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Predicting Improvement in Depression Across Therapies Using Indicators of Romantic Relationship Functioning: A Preliminary Investigation

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Abstract

Depression is a common presenting problem, often affected by couple interactions in unique ways. However, research in the area of romantic relationship functioning and depression often replicates previous research or consists of literature reviews, limiting the clinical relevancy. The purpose of this preliminary study is to expand the research on the effects of relational processes on depression treatment outcomes. We tested whether initiator tendency, attachment anxiety, attachment avoidance, and marital satisfaction predicted improvement in depression for women with Major Depressive Disorder enrolled in a depression treatment clinical trial ($n = 17$). Women completed treatments of either pharmacotherapy or combined Emotionally Focused Therapy for couples and pharmacotherapy. We found that higher baseline levels of partner initiator tendency resulted in less change in depression (worse outcomes), regardless of treatment type and that higher baseline levels of attachment avoidance predicted better depression outcomes in treatment. Marital satisfaction, however, was not linked to change in depression. Initiator tendency is discussed as a critical romantic relationship factor for depression treatment outcomes.

Keywords

Couples; Depression; Initiator Tendency; Outcome Research

Repetitive evidence demonstrates links between romantic relationship processes and depression (Denton, Golden, & Walsh, 2003). Recent research findings consistently link Major Depressive Disorder (MDD) with relationship discord (e.g., Whisman, 1999; Whisman, 2001; Whisman, 2007). Additionally, depression is linked with marital distress and destructive tactics used in coping with conflict (Coyne, Thompson, & Palmer, 2002), while relationship distress has been demonstrated as a predictor of future MDD episodes (Whisman & Bruce, 1999). In addition, discord within romantic relationships predicts poor

treatment process and outcomes for adults with MDD, regardless of whether the treatment for depression is medication, psychotherapy, or both (e.g., Addis & Jacobson, 1996; Denton et al., 2010). For adults who experience MDD but do not respond to treatment, increased levels of relationship discord is also experienced, as compared to those who experience benefits from treatment (Denton et al., 2010; Vittengl, Clark, & Jarrett, 2004; Whisman, 2001).

Research in the area of marital distress and depression has included few new developments of late, and often replicates previous methods or consists of literature reviews (Coyne & Benazon, 2001). The purpose of this preliminary study is to expand the research on the effects of relational processes on depression treatment outcomes; specifically, the effects of initiator tendency, attachment avoidance and anxiety, and marital satisfaction.

Relational Effects on Depression Treatment

Though much research has shown that the presence of marital discord affects response to MDD treatment (e.g., Addis & Jacobson, 1996; Atkins, Dimidjian, Bedics, & Christensen, 2009; Denton et al., 2010), fewer studies have examined distinct relationship processes that are associated with poorer treatment outcomes. For example, perceived criticism and expressed emotion have been shown to be relationship processes that predict relapse to treatment (Hooley & Teasdale, 1989). In addition, Kung (2000) found that marital therapies for depression that focus on relationship processes of marital support, stress, role expectations, and interaction dynamics tend to show better outcomes than those therapies that do not focus on these aspects. Though these studies have shown that distinct relationship processes are associated with depression and MDD treatment, other processes may play a role as well; in particular, initiator tendency and attachment.

Initiator tendency

Initiator tendency has been conceptualized as a “proclivity to initiate (or avoid initiating) discussions of relationship problems with one’s partner in intimate relationships” (Denton & Burleson, 2007, p.245). It is hypothesized that this tendency becomes a stable part of a couple’s relationship over time, where one partner may become more likely to initiate conversations than the other. This pattern is said to contribute to the stabilization of the relationship (Denton & Burleson, 2006). Initiator tendency, and the related concept of pursue-withdraw communication, is associated with both relationship distress and depression (Denton & Burleson, 2006; Uebelacker, Courtnage, & Whisman, 2003).

Attachment

Prior research demonstrates a connection between attachment styles and depression, such that adults with fearful or preoccupied attachment styles are more vulnerable to developing depression (Carnelley, Pietromonaco, & Jaffe, 1994). In addition, Roberts, Gotlib, and Kassel (1996) demonstrated a link between insecure attachment and depressive symptoms, while Zuroff and Fitzpatrick (1995) demonstrated an association between preoccupied and fearful attachment styles and depressive behaviors, including self-criticism and sociotropy.

Hypotheses

Our goal for this preliminary study is to extend research on the effects of relational processes on treatment outcomes for depression. Our first hypothesis is that higher scores of depressed individuals' self-rated initiator tendency (indicating they are more likely to initiate) at baseline will predict worse outcomes in treatment for depression at follow-up (i.e., depressed individuals who perceive themselves to be initiators will experience less improvement in depression over the course of treatment). Hypothesis 2 is that higher scores of depressed individuals' perceptions of their partners' initiator tendency (indicating they perceive their partners to be likely to initiate) will predict worse outcomes in treatment for depression at follow-up (i.e., depressed individuals who perceive their partners as initiators will experience less change in depression over the course of treatment).

Second, we hypothesized that attachment security may act as a buffer to the negative interactions. In other words, a depressed individual would need a secure attachment style to feel safer in their relationship in general. Therefore, our third hypothesis is that greater attachment anxiety, reported at baseline, will lead to worse outcomes in treatment for depression (i.e., less improvement in depression over the course of treatment). Hypothesis 4 is that greater attachment avoidance, reported at baseline, will lead to worse outcomes in treatment for depression (i.e., less improvement in depression over the course of treatment).

Lastly, marital satisfaction is significantly affected by depression. Coyne (1976) posits that interactions between depressed individuals and their close relationship partners create a downward cycle of negativity. Therefore, greater marital satisfaction should mitigate this downward cycle and potentially guard against worse relationship outcomes. Our fifth hypothesis is that greater marital satisfaction reported by the depressed partner at baseline should predict better outcomes in treatment for depression (i.e., greater change in depression over the course of treatment).

Method

Participants and Procedure

Participants included females with comorbid Major Depressive Disorder (MDD) and dyadic discord and their male partners ($n = 24$). These participants were part of a randomized clinical trial comparing pharmacotherapy (antidepressant medication) plus Emotionally Focused Therapy for couples (EFT; Johnson, 2004) to pharmacotherapy alone in the treatment of MDD (Denton, Wittenborn, & Golden, 2012). To be included in the study, English-speaking female partners met criteria for MDD as defined in the Diagnostic and Statistical Manual for Mental Disorders, 4th edition (*DSM-IV*; American Psychiatric Association, 1994). In addition, participants were included if they scored 24 or higher on the Inventory of Depressive Symptomatology – Clinician Rated Version (IDS-C₃₀; Rush, Gullion, Basco, Jarrett, & Trivedi, 1996) and a 28 or less on the Quality of Marriage Index (QMI; Norton, 1983). For a detailed examination of the methods, see Denton et al. (2012).

Because our interest was to determine predictors of change in depression over time, across therapies, we included only female participants who engaged in and completed treatment (n

= 17). This sample excludes women who dropped out of the study post-randomization; several women dropped out prior to the first clinical visit ($n = 3$) and the remainder dropped out between 9 days and 3 months following treatment initiation ($n = 4$). Of the women who completed treatment, 10 were randomized to medication management and 7 were randomized to medication management plus EFT (Denton et al., 2012).

Measures

Initiator Style Questionnaire—Initiator tendency was measured using the self-report Initiator Style Questionnaire (ISQ; Denton & Burleson, 2007). Initiator tendency has been defined as "...the propensity to initiate relationship-focused discussions with one's partner or avoid such discussions" (Denton & Burleson, 2007, p. 245). The ISQ contains 2 parallel 10-item measures; one asks about the individual's initiator tendency (ISQ-Self), and the other asks about the individual's perception of his or her partner's initiator tendency (ISQ-Partner). The ISQ subscales demonstrate good internal consistency ($\alpha=.91$ for ISQ-Self, $\alpha=.94$ for ISQ-Partner), as well as adequate construct, discriminant, and convergent validity (Denton & Burleson, 2007). The baseline ISQ-Self and ISQ-Partner scores are used.

Experiences in Close Relationships—Relationship Structures Questionnaire—

To assess attachment patterns between the female patients and their romantic partners, we used the baseline self-report, 10-item Experiences in Close Relationships—Relationship Structures questionnaire (ECR-RS; Fraley, Heffernan, Vicary, & Brumbaugh, 2011). The ECR-RS assesses both anxious and avoidant attachment. The Anxiety subscale demonstrates good reliability ($\alpha=.83$), as does the Avoidance subscale ($\alpha=.81$) when used with romantic partners (Fraley et al., 2011).

Quality of Marriage Index—Marital satisfaction was assessed using the QMI (Norton, 1983). The QMI is a six item, self-report inventory. The first five items are rated on a 7-point Likert-scale while the last item is rated on a 10-point Likert scale. Items are summed to produce a score ranging from 6 to 45; higher scores are indicative of greater relationship quality. The measure has high internal consistency (e.g., $\alpha = .96$ for husbands and wives, Karney, Bradbury, Fincham, & Sullivan, 1994) and is recommended as a global assessment of marital satisfaction (Bradbury, Fincham, & Beach, 2000).

Inventory of Depressive Symptomatology – Clinician Rated Version—

Depressive symptoms and severity, our dependent variable, were assessed using the 30-item IDS-C₃₀ (Rush et al., 1996). The measure has good internal consistency ($\alpha=.90$) and is widely used in clinical studies. Scores on the IDS-C₃₀ have good correspondence to scores on other common measures of depression (Vittengl, Clark, Kraft, & Jarrett, 2005). The IDS-C₃₀ was administered for all participants at baseline and following the completion of treatment.

Analyses

Following recommendations from Twisk & Proper (2004), we used multiple definitions of change in our analyses. The purpose of using multiple definitions of change is to ensure that our methods do not influence the results of this study and to ensure similar findings despite

the analyses chosen. Previous research has suggested using several definitions of change to understand whether methodological decisions affect findings, especially when using data from randomized trials (Nelson, Shankman, Olino, & Klein, 2011; Twisk & Proper, 2004). Therefore, we used multiple versions of our outcome variable to evaluate the effects of the depression interventions as a whole. These included (1) posttest depression scores, (2) absolute change in depression, and (3) residualized change using unstandardized residuals.

Absolute change

As we were interested in the amount of change in depressive severity over time and across therapies, we calculated a pre- to posttest change score. Despite the prevailing belief that a difference score is unreliable and deficient, Rogosa (1995) explains that a change score calculated from two observations is a clear estimate of the amount of true change regardless of the growth curve of change. Additionally, difference scores are reliable in situations in which the scores at time 1 and time 2 are not strongly, significantly correlated and the two scores have differing variances (Rogosa, 1995). For our data, baseline IDS-C₃₀ scores and posttest IDS-C₃₀ scores were nonsignificantly correlated using a two-tailed Pearson correlation ($r = .37, p = .15$). The variances of the two were drastically different: the variance of the baseline IDS-C₃₀ scores was smaller ($\sigma^2 = 97.32$) than posttest IDS-C₃₀ scores ($\sigma^2 = 209.64$).

Residualized change

We used two steps in calculating residualized change. First, we performed a linear regression analysis of the posttest IDS-C₃₀ score (as the outcome variable) on the baseline IDS-C₃₀ score (as the comparison measurement) (e.g., Nelson et al., 2011). Second, the unstandardized difference between the observed value at the posttest and the predicted value by the regression analysis in the first step was used as an outcome variable in our analyses to determine predictors of change in depression. A positive number indicates that worse depression is occurring at posttest than would be predicted by baseline depression. Residualized change is sometimes preferred over absolute change because it lessens the influence of baseline measurements (Cohen, Cohen, West, & Aiken, 2003).

Statistical analysis

Adhering to methods used to test predictors of outcomes in clinical trials (e.g., Wetmore, Liu, Krebill, Menard, & Quarles, 2010), we first conducted a descriptive analysis of the treatment groups' baseline demographic, predictor, and outcome variables. Differences in distributions of ethnicity between the two treatment groups were evaluated using χ^2 tests. Differences in participants' age, baseline IDS-C₃₀, QMI, ISQ-Self, ISQ-Partner, and ECR-RS Avoidance and Anxiety subscale scores were evaluated using ANOVA tests. Additionally, we used an ANOVA to test whether treatment group affected absolute change in depression.

Also similar to previous clinical trials (e.g., Wetmore et al., 2010), we then entered our predictor variables (baseline scores of ISQ-Self, ISQ-Partner, QMI, Attachment Avoidance, and Attachment Anxiety), along with participant age and baseline IDS-C₃₀ scores (as controls), into a preliminary stepwise regression analysis. The criterion for entry into the

model was set to enter at $p = 0.05$ and removed at $p = 0.10$. We conducted stepwise regressions for each of our three outcome variables. Factors identified as significant in predicting changes in depression were entered into a final multiple regression model, controlling for baseline depression (IDS-C₃₀ scores); this was only done when multiple factors were identified as significant in the stepwise regression analyses.

Results

For those women who completed treatment ($n = 17$), whether medication alone ($n = 10$) or the combination treatment of EFT and medication ($n = 7$), all but one experienced an improvement in depressive symptoms ($n = 16$). There was not a significant difference between treatment groups in self-reported ethnicity ($\chi^2 = .17, p = .92$). There were also no significant differences between treatment groups in age ($F = .40, p = .54$) or any of the baseline scale scores: IDS-C₃₀ ($F = .17, p = .69$), QMI ($F = .01, p = .92$), ISQ-Self ($F = 3.11, p = .10$), ISQ-Partner ($F = .07, p = .80$), Attachment Avoidance ($F = 1.06, p = .32$) or Attachment Anxiety ($F = .02, p = .89$).

Treatment group did not affect posttest depression scores or absolute change in depression for women who completed treatment. Participants in the medication only treatment group did not report significantly higher posttest depression scores than participants in the combination treatment group (17.10 vs. 10.86), using an ANOVA test ($F = .75, p = .40$). In addition, participants in the combination treatment group did not report significantly more change in depression than participants in the medication only treatment group (27.71 vs. 23.50), using an ANOVA test ($F = .35, p = .56$).

The first stepwise linear regression model identified one significant predictor of posttest depression scores: baseline ISQ-Partner scores. The adjusted R^2 for the model is .43, with $F = 12.87, p = .003$. The standardized β for ISQ-Partner is .65. These results indicate that a higher ISQ-Partner score at baseline results in higher posttest depression scores. In other words, women who perceived their partners as more of an initiator self-reported worse depression following treatment for depression, regardless of treatment group.

The second stepwise linear regression model identified two significant predictors of absolute change in depression: baseline ISQ-Partner and Attachment Avoidance scores. The adjusted R^2 for the model with both significant predictors entered is .51, with $F = 9.35, p = .003$. A multiple linear regression model was then conducted with baseline ISQ-Partner and Attachment Avoidance scores as independent variables, controlling for baseline depression. The adjusted R^2 for the model is .56, with $F = 7.77, p = .003$. Baseline IDS-C₃₀ scores were not a significant predictor; the standardized β for ISQ-Partner is -.64 and the standardized β for Attachment Avoidance is .34. These results indicate that a higher ISQ-Partner score is associated with less absolute change in depression from pre- to posttest (during the course of treatment) regardless of treatment type. Additionally, the results indicate that greater attachment avoidance significantly predicts more absolute change in depression during the course of treatment, regardless of treatment type. In other words, the more a female client perceived their partner to be an initiator, the less improvement she experienced in her

depressive symptoms; the more avoidant a female client self-reported herself to be, the more improvement she experienced in her depressive symptoms.

The third stepwise linear regression model identified one significant predictor of the unstandardized residual change in depression: baseline ISQ-Partner scores. The adjusted R^2 for the model is .45; $F = 13.84$, $p = .002$. The standardized β for ISQ-Partner is .69. These results indicate that a greater ISQ-Partner score at baseline results in a greater difference between change in depression that is predicted by baseline depression and actual, observed change in depression. Therefore, women who perceived their partners as more of an initiator experienced less change in depression than would be expected.

Discussion

Overall, the findings from this study indicate that initiator tendency may have a large effect on the outcomes of treatment for Major Depressive Disorder. The adjusted R^2 for the first and third analyses, which found ISQ-Partner as the sole significant predictor of treatment results indicate that, on average, this variable accounts for 44% of the variance in depression outcomes. Even more importantly, these findings were for women with MDD who engaged in treatment for depression, *regardless* of what type of treatment they completed. Because our findings are irrespective of treatment type, they indicate that interpersonal interactions are critical even for female clients with MDD who are not engaged in couples therapy.

Interestingly, however, we found only significance for the clients' perceptions of their partners' initiator tendency. This means that, for women who engaged in treatment for depression, the most significant predictor of how much they improved over the course of therapy was how much they perceived their romantic partner to be an initiator. In accordance with our second hypothesis, the more our female participants perceived their spouse to be an initiator of discussions of relationship problems, the less they benefited from treatment. This fits with what we know about partner involvement: individuals with depression experience worsened symptoms due to overinvolvement in close relationships (Vaughn & Leff, 1976) and that the actual receipt of support is unhelpful in close relationships and leads to feelings of inadequacy for the intended recipient (Rafaeli & Gleason, 2009). This is especially true during periods of stress, when receiving emotional support from a romantic partner is associated with increased depression and anxiety (Bolger, Zuckerman, & Kessler, 2000).

We did not find support for our first hypothesis: depressed individuals' perception of their own initiator tendency was not a significant predictor of treatment outcomes. This may be reflective of Coyne's (1976) theory of depression, which outlines that the negative, downward cycle of depression begins not necessarily when the depressed person initiates communication, but when their significant others, becoming irritated and annoyed, respond in ways that seem either disingenuous or manipulative. In addition, we did not find support for our third hypothesis: greater attachment anxiety was not a significant predictor of treatment outcomes. We also found evidence contradicting our fourth hypothesis: greater attachment avoidance resulted in more improvement of depression following treatment, regardless of treatment type. This was only true when we tested absolute change in

depression as our outcome variable. This may be related to our lack of support for hypothesis 1 and that, the less of an initiator and the more avoidant participants were, the less likely they were to engage in negative cycle of interactions with their partner. If that is the case, it may explain why more avoidant women experienced significantly better treatment outcomes, in contrast to our hypothesis. Conclusions drawn from this study regarding the influence of attachment on treatment for depression should be made cautiously, however. Our analyses did not yield consistent results regarding attachment as a predictor of change.

Lastly, we found no support for our hypothesis that marital satisfaction may act as a buffer for the negative interactional cycle related to depressed individuals and their partners. Interestingly, the effects of significant others' initiator tendencies may be irrespective of how satisfied a depressed individual reports themselves to be. Mental health providers working with women who present with MDD should likely evaluate beyond simple measures of marital satisfaction and include assessments of communication patterns in the individual's romantic relationship to understand how they may best benefit from treatment.

Another significant result of this study is that the type of outcome variable used for our analyses had effects on our findings. Results for regressions using posttest depression scores and unstandardized residuals of change in depression yielded the same significant predictor with similar adjusted R^2 . However, there were slightly differing results for analyses using absolute change as an outcome variable; this may lend support to previous recommendations that different definitions of change may affect evaluations of intervention effects in clinical trials (Twisk & Proper, 2004).

Limitations & Future Research

Despite interesting findings regarding the effects of initiator tendency and attachment on treatment outcomes for depression, there were several limitations of the present study. The first limitation regards the sample size. With the small sample size, it may be that this research is underpowered, increasing the likelihood of committing a Type II error. Therefore, it may be that when the same analysis is conducted with a larger sample, the associations found here may not exist or may exist in different directions. Although we have framed this as a preliminary investigation, future research is necessary to confirm the present findings with a larger, representative sample of couples.

Additionally, in our sample, all male partners agreed they would be in couples therapy if their depressed wives were randomized to this condition. Therefore, women whose partners were perhaps more disengaged were essentially eliminated from the study. This may have biased our results in that these partners may naturally have a higher initiator tendency. Essentially, our sample may have included depressed women in relationships with high initiator men who may be overfunctioning or overinvolved in the relationship on behalf of their depressed wives. Future studies should examine this possibility and perhaps compare couples excluded from participating based on partners' lack of desire to assist in treatment with couples in which one partner engages in therapy for the other's depression. Alternatively, it may be suggested that clinical trials investigate participant/partner preference for treatment type and how this affects outcomes. Prior research including

couples in which both partners agree to engage in treatment similarly suggests that future research investigating couples intervention outcomes for depression need to take into account participant preferences and an understanding of which couples would benefit most from specific interventions (Swanson, Chen, Graham, Wojnar, & Petras, 2009).

A second limitation relating to our sample includes that participants were included in the study who scored a 28 or lower on the QMI; this marital satisfaction cutoff means that all women self-reported relationship distress at baseline. This limits the variance we were able to observe and how this variable statistically affected treatment outcomes. Therefore, although we hypothesized marital satisfaction may act as a buffer for negative interactions in these participants' romantic relationships, our sample consisted of entirely dissatisfied women. We may not have been able to adequately test this hypothesis.

A third limitation of the present study includes that the associations we found between our predictor variables and depression outcomes may be curvilinear over time. Because we used only pre- and posttest measures of depression, we were only able to estimate a true, linear change score; we were not able to approximate whether the change or relationships among variables may have been curvilinear. Future studies investigating the effects of relationship processes on depression treatment outcomes need to include multiple assessments across treatment to assess fluctuations in change relating to baseline relationship characteristics. Despite this limitation, our use of a two-timepoint estimate of change is supported in the literature (Rogosa, 1995); our use of multiple variations of our dependent variable is a strength of this study and enhances the likelihood that our methods did not affect our ability to find significant predictions.

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