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The Perniciousness of Perfectionism in Group Therapy for Depression:
A Test of the Perfectionism Social Disconnection Model

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The Perniciousness of Perfectionism in Group Therapy for Depression:

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Abstract

Half a century of theoretical accounts, case histories, and evidence implies perfectionism limits the success of psychotherapy and makes it hard for people to participate in and benefit from close relationships. Likewise, intimate relationships are crucial determinants of the success of treatment. However, the extent to which specific types of relationships explain why perfectionism leads to a poorer treatment outcome is unclear. **Objective:** We addressed this by, first, testing whether the perfectionism traits of self-oriented, other-oriented, and socially prescribed perfectionism hindered symptom reduction in group psychotherapy for depression and, second, assessing the mediating role of romantic love, friendships, and familial love on the effects of perfectionism traits on change in depression. **Method:** Psychiatric patients ($N = 156$) enrolled in short-term post-discharge group CBT for residual depression completed measures of perfectionism at pre-treatment, romantic love, friendships, and familial love at post-treatment, and depression at pre- and post-treatment. **Results:** Multilevel modeling showed that other-oriented and socially prescribed perfectionism were associated with lower post-treatment reductions in depression over treatment and path analysis revealed self-oriented, other-oriented, and socially prescribed perfectionism indirectly predicted lower post-treatment reductions in depression through a perceived lack of quality friendships. **Conclusion:** Results lend credence and coherence to the Perfectionism Social Disconnection Model in a clinical context and underscore the importance of taking extratherapeutic social disconnection into account when treating perfectionistic patients.

Keywords: trait perfectionism, psychotherapy, outcome, treatment, depression

The Perniciousness of Perfectionism in Group Therapy for Depression:
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Perfectionism acts as a vulnerability factor for many forms of maladjustment including depressive disorders and suicidality (see Limburg, Watson, Hagger, & Egan, 2017; Smith et al., 2018, for reviews). Longstanding theoretical accounts also imply treating perfectionistic patients is challenging (Horney, 1950; Salzman, 1980) and, recently, Hewitt, Flett, Mikail, Kealy, and Zhang (2018) posited that perfectionistic patients regularly encounter a poorer treatment outcome due to their proclivity to think, feel, and behave in ways that thwart the therapeutic alliance. Although there are some limited indications that elements of perfectionism negatively influence treatment outcome, a complete understanding of how perfectionism limits the success of psychotherapy requires not only knowing how perfectionism hinders the therapeutic alliance but also how perfectionism impacts relationships outside of therapy that influence treatment outcome (i.e., extratherapeutic factors).

Indeed, Miller, Duncan, and Hubble (1997) estimated 40% of the variance in therapy outcome is due to extratherapeutic factors, 30% is due to the therapeutic alliance, 15% is due to therapy technique, and 15% is due to patients' expectancy. Likewise, extratherapeutic relationships are a critical determinant of change in treatment outcome (Feinstein, Heiman, & Yager, 2015) and perfectionism makes it hard for patients to participate in and benefit from close relationships (Hewitt, Flett, & Mikail, 2017). Even so, understanding of the extent to which specific types of extratherapeutic relationships account for the perfectionism-treatment outcome link is limited. Our study addressed this by testing the effects of trait elements of perfectionism on group psychotherapy outcome and the mediating role of romantic love, friendships, and familial love on the effect of self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism on change in post-treatment depression symptoms by studying

a sample of recently discharged outpatients receiving short-term group CBT for residual depression.

Conceptualizing Perfectionism

Hewitt et al. (2017) conceptualized perfectionism as having three overarching components: trait perfectionism (Hewitt & Flett, 1991), perfectionistic cognitions (Flett, Hewitt, Blankstein, & Gray, 1998), and perfectionistic self-presentation (Hewitt, Flett, Sherry et al., 2003). Trait perfectionism reflects deeply engrained preoccupations with perfection and consists of self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism (Hewitt & Flett, 1991; Hewitt et al., 2017). Self-oriented perfectionism describes the requirement of the self to be perfect. When people high in self-oriented perfectionism fall short, they direct their hostility inwards and engage in harsh self-criticism (Hewitt et al., 2017). Other-oriented perfectionism refers to the requirement for other people to be perfect. As with self-oriented perfectionism, people high in other-oriented perfectionism are preoccupied with perfection. But, unlike self-oriented perfectionism, people high in other-oriented perfectionism direct their hostility and criticism outward to other people (Hewitt et al., 2017). Lastly, socially prescribed perfectionism denotes the perception that others require the self to be perfect, and people high in socially prescribed perfectionism are preoccupied with appeasing others by being perfect (Hewitt & Flett, 1991). Our study focused on self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism.

The Perfectionism Social Disconnection Model

The Perfectionism Social Disconnection Model (PSDM; Hewitt, Flett, Sherry, & Caelian, 2006; Hewitt et al., 2017) posits that perfectionism generates subjective and objective social disconnection, which in turn confers vulnerability for adverse mental health outcomes. Subjective social disconnection reflects the perception that others are not interested in connecting

and involves heightened rejection sensitivity, the belief that others are overly judgemental, and a view of the self as irrelevant to others (Cha, 2016; Chen, Hewitt, & Flett, 2015; Flett, Besser, & Hewitt, 2014; Flett, Hewitt, & De Rosa, 1996). Objective social disconnection reflects the veridical reality that other people often avoid and reject perfectionists due to their off-putting behaviors such as hostility, coldness, passive-aggressiveness, self-concealment, and excessive reassurance-seeking (Haring, Hewitt, & Flett, 2003; Hewitt, Flett, Sherry et al., 2003; Kawamura & Frost, 2004). Moreover, the PSDM asserts both subjective and objective social disconnection contributes to intense feelings of alienation and this rejection, whether real or perceived, painfully reminds perfectionists of their flawed sense of self.

Evidence in support of the PSDM is accumulating. For example, Hewitt, Flett, and Mikail (1995) reported that pain patients rated other-oriented perfectionistic spouses as less supportive and both Dunkley, Blankstein, Halsall, Williams, and Winkworth (2000) and Sherry, Law, Hewitt, Flett, and Besser (2008) found low perceived social support mediated the relationship between socially prescribed perfectionism and depression symptoms. Furthermore, Nepon, Flett, Hewitt, and Molnar (2011) reported that undergraduates with elevated socially prescribed perfectionism had higher rejection sensitivity, and that rejection sensitivity, in turn, mediated the effects of socially prescribed perfectionism on depression symptoms and social anxiety. Likewise, Roxborough et al. (2012) demonstrated that social hopelessness mediated the relationship between socially prescribed perfectionism and suicide potential in child and adolescent outpatients. Finally, Smith et al. (2017) found self-oriented and socially prescribed perfectionism in daughters, as well as other-oriented perfectionism in mothers, predicted increased depression symptoms in daughters through a negative relationship with daughters' social self-esteem. However, though evidence supports the PSDM, the relevance of the PSDM is to clinical populations remains to be demonstrated empirically.

The PSDM in the Clinical Context

Hewitt and colleagues (2018) extended the PSDM to the clinical context and theorized the subjective and objective social disconnection generated by trait perfectionism dimensions interferes with the establishment and maintenance of the therapeutic alliance (Hewitt, Habke, Lee-Baggley, Sherry, & Flett, 2008), which subsequently stifles symptom reduction. Indeed, perfectionistic patients often project emotions and relational expectations stemming from social disconnection onto the therapist. For instance, patients with elevated socially prescribed perfectionism are hyper-vigilant to perceived signs of rejection and, as such, are often hesitant to disclose information they believe will cause the therapist to rebuff them. Likewise, the rebarbative interpersonal behavior generated by trait perfectionism dimensions can cause therapists to disconnect from patients (Hewitt, Mikail, Flett, & Dang, 2018). Other-oriented perfectionism, for instance, involves hostile-dominant behaviors (Habke & Flynn, 2002; Hill, Zrull, & Turlington, 1997) which can influence therapists to withdraw or even act out towards patients (Gurtman, 1996; Hayes, Gelso, & Hummel, 2011; Ligiero & Gelso, 2002). Furthermore, though Hewitt, Flett et al.'s (2018) extension of the PSDM to the clinical context is new, there are some findings pertaining to the proposed outcomes and processes.

Enns, Cox, and Pidlubny (2002) reported after removing variance attributable to self-criticism, that neither self-oriented nor socially prescribed perfectionism were associated with reduced reductions in depression symptoms. However, both Enns, Cox, and Inayatulla (2003) and Nobel, Manassis, and Wilansky-Traynor (2012) found self-oriented perfectionism predicted a worse outcome for depression and hopelessness. Moreover, using data from the Treatment of Depression Collaborative Research Program (TDCRP; Elkin et al., 1989), as well as data from the Treatment of Adolescents with Depression Study (TADS; March et al., 2007), various researchers have reported that attitudes related to perfectionism impedes treatment for depression

(e.g., Blatt, Quinlan, Pilkonis, & Shea, 1995; Blatt, Zuroff, Bondi, Sanislow & Pilkonis, 1998; Hawley, Ho, Zuroff, & Blatt, 2006; Jacobs et al., 2009). Finally, Hewitt et al. (2019) found self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism were related negatively to the extent to which therapists liked the patient and wished to treat the patient in the future. Finally, Kaldas, Hewitt, Mikail, and Flett (2019) studied residential inpatients receiving psychodynamic group therapy and reported all three perfectionism traits indirectly predicted lower group cohesion due to negative perceptions of the therapist's behavior.

Advancing Research on the PSDM in the Clinical Context

Although evidence is supportive of Hewitt et al.'s (2018) extension of the PSDM to the clinical context, there are notable gaps in the literature. First, the treatment literature on perfectionism focuses primarily on individual psychotherapy (cf. Enns et al. 2002; Nobel et al., 2012). Nevertheless, the adverse effect of perfectionism may be particularly salient in group psychotherapy. Indeed, group therapy requires patients to establish therapeutic relationships with other members, which is challenging for perfectionistic patients due to their proclivity for socially repellant behavior (Hewitt, Flett, Sherry, & Caelian, 2006; Hewitt et al., 2017). Additionally, perfectionistic patients are hyper-sensitive to rejection (Flett et al., 2014), and this rejection sensitivity may be amplified in group psychotherapies, which could limit self-disclosure (Hewitt et al., 2017).

Second, much of the evidence implicating perfectionism in a poorer treatment outcome for depression derives from several analyses of the TDCRP and TADS data sets (Blatt et al., 1995; Blatt et al., 1998; Hawley et al., 2006; Jacobs et al., 2009; March et al., 2007; Shahar, Blatt, Zuroff, Krupnick, & Sotsky, 2004). However, the TDCRP and TADS used a unidimensional subscale of attitudes related to perfectionism that was taken from a scale intended to assess attitudes underlying depression, not perfectionism (Weissman & Beck, 1978).

Likewise, perfectionism is multidimensional (Cox, Enns, & Clara, 2002; Dunkley, Blankstein, Masheb, & Grilo, 2006; Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt, Flett, Besser, Sherry, & McGee, 2003). And, as noted by Sherry, Hewitt, Flett, and Harvey (2003, p. 373) conceptualizing perfectionism as an attitude “obscures important information by overlooking the distinction between the self-related and socially based features of perfectionism.”

Third, although Enns et al. (2003) and Nobel et al. (2012) assessed the effects of self-oriented perfectionism and socially prescribed perfectionism on the treatment of depression in child and adolescent outpatients, the extent to which these findings generalize to adult outpatients is unclear. Moreover, although Enns et al. (2002) found that after partialling self-criticism, self-oriented and socially prescribed perfectionism were not significant predictors of post-treatment change in depression symptoms, it is not clear, conceptually, what this means (see Hill, 2014). Specifically, removing variance attributable to a fundamental feature of self-oriented and socially prescribed perfectionism, namely, self-criticalness, obscures relationships between perfectionism and outcomes. Likewise, none of the studies assessing perfectionism’s effect on treatment outcome measured other-oriented perfectionism, a core perfectionism trait that Hewitt et al. (2018) theorized particularly limits the success of psychotherapy.

Lastly, though appropriate to accord therapeutic relationships a prominent role in the PSDM (Hewitt, Mikail, et al., 2018), there is also a role for extratherapeutic relationships. Close connections are a crucial external factor affecting change in psychotherapy (Feinstein et al., 2015; Lambert, 1992; Sprenkle & Blow, 2004) and a central tenet of the PSDM is that perfectionism causes extensive social disconnection (Hewitt et al., 2006; Hewitt et al., 2017). Moreover, Shahar et al. (2004) found perfectionism-related attitudes were associated with a poor social network and in turn a worse outcome for depression treatment. Even so, whether self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism

indirectly predict a poorer outcome for depression through specific relational domains, such as romantic love, friendships, and familial love, is untested.

The Present Study

Against this background, we aimed to advance understanding of the perfectionism-treatment outcome link by conducting the first test of whether self-oriented, other-oriented, and socially prescribed perfectionism limits the success of group therapy for depression in adult outpatients. Additionally, we aimed to improve understanding of why trait perfectionism dimensions may negatively impact treatment by examining the mediating role of three extratherapeutic relational domains: romantic love, familial love, and friendships. Guided by theory and evidence (Hewitt, Flett, et al., 2018; Hewitt et al., 2017; Sherry, Mackinnon, & Gautreau, 2016; Shahar et al., 2004) we hypothesized self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism will predict a lower reduction in post-treatment depression symptoms. Likewise, informed by the PSDM (Hewitt et al., 2006; Hewitt et al., 2017; Hewitt, Flett, et al., 2018), we hypothesized perceived quality of romantic love, perceived quality of friendships, and perceived quality of familial love will mediate the putative links between trait perfectionism dimensions and change in post-treatment depression symptoms.

Methods

Participants

A total of 156 participants (105 women) completed pre- and post-treatment measures. To be eligible for treatment, participants had to have been discharged from inpatient care for an affective disorder within the past two months. Participants averaged 41.5 years of age ($SD = 11.8$; range = 19-75) and 14.3 years of education ($SD = 2.4$; range = 8-22). Overall, 87.2% of participants identified as White, 10.9% identified as Asian, 1.3% identified as Black, and the remaining 0.6% identified as 'other.' Additionally, at pre-treatment, 43.6% of participants were

single, 29.0% were separated, divorced, or widowed, and 27.5% were married, in a common-law relationship, or living with a same sex-partner. Likewise, at initial assessment, 74.9% of participants were unemployed, 17.3% were employed, 4.5% were retired, 1.9% were students, and the remaining 1.4% did not report occupational status. Participants also averaged 1.8 lifetime hospitalizations ($SD = 1.7$; range 0-10), and 74.0% of participants were on an antidepressant and/or anxiolytic, 19.3% were on an antipsychotic, 1.9% were on a different form of medication (e.g., a hypnotic), and 4.8% were on no medication. As assessed by the Structured Clinical Interview for Diagnostic and Statistical Manual of Mental Disorders-IV (SCID-I; First, Spitzer, Gibbon, & Williams, 1997), at initial assessment, 87.1% of participants received a diagnosis of Major Depressive Disorder, 9.7% received a diagnosis of Bipolar Disorder, and the remaining 3.2% received a diagnosis of another disorder (e.g., Schizoaffective Disorder). Data was obtained from 20 groups with an average of 6 patients ($SD = 2.6$) per group providing data (see Supplemental Material A)¹.

Measures

Trait Perfectionism. Trait perfectionism was assessed at pre-treatment using Hewitt and Flett's (1991) *Multidimensional Perfectionism Scale* (MPS). The MPS measures self-oriented perfectionism (15-items; e.g., "One of my goals is to be perfect in everything I do"), other-oriented perfectionism (15-items; e.g., "If I ask someone to do something, I expect it to be done flawlessly"), and socially prescribed perfectionism (15-items; "The people around me expect me to succeed at everything I do"). Participants responded to the MPS using a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The MPS is the most widely used and researched measure of perfectionism, and ample evidence supports its reliability and validity

¹Group membership was missing for 28 participants.

across clinical and non-clinical samples (Flett & Hewitt, 2015). For instance, Hewitt, Flett, Turnbull-Donovan, and Mikail (1991), reported three-month test-retest reliabilities of .69, .66, and .60 for self-oriented, other-oriented, and socially prescribed perfectionism in a psychiatric sample. Alternatively, Smith et al. (2018) reported that across 20 studies, self-oriented, other-oriented, and socially prescribed perfectionism had Cronbach's alphas of .86, .80, and .87.

Depression symptoms. Depression symptoms were assessed at pre- and post-treatment using the Beck Depression Inventory (BDI; 21-items; Beck, Steer, & Garbin, 1988). Each BDI item consists of a depression symptom (e.g., sadness) ranging from 0 (*no depression symptoms*) to 3 (*severe depression symptoms*). Cronbach's alpha for the BDI is typically acceptable, and the predictive, convergent, discriminant and incremental validity of the BDI is well-established (Beck et al., 1988; Brown, Schulberg, & Madonia, 1995).

Romantic Love, Friendships, and Familial Love. Romantic love, friendships, and familial love were assessed at post-treatment using the Quality of Life Inventory (QOLI; 32-items; Frisch, 1994). Participants responded to the QOLI by rating the importance of 16 life domains (e.g., health, work, goals) using a three-point scale from 0 (*not important*) to 2 (*extremely important*) and their satisfaction with each domain using a six-point scale from -3 (*very dissatisfied*) to 3 (*very satisfied*). Consistent with the QOLI manual (see Frisch, 1994), weighted scores were calculated by multiplying each importance score by its corresponding satisfaction score. Frisch, Cornell, Villanueva, and Retzlaff (1992) reported the QOLI had two to three week test-retest reliabilities from .80 to .91 and Cronbach's alpha from .77 to .89 across three clinical and three non-clinical samples. In the present study, we focused on the three life domains most relevant to the PSDM: romantic love, friendships, and familial love.

Procedure

Our study received ethical approval from the University of XXX Research Ethics Board. Participants were referred to the group therapy program by staff at 4 psychiatric inpatient units in the XXX metropolitan area within two months after being discharged from inpatient care for affective disorders. Participants completed informed consent and measures as a part of an initial pretreatment assessment and were assigned to treatment groups based on availability. Post treatment measures were completed following the last session of the group therapy.

Group Therapy Format

The group therapy format, known as the CORE program, is described in detail in Patterson, Alden, and Koch (2008). Briefly, the CORE program was developed to reduce depression symptoms and combines psychoeducational and cognitive behavioral group therapy. This program was offered to XXX area inpatient psychiatric units as a continuation of treatment for recently discharged patients. Groups ran once a week for ten consecutive weeks. Each group was composed of 8 to 15 patients and was led by a registered psychologist and co-led by a nurse or pre-doctoral psychology intern. Groups were closed, and no new members were assigned once treatment had commenced. The CORE Program was offered on an ongoing basis over five years.

Power Analysis

We used Optimal Design (Raudenbush et al. 2011) to conduct power analyses for our planned multilevel modeling. For a small intraclass correlation coefficient of .05 and a large effect size of $\delta = .69$ (see Hewitt et al., 2015) with $\alpha = .05$, power = .80, and six participants per group, a two-tailed significance test requires a minimum of 99 participants. Thus, as group membership was recorded for 128 participants, our planned multilevel analyses were deemed to be sufficiently powered. Next, we conducted a Monte Carlo simulation-based power analysis with 10,000 repetitions for our mediation analyses using Mplus (Muthén & Muthén, 2012). This simulation indicated a sample size of 150 had a power of .86 to detect indirect effects

corresponding to self-oriented perfectionism, a power of .84 power to detect indirect effects corresponding to other-oriented perfectionism, and a power of .87 to detect indirect effects corresponding to socially prescribed perfectionism (see Supplemental Material B for values used as estimates and rationale). Additionally, we used Jackson's (2003) rule of thumb to gauge the minimum number of participants needed for our path models. For an $N:q$ ratio of 10:1 (Jackson, 2003), a model with 15 parameter estimates requires a minimum of 150 participants. Given our path models involved 15 parameter estimates and that our total sample size was 156 our planned mediational analyses were deemed to be sufficiently powered.

Data Analytic Strategy

We used intercept-only multilevel modeling to obtain intraclass correlations for each study variable (Hox, 2010; Table 1). Next, we followed Tasca, Illing, Ogrodniczuk, and Joyce's (2009) recommendation for group treatment research and tested multilevel random intercept and random slope models to determine the extent to which self-oriented, other-oriented, and socially prescribed perfectionism at pre-treatment predicted changes in depression symptoms at post-treatment. For each multilevel model, trait perfectionism (self-oriented, other-oriented, or socially prescribed perfectionism) was the predictor, depression symptoms at post-treatment was the outcome, and age and depression symptoms at pre-treatment were covariates. We included age as a covariate, as age had a small negative correlation with pre-treatment depression symptoms and, as such, was considered a potential confound (see Table 1). Subsequently, we proceeded to conduct single-level, opposed to multi-level, mediation analyses as post-treatment depression symptoms had an ICC of .06 (see Byrne, 2011; Kline, 2015). Specifically, three path models were tested (one for each trait perfectionism dimension; see Figures 1, 2, and 3). Across path models, romantic love, friendships, and familial love were parallel mediators; post-treatment depression was the outcome; age and pre-treatment depression were covariates. The

significance of indirect effects were evaluated using bias-corrected bootstrapping with 10,000 resamples (Shrout & Bolger, 2002). If the 95% confidence interval for an indirect effect does not contain 0 within its lower and upper bounds, it suggests mediation. The following fit statistics were used to evaluate model fit: the comparative fit index (CFI), the root mean error of approximation (RMSEA), and the standardized root mean square residual (SRMR). CFI values of .95 suggest good fit and values between .90 and .95 indicate marginally acceptable fit (Kline, 2015). The RMSEA is an indicator of the level of misfit per degrees of freedom, with values of .08 or below being acceptable. SRMR is the average value of standardized residuals with values less than .08 indicating an acceptable fit. Prior to all analyses, bivariate correlations were screened for values exceeding .85 to reduce potential multicollinearity (Kline, 2015). Likewise, all analyses were conducted in Mplus (Muthén & Muthén, 2012) with full information maximum likelihood estimation.

Results

Descriptive Statistics, Bivariate Correlations, and Intraclass Correlations

Means, standard deviations, bivariate correlations, and intraclass correlations are in Table 1². At pre-treatment, most participants were dissatisfied with the quality of their romantic love, friendships, and familial love, and were suffering moderate depression symptoms. Whereas the means for self-oriented and other-oriented perfectionism were similar to the clinical norms reported in Hewitt and Flett (2004), the mean for socially prescribed perfectionism was notably higher. Following Cohen's (1992) guidelines for small, medium, and large effects ($r = .10, .30, .50$), self-oriented, other-oriented, and socially prescribed perfectionism had small negative relationships with perceived quality of friendships ($r = -.18$ to $-.22$) and perceived quality of

²We were unable to compute Cronbach's alpha due to our archival dataset not containing item-level scores.

familial love ($r = -.19$ to $-.27$) and small-to-moderate positive relationships with pre- and post-treatment depression severity ($r = .21$ to $.35$). Likewise, at pre-treatment, age had small negative relationships with self-oriented perfectionism ($r = -.20$) and depression symptoms ($r = -.14$); whereas gender was not related to any variable of interest (Table 1). As such, age, but not gender, was included as a covariate in subsequent analyses. Intraclass correlations ranged from .00 to .12 suggesting marginal-to-small intragroup dependence across variables (Hox, 2010).

Multilevel Modeling and Path Analysis

Random intercept and slope models (see Table 2) indicated that, after controlling for age and pre-treatment depression, other-oriented perfectionism ($B = 0.21$ [95% CI: .05; .36], $p = .008$) and socially prescribed perfectionism ($B = 0.19$ [95% CI: .03; .34], $p = .017$), but not self-oriented perfectionism ($B = .07$ [−.05; .19], $p = .241$), predicted higher depression symptoms at post-treatment. This suggests other-oriented perfectionism and socially prescribed perfectionism both have a negative impact on reductions in depression symptoms over treatment. Moreover, our path models had acceptable fit (see Figure notes) and as hypothesized, self-oriented perfectionism ($\beta = .017$ [95% CI: .001; .051]), other-oriented perfectionism ($\beta = .031$ [95% CI: .001; .078]), and socially prescribed perfectionism ($\beta = .030$ [95% CI: .001 to .078]) each indirectly predicted reduced changes in depression symptoms through a perceived lack of quality friendships (see Table 3).

Discussion

Our study of adult outpatients receiving short-term group therapy for depression conceptually and methodologically advances understanding of the negative influence of perfectionism in the group treatment. As hypothesized, other-oriented perfectionism and socially prescribed perfectionism predicted lower post-treatment reductions in depression symptoms. Moreover, congruent with the PSDM (Hewitt et al., 2006; Hewitt et al., 2017; Hewitt, Flett, et

al., 2018), self-oriented, other-oriented, and socially prescribed perfectionism each indirectly predicted a poorer treatment outcome for depression symptoms through a perceived lack of quality friendships. Hence, self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism appear to make it difficult for patients to reap the benefits of cognitive behavioral group therapy in part because of the external social disconnection generated by trait perfectionism dimensions.

An Improved Understanding of Perfectionism and Extratherapeutic Relationships

Self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism displayed small negative associations with perceived quality of friendships and perceived quality of familial love. Thus, consistent with the PSDM, findings imply trait perfectionism dimensions place patients in a bind (Hewitt et al., 2006; Hewitt et al., 2017). On the one hand, they strive for approval and acceptance from others, including family and friends. On the other hand, they view their relationships with family and friends as lacking.

More specifically, establishing and maintaining close connections with family and friends is hard for patients with elevated self-oriented perfectionism, as a rigid pursuit of agentic achievement leads to an unbalanced life, where opportunities to connect with family and friends are missed or ignored (Sherry et al., 2016). Likewise, patients high in other-oriented perfectionism are perpetually dissatisfied with the so-called imperfections of others and, as such, it is not surprising that they tended to report low quality familial and peer relationships (Hewitt & Flett, 1991; Hewitt et al., 2017; Stoeber, 2014). Lastly, establishing meaningful connections with family and friends is challenging for patients with high socially prescribed perfectionism, as they see others as unfairly judgemental (Hewitt et al., 2006). Overall, considered together, results align with a broader literature suggesting self-oriented, other-oriented, and socially prescribed perfectionism encapsulate central preoccupations for, and core attributes of, people vulnerable to

social disconnection (Hewitt et al., 2006, 2017; Sherry et al., 2016).

An Improved Understanding of Trait Perfectionism and Treatment Outcome

A cursory review of the literature gives an impression of a substantial body of evidence implicating perfectionism in a poorer treatment outcome for depression; however, closer inspection reveals much of this evidence derives from analyses of one dataset, namely Elkin et al.'s (1989) TDCRP (e.g., Blatt et al., 1995; Blatt et al., 1998; Hawley et al., 2006; Shahar et al., 2004). Besides negating the importance of replication, the over-reliance on TDCRP data is problematic as it restricts measurement of perfectionism to an intrapersonal attitude (see Miller, Hilsenroth, & Hewitt, 2017). Nevertheless, as results revealed, perfectionism's trait components, which incorporate both intrapersonal and interpersonal features of perfectionism, adversely impact the treatment outcome. Accordingly, clinicians focusing solely on attitudinal or cognitive aspects of perfectionism (e.g., Shafran, Cooper, & Fairburn, 2002) may overlook features of perfectionism vital to therapy.

Our finding that socially prescribed perfectionism independently predicted reduced reductions in depression symptoms runs contrary to Enns et al. (2003) and Nobel et al. (2012) who reported only self-oriented perfectionism was associated with a poorer outcome³. One explanation is the adverse impact of socially prescribed perfectionism on group therapy is more relevant for adult outpatients than child-adolescent outpatients. Alternatively, another plausible explanation is the sample size of 78 patients in Enns et al. (2003), and 67 patients in Nobel et al. (2012), precluded these authors from detecting the impact of socially prescribed perfectionism on the treatment outcome. As well, though Rice et al. (2015) reported discrepancy, a component of perfectionism in their model, was not associated with levels of distress after therapy, the

³Other-oriented perfectionism was not assessed in these studies.

relevance of this finding to the perfectionism literature is debatable. As illustrated by Mushquash and Sherry (2012), observing a gap between the standards one has for one's self and one's actual performance (i.e., discrepancy) is different from perceiving others require perfection of the self (i.e., socially prescribed perfectionism).

Regardless, our study is the first to confirm other-oriented perfectionism is tied to reduced changes in depression symptoms following group therapy. As such, congruent with indications that other-oriented perfectionism contributes to early therapy termination (McCown & Carlson, 2004), results imply other-oriented perfectionism is a clinically relevant variable that merits more extensive consideration in the treatment context. Put differently, though other-oriented perfectionism might not place people at risk for depression to the same extent as self-oriented and socially prescribed perfectionism (Chen, Hewitt, & Flett, 2017), other-oriented perfectionism still appears to hinder treatment of depression.

Lastly, self-oriented perfectionism was not a significant predictor of change in post-treatment depression symptoms. However, absence of evidence is not evidence of absence. Furthermore, although we found no evidence that self-oriented perfectionism directly hindered the treatment outcome, we did establish that self-oriented perfectionism indirectly predicted lower reductions in depression symptoms through a perceived lack of quality friendships.

An Improved Understanding of the PSDM in a Clinical Context

As hypothesized, self-oriented, other-oriented, and socially prescribed perfectionism limited the success of group therapy for depression and analyses indicated this was due, in part, to a lower perceived quality of friendships. Hence, incorporating extratherapeutic relationships into Hewitt, Flett, et al.'s (2018) PSDM could advance understanding of the perfectionism-treatment outcome link. We also speculate disrupted friendships placed patients with elevated self-oriented, other-oriented, and socially prescribed perfectionism at risk for a poorer treatment

outcome, due, in part, to a lack of support and encouragement for the improvements experienced throughout therapy (see Hewitt et al., 2019). Additionally, results align with Hewitt et al. (2015, 2017, 2019) who underscored the importance of relational elements in their treatment of perfectionism and have demonstrated strong support for their treatment's effectiveness.

Even so, contrary to hypotheses, when we examined romantic love, friendships, and familial love as parallel mediators, only the perceived quality of friendships was significant. Hence, though trait perfectionism dimensions may disrupt friendships and familial love to a similar extent, results suggest peer-relationships may be more relevant to understanding why perfectionism places patients at risk for a poorer treatment outcome.

Finally, our finding that self-oriented perfectionism indirectly hindered group treatment for depression complements earlier research. Nobel et al. (2012) reported self-oriented perfectionism predicted a worse treatment outcome for children receiving short-term group treatment for depression and Hewitt et al. (2015) found changes in self-oriented perfectionism were associated with decreased depression severity. Likewise, though other-oriented perfectionism is an inconsistent predictor of depression symptoms (Chen et al., 2017), results imply other-oriented perfectionism impedes group treatment for depression, due, in part to a perceived lack of quality friendships.

Clinical Implications

To date, the emphasis on relational elements of perfectionism in research has only recently been translated into treatment (Hewitt et al., 2017). However, neglecting to address disrupted peer relationships when treating perfectionistic patients appears to compromise treatment (Hewitt et al., 2017). Accordingly, dynamic-relational group psychotherapy—containing an integrated psychodynamic and interpersonal approach—is well poised to be a treatment of choice for perfectionism (Hewitt et al., 2017, 2019). In fact, though there is

evidence that some attitudinal features of perfectionism are amenable to CBT, improvements in the deeper trait components of perfectionism are often not maintained at follow-up (Riley, Lee, Cooper, Fairburn, & Shafran, 2007). More specifically, despite Riley et al.'s (2007) conceptualization of perfectionism as a transdiagnostic factor, these authors reported their short-term CBT program for perfectionism yielded no significant improvement in self-oriented, other-oriented, or socially prescribed perfectionism in comparison to a wait-list control. In contrast, Hewitt et al. (2015) demonstrated their integrated psychodynamic and interpersonal approach to treating perfectionism resulted in clinically significant reductions in self-oriented, other-oriented, and socially prescribed perfectionism, as well as the cognitive and self-presentational components of perfectionism at post-treatment and follow-up (also see Hewitt et al., 2019).

Clinicians should also be wary that therapies focusing solely on reducing symptoms, such as the treatment program used in the present study, may lead to a poorer treatment outcome and, especially, probability of relapse by not addressing the underlying causal mechanisms of depression (Blatt, Auerbach, Zuroff, & Shahar, 2006; Hewitt et al., 2008, 2015). Finally, our results converge with a wider literature underscoring the relevance of other-oriented perfectionism to the clinical context. As such, clinicians are advised to take other-oriented perfectionism into account during case formulation and treatment (see Hewitt, Mikail et al., 2018).

Limitations and Future Directions

Quality of romantic love, friendships, and familial love were measured using self-reports. As such, we were unable to evaluate objective social disconnection. Future research could address this by asking social network members to report directly on the quality of their relationship with the patient. As well, the quality of romantic love, friendships, and familial love were confounded temporally with post-treatment depression symptoms. And research is needed

to determine whether findings replicate when predictors (trait perfectionism dimensions and pre-treatment depression symptoms), mediators (romantic love, friendships, and familial love), and the outcome (post-treatment depression symptoms) are measured at separate time points (Cole & Maxwell, 2003). Future research would also benefit from controlling for pre-treatment quality of friendships, thereby testing if changes in (and not merely the occurrence of) low-quality friendships, mediates the perfectionism-treatment outcome link. Similarly, the collection of additional time points would increase power and allow for the use of multilevel growth curve modeling to estimate the effect of changes in depression symptoms, rather than change in depressive symptoms at a single time point (Hox, 2010; Tasca et al., 2009). Researchers are also encouraged to examine the extent to which perfectionism can lead to a poor treatment outcome through relationships within and outside of therapy. Likewise, future research would benefit from the inclusion of other relational elements of perfectionism such as perfectionistic self-presentation (Hewitt et al., 2003), the assessment of variables such as alienation or disconnection, and the inclusion of a more comprehensive assessment of relationships which might influence the mediational relationships observed. Lastly, participants had substantially elevated depression and most were unemployed and not currently in a romantic relationship. As such, the extreme nature of our sample likely influenced results and research testing the generalizability of our findings to less severe samples are needed.

Concluding Remarks

We conducted a theory-driven test of the PSDM in a sample of outpatients receiving short-term group CBT treatment for depression. Results revealed trait components of perfectionism were associated with a poorer treatment outcome and that a perceived lack of quality friendships mediated the effect of self-oriented, other-oriented, and socially prescribed perfectionism on change in depression symptoms at post-treatment. Hence, dimensions of trait

perfectionism appear to be essential patient characteristics that contribute to impaired friendships and in turn, lead to reduced reductions in depression symptoms following treatment.

Accordingly, results suggested failure to address the social disconnection generated by trait perfectionism dimensions can leave perfectionistic patients at risk for a poorer treatment outcome. Clinicians seeking to assess and treat perfectionistic patients by focusing solely on intrapersonal features of perfectionism, at the expense of interpersonal features, could also conceivably miss information vital to the success of psychotherapy.

References

- Beck, A. T., Steer, R. A., & Garbin, M. G. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical Psychology Review, 8*, 77-100.
- Blatt, S. J., Auerbach, J. S., Zuroff, D. C., & Shahar, G. (2006). Evaluating efficacy, effectiveness, and mutative factors in psychodynamic psychotherapies. In PDM Task Force, *Psychodynamic diagnostic manual* (pp. 537-572). Silver Spring, MD: Alliance of Psychoanalytic Organizations.
- Blatt, S. J., Quinlan, D. M., Pilkonis, P. A., & Shea, M. T. (1995). Impact of perfectionism and need for approval on the brief treatment of depression: The National Institute of Mental Health Treatment of Depression Collaborative Research Program revisited. *Journal of Consulting and Clinical Psychology, 63*, 125-132.
- Blatt, S. J., Zuroff, D. C., Bondi, C. M., Sanislow, C. A., & Pilkonis, P. A. (1998). When and how perfectionism impedes the brief treatment of depression: Further analyses of the National Institute of Mental Health Treatment of Depression Collaborative Research Program. *Journal of Consulting and Clinical Psychology, 66*, 423-428.
- Brown, C., Schulberg, H. C., & Madonia, M. J. (1995). Assessment of depression in primary care practice with the Beck Depression Inventory and the Hamilton Rating Scale for Depression. *Psychological Assessment, 7*, 59-65.
- Byrne B (2011). *Structural equation modeling with Mplus: Basic concepts, applications, and programming*. New York: Routledge.
- Cha, M. (2016). The mediation effect of mattering and self-esteem in the relationship between socially prescribed perfectionism and depression: Based on the social disconnection model. *Personality and Individual Differences, 88*, 148-159.

- Chen, C., Hewitt, P. L., & Flett, G. L. (2015). Preoccupied attachment, need to belong, shame, and interpersonal perfectionism: An investigation of the perfectionism social disconnection model. *Personality and Individual Differences*, 76, 177-182.
- Chen, C., Hewitt, P. L., & Flett, G. L. (2017). Ethnic variations in other-oriented perfectionism's associations with depression and suicide behaviour. *Personality and Individual Differences*, 104, 504-509.
- Cheung, M. L. (2009). Comparison of methods for constructing confidence intervals of standardized indirect effects. *Behavior Research Methods*, 41, 425-438.
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112, 155-159.
- Cole, D. A., & Maxwell, S. E. (2003). Testing mediational models with longitudinal data: questions and tips in the use of structural equation modeling. *Journal of Abnormal Psychology*, 112, 558-577.
- Cox, B. J., Enns, M. W., & Clara, I. P. (2002). The multidimensional structure of perfectionism in clinically distressed and college student samples. *Psychological Assessment*, 13, 365-373.
- Dunkley, D. M., Blankstein, K. R., Halsall, J., Williams, M., & Winkworth, G. (2000). The relation between perfectionism and distress: Hassles, coping, and perceived social support as mediators and moderators. *Journal of Counseling Psychology*, 47, 437-453.
- Dunkley, D. M., Blankstein, K. R., Masheb, R. M., & Grilo, C. M. (2006). Personal standards and evaluative concerns dimensions of “clinical” perfectionism: A reply to Shafran et al. (2002, 2003) and Hewitt et al. (2003). *Behaviour research and therapy*, 44(1), 63-84.
- Elkin, I., Shea, M. T., Watkins, J. T., Imber, S. D., Sotsky, S. M., Collins, J. F., ... Docherty, J. P. (1989). National Institute of Mental Health treatment of depression collaborative

- research program: General effectiveness of treatments. *Archives of General Psychiatry*, 46, 971-982.
- Enns, M. W., Cox, B. J., & Pidlubny, S. R. (2002). Group cognitive behaviour therapy for residual depression: Effectiveness and predictors of response. *Cognitive Behaviour Therapy*, 31, 31-40.
- Enns, M. W., Cox, B. J., & Inayatulla, M. (2003). Personality predictors of outcome for adolescents hospitalized for suicidal ideation. *Journal of the American Academy of Child & Adolescent Psychiatry*, 42, 720-727.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41, 1149-1160.
- Feinstein, R. E., Heiman, N., & Yager, J. (2015). Common factors affecting psychotherapy outcomes: Some implications for teaching psychotherapy, *International Journal of Gynecological Pathology*, 21, 180-189.
- First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J.B.W. (1997). *Structured Clinical Interview for DSM-IV Axis I disorders (SCID I)*. New York: Biometric Research Department.
- Flett, G. L., Besser, A., & Hewitt, P. L. (2014). Perfectionism and interpersonal orientations in depression: An analysis of validation seeking and rejection sensitivity in a community sample of young adults. *Psychiatry*, 77, 67-85.
- Flett, G. L., & Hewitt, P. L. (2015). Measures of perfectionism. In G. J. Boyle, D. H. Saklofske, & G. Matthews (Eds.), *Measures of personality and social psychological constructs* (pp. 595-618). San Diego: Elsevier.
- Flett, G. L., Hewitt, P. L., Blankstein, K. R., & Gray, L. (1998). Psychological distress and the

- frequency of perfectionistic thinking. *Journal of Personality and Social Psychology*, 75, 1363-1381.
- Flett, G. L., Hewitt, P. L., & De Rosa, T. (1996). Dimensions of perfectionism, psychosocial adjustment, and social skills. *Personality and Individual Differences*, 20, 143-150.
- Frisch, M. B. (1994). *Quality of Life Inventory Manual and Treatment Guide*. Minneapolis: Pearson Assessments.
- Frisch, M. B., Cornell, J., Villanueva, M., & Retzlaff, P. J. (1992). Clinical validation of the Quality of Life Inventory. A measure of life satisfaction for use in treatment planning and outcome assessment. *Psychological Assessment*, 4, 92-101.
- Frost, R. O., Marten, P., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Therapy and Research*, 14, 449-468.
- Gurtman, M. B. (1996). Interpersonal problems and the psychotherapy context: The construct validity of the Inventory of Interpersonal Problems. *Psychological Assessment*, 8, 241-255.
- Habke, M., & Flynn, C. (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.
- Haring, M., Hewitt, P. L., & Flett, G. L. (2003). Perfectionism, coping, and quality of intimate relationships. *Journal of Marriage and Family*, 65, 143-158.
- Hawley, L. L., Ho, M.H. R., Zuroff, D. C., Blatt, S. J. (2006). The relationship of perfectionism, depression, and therapeutic alliance during treatment for depression: Latent difference score analysis. *Journal of Consulting Psychology*, 74, 930-942.
- Hayes, J. A., Gelso, C. J., & Hummel, A. M. (2011). Managing countertransference. *Psychotherapy*, 48, 88-97.

- 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. (2004). *Multidimensional Perfectionism Scale: Technical manual*. Toronto: Multi-Health Systems.
- Hewitt, P. L., Chen, C., Zhang, L. C., Mikail, S. F., Flett, G. L., Habke, A. M., & Zhou, Y. (2019). Perfectionistic behavior and its influence on therapist ratings of patients. Manuscript in preparation.
- Hewitt, P. L., Flett, G. L., Besser, A., Sherry, S. B., & McGee, B. (2003). Perfectionism is Multidimensional: A reply to Shafran, Cooper and Fairburn (2002). *Behaviour Research and Therapy*, 41, 1221-1236.
- Hewitt, P. L., Flett, G. L., & Mikail, S. F. (1995). Perfectionism and relationship adjustment in pain patients and their spouses. *Journal of Family Psychology*, 9, 335.
- Hewitt, P. L., Flett, G. L., & Mikail, S. F. (2017). *Perfectionism: A relational approach to conceptualization, assessment, and treatment*. New York: Guilford.
- Hewitt, P. L., Flett, G. L., Mikail, S. F., Kealy, D., & Zhang, L. C. (2018). Perfectionism in the therapeutic context: The perfectionism social disconnection model. In J. Stoeber (Ed.), *The Psychology of Perfectionism*. London: Routledge.
- Hewitt, P. L., Flett, G. L., Sherry, S. B., & Caelian, C. (2006). Trait perfectionism dimensions and suicidal behavior. In T. E. Ellis (Ed.), *Cognition and suicide: Theory, research, and therapy* (pp. 215–235). Washington, DC: American Psychological Association.
- Hewitt, P. L., Flett, G. L., Sherry, S. B., Habke, M., Parkin, M., Lam, R. W., ... Stein, M. B. (2003b). The interpersonal expression of perfection: Perfectionistic self-presentation and psychological distress. *Journal of Personality and Social Psychology*, 84, 1303-1325.

- Hewitt, P. L., Flett, G. L., Turnbull-Donovan, W., & Mikail, S. F. (1991). The Multidimensional Perfectionism Scale: Reliability, validity, and psychometric properties in a psychiatric sample. *Psychological Assessment*, 3, 464-468.
- Hewitt, P. L., Habke, A. M., Lee-Baggley, D. L., Sherry, S. B., & Flett, G. L. (2008). The impact of perfectionistic self-presentation on the cognitive, affective, and physiological experience of a clinical interview. *Psychiatry: Interpersonal and Biological Processes*, 71, 93-122.
- Hewitt, P. L., Mikail, S. F., Flett, G. L., & Dang, S. (2018). Specific Formulation Feedback in Dynamic-Relational Group Psychotherapy of Perfectionism. *Psychotherapy*, 55, 179-185
- Hewitt, P. L., Mikail, S. F., Flett, G. L., Tasca, G. A., Flynn, C. A., Deng, X. C., Kaldas, J., & Chen, C. (2015). Psychodynamic/Interpersonal group psychotherapy for perfectionism: Evaluating the effectiveness of a short-term treatment. *Journal of Psychotherapy*, 52, 205-217.
- Hewitt, P. L., Qiu, T., Flynn, C. A., Flett, G. L., Wiebe, S. A., Tasca, G. A., & Mikail, S. F. (2019, May 20). Dynamic-Relational group treatment for perfectionism: Informant Ratings of patient change. *Psychotherapy*. Advance online publication. <http://dx.doi.org/10.1037/pst0000229>
- Hill, A. P. (2014). Perfectionistic strivings and the perils of partialling. *International Journal of Sport and Exercise Psychology*, 12, 302-315.
- Hill, R. W., Zrull, M. C., & Turlington, S. (1997). Perfectionism and interpersonal problems. *Journal of Personality Assessment*, 69, 81-103.
- Horney, K. (1950). *Neurosis and human growth: The struggle toward self-realization*. New York: Norton.
- Hox, J. J. (2010). *Multilevel analysis: Techniques and applications*. New York: Routledge.

- Jackson, D. L. (2003). Revisiting sample size and number of parameter estimates: Some support for the $N:q$ hypothesis. *Structural Equation Modeling*, 10, 128-141.
- Jacobs, R. H., Silva, S. G., Reinecke, M. A., Curry, J. F., Ginsburg, G. S., Kratochvil, C. J., & March, J. S. (2009). Dysfunctional attitudes scale perfectionism: A predictor and partial mediator of acute treatment outcome among clinically depressed adolescents. *Journal of Clinical Child & Adolescent Psychology*, 38, 803-813.
- Kaldas, J., Hewitt, P. L., Mikail, S. F., & Flett, G. L. (2019). *Perfectionism, interpersonal problems, and group cohesion in psychodynamic group psychotherapy*. Manuscript in preparation.
- Kawamura, K. Y., & Frost, R. O. (2004). Self-concealment as a mediator in the relationship between perfectionism and psychological distress. *Cognitive Therapy and Research*, 28, 183-191.
- Kline, R. B. (2015). *Principles and practice of structural equation modeling*. Guilford publications.
- Lambert, M. J. (1992). Psychotherapy outcome research: Implications for integrative and eclectic therapists. In J. C. Norcross & M. R. Goldfried (Eds.), *Handbook of psychotherapy integration* (pp. 94-129). New York: Basic Books.
- Ligiero, D. P., & Gelso, C. J. (2002). Countertransference, attachment, and the working alliance: The therapist's contribution. *Psychotherapy: Theory, Research, Practice, Training*, 39, 3-11.
- Limburg, K., Watson, H. J., Hagger, M. S., & Egan, S. J. (2017). The relationship between perfectionism and psychopathology: A meta- analysis. *Journal of Clinical Psychology*, 73, 1301-1326.

- March, J. S., Silva, S., Petrycki, S., Curry, J., Wells, K., Fairbank, J., ... Vitiello, B. (2007). The Treatment for Adolescents With Depression Study (TADS): Long-term effectiveness and safety outcomes. *Archives of General Psychiatry*, 64, 1132-1144.
- McCown, W. G., & Carlson, G. (2004). Narcissism, perfectionism and self-termination from treatment in outpatient cocaine users. *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, 22, 329-340.
- Miller, R., Hilsenroth, M. J., & Hewitt, P. L. (2017). Perfectionism and therapeutic alliance: a review of the clinical research. *Research in Psychotherapy: Psychopathology, Process and Outcome*, 20, 19-29.
- Miller, S. D., Duncan, B. L., & Hubble, M. A. (1997). *Escape from Babel: Toward a unifying language for psychotherapy practice*. New York: Norton.
- Mushquash, A. R., & Sherry, S. B. (2012). Understanding the socially prescribed perfectionist's cycle of self-defeat: A 7-day, 14-occasion daily diary study. *Journal of Research in Personality*, 46, 700-709.
- Muthén, L. K., & Muthén, B. (2012). 1998-2012. Mplus User's Guide (7th ed.). Los Angeles, CA: Muthén & Muthén.
- Nepon, T., Flett, G. L., Hewitt, P. L., & Molnar, D. S. (2011). Perfectionism, negative social feedback, and interpersonal rumination in depression and social anxiety. *Canadian Journal of Behavioural Science*, 43, 297-308.
- Nobel, R., Manassis, K., & Wilansky-Traynor, P. (2012). The role of perfectionism in relation to an intervention to reduce anxious and depressive symptoms in children. *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, 30, 77-90.
- Patterson, R. J., Alden, L. E., & Koch, W. J. (2008). *The Core Program: A cognitive behavioural guide to depression*. Toronto: Caversham Booksellers.

- Raudenbush, S. W., et al. (2011). Optimal Design Software for Multi-level and Longitudinal Research (Version 3.01) [Software]. Available from www.wtgrantfoundation.org.
- Rice, K. G., & Richardson, C. M. (2014). Classification challenges in perfectionism. *Journal of Counseling Psychology, 61*, 641-648.
- Rice, K. G., Sauer, E. M., Richardson, C. M., Roberts, K. E., & Garrison, A. M. (2015). Perfectionism affects change in psychological symptoms. *Psychotherapy, 52*, 218-227.
- Riley, C., Lee, M., Cooper, Z., Fairburn, C. G., & Shafran, R. (2007). A randomised controlled trial of cognitive-behaviour therapy for clinical perfectionism: A preliminary study. *Behaviour Research and Therapy, 45*, 2221-2231.
- 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.
- Salzman, L. (1980). *Treatment of the obsessive personality*. New York: Jason Aronson.
- Shafran, R., Cooper, Z., & Fairburn, C. G. (2002). Clinical perfectionism: A cognitive-behavioural analysis. *Behaviour Research and Therapy, 40*, 773-791.
- 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., Hewitt, P. L., Flett, G. L., & Harvey, M. (2003). Perfectionism dimensions, perfectionistic attitudes, dependent attitudes, and depression in psychiatric patients and university students. *Journal of Counseling Psychology, 50*, 373-386.
- 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. *Personality and*

- Individual Differences*, 45, 339-344.
- Sherry, S. B., Mackinnon, S. P., & Gautreau, C. M. (2016). Perfectionists do not play nicely with others: Expanding the Social Disconnection Model. In F. M. Sirois & D. S. Molnar (Eds.), *Perfectionism, health, and well-being* (pp. 225-243). Springer International Publishing.
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, 7, 422-445.
- Sprenkle, D. H., & Blow, A. J. (2004). Common factors and our sacred models. *Journal of Marital Family Therapy*, 30, 113-129.
- Smith, M. M., Sherry, S. B., Vidovic, V., Saklofske, D. H., Stoeber, J., & Benoit, A. (2019). Perfectionism and the five-factor model of personality. A meta-analytic review. *Personality and Social Psychology Review*. Advance online publication.
- Smith, M. M., Sherry, S. B., Chen, S., Saklofske, S. H., Flett, G. L., & Hewitt, P. L. (2016). Perfectionism and narcissism: A meta-analytic review. *Journal of Research in Personality*, 64, 90-101.
- Smith, M. M., Sherry, S. B., Chen, S., Saklofske, D. H., Mushquash, C., Flett, G. L., & Hewitt, P. L. (2018). The perniciousness of perfectionism: A meta-analytic review of the perfectionism–suicide relationship. *Journal of Personality*, 86, 522-542.
- Smith, M. M., Sherry, S. B., Mushquash, A. R., Saklofske, D. H., Gautreau, C. M., & Nealis, L. J. (2017). Perfectionism erodes social self-esteem and generates depressive symptoms: Studying mother-daughter dyads using a daily diary design with longitudinal follow-up. *Journal of Research in Personality*, 71, 72-79.
- Tasca, G. A., Illing, V., Ogrodniczuk, J. S., & Joyce, A. S. (2009). Assessing and adjusting for dependent observations in group treatment research using multilevel models. *Group*

Dynamics: Theory, Research, and Practice, 13, 151-162.

Stoeber, J. (2014). How other-oriented perfectionism differs from self-oriented and socially prescribed perfectionism. *Journal of Psychopathology and Behavioral Assessment, 36*, 329-338.

Weissman, A. N., & Beck, A. T. (1978). *Development and validation of the Dysfunctional Attitude Scale: A preliminary investigation*. Paper presented at the 86th Annual American Psychological Association, Toronto, Ontario, Canada.

Table 1*Means, standard deviations, bivariate correlations, and intraclass correlations*

Variables	1	2	3	4	5	6	7	8	9	10
1. Self-oriented perfectionism-pre	—									
2. Other-oriented perfectionism-pre	.46***	—								
3. Socially prescribed perfectionism-pre	.57***	.47***	—							
4. Depression symptoms-pre	.31***	.21**	.38***	—						
5. Romantic love-post	-.10	.00	-.12	-.22*	—					
6. Friendship-post	-.18*	-.22**	-.20*	-.21*	.24**	—				
7. Familial love-post	-.19*	-.20*	-.27**	-.30**	.24**	.34***	—			
8. Depression symptoms-post	.30**	.35***	.40***	.63***	-.40***	-.33**	-.34***	—		
9. Age	-.20**	-.06	-.09	-.14*	.03	.15	.14	-.07	—	
10 Gender	.09	.01	.08	.08	.08	.12	-.01	.04	-.09	—
Mean	69.4	54.0	60.2	25.5	-0.3	1.6	0.8	17.4	40.5	1.6
Standard deviation	18.7	13.1	14.5	12.3	4.1	3.4	3.0	12.8	11.6	0.5
Minimum	27.0	18.0	20.0	0.0	-6.0	-6.0	-6.0	0.0	19.0	1.0
Maximum	105.0	98.0	97.0	61.0	6.0	6.0	6.0	56.0	75.0	2.0
Intraclass correlation coefficient	.07	.05	.05	.04	.08	.00	.12	.06	.01	.00

Note. Missing data were handled using pairwise deletion. **Romantic love** = quality of romantic love; **Friendship** = quality of friendships; **Familial love** = quality of family love; **pre** = pre-treatment; **post** = post-treatment.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 2

Multilevel random intercept and random slope models with post-treatment depression symptoms as the outcome variable

Parameters	Self-oriented perfectionism	Other-oriented perfectionism	Socially prescribed perfectionism
<i>Regression coefficients</i>			
Intercept	17.62 (1.03)***	17.85 (0.66)***	17.81 (0.97)***
Age	0.08 (0.08)	0.06 (0.08)***	0.06 (0.08)
Depression symptoms-pre	0.61 (0.08)***	0.61 (0.08)***	0.60 (0.08)***
Trait perfectionism-pre	0.07 (0.06)	0.21 (0.08)**	0.19 (0.08)*
<i>Variance components</i>			
Residual	90.02 (13.41)***	85.53 (9.84)***	82.67 (11.74)***
Intercept	0.43 (7.59)	0.29 (6.23)	0.44 (11.04)
Slope	0.00 (0.02)	0.00 (0.06)	0.02 (0.03)
Covariance	-0.01 (0.31)	0.01 (0.44)	-0.05 (0.40)
<i>Model summary</i>			
Number of groups	20	20	20
Average group size	5.9	6	6
Number of free parameters	8	8	8
BIC	905.10	913.73	914.05

Note. Parameter estimate standard errors listed in parentheses. **Trait perfectionism** = self-oriented perfectionism, other-oriented perfectionism, or socially prescribed perfectionism; **pre** = pre-treatment; **post** = post-treatment; **BIC** = Bayesian Information Criterion. Depression symptoms, trait perfectionism, and age at pre-treatment were grand mean centred to facilitate interpretation. All estimates are unstandardized.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 3

Mediation path-analyses with satisfaction with social relations as mediators of the link between pre-treatment perfectionism and post-treatment depression symptoms (controlling for pre-treatment depression symptoms and pre-treatment age).

Independent variable	Mediator	Independent variable on			Indirect effect	95% CI
		depression	mediator	depression		
Self-oriented perfectionism	Romantic love	.09	-.09	-.22	.020	[-.012; .071]
	Friendship	.09	-.17	-.15	.026	[.001; .079]
	Familial love	.09	-.20	-.07	.014	[-.013; .064]
Other-oriented perfectionism	Romantic love	.16	-.01	-.23	.002	[-.035; .044]
	Friendship	.16	-.23	-.14	.031	[.001; .089]
	Familial love	.16	-.21	-.06	.011	[-.018; .059]
Socially prescribed perfectionism	Romantic love	.16	-.13	-.22	.028	[-.002; .080]
	Friendship	.16	-.20	-.15	.030	[.003; .085]
	Familial love	.16	-.27	-.04	.011	[-.026; .066]

Note. Pre-treatment depression entered as covariate in b-pathway to assess change in symptoms from pre-treatment to post-treatment. Age was included as a covariate in the b-pathway. 95% CI = 95% confidence interval for indirect effect. Bolded confidence intervals correspond to a significant indirect effect. Self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism measured at pre-treatment; familial love, friendship, romantic love measured at post-treatment. All estimates are standardized.

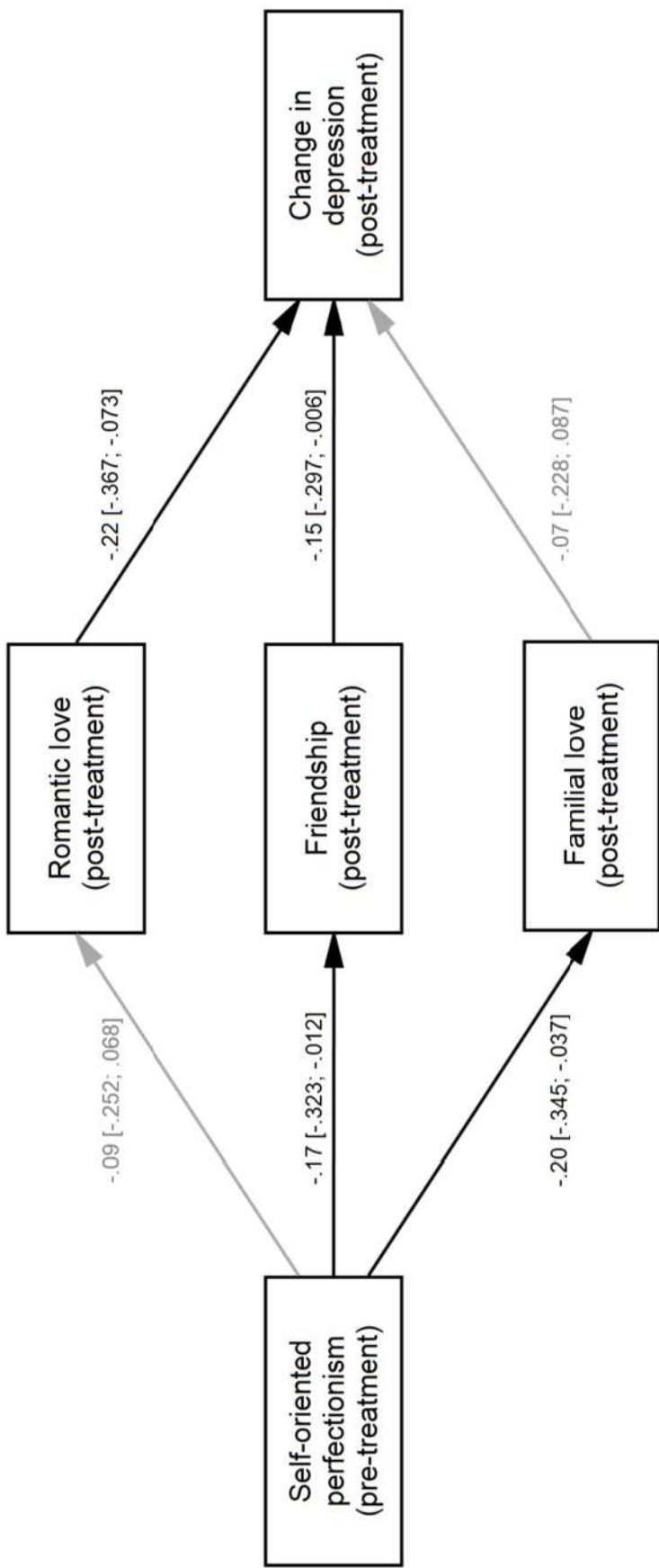


Figure 1. Path diagram depicting associations among variables. **Change in depression (post-treatment)** = post-treatment depression symptoms controlling for pre-treatment depression symptoms and pre-treatment age. **Romantic love** = quality of romantic love; **Friendship** = quality of friendships; **Familial love** = quality of family love. Rectangles represent observed variables. Single headed black arrows represent significant effects ($p < .05$). Single headed grey arrows represent non-significant effects ($p > .05$). Correlations among mediators, the path from pre-treatment depression to post-treatment depression, and the path from pre-treatment age to post-treatment depression symptoms omitted for clarity. The path from pre-treatment age to post-treatment depression symptoms was $\beta = .09$ [95% CI: $-.03$; $.21$]. The path from pre-treatment depression symptoms to post-treatment depression symptoms was $\beta = .53$ [95% CI: $.36$; $.66$]. The path from pre-treatment self-oriented perfectionism to post-treatment depression symptoms was $\beta = .09$ [95% CI: $-.04$; $.22$]. Correlations among self-oriented perfectionism, age, and depression symptoms at pre-treatment ranged from $-.14$ to $.32$. Correlations among mediators ranged from $.23$ to $.32$. The model explained 45.2% of variance in post-treatment depression symptoms. Model fit was $\chi^2(6) = 13.99$, $p = .030$, CFI = .935, RMSEA = .071 [95% CI: $.021$; $.121$], SRMR = .065. All estimates are standardized.

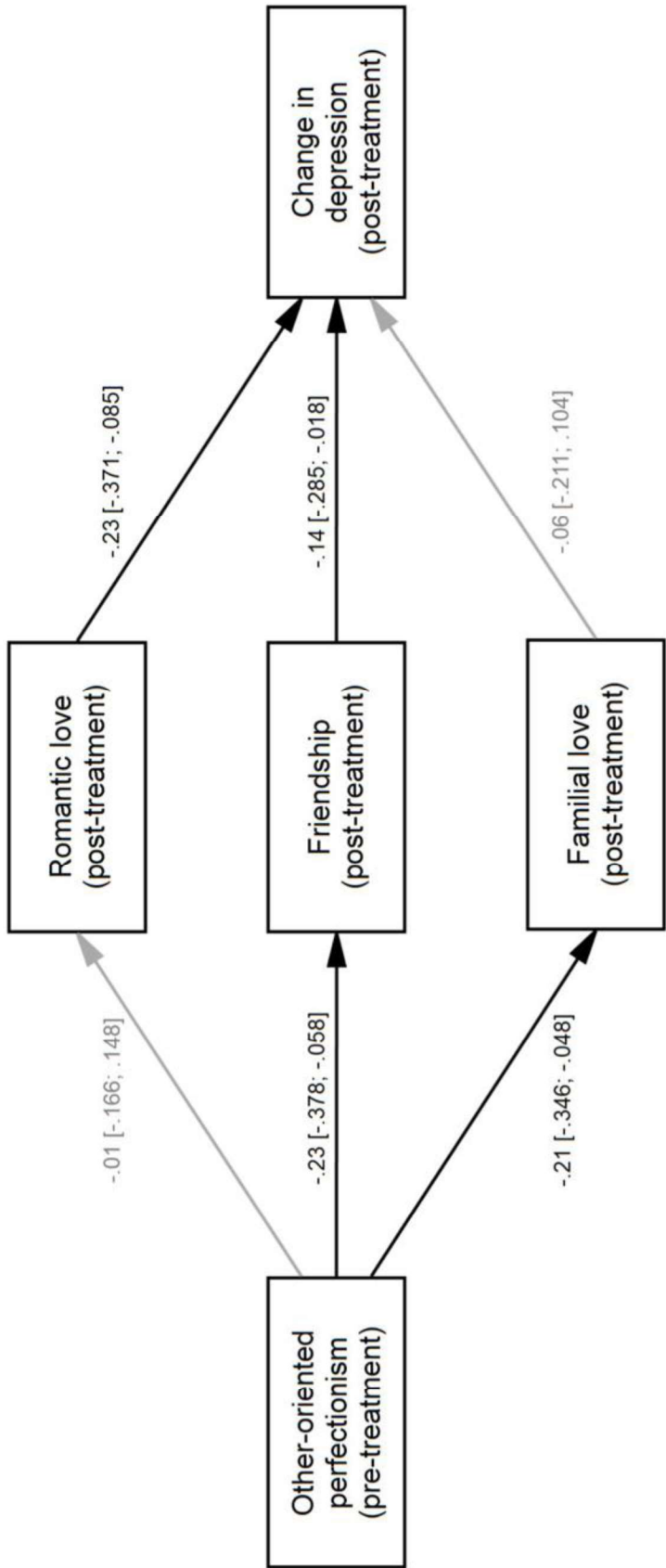


Figure 2. Path diagram depicting associations among variables. **Change in depression (post-treatment)** = post-treatment depression symptoms controlling for pre-treatment depression symptoms and pre-treatment age. **Romantic love** = quality of romantic love; **Friendship** = quality of friendships; **Familial love** = quality of family love. Rectangles represent observed variables. Single headed black arrows represent significant effects ($p < .05$). Single headed grey arrows represent non-significant effects ($p > .05$). Correlations among mediators, the path from pre-treatment depression to post-treatment depression, and the path from pre-treatment age to post-treatment depression symptoms omitted for clarity. The path from pre-treatment age to post-treatment depression symptoms was $\beta = .08$ [95% CI: $-.04$; $.20$]. The path from pre-treatment depression symptoms to post-treatment depression symptoms was $\beta = .53$ [95% CI: $.36$; $.66$]. The path from pre-treatment other-oriented perfectionism to post-treatment depression symptoms was $\beta = .16$ [95% CI: $.01$; $.31$]. Correlations among other-oriented perfectionism, age, and depression symptoms at pre-treatment ranged from $-.13$ to $.21$. Correlations among mediators ranged from $.24$ to $.31$. The model explained 45.5% of variance in post-treatment depression symptoms. Model fit was $\chi^2(6) = 14.45$, $p = .025$, CFI = $.935$, RMSEA = $.073$ [95% CI: $.001$; $.123$], SRMR = $.069$. All estimates are standardized.

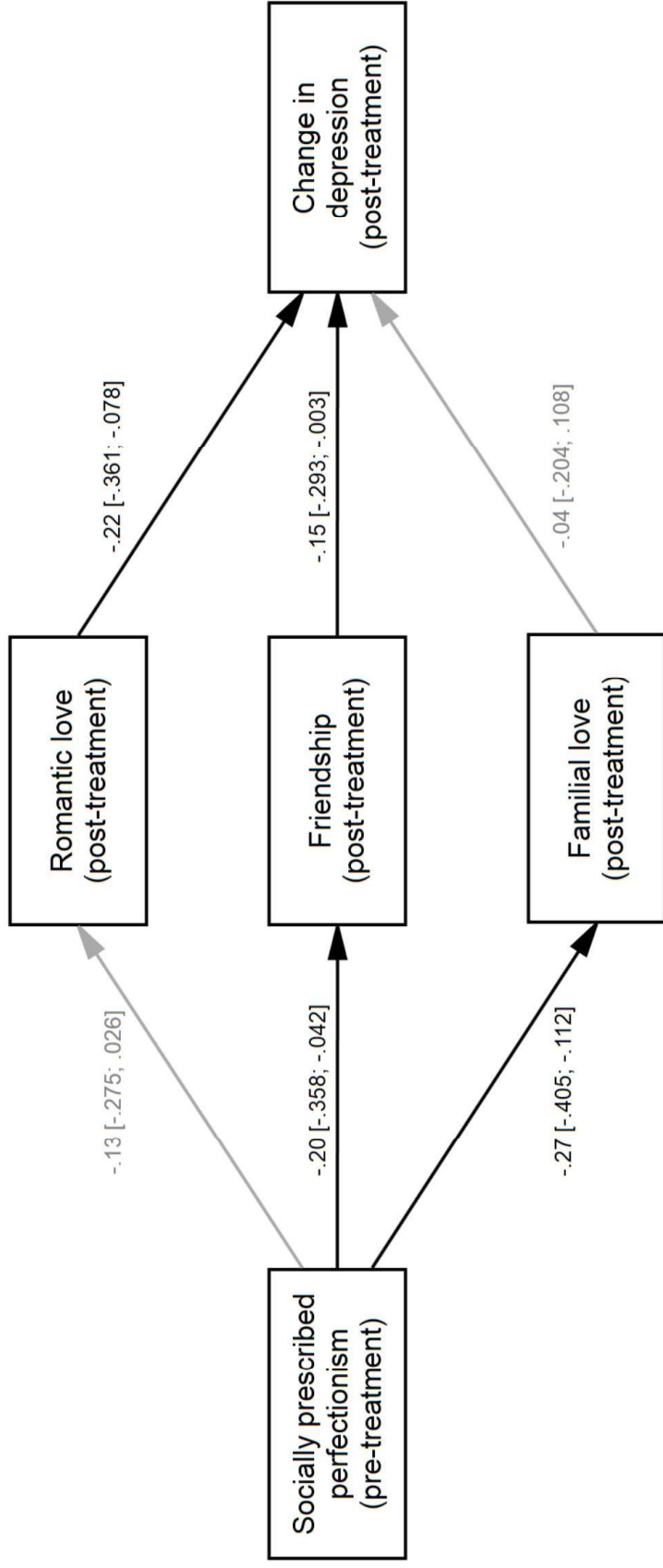


Figure 3. Path diagram depicting associations among variables. **Change in depression (post-treatment)** = post-treatment depression symptoms controlling for pre-treatment depression symptoms and pre-treatment age. **Romantic love** = quality of romantic love; **Friendship** = quality of friendships; **Familial love** = quality of family love. Rectangles represent observed variables. Single headed black arrows represent significant effects ($p < .05$). Single headed grey arrows represent non-significant effects ($p > .05$). Correlations among mediators, the path from pre-treatment depression to post-treatment depression, and the path from pre-treatment age to post-treatment depression symptoms omitted for clarity. The path from pre-treatment age to post-treatment depression symptoms was $\beta = .08$ [95% CI: $-.04$; .19]. The path from pre-treatment depression symptoms to post-treatment depression was: $\beta = .50$ [95% CI: .33; .65]. The path from pre-treatment socially prescribed perfectionism to post-treatment depression symptoms was $\beta = .16$ [95% CI: .00; .32]. Correlations among socially prescribed perfectionism, age, and depression at pre-treatment ranged from $-.30$ to $.02$. Correlations among mediators ranged from $.22$ to $.33$. The model explained 47.5% of variance in post-treatment depression symptoms. Model fit was $\chi^2(6) = 11.57$, $p = .072$, CFI = .957, RMSEA = .060 [95% CI: .000; .111], SRMR = .058. All estimates are standardized.



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Clinical Impact Statement

Question: Perfectionism is a pernicious personality vulnerability factor associated with myriad forms of distress and psychological disorders as well as negatively influencing psychotherapy treatment outcome. This article attempts to determine whether trait dimensions of perfectionism, self-oriented, other oriented, and socially prescribed perfectionism are associated with a reduced cbt treatment outcome and whether this effect is a result of perfectionism negatively influencing patients' relationships outside of therapy. **Findings:** Whereas other oriented and socially prescribed perfectionism were directly associated with less change in symptoms over treatment, all three trait dimensions of self oriented perfectionism, other oriented perfectionism, and socially prescribed perfectionism were found to have a negative influence on treatment outcome over the course of treatment through poor extratherapy relationships. **Meanings:** The main conclusions of this study are that perfectionism traits have a negative impact on treatment outcome and this is, partly, the result of the effect of perfectionism on peer relationships outside of therapy. **Next Steps:** Future work should continue to evaluate the negative effect of perfectionism on benefitting from group treatment and explore the relational impact of perfectionism on influencing treatment benefit.