

BRIEF REPORT

Dependency and Self-Criticism in Treatments for Depression

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Dependency and self-criticism are vulnerability factors for depression. How these personality factors change with treatment for depression and how they relate to symptom change across different types of treatment require further research. In addition, cultural differences that interact with the dependency/self-criticism–depression relation remain underinvestigated. We randomly assigned 149 adults with major depression to receive active medication (MED; $n = 50$), supportive–expressive therapy (SET; $n = 49$), or placebo pill (PBO; $n = 50$). Participants completed the Depressive Experiences Questionnaire (DEQ; Blatt, D’Afflitti, & Quinlan, 1976) before and after treatment and completed the Hamilton Rating Scale for Depression (Hamilton, 1967) throughout the course of treatment. Self-criticism as measured on the DEQ decreased with treatment similarly across conditions. DEQ Dependency decreased in MED but remained unchanged in SET and PBO. Higher initial dependency, but not higher initial self-criticism, predicted poor treatment response across conditions. Greater reduction in self-criticism was associated with greater reduction in depressive symptoms, but the effect was weaker for racial minorities (vs. White). Increase in connectedness, an adaptive form of dependency, was associated with symptom improvement in SET but not MED. Hence, different pathways of change seem to be implicated in the treatment of depression depending on culture and type of intervention. Implications for future research are discussed.

Keywords: depression, dependency, self-criticism, psychodynamic, supportive–expressive therapy

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Dependency and self-criticism have been posited to be vulnerability factors for depression (e.g., Blatt, 1974, 2004; Mandel, Dunkley, & Moroz, 2015). *Dependency* refers to a tendency to experience loneliness, fear of abandonment, and a strong desire to be close to others. *Self-criticism* refers to a proclivity for experiencing failure and guilt that threaten one’s sense of self-worth and competence. In other words, dependency may be seen as an

externally directed vulnerability concerning interpersonal relatedness, whereas self-criticism involves an internally directed vulnerability concerning self-definition (Luyten & Blatt, 2013).

As personality factors, dependency and self-criticism are hypothesized to be stable traits (Blatt, 1974, 2004). Bagby et al. (1994) reported that, congruent with this hypothesis, change in depressed mood in the treatment of depression did not influence

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levels of dependency and self-criticism. However, Klein, Harding, Taylor, and Dickstein (1988) found that dependency and self-criticism decreased more for recovered than for nonrecovered patients with depression, suggesting that these personality characteristics are amenable to change, at least in the recovered cases. Klein et al. offered that dependency and self-criticism may not be stable character styles but instead state-dependent factors. Alternatively, psychotherapy has been shown to contribute to gradual changes in longstanding characterological disturbances (Kopta, Howard, Lowry, & Beutler, 1994). The mixed evidence on the stability of dependency and self-criticism, and whether they change with treatment for depression, await clarification from further research.

In the empirical literature, symptoms of depression have been more strongly correlated to a person's level of self-criticism than dependency (Blatt, 2004). However, there are nuances to this finding. For example, Dinger et al. (2015) reported that dependency and self-criticism as measured on the self-reported Depressive Experiences Questionnaire (DEQ; Blatt, D'Afflitti, & Quinlan, 1976) had stronger correlations with depressive symptoms when the symptoms were measured by self-report (e.g., Beck Depression Inventory; Beck, Steer, & Carbin, 1988) than when they were measured by observer ratings (e.g., Hamilton Rating Scale for Depression [HRSD]; Hamilton, 1967). Monomethod bias may have therefore contributed to conflation of the association between self-criticism/dependency and depressive symptoms. In addition, Luyten et al. (2007) reported that the depression–dependency association and the depression–self-criticism association are not significantly different from each other among patients with depression, and they both tend to be weaker when compared to those in healthy adults or students. Thus, the relation between personality and depressive symptoms differs not only by the measures used but also by population (Luyten et al., 2007). More investigation is needed to clarify how self-criticism and dependency may relate to symptoms in patients with major depression specifically.

Dependency and self-criticism appear to have different impacts on treatment response in depression. For example, self-criticism, but not dependency, is associated with poor response to cognitive-behavior therapy (CBT), interpersonal therapy (IPT), medication, and placebo pill (Blatt, Quinlan, Pilkonis, & Shea, 1995). Marshall, Zuroff, McBride, and Bagby (2008) reported that self-criticism predicted poor response to IPT, and there were trends where dependency predicted poor response to CBT and self-criticism predicted good response to pharmacotherapy. The different findings may be attributed to differences in study settings and measures used (Marshall et al., 2008). How dependency and self-criticism influence patients' response to other interventions, such as supportive–expressive therapy (SET), is unclear.

SET is a manualized form of psychodynamic psychotherapy (Luborsky, 1984; Luborsky et al., 1995). The efficacy of SET has been shown for a number of psychological disorders, including depression, general anxiety disorder, personality disorders, and opiate dependence (Leichsenring & Leibing, 2007). A unique characteristic of SET is its focus on patients' Core Conflictual Relationship Theme (CCRT; Luborsky & Crits-Christoph, 1998) that drives and maintains patients' psychopathology. Specifically, therapists conceptualize and address patients' interpersonal wishes, responses of others that frustrate or gratify these wishes,

and the consequent responses of self. Unlike IPT therapists, who focus on difficulties in present relationships (Markowitz & Weissman, 2004), SET therapists explore past relationships in conjunction with current relationships, including the therapeutic relationship, with the goal of uncovering maladaptive relational patterns. SET may thus trigger mechanisms of change that pertain to aspects of personality related to interpersonal functioning, such as dependency.

The first purpose of the present study was to examine how dependency and self-criticism change in SET and whether these changes differ between SET and some other treatments of depression, such as medication. Next, we examined the relation between depressive symptoms and dependency and self-criticism. Specifically, we examined whether initial levels of dependency and self-criticism predict the change in depression during treatment and whether changes in dependency and self-criticism correlate with the change in depressive symptoms.

Investigators have identified more- and less-adaptive forms of interpersonal dependence. For example, Rude and Burnham (1995) distinguished between connectedness and neediness. *Connectedness* refers to the “valuing of relationships and a sensitivity to the effects of one's actions on others” (p. 337), whereas *neediness* refers to “anxious concerns regarding possible rejection” (p. 337). We therefore also explored how varying levels of connectedness and neediness may be driving our results on dependency.

Most studies on the DEQ have been conducted on White participants from the Western culture, and there is a call for a closer examination of self-criticism and dependency across groups within-culture and across cultures (Luyten & Blatt, 2013). For example, although self-criticism appears to confer risks for psychopathology across cultures (DiBartolo & Rendón, 2012), at least one study reported that culture moderated the self-criticism–depression association (Abu-Kaf & Priel, 2008). In addition, Luyten et al. (2007) documented sex differences in how DEQ factors may be related to depressive symptoms. We were therefore interested to see whether race and sex would moderate the association between DEQ factors and depression during treatment.

In this brief report, data were drawn from a randomized controlled trial for depression (Barber, Barrett, Gallop, Rynn, & Rickels, 2012) that examined the efficacy of medication (MED), supportive–expressive therapy (SET), and placebo pill (PBO). Barber et al. (2012) reported that patients in the three conditions had similar reductions in depressive symptoms, as measured using the diagnostician-rated HRSD, during active treatment. Furthermore, racial minority (primarily Black) males benefitted significantly more from SET, White males more from PBO, and White females more from either MED or SET; racial minority females showed no differential outcomes across conditions. In this context, we investigated the moderating effects of dependency and self-criticism on treatment response and the moderating effects of condition, race, and sex on the relation between dependency/self-criticism and depressive symptoms.

Method

Participants

This study included 149 patients from a randomized control trial of treatments for depression (Barber et al., 2012). This sample

comprised the majority of the 156 participants in the original trial. Seven patients were dropped because they did not complete the measure of dependency and self-criticism at baseline. Of the 149 patients, 91 (61%) were female. Mean age was 37.5 years ($SD = 12.2$). About half (49%) identified as White, 44% as Black, 5% as Latino/a, and 2% as Asian American. Patients were diagnosed with major depressive disorder according to the Structured Clinical Interviews for DSM-IV Axis I Disorders (First, Spitzer, Gibbon, & Williams, 1995) and had a score of 14 or above on the 17-item HRSD (Hamilton, 1967). Patients came from a major metropolitan area in the northeastern United States and were recruited via advertisements on transportation, in free newspapers, and in outpatient clinics. Exclusion criteria included suicide risk, psychosis, condition contraindicating to study medications, and functional illiteracy. This study was approved by the institutional review board; patients provided informed consent prior to screening. Additional details on patient characteristics can be found in Barber et al. (2012).

Measures

Depressive Experiences Questionnaire (DEQ; Blatt et al., 1976). The DEQ is a 66-item self-report measure of depressive experiences. On the basis of Blatt's (1974) theory on the two types of depression, the subscales Dependency and Self-Criticism were used along with the original scoring system developed by Blatt and colleagues (1976). Acceptable to good reliability and validity have been demonstrated for the DEQ (Blatt, 2004). In the current sample, Cronbach's alphas for baseline Dependency and Self-Criticism were .71 and .77, respectively. In addition, Rude and Burnham (1995) introduced two subfactors within the DEQ Dependency subscale, Connectedness and Neediness, to represent more- and less-adaptive forms of Dependency. Cronbach's alphas for Connectedness and Neediness in the current sample were .69 and .59, respectively, evidencing acceptable and near-acceptable internal consistency.

Hamilton Rating Scale of Depression (HRSD; Hamilton, 1967). The HRSD is an observer-rated measure of depression. The 17-item version was used, and the raters included six experienced master's- or doctoral-level diagnosticians. Symptoms assessed included depressed mood, suicidality, and psychomotor retardation. The interrater reliability, as assessed by the intraclass correlation (ICC) of ratings of six videotaped intake evaluations, ranged from .92 to .96.

Treatment and Control Conditions

Patients were randomized into one of three conditions: MED ($n = 50$), SET ($n = 49$), or PBO ($n = 50$). Patients were matched across conditions by sex, age, and baseline depression severity as assessed by the HRSD. Treatments were provided for 16 weeks in all conditions. In SET, patients met with one of four experienced psychotherapists twice weekly for the first month and then weekly. SET was provided according to Luborsky (1984) and Luborsky et al. (1995). SET therapists focus on patients' CCRT and work to help patients improve their interpersonal functioning. To this end, therapists use a variety of supportive and expressive techniques. *Supportive techniques* refers to interventions that foster the therapeutic relationship and help patients feel sufficiently secure to

explore their thoughts and feelings. *Expressive techniques* refers to interventions that help patients articulate their concerns and gain insight into their internal and interpersonal conflicts. In MED, patients received sertraline and were switched to venlafaxine if they failed to respond at Week 8. In PBO, patients received a placebo pill and were switched to another if they failed to respond at Week 8. Psychopharmacologists in MED and PBO also provided supportive clinical management (Fawcett, Epstein, Fiester, Elkin, & Autry, 1987). Specifically, formal therapeutic techniques (e.g., interpretation) were prohibited, whereas supportive interventions, such as warmth and acknowledgment of gains, were allowed.

Procedure

The DEQ was completed at intake before patients were randomized and at the end of treatment at Week 16. The HRSD was the primary measure of outcome administered by experienced diagnosticians at intake and at Weeks 2, 4, 6, 8, 12, 15, and 16.

Data Analysis

DEQ scores were normally distributed (skewness and kurtosis $z < 3.3$; Tabachnick & Fidell, 2007) at pretreatment, and parametric statistics were used. We calculated the intraclass correlation (ICC) to estimate the proportion of variance in DEQ scores due to the random effects of the provider (i.e., therapist for SET and psychopharmacologist for MED/PBO). The ICCs were not significant (Dependency: 0%; Self-Criticism: 3.7%, $p = .28$). As such, we did not control for nesting effects at the provider level. Repeated-measures analysis of variance (ANOVA) was conducted using IBM SPSS Statistics for Windows (Version 20.0) to examine the change in DEQ factors from before to after treatment across conditions.

To examine the ability of pretreatment Dependency and Self-Criticism to predict changes in HRSD scores over the course of treatment, we conducted a multilevel regression. Because ICC for HRSD was 0% at the provider level, we did not control for nesting effects at the provider level. Initial Dependency and Self-Criticism scores were entered as Level 2 predictors, and HRSD scores over the course of treatment were entered as a Level 1 outcome variable. Because the change in HRSD scores over time was nonlinear and the log transformation of time provided the best linear fit (Barber et al., 2012), we used the DEQ variables to predict the slope of HRSD on log time. In addition, initial HRSD scores were entered as a Level 2 covariate to control for baseline depression severity.

To examine whether changes in depression during treatment might be related to changes in dependency and self-criticism, we entered standardized residuals obtained from the regression of posttreatment on pretreatment scores (one residual for Dependency and one for Self-Criticism) as Level 2 predictors and entered HRSD scores over the course of treatment as a Level 1 outcome variable. As before, slope of HRSD on log of time was used to represent the change in depression over time, and initial HRSD was entered as a Level 2 covariate.

To examine the moderating effects of conditions, we compared both MED and PBO with SET, using SET as the reference condition (MED: MED = 1, PBO = 0; SET: MED = 0, PBO = 0;

PBO: MED = 0, PBO = 1). To examine interaction with race, we created a dummy variable (1 = White, 0 = racial minority) and added it as a Level 2 predictor. The same was done in a separate model to examine the interaction with sex (1 = male, 0 = female).

Mplus Version 7.11 (Muthén & Muthén, 1998–2012) was used in the analyses involving multilevel models. Full information maximum likelihood, which conducts analyses on the available data while considering the implied values of missing data on the basis of available data (Schlomer, Bauman, & Card, 2010), was used as the method of estimation.

Results

Preliminary Analyses

Eighty-four (56%) patients completed the planned treatment of 16 weeks. Of these, 71 (85%) patients completed the treatment and the posttreatment DEQ across the three conditions. Completers and noncompleters of treatment and DEQ measure did not differ in racial minority status, $\chi^2(1) = 0.16, p = .69$; sex, $\chi^2(1) = 0.21, p = .65$; condition, $\chi^2(2) = 0.09, p = .96$, or initial levels of dependency, $t(147) = -0.41, p = .68$; self-criticism, $t(147) = 0.31, p = .76$; or depression, $t(147) = -0.76, p = .45$. However, completers were older in age (completers $M = 40.3, SD = 12.2$ vs. noncompleters $M = 34.9, SD = 11.6$), $t(147) = 2.78, p = .006$.

Intake depression severity (as measured by the HRSD) was not significantly correlated to Dependency ($r = .06, p = .46$) or Self-Criticism ($r = .08, p = .31$). Dependency was also not correlated to Self-Criticism ($r = .08, p = .32$). Please see the online supplemental materials for the full correlation matrix.

Change in DEQ

Table 1 shows the means and standard deviations of DEQ scores for the initial sample and completers of treatment. Repeated measures ANOVA showed that Dependency decreased from pre- to posttreatment, $F(1, 70) = 4.75, p = .03, \eta_p^2 = .07$. There was no significant difference among conditions, $F(2, 68) = 0.85, p = .43, \eta_p^2 = .02$, but there was a moderately significant Time \times Condition

Table 1
Means and Standard Deviations for DEQ Dependency and Self-Criticism Subscales

Subscale	Initial sample before treatment ($N = 149$)		Completers of treatment ($n = 71$)			
	<i>M</i>	<i>SD</i>	Before treatment		After treatment	
			<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Dependency	-.66	.86	-.69	.87	-.85	.84
MED			-.42	.71	-.83	.75
SET			-.95	1.09	-.88	1.03
PBO			-.68	.70	-.84	.72
Self-criticism	1.09	.91	1.11	.89	.54	1.10
MED			.89	.89	.22	1.22
SET			1.34	1.01	.80	1.25
PBO			1.11	.89	.58	.75

Note. DEQ = Depressive Expressive Questionnaire; MED = medication with clinical management ($n = 23$); SET = supportive-expressive therapy ($n = 24$); PBO = placebo with clinical management ($n = 24$).

interaction, $F(2, 70) = 3.11, p = .05, \eta_p^2 = .08$. Post hoc comparisons showed that patients in MED had a decrease in Dependency, paired $t(22) = 2.98, p = .007, d = 0.56$, whereas no change in Dependency was found in patients in SET, paired $t(23) = -0.43, p = .68, d = 0.06$, or PBO, paired $t(23) = 1.50, p = .15, d = 0.23$.

To determine whether more- or less-adaptive forms of dependency, Connectedness and Neediness, might have driven the observed findings, we conducted additional repeated measures ANOVA. Change in Connectedness from pre- to posttreatment was not significant, $F(1, 68) = 2.59, p = .11, \eta_p^2 = .04$. There was no significant difference among conditions, $F(2, 68) = 0.40, p = .67, \eta_p^2 = .01$, and the Time \times Condition interaction was not significant, $F(2, 68) = 1.02, p = .37, \eta_p^2 = .03$. In contrast, Neediness decreased from pre- to posttreatment, $F(1, 68) = 26.93, p < .001, \eta_p^2 = .28$. There was no significant difference among conditions, $F(2, 68) = 0.018, p = .98, \eta_p^2 = .001$, but the Time \times Condition interaction was significant, $F(2, 68) = 5.59, p = .006, \eta_p^2 = .14$. Post hoc comparisons showed that patients in MED had a decrease in Neediness, paired $t(22) = 4.63, p < .001, d = 0.75$, whereas no change in Neediness was found in patients in SET, paired $t(23) = 1.76, p = .09, d = 0.19$, or PBO, paired $t(23) = 1.99, p = .06, d = 0.23$.

Self-Criticism decreased from pre- to posttreatment, $F(1, 68) = 34.9, p < .001, \eta_p^2 = .34$. There was no significant difference among conditions, $F(2, 68) = 1.92, p = .15, \eta_p^2 = .05$, and there was no significant Time \times Condition interaction $F(2, 68) = 0.20, p = .82, \eta_p^2 = .01$.

Initial DEQ and Change in Depressive Symptoms

Initial Dependency predicted the change in depression (slope) over time ($B = 0.49, p = .04$) after controlling for initial depression severity. In particular, patients with higher initial Dependency had less reduction of depressive symptoms in the course of treatment (i.e., a positive coefficient means that the higher the initial Dependency, the smaller the drop in depression symptoms over time). This relation was not moderated by condition (MED vs. SET: $B = -0.67, p = .22$; PBO vs. SET: $B = -0.16, p = .78$), sex ($B = 0.57, p = .26$), or race ($B = -0.31, p = .53$). Additional analyses showed that neither DEQ Connectedness ($B = 0.35, p = .16$) nor DEQ Neediness ($B = 0.22, p = .41$) at baseline predicted change in depression over time. Initial Self-Criticism did not predict change in depressive symptoms ($B = 0.006, p = .98$).

DEQ Change and Change in Depressive Symptoms

Change in Self-Criticism (as denoted by the standardized residual obtained by regressing posttreatment on pretreatment scores) was associated with the change in depressive symptoms ($B = 0.78, p = .01$) after controlling for initial levels of depression severity. In particular, greater reduction in Self-Criticism (i.e., lower than predicted posttreatment score) was related to greater reduction of depressive symptoms over the course of treatment. Interaction was not significant with sex ($B = 0.66, p = .22$) or with condition (MED vs. SET: $B = 0.84, p = .11$; PBO vs. SET: $B = 0.35, p = .76$) but was significant with race ($B = 1.20, p = .009$). Specifically, the relation between reduction in Self-Criticism and reduction in depressive symptoms was weaker for racial minority patients than for White patients (see Figure 1).

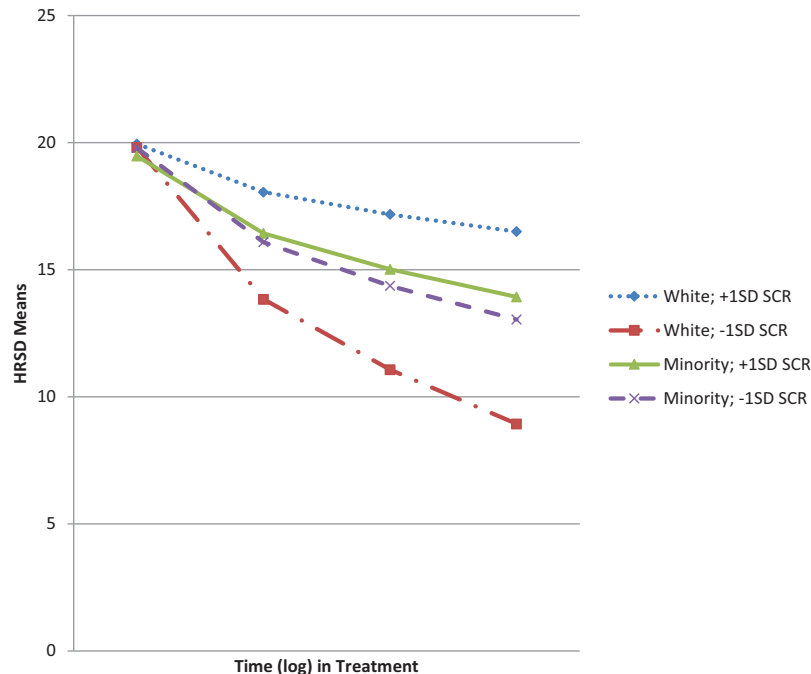


Figure 1. Standardized residuals for Self-Criticism and change in depression over time by race. HRSD = Hamilton Rating Scale for Depression; +1 *SD SCR* = 1 standard deviation above the predicted Self-Criticism score at posttreatment; -1 *SD SCR* = 1 standard deviation below the predicted Self-Criticism score at posttreatment. See the online article for the color version of this figure.

Change in Dependency was not significantly associated with the change in depressive symptoms ($B = -0.12, p = .61$) after controlling for initial levels of depression severity. There was also no significant interaction with sex ($B = -0.30, p = .54$), race ($B = -0.11, p = .82$), or condition (MED vs. SET: $B = 0.67, p = .18$; PBO vs. SET: $B = 0.12, p = .86$). Further analyses showed that greater reduction in Neediness, the less-adaptive form of dependency, was related to greater reduction in depressive symptoms ($B = 0.59, p = .04$). There was no significant interaction with sex ($B = -0.22, p = .62$), race ($B = 0.39, p = .45$) or condition (MED vs. SET: $B = 0.17, p = .67$; PBO vs. SET: $B = -1.14, p = .09$). Change in Connectedness, the more-adaptive form of dependency, was not associated with change in depression ($B = -0.10, p = .70$). There was no significant interaction with sex ($B = -0.73, p = .10$) or race ($B = 0.37, p = .42$), but there was significant interaction with condition (MED vs. SET: $B = 1.10, p = .004$; PBO vs. SET: $B = -0.47, p = .53$). Specifically, symptom reduction was related to increase in Connectedness among patients in SET but decrease in Connectedness in MED (see Figure 2). Please see the online supplemental materials for complete results of the multilevel models.

Discussion

We found significant decreases in dependency and self-criticism following different forms of treatment for depression. Self-criticism decreased similarly across conditions, whereas dependency decreased for patients receiving medication (MED) and remained unchanged for patients receiving supportive-expressive therapy (SET). Higher initial dependency predicted less improve-

ment in depressive symptoms across conditions. Greater reduction in self-criticism was associated with greater symptom reduction, but this effect was weaker for racial minorities compared to White patients. In addition, greater decrease in neediness, a less “healthy” form of dependency, was associated with greater symptom reduction across conditions. In contrast, greater increase in connectedness, a “healthier” form of dependency, was related to greater symptom reduction in SET but not MED.

The reduction in self-criticism over the course of treatment was similar across conditions. At first glance, this may appear somewhat surprising, because one might have expected that the psychotherapeutic work around how patients perceive themselves in their central relationships in SET would result in greater reductions in self-criticism compared to those receiving medication or placebo. However, Hawley, Ho, Zuroff, and Blatt (2006) reported that the interpersonal experience of a positive relationship with a therapist or psychiatrist facilitated reduction in perfectionism, a concept closely related to self-criticism, across psychotherapies as well as medication treatments. Although this specific mechanism behind the change in self-criticism was not tested in the present study, such explanation seems tenable, given that patients in the MED and PBO groups received supportive clinical management, where psychopharmacologists could still offer patients warmth, empathy, and hope, as long as theoretically driven psychotherapeutic interventions were withheld (Fawcett et al., 1987). In addition, supportive clinical management might have contributed in part to the observation that patients in PBO (the control condition) improved as much as did patients in MED and SET (the active treatments).

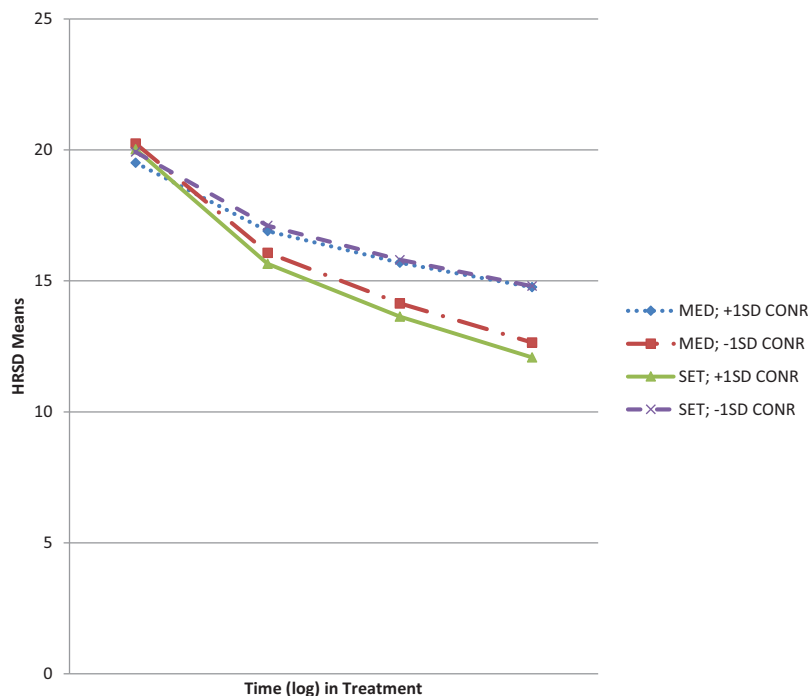


Figure 2. Standardized residuals for Connectedness and change in depressive symptoms by treatment. HRSD = Hamilton Rating Scale for Depression; MED = medication with clinical management; SET = supportive-expressive therapy; +1 SD CONR = 1 standard deviation above the predicted Connectedness score at posttreatment; -1 SD CONR = 1 standard deviation below the predicted Connectedness score at posttreatment. See the online article for the color version of this figure.

Dependency decreased in MED but remained unchanged in SET. This appears to contradict our expectation that SET works more specifically through interpersonally oriented mechanisms than does MED. One possible explanation is the timing of the completion of the second DEQ (i.e., at the end of treatment). Due to different intensities of interaction, leaving one's therapist might have been perceived as more threatening than leaving one's psychopharmacologist, which elevated SET patients' levels of dependency right at termination but not for those in MED. Indeed, levels of dependency had been shown to vary with mood states (Klein et al., 1988), suggesting that at least some aspects of dependency may be context-dependent (although symptom elevation was not observed near termination in SET). Another explanation relates to specific baseline characteristics of participants. Although initial dependency did not differ between completers and dropouts in the full sample, we noted a nonsignificant trend toward lower initial dependency among SET completers compared to dropouts. We therefore cannot exclude the possibility that regression to the mean or floor effects might have contributed in part to the lack of decrease in dependency observed among patients in SET.

Previous studies have revealed conflicting findings in the contribution of dependency and self-criticism to poor treatment response in depression (e.g., Blatt et al., 1995; Marshall et al., 2008). Our finding that initial dependency but not self-criticism predicted treatment response could be a sample-specific finding. Patients in this study had lower and somewhat more variable levels of dependency compared to those in other samples of patients with depression (e.g., Lehman et al., 1997; Luyten et al., 2007). In fact, level

of dependency in the present patient sample was comparable to that in a sample of healthy adults in the United States (Lehman et al., 1997). As Luyten et al. (2007) suggested, the magnitude of association between depression and dependency/self-criticism may differ by population. Our findings further show that patients with the same diagnosis (i.e., major depression) may differ on the DEQ, which inevitably impacts on its correlation with depressive symptoms. Perhaps dependency will emerge as a predictor of treatment response only when dependency is sufficiently low and variable in the sample.

Given that most studies on the DEQ have been conducted on White participants, the presence of over 50% racial minority in the current sample offered a unique opportunity to examine race as a moderator of the DEQ-depression relation. The weaker association between the change in self-criticism and the change in depressive symptoms found among racial minorities (primarily Black) may suggest that self-criticism plays different roles in the recovery from depression among groups. Although self-criticism appears to be a risk factor for depression across cultures (DiBarotolo & Rendón, 2012), the relative influence of psychological and systemic factors that contribute to the maintenance or recovery of depression may differ among groups. More research is therefore needed to examine the generalizability of treatment studies across cultural groups to reduce mental health disparity (Lau, Chang, & Okazaki, 2010).

Because we could not examine the temporal sequence of change, we cannot conclude whether change in dependency/self-criticism or change in symptoms occur first or simultaneously.

Nevertheless, the finding that symptom improvement was related to increase in connectedness in SET but not in MED points to the presence of potentially different pathways of change. Through examining interpersonal wishes, response of others, and the consequent response of self in SET, patients' depressive symptoms might have ameliorated as they grew in healthy reliance on others. Alternatively, SET patients might have experienced improvements in depression that allowed them to perceive relationships in a more-positive light and to invest more in connecting with others. In contrast, reduction in neediness, a less-adaptive form of dependency, was related to reduction in depression regardless of condition. This finding is consistent with the general finding on the inverse relation between neediness and depression in the literature (e.g., Campos, Mesquita, Besser, & Blatt, 2014; Rude & Burnham, 1995). The present study underscores the importance of examining different aspects of dependency over the course of treatment for depression. Further research is needed to investigate how psychotherapy facilitates healthy interdependence in patients with depression.

Limitations and Future Directions

The DEQ was completed at only two time points. Additional measurements over the course of treatment in future studies would allow for examining the temporal relation between mechanism change and symptom change and clarifying whether dependency and self-criticism are actual mechanisms of change. In addition, dependency and self-criticism were assessed using self-report. Incorporating measures from other perspectives (e.g., therapist, close friend) in future studies would help in examining changes in the observable aspects of these concepts in treatment.

Attrition and incompleteness of posttreatment DEQ resulted in a reduced sample size at Time 2, which may limit the generalizability of the current findings. However, our attrition rate at 44% falls close to the middle of a wide range of dropout rates reported in studies of psychological treatments (e.g., 0% to 74%; Swift & Greenberg, 2012). In addition, the present randomized controlled trial was conducted in an urban, inner-city area, where a number of external factors (e.g., poverty, inflexible work) might have interfered with treatment retention.

SET was compared to an active medication group and a placebo control group. It would be important to compare SET with other psychotherapies (e.g., CBT) to further test the idea that different therapies implicate dependency and self-criticism differently as mechanisms of change.

A dichotomous ethnic minority status variable was used. A more-diverse sample would allow for looking at nuances in the depression–dependency/self-criticism relation in the course of treatment across racial groups. In addition, we drew conclusions on the basis of the assumption of measure invariance across groups. Although some evidence of structural and factorial invariance exists for several measures of self-criticism and dependency (Luyten & Blatt, 2013), future studies should examine the specific psychometric properties of the DEQ for different groups, so that the effects of culture can be distinguished from potential measurement artifacts.

In conclusion, this brief report supports the importance of dependency and self-criticism for patients' depressive experiences and their symptomatic recovery. The findings about the moderat-

ing effects of treatment type and race need to be replicated in other samples, but they are promising in helping to further understand different pathways of change in depression.

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