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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. 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. Psychiatric patients ($N = 156$) enrolled in short-term postdischarge group cognitive-behavioral therapy for residual depression completed measures of perfectionism at pretreatment; of romantic love, friendships, and familial love at posttreatment; and of depression at pre- and posttreatment. Multilevel modeling showed that other-oriented and socially prescribed perfectionism were associated with lower posttreatment reductions in depression over treatment, and path analysis revealed that self-oriented, other-oriented, and socially prescribed perfectionism indirectly predicted lower posttreatment reductions in depression through a perceived lack of quality friendships. 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.

Clinical Impact Statement

Question: Perfectionism is a pernicious personality vulnerability factor associated with myriad forms of distress and psychological disorders and negatively influences psychotherapy treatment outcome. This article attempts to determine whether trait dimensions of perfectionism, including self-oriented, other oriented, and socially prescribed perfectionism, are associated with a reduced cognitive-behavioral therapy 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. ***Meaning:*** 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.

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

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Perfectionism acts as a vulnerability factor for many forms of maladjustment including depressive disorders and suicidality (for reviews, see Limburg, Watson, Hagger, & Egan, 2017; Smith et al., 2018). Longstanding theoretical accounts also imply that 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 posttreatment depression symptoms by studying a sample of recently discharged outpatients receiving short-term group cognitive-behavioral therapy (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 inward 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 et al., 2017; Hewitt, Flett, Sherry, & Caelian, 2006) 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 judgmental, 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 that both subjective and objective social disconnection contribute 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 that 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 to clinical populations remains to be demonstrated empirically.

The PSDM in the Clinical Context

Hewitt, Flett, and colleagues (2018) extended the PSDM to the clinical context and theorized that 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 hypervigilant to perceived signs of rejection and, as such, are often hesitant to disclose information they believe will cause the thera-

pist 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 toward 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 that after removing variance attributable to self-criticism, 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 that 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 impede treatment for depression (Blatt, Quinlan, Pilkonis, & Shea, 1995; Blatt, Zuroff, Bondi, Sanislow, & Pilkonis, 1998; Hawley, Ho, Zuroff, & Blatt, 2006; Jacobs et al., 2009). Likewise, Hewitt et al. (in press) found that 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 that 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, Flett, 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 et al., 2006, 2017). In addition, 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, 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 partialing self-criticism, self-oriented and socially prescribed perfectionism were not significant predictors of posttreatment change in depression symptoms, it is not clear, conceptually, what this means (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, Flett, et al. (2018) theorized particularly limits the success of psychotherapy.

Lastly, though it is appropriate to accord therapeutic relationships a prominent role in the PSDM (Hewitt, Flett, 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, 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. In addition, 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 et al., 2017; Hewitt, Flett, et al., 2018; Shahar et al., 2004; Sherry, Mackinnon, & Gautreau, 2016), we hypothesized that self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism will predict a lower reduction in posttreatment depression symptoms. Likewise, informed by the PSDM (Hewitt et al., 2006, 2017; Hewitt, Flett, et al., 2018), we hypothesized that perceived quality of romantic love, of friendships, and of familial love will mediate the putative links between trait

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perfectionism dimensions and change in posttreatment depression symptoms.

Method

Participants

A total of 156 participants (105 women) completed pre- and posttreatment measures. To be eligible for treatment, participants had to have been discharged from inpatient care for an affective disorder within the past 2 months. On average, participants were 41.5 years of age (SD = 11.8; range = 19–75) and had 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." In addition, at pretreatment; 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, Fourth Edition* (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 were obtained from 20 groups with an average of six patients (SD = 2.6) per group providing data (see Supplemental Material A in the online supplemental materials).[1]

Measures

Trait perfectionism. Trait perfectionism was assessed at pretreatment 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 across clinical and nonclinical samples (Flett & Hewitt, 2015). For instance, Hewitt, Flett, Turnbull-Donovan, and Mikail (1991) reported 3-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 αs of .86, .80, and .87.

Depression symptoms. Depression symptoms were assessed at pre- and posttreatment 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 symptom*) to 3 (*severe depression symptom*). Cronbach's α 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 posttreatment 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 3-point scale from 0 (*not important*) to 2 (*extremely important*) and their satisfaction with each domain using a 6-point scale from −3 (*very dissatisfied*) to 3 (*very satisfied*). Consistent with the QOLI manual (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 2- to 3-week test–retest reliabilities from .80 to .91 and Cronbach's α from .77 to .89 across three clinical and three nonclinical 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 British Columbia Research Ethics Board. Participants were referred to the group therapy program by staff at four psychiatric inpatient units in the Vancouver, British Columbia, Canada metropolitan area within 2 months of 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. Posttreatment 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 the article by Paterson, 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 the Vancouver metropolitan area inpatient psychiatric units as a continuation of treatment for recently discharged patients. Groups ran once a week for 10 consecutive weeks. Each group was composed of eight to 15 patients and was led by a registered psychologist and co-led by a nurse or predoctoral psychology intern. Groups were closed, and no new members were assigned once treatment had commenced. The CORE Program was offered on an ongoing basis for over 5 years.

Power Analysis

We used optimal design (Raudenbush, Spybrook, Congdon, Liu, & Martinez, 2011) to conduct power analyses for our planned multilevel modeling. For a small intraclass correlation coefficient of .05 and a large effect size of δ = .69 (Hewitt et al., 2015) with

[1] Group membership was missing for 28 participants.

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$\alpha = .05$, 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 in the online supplemental materials for values used as estimates and rationale). In addition, 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 (ICC) 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 pretreatment predicted changes in depression symptoms at posttreatment. For each multilevel model, trait perfectionism (self-oriented, other-oriented, or socially prescribed perfectionism) was the predictor, depression symptoms at posttreatment was the outcome, and age and depression symptoms at pretreatment were covariates. We included age as a covariate, as age had a small negative correlation with pretreatment depression symptoms and, as such, was considered a potential confound (Table 1). Subsequently, we proceeded to conduct single-level, as opposed to multilevel, mediation analyses as posttreatment depression symptoms had an ICC of .06 (Byrne, 2011; Kline, 2015). Specifically, three path models were tested (one for each trait perfectionism dimension; Figures 1, 2, and 3). Across path models, romantic love, friendships, and familial love were parallel mediators; posttreatment depression was the outcome; and age and pretreatment 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 (CI) 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 square 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. Before 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 ICCs

Means, standard deviations, bivariate correlations, and ICCs are in Table 1.[2] At pretreatment, 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 familial love ($r = -.19$ to $-.27$) and small-to-moderate positive relationships with pre- and posttreatment depression severity ($r = .21$ to $.35$). Likewise, at pretreatment, 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. ICCs 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 (Table 2) indicated that after controlling for age and pretreatment 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 ($B = 0.07$; 95% CI [−.05; .19], $p = .241$) predicted higher depression symptoms at posttreatment. 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, .078]) each indirectly predicted reduced changes in depression symptoms through a perceived lack of quality friendships (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 posttreatment reductions in depression symptoms. Moreover, congruent with the PSDM (Hewitt et al., 2006, 2017; Hewitt, Flett, et al.,

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

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	—
M	69.4	54.0	60.2	25.5	−0.3	1.6	0.8	17.4	40.5	1.6
SD	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 = pretreatment; post = posttreatment.
* $p < .05$. ** $p < .01$. *** $p < .001$.

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

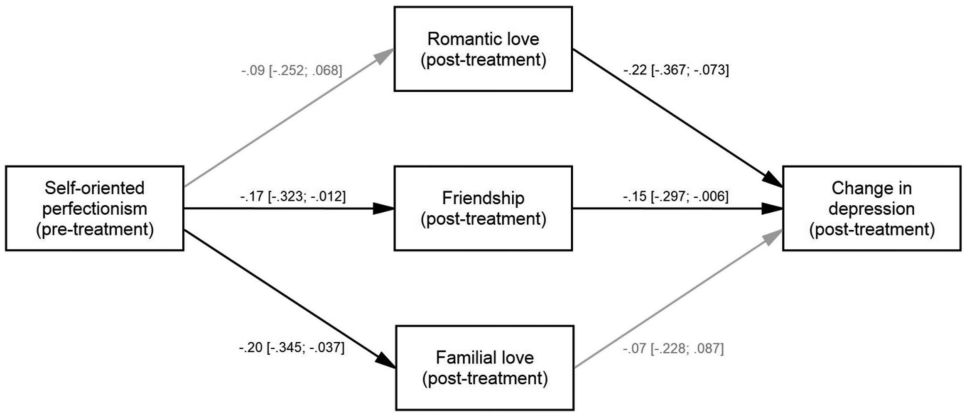

Figure 1. Path diagram depicting associations among variables. Change in depression (posttreatment) = posttreatment depression symptoms controlling for pretreatment depression symptoms and pretreatment age; romantic love = quality of romantic love; friendship = quality of friendships; familial love = quality of family love. Rectangles represent observed variables. Single headed black arrows represent significant effects ($p < .05$). Single headed gray arrows represent nonsignificant effects ($p > .05$). Correlations among mediators, the path from pretreatment depression to posttreatment depression, and the path from pretreatment age to posttreatment depression symptoms were omitted for clarity. The path from pretreatment age to posttreatment depression symptoms was β = .09; 95% confidence interval [CI] [−.03, .21]. The path from pretreatment depression symptoms to posttreatment depression symptoms was β = .53; 95% CI [.36, .66]. The path from pretreatment self-oriented perfectionism to posttreatment depression symptoms was β = .09; 95% CI [−.04, .22]. Correlations among self-oriented perfectionism, age, and depression symptoms at pretreatment ranged from −.14 to .32. Correlations among mediators ranged from .23 to .32. The model explained 45.2% of variance in posttreatment depression symptoms. Model fit was $\chi^2(6) = 13.99$, $p = .030$, CFI = .935, root mean error of approximation = .071; 95% CI [.021, .121], standardized root mean square residual = .065. All estimates are standardized.

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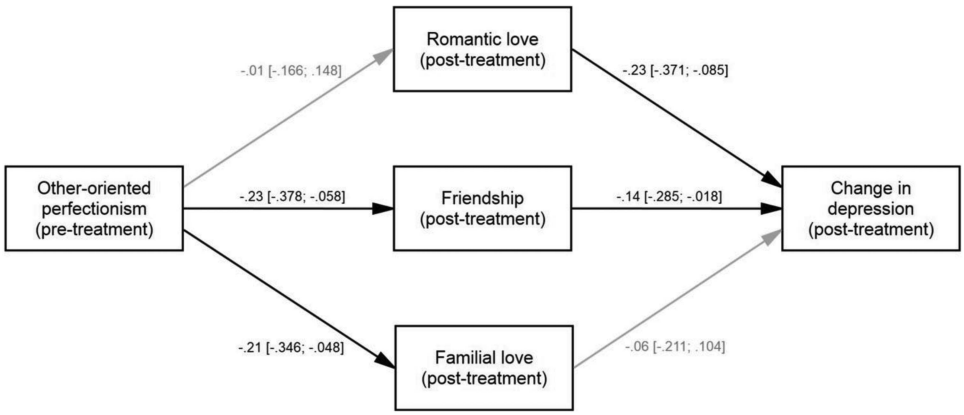

Figure 2. Path diagram depicting associations among variables. Change in depression (posttreatment) = posttreatment depression symptoms controlling for pretreatment depression symptoms and pretreatment age; romantic love = quality of romantic love; friendship = quality of friendships; familial love = quality of family love. Rectangles represent observed variables. Single-headed black arrows represent significant effects ($p < .05$). Single-headed gray arrows represent nonsignificant effects ($p > .05$). Correlations among mediators, the path from pretreatment depression to posttreatment depression, and the path from pretreatment age to posttreatment depression symptoms were omitted for clarity. The path from pretreatment age to posttreatment depression symptoms was $\beta = .08$; 95% confidence interval [CI] [−.04, .20]. The path from pretreatment depression symptoms to posttreatment depression symptoms was $\beta = .53$; 95% CI [.36, .66]. The path from pretreatment other-oriented perfectionism to posttreatment depression symptoms was $\beta = .16$; 95% CI [.01, .31]. Correlations among other-oriented perfectionism, age, and depression symptoms at pretreatment ranged from −.13 to .21. Correlations among mediators ranged from .24 to .31. The model explained 45.5% of variance in posttreatment depression symptoms. Model fit was $\chi^2(6) = 14.45$, $p = .025$, comparative fit index = .935, root mean error of approximation = .073; 95% CI [.001, .123], standardized root mean square residual = .069. All estimates are standardized.

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al., 2006, 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 judgmental (Hewitt et al., 2006). Overall, considered together, results align with a broader literature suggesting that 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 data set, namely, Elkin et al.'s (1989) TDCRP (Blatt et al., 1995; Blatt et al., 1998; Hawley et al., 2006; Shahar et al., 2004). Besides negating the importance of replication, the overreliance on TDCRP data is problematic, as it restricts measurement of perfectionism to an intrapersonal attitude (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 (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 outcome.[3] 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, Sauer, Richardson, Roberts, and Garrison (2015) reported that

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

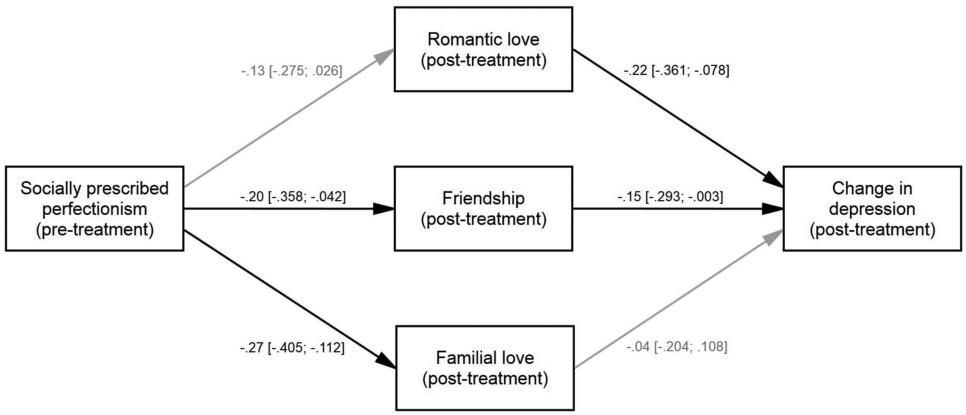

Figure 3. Path diagram depicting associations among variables. Change in depression (posttreatment) = posttreatment depression symptoms controlling for pretreatment depression symptoms and pretreatment age; romantic love = quality of romantic love; friendship = quality of friendships; familial love = quality of family love. Rectangles represent observed variables. Single-headed black arrows represent significant effects ($p < .05$). Single-headed gray arrows represent nonsignificant effects ($p > .05$). Correlations among mediators, the path from pretreatment depression to posttreatment depression, and the path from pretreatment age to posttreatment depression symptoms were omitted for clarity. The path from pretreatment age to posttreatment depression symptoms was $\beta = .08$; 95% confidence interval [CI] [−.04, .19]. The path from pretreatment depression symptoms to posttreatment depression was: $\beta = .50$; 95% CI [.33, .65]. The path from pretreatment socially prescribed perfectionism to posttreatment depression symptoms was $\beta = .16$; 95% CI [.00, .32]. Correlations among socially prescribed perfectionism, age, and depression at pretreatment ranged from −.30 to .02. Correlations among mediators ranged from .22 to .33. The model explained 47.5% of variance in posttreatment depression symptoms. Model fit was $\chi^2(6) = 11.57$, $p = .072$, comparative fit index = .957, root mean error of approximation = .060; 95% CI [.000, .111], standardized root mean square residual = .058. All estimates are standardized.

discrepancy, a component of perfectionism in their model, was not associated with levels of distress after therapy, the 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 that other-oriented perfectionism is tied to reduced changes in depression symptoms following group therapy. As such, congruent with indications that

Table 2
Multilevel Random Intercept and Random Slope Models With Posttreatment Depression Symptoms as the Outcome Variable

Parameters	Self-oriented perfectionism	Other-oriented perfectionism	Socially prescribed perfectionism
Regression coefficients			
Intercept	17.62 (1.03)***	17.85 (.66)***	17.81 (.97)***
Age	.08 (.08)	.06 (.08)***	.06 (.08)
Depression symptoms-pre	.61 (.08)***	.61 (.08)***	.60 (.08)***
Trait perfectionism-pre	.07 (.06)	.21 (.08)**	.19 (.08)*
Variance components			
Residual	90.02 (13.41)***	85.53 (9.84)***	82.67 (11.74)***
Intercept	.43 (7.59)	.29 (6.23)	.44 (11.04)
Slope	.00 (.02)	.00 (.06)	.02 (.03)
Covariance	−.01 (.31)	.01 (.44)	−.05 (.40)
Model summary			
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 = pretreatment; post = posttreatment; BIC = Bayesian information criterion. Depression symptoms, trait perfectionism, and age at pretreatment were grand-mean centered to facilitate interpretation. All estimates are unstandardized.
* $p < .05$. ** $p < .01$. *** $p < .001$.

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Table 3
Mediation Path-Analyses With Satisfaction With Social Relations as Mediators of the Link Between Pretreatment Perfectionism and Posttreatment Depression Symptoms (Controlling for Pretreatment Depression Symptoms and Pretreatment Age)

Independent variable	Mediator	Independent variable on depression	Independent variable on mediator	Mediator on depression	Indirect effect	95% CI
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. Pretreatment depression entered as covariate in B pathway to assess change in symptoms from pretreatment to posttreatment. Age was included as a covariate in the B pathway. 95% CI = 95% confidence interval for indirect effect. Bolded CI correspond to a significant indirect effect. Self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism were measured at pretreatment; familial love, friendship, and romantic love were measured at posttreatment. All estimates are standardized.

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other-oriented perfectionism contributes to early therapy termination (McCown & Carlson, 2004), results imply that 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 posttreatment 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 that 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 (Hewitt et al., 2019). In addition, 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 that self-oriented perfectionism predicted a worse treatment outcome for children receiving short-term group treatment for depression, and Hewitt et al. (2015) found that 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 posttreatment and follow-up (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.

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 posttreatment depression symptoms. Research is needed to determine whether findings replicate when predictors (trait perfectionism dimensions and pretreatment depression symptoms), mediators (romantic love, friendships, and familial love), and the outcome (posttreatment depression symptoms) are measured at separate time points (Cole & Maxwell, 2003). Future research would also benefit from controlling for pretreatment 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 is 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 posttreatment. 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 or attitudinal features of perfectionism, at the expense of interpersonal features, could also conceivably miss information vital to the success of psychotherapy.

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