whereby perfectionists play an active role in generating social disconnection in their own lives. However, it is notable that significant partner effects were found in the within-subjects model. It appears that the maladaptive beliefs and cognitions about one's partner represented by partner-specific perfectionistic concerns also evoke social negativity from one's partner, consistent with Mackinnon et al. (2012). Indeed, if voiced to the partner, such beliefs might very well evoke a negative response, as it paints the partner in a very unflattering light.

However, it is important to note that the evidence for partner effects was much weaker than the evidence for actor effects. When people perceive their partner as demanding perfection, they may keep their perfectionistic beliefs hidden from their partners (i.e., perfectionistic self-presentation; Hewitt et al., 2003). As a result, their perfectionism may not consistently evoke social negativity from partners because their partners are unaware of the problem. Indeed, prior longitudinal research suggests that perfectionistic self-presentation mediates the relationship between perfectionistic concerns and subjective well-being (Mackinnon & Sherry, 2012). Results might also suggest that the social disconnection experienced by perfectionistic people is more subjective than objective (i.e., perfectionistic people might perceive more problems than actually exist; Hewitt et al., 2006). Naturally, the potential for poor self-insight makes the study of perfectionistic personality challenging. It might be that persons extremely high in perfectionistic concerns lack the self-insight to accurately report on their own social relationships. Finally, the smaller partner effects might also simply represent method variance from the reliance on self-report methods (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). It might also simply reflect the reality that actor effects are stronger than partner effects; that is, perfectionistic people might cause more problems for themselves than for their partner. Nonetheless, it is clear that persons high in partner-specific perfectionistic concerns perceive higher levels of social negativity in the relationships with their partner, consistent with the social disconnection model.

Perfectionistic concerns and subjective well-being

The separate components model of subjective well-being (Busseri & Sadava, 2011) makes finer distinctions between the individual components of subjective well-being, and holds that each component is positively correlated with the others, but that each component remains distinct with potentially different antecedents. Slade and Owens' (1998) dual process theory is a

theory of perfectionism that makes differential predictions for positive and negative affect by linking dimensions of perfectionism to operant conditioning theory. Specifically, they theorize that perfectionistic concerns (or "negative perfectionism," using their terminology) are primarily motivated by negative reinforcement. That is, perfectionistic concerns are a personality trait that represents an attempt to avoid negative emotions through a preoccupation with failure, disapproval, and imperfection. Supporting this contention, perfectionistic concerns have a robust, well-established relationship with negative affect, especially depressive affect (Bergman, Nyland, & Burns, 2007; Graham et al., 2010; Rice & Aldea, 2006). In contrast, Slade and Owens (1998) argue that perfectionistic strivings (i.e., "positive perfectionism") are associated with approach goals and the pursuit of the ideal self, leading to increased positive emotions (c.f., Flett & Hewitt, 2006 for a rebuttal of this latter point). Thus, in this theoretical model, it might be expected that perfectionistic concerns (negative perfectionism) should be related to negative affect, but not to positive affect. Prior research on the latter contention has been mixed. Perfectionistic concerns are negatively related to positive affect in some studies (Mackinnon & Sherry, 2012; Milyavskaya et al., 2014), and unrelated to positive affect in others (Dunkley et al., 2014). This might suggest a smaller effect size overall (making it harder to detect in single studies), or might be indicative of a suppression effect due to a co-occurring positive relationship with perfectionistic strivings (Stoeber & Otto, 2006). In contrast to the emotional responses represented by positive and negative affect, life satisfaction represents a more cognitive component of well-being. Michalos (1985) proposed that life satisfaction arises when people compare themselves to multiple standards. To the extent that people feel their life is congruent with those standards, they experience high life satisfaction. In contrast, a perceived discrepancy between the ideal and actual selves results in low life satisfaction. Thus, it makes sense that

perfectionistic concerns would be strongly related to life satisfaction – indeed, some models of perfectionism define the maladaptive version as a discrepancy between standards and performance (Slaney et al., 2001). Supporting this notion, Bergman et al. (2007) found that perfectionistic concerns were negatively correlated with satisfaction with life. Overall then, there are theoretical reasons to explain our finding that perfectionistic concerns were more strongly related to negative affect and life satisfaction than to positive affect.

Social negativity and subjective well-being

Broadly speaking, social negativity was associated with increased negative affect and decreased life satisfaction. Though social negativity was associated with increased negative affect and decreased life satisfaction, the relationship between social negativity and positive affect was quite small and often non-significant. This mirrors the general pattern of relationships between perfectionistic concerns and subjective well-being. It is often taken for granted in research on relationship conflict and social negativity that it evokes negative affect (e.g., Mackinnon et al., 2012). Indeed, the operationalization of social negativity in many studies, including the present study, generally includes items that represent negative affectivity directed at one's partner (e.g., "I snapped or yelled at my partner"). In contrast, the antecedents of positive affect may have less to do with the absence of conflict, and more to do with shared positive experiences in other domains (e.g., family trips, good conversations, date nights). In any event, the present results are consistent with the notion that positive and negative affect represent distinct emotional systems with orthogonal factor structures and unique antecedents (Watson et al., 1988). Interestingly, the correlated residuals from Table 3 also show that positive affect tended to be correlated among partners, but not negative affect; this might further suggest that these variables are conceptually distinct. Ibarra-Rovillard et al. (2011) propose that social

negativity reduces subjective well-being by frustrating the need for relatedness. Thus, it makes sense that social negativity would be related to decreased life satisfaction, because of the perceived discrepancy between the goal (relatedness) and the reality (conflict; Michalos, 1985). Overall then, social negativity appears to be more strongly related to negative affect and life satisfaction than to positive affect.

Limitations and future directions

The present study has important limitations. Notably, the present study did not measure perfectionistic strivings or other-oriented perfectionism (Hewitt & Flett, 1991). Thus, we could not speak to the debate surrounding the potential adaptiveness of perfectionistic strivings (Stoeber & Otto, 2006) nor build on the emerging literature revitalizing other-oriented perfectionism as a construct (Nealis et al., 2015). Thus, future research should measure perfectionism in a more comprehensive way. The present study combined data from two samples that used slightly different methodologies. Though results did not change when controlling for sample, it is possible that these methodological differences had some manner of unseen impact on our results. Moreover, our choice of a four-week time lag was arbitrary, and based on convenience. Longer or shorter time lags (e.g., 1 day, 1 month) might have produced different results. Future research might examine these relationships over a longer timeframe (e.g., over an entire year). Notably, a longer timeframe might allow us to observe break-ups and relationship dissolution, which would be a useful supplementary measure of objective social disconnection (Hewitt et al., 2006). The present data had only 16 same-sex couples, which were included in the same analyses as the heterosexual couples by analyzing data as indistinguishable dyads. Though the results did not depend upon including these couples, we did not have sufficient numbers of same-sex couples to analyze separately. Future research might examine same-sex couples to see

if the models supported herein generalize to this population. Finally, the present study's analytic strategy allowed us to look at co-occurring changes within each week in the within-subjects model. This is an advantage over cross-sectional studies, but does not clearly address the directionality of relationships. Future research might utilize experimental methods to more clearly tease apart cause-and-effect.

Conclusions

Overall, support for the social disconnection model was found (Sherry et al., in press). Partner-specific perfectionistic concerns both generated and evoked socially negative behaviours, which in turn had a deleterious effect on negative affect and life satisfaction. Like all humans, people high in partner-specific perfectionistic concerns have a fundamental need to love others and be loved by others (Ryan & Deci, 2000). Ironically, these people often generate social disconnection in their own lives via faulty cognitive processes, irrational beliefs, and hostile, rejecting behaviours. Though people high in partner-specific perfectionistic concerns may engage in social negativity in an attempt to avoid or minimize perceived imperfections and failures (Slade & Owens, 1998), this strategy frequently backfires by pushing people away. By focusing excessively on achievement and competence needs, they may neglect the need for relatedness, and in doing so, may become profoundly unhappy. By better understanding the relationship contexts that surround people high in partner-specific perfectionistic concerns, we may be better able to understand how and why they become unhappy – and hopefully, this knowledge will lead to better treatment options for helping clinical patients struggling with emotional disorders.

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References

Abbey, A., & Andrews, F. M. (1985). Modeling the psychological determinants of life quality. *Social Indicators Research*, *16*, 1-34.

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

Bergman, A. J., Nyland, J. E., & Burns, L. R. (2007). Correlates with perfectionism and the utility of a dual process model. *Personality and Individual Differences, 43,* 389-399.

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

Blatt, S. J. (1995). The destructiveness of perfectionism: Implications for the treatment of depression. *American Psychologist*, *50*, 1003.

Busseri, M. A., & Sadava, S. W. (2011). A review of the tripartite structure of subjective well-being: Implications for conceptualization, operationalization, analysis, and synthesis. *Personality and Social Psychology Review*, *15*, 290-314.

Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling*, *9*, 233-255.

Cox, B. J., & Enns, M. W. (2003). Relative stability of dimensions of perfectionism in depression. *Canadian Journal of Behavioural Science, 35*, 124-132.

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.

Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, *49*, 71-75.

Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, *125*, 276-302.

Dunkley, D. M., Sanislow, C. A., Grilo, C. M., & McGlashan, T. H. (2006). Perfectionism and depressive symptoms 3 years later: Negative social interactions, avoidant coping, and perceived social support as mediators. *Comprehensive psychiatry*, *47*, 106-115.

Dunkley, D. M., Ma, D., Lee, I. A., Preacher, K. J., & Zuroff, D. C. (2014). Advancing complex explanatory conceptualizations of daily negative and positive affect: Trigger and maintenance coping action patterns. *Journal of Counseling Psychology*, *61*, 93.

Finch, J. F., Okun, M. A., Pool, G. J., & Ruehlman, L. S. (1999). A comparison of the influence of conflictual and supportive social interactions on psychological distress. *Journal of Personality*, *67*, 581-621.

Flett, G. L., Hewitt, P. L., Shapiro, B., & Rayman, J. (2001). Perfectionism, beliefs, and adjustment in dating relationships. *Current Psychology*, *20*, 289-311.

Flett, G. L., & Hewitt, P. L. (2006). Positive versus negative perfectionism in psychopathology: A comment on Slade and Owens's dual process model. *Behavior modification*, *30*, 472-495.

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

Geldhof, G. J., Preacher, K. J., & Zyphur, M. J. (2014). Reliability estimation in a multilevel confirmatory factor analysis framework. *Psychological Methods*,*19*, 72.

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.

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

Haring, M., Hewitt, P. L., & Flett, G. L. (2003). Perfectionism, coping, and quality of intimate relationships. *Journal of Marriage and Family*, *65*, 143-158.

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.

Hewitt, P. L., Flett, G. L., Sherry, S. B., & Caelian, C. (2006). Trait Perfectionism Dimensions and Suicidal Behavior. In T. E. Ellis, T. E. Ellis (Eds.), *Cognition and suicide: Theory, research, and therapy* (pp. 215-235). Washington, DC, US: American Psychological Association.

Hewitt, P., Flett, G., Besser, A., Sherry, S., & McGee, B. (2003). Perfectionism is multidimensional: A reply to Shafran, Cooper and Fairburn (2002). *Behaviour Research and Therapy*, *41*, 1221-1236.

Higgins, E. T. (1987). Self-discrepancy: a theory relating self and affect. *Psychological Review*, *94*, 319-340.

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

Horney, K. (1950). *Neurosis and human growth.* New York: Norton.

Ibarra-Rovillard, M. S., & Kuiper, N. A. (2011). Social support and social negativity findings in depression: perceived responsiveness to basic psychological needs. *Clinical Psychology Review*, *31*, 342-352.

Kenny, D. A., & Ledermann, T. (2010). Detecting, measuring, and testing dyadic patterns in the actor–partner interdependence model. *Journal of Family Psychology*, *24*, 359-366.

Kline, R.B. (2005). *Principles and practice of structural equation modeling* (2nd ed.). New York: Guilford.

Lachowicz, M. J., Sterba, S. K., & Preacher, K. J. (2015). Investigating multilevel mediation with fully or partially nested data. *Group Processes & Intergroup Relations*, *18*, 274-289.

Lambe, L., Mackinnon, S. P., & Stewart, S. H. (2015). Dyadic conflict, drinking to cope, and alcohol-related problems: A psychometric study and longitudinal actor-partner interdependence model. *Journal of Family Psychology*. Epub ahead of print.

Linley, P. A., Maltby, J., Wood, A. M., Osborne, G., & Hurling, R. (2009). Measuring happiness: The higher order factor structure of subjective and psychological well-being measures. *Personality and Individual Differences*, *47*, 878-884.

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.

Little, T. D., Preacher, K. J., Selig, J. P., & Card, N. A. (2007). New developments in latent variable panel analyses of longitudinal data. *International Journal of Behavioral Development*, *31*, 357-365.

Liu, R. X., & Chen, Z. Y. (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.

Mackinnon, S. P., Sherry, S. B., Antony, M. M., Stewart, S. H., Sherry, D. L., & Hartling, N. (2012). Caught in a bad romance: Perfectionism, conflict, and depression in romantic relationships. *Journal of Family Psychology*, *26*, 215-225.

Mackinnon, S. P., & Sherry, S. B. (2012). Perfectionistic self-presentation mediates the relationship between perfectionistic concerns and subjective well-being: A three-wave longitudinal study. *Personality and Individual Differences*, *53*, 22-28.

Michalos, A. C. (1985). Multiple discrepancies theory (MDT). *Social Indicators Research*, *16*, 347-413.

Milyavskaya, M., Harvey, B., Koestner, R., Powers, T., Rosenbaum, J., Ianakieva, I., & Prior, A. (2014). Affect across the year: How perfectionism influences the pattern of university students' affect across the calendar year. *Journal of Social and Clinical Psychology*, *33*, 124-142.

Murray, S.L., Griffin, D. W., Rose, P., & Bellavia, G. (2003). Calibrating the sociometer: The relational contingencies of self-esteem. *Journal of Personality and Social Psychology, 85*, 63-84.

Nealis, L. J., Sherry, S. B., Sherry, D. L., Stewart, S. H., & Macneil, M. A. (2015). Toward a better understanding of narcissistic perfectionism: Evidence of factorial validity, incremental validity, and mediating mechanisms. *Journal of Research in Personality*, *57*, 11-25.

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.

Pacht, A. R. (1984). Reflections on perfection. *American Psychologist, 39,* 386-390.

Pavot, W., & Diener, E. (1993). Review of the satisfaction with life scale. *Psychological Assessment*, *5*, 164.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*, 879.

Preacher, K. J., Zyphur, M. J., & Zhang, Z. (2010). A general multilevel SEM framework for assessing multilevel mediation. *Psychological Methods, 15,* 209–233

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.

Roxborough, H. M., Hewitt, P. L., Kaldas, J., Flett, G. L., Caelian, C. M., Sherry, S. B., & Sherry, D. L. (2012). Perfectionistic self-presentation, socially prescribed perfectionism, and suicide in youth: A test of the perfectionism social disconnection model. *Suicide and Life-Threatening Behavior*, *42*, 217-233.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*, 68-78.

Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, *52*, 141-166.

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.

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.

Sherry, S. B., Mackinnon, S. P., & Gautreau, C. M. (in press). Perfectionists don't play well with others: Expanding the social disconnection model. In D. Molnar & F. Sirois (Eds.), *Perfectionism, Health and Well-Being.*

Slade, P. D., & Owens, R. G. (1998). A dual process model of perfectionism based on reinforcement theory. *Behavior Modification*, *22*, 372-390.

Slaney, R. B., Rice, K. G., Mobley, M., Trippi, J., & Ashby, J. S. (2001). The revised Almost Perfect Scale. *Measurement and Evaluation in Counseling and Development, 34,* 130–145.

Stoeber, J., & Otto, K. (2006). Positive conceptions of perfectionism: Approaches, evidence, challenges. *Personality and Social Psychology Review, 10,* 295-319.

Stoeber, J. (2012). Dyadic perfectionism in romantic relationships: Predicting relationship satisfaction and longterm commitment. *Personality and Individual Differences*, *53*, 300-305.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of Personality and Social Psychology*, *54*, 1063-1070.

Watson, D., & Clark, L. A. (1994). *The PANAS-X: Manual for the Positive and Negative Affect Schedule-Expanded Form.* Ames: The University of Iowa.

Table 1

Descriptive Statistics

	Wave 1		Wave 2		Wave 3		Wave 4	
	M	SD	M	SD	M	SD	M	SD
Socially-Prescribed Perfectionism	2.59	1.18	2.27	1.23	2.17	1.30	2.13	1.33
Concern Over Mistakes	1.51	0.77	1.54	0.82	1.56	0.82	1.60	0.88
Self-criticism	2.64	1.18	2.64	1.14	2.67	1.21	2.66	1.19
Social Conflict Scale	2.16	0.74	2.04	0.81	1.95	0.83	1.92	0.81
Rejecting Behaviours	2.61	1.52	2.33	1.47	2.18	1.33	2.13	1.33
Interpersonal Qualities Scale	2.98	1.49	2.74	1.58	2.70	1.55	2.69	1.54
Positive Affect	3.48	0.75	3.32	0.80	3.20	0.86	3.11	0.92
Negative Affect	1.92	0.70	1.80	0.72	1.80	0.72	1.77	0.71
Life Satisfaction	5.00	1.24	5.10	1.25	5.05	1.30	5.14	1.54

Note. Reported means represent averages of items, rather than summed total scores.

Table 2

Bivariate correlations and internal consistencies

	1	2	3	4	5	6	7	8	9
1. Socially-Prescribed Perfectionism	--	.77***	.73***	.43***	.43***	.40***	-.06	.27***	-.30***
2. Concern Over Mistakes	.37***	--	.73***	.45***	.51***	.46***	-.10	.26***	-.35***
3. Self-criticism	.45***	.34***	--	.67***	.64***	.55***	-.32***	.42***	-.53***
4. Social Conflict Scale	.25***	.14***	.32***	--	.83***	.76***	-.19**	.58***	-.49***
5. Rejecting Behaviours	.27***	.20***	.25***	.63***	--	.87***	-.23***	.57***	-.40***
6. Interpersonal Qualities Scale	.22***	.16***	.24***	.50***	.56***	--	-.25***	.67***	-.45***
7. Positive Affect	.10**	-.08*	-.08*	-.05	-.01	-.05	--	-.35***	.52***
8. Negative Affect	.18***	.12*	.17***	.37***	.34***	.45***	-.08	--	-.55***
9. Life Satisfaction	-.08	-.07	-.15***	-.20**	-.20***	-.22***	.25***	-.35***	--
ICC	.72	.63	.71	.51	.60	.65	.63	.60	.66
α_{within}	.82	.82	.74	.85	.85	.76	.89	.86	.74
$\alpha_{between}$	.94	.87	.95	.97	.95	.90	.96	.94	.96

Note. Between-subjects correlations are above the diagonal, and within-subjects correlations are below the diagonal. ICC = intraclass correlations. ICCs represent the proportion of variance available to be explained at the between-subjects level.

$* \ p < .05, ** \ p < .01, *** \ p < .001$

Table 3

Multilevel Actor-Partner Interdependence Model Coefficients

Relationship	Model 1: Negative Affect		Model 2: Positive Affect		Model 3: Life Satisfaction	
	B (SE)	p	B (SE)	p	B (SE)	p
Within-Subjects						
Actor Effects						
Perfectionism → social negativity	.71 (.10)	< .001	.72 (.10)	< .001	.73 (.10)	< .001
Social negativity → Well-Being	.35 (.05)	< .001	-.05 (.05)	.302	-.29 (.06)	< .001
Partner Effects						
Perfectionism → Social negativity	.18 (.08)	.018	.18 (.08)	.017	.19 (.08)	.014
Social negativity → Well-Being	-.06 (.03)	.054	.03 (.04)	.492	-.07 (.04)	.112
Correlations						
Perfectionism (Partner A) ←→ Perfectionism (Partner B)	.04 (.02)	.025	.04 (.02)	.025	.04 (.02)	.026
Social negativity (A) ←→ Social negativity (B)	.20 (.03)	< .001	.20 (.04)	< .001	.20 (.04)	< .001
Well-Being (Partner A) ←→ Well-Being (Partner B)	.01 (.01)	.337	.03 (.01)	.009	.01 (.02)	.714
Between-Subjects						
Actor Effects						
Perfectionism → Social negativity	.74 (.10)	< .001	.75 (.10)	< .001	.76 (.10)	< .001
Social negativity → Well-Being	.36 (.05)	< .001	-.16 (.05)	.001	-.48 (.07)	< .001
Partner Effects						
Perfectionism → Social negativity	.13 (.07)	.069	.14 (.07)	.054	.14 (.07)	.058
Social negativity → Well-Being	-.06 (.04)	.152	-.01 (.04)	.906	-.07 (.06)	.242
Correlations						
Perfectionism (Partner A) ←→ Perfectionism (Partner B)	.32 (.10)	.001	.31 (.10)	.001	.32 (.10)	.001
Social negativity (A) ←→ Social negativity (B)	.06 (.07)	.369	.05 (.07)	.465	.05 (.07)	.446
Well-Being (Partner A) ←→ Well-Being (Partner B)	.03 (.02)	.069	.07 (.03)	.040	.35 (.09)	< .001

Note. Models were specified as in Figure 1 in three separate runs, where the dependent variable was altered to be negative affect, positive affect, and life satisfaction, respectively. Because the EM algorithm in structural equation modelling adjusts parameters and standard errors to account for missing data based on all variables in the model, even paths that are unchanged from model to model (e.g., perfectionism → social negativity) may show very slight variations in estimates when the dependent variable is changed. However, as reported in this table, these differences were generally trivial, and did not alter our conclusions.

Table 4

95% Monte Carlo Confidence Intervals Indirect Effects

Predictor	Mediator	Outcome	Indirect effect [95% CI] Within-Subjects	Indirect effect [95% CI] Between-Subjects
Model 1: Negative Affect				
Perfectionistic Concerns	Actor's Social negativity	Actor's Negative Affect	**[.17, .34]**	**[.18, .36]**
Perfectionistic Concerns	Actor's Social negativity	Partner's Negative Affect	**[-.09, -.002]**	[-.10, .01]
Perfectionistic Concerns	Partner's Social negativity	Actor's Negative Affect	**[.01, .12]**	[-.003, .10]
Perfectionistic Concerns	Partner's Social negativity	Partner's Negative Affect	[-.03, .0001]	[-.03, .002]
Model 2: Positive Affect				
Perfectionistic Concerns	Actor's Social negativity	Actor's Positive Affect	[-.11, .03]	**[-.16, -.08]**
Perfectionistic Concerns	Actor's Social negativity	Partner's Positive Affect	[-.03, .08]	[-.07, .05]
Perfectionistic Concerns	Partner's Social negativity	Actor's Positive Affect	[-.03, .01]	[-.05, .0001]
Perfectionistic Concerns	Partner's Social negativity	Partner's Positive Affect	[-.01, .02]	[-.01, .01]
Model 3: Life Satisfaction				
Perfectionistic Concerns	Actor's Social negativity	Actor's Life Satisfaction	**[-.33, -.11]**	**[-.53, -.22]**
Perfectionistic Concerns	Actor's Social negativity	Partner's Life Satisfaction	[-.12, .01]	[-.15, .04]
Perfectionistic Concerns	Partner's Social negativity	Actor's Life Satisfaction	**[-.12, -.01]**	**[-.14, -.001]**
Perfectionistic Concerns	Partner's Social negativity	Partner's Life Satisfaction	[-.04, .003]	[-.03, .01]

Note. Confidence intervals calculated using a Monte Carlo method with 20,000 repetitions (Lachowicz et al., 2015). Significant indirect effects at the $p < .05$ level are highlighted using bold text.
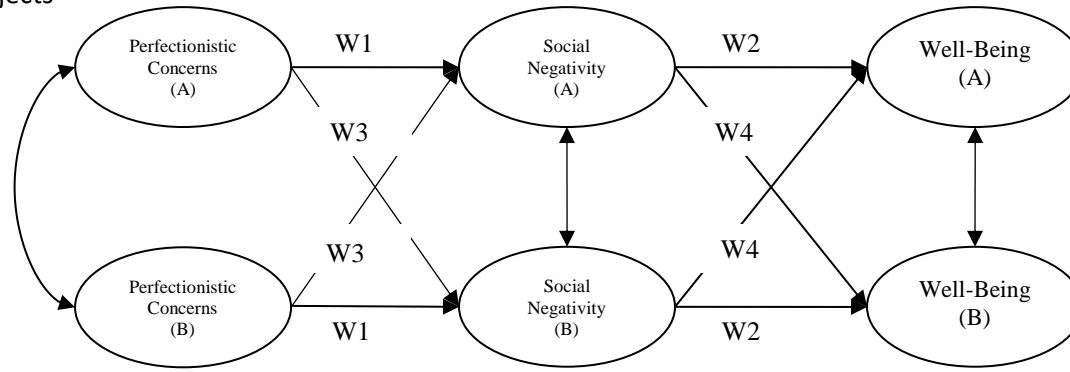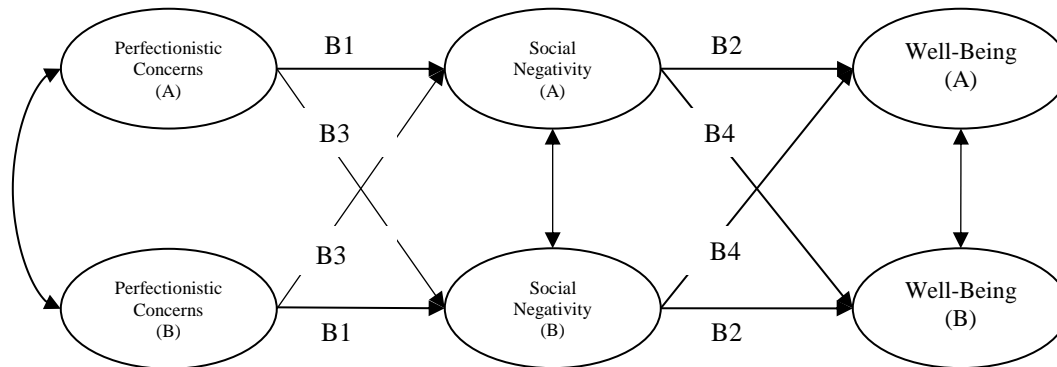
Figure 1. Multilevel SEM path diagram. Ovals indicate latent variables (manifest indicators not shown). Single-headed arrows indicate paths, double-headed arrows indicate covariances. In multilevel SEM, the variance is partitioned into within-subjects (above the dotted line) and between-subjects (below the dotted line) components. "(A)" refers to partner A, and "(B)" refers to partner B. Indistinguishable dyads were specified, so paths were constrained to equality across partners; paths that share the same label (e.g., W1) were constrained to be equal. Actor effects are paths W1, W2, B1 and B2. Partner effects are paths W3, W4, B3 and B4. Three models are tested in the present paper, by using three different measures of well-being (i.e., positive affect, negative affect, and life satisfaction) as the outcomes in separate models.