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To cite this article: Tohar Dolev & Sigal Zilcha-Mano (2019) The role of the therapeutic relationship in the association between interpersonal behaviors and outcome: Comparison of two competing models, *Psychotherapy Research*, 29:5, 553-564, DOI: [10.1080/10503307.2017.1422215](https://doi.org/10.1080/10503307.2017.1422215)

To link to this article: <https://doi.org/10.1080/10503307.2017.1422215>



Published online: 08 Jan 2018.



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EMPIRICAL PAPER

The role of the therapeutic relationship in the association between interpersonal behaviors and outcome: Comparison of two competing models

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(Received 10 July 2017; revised 14 December 2017; accepted 17 December 2017)

Abstract

Objective: The patient–therapist relationship may be the mechanism behind the effect of pretreatment interpersonal patient behaviors on the outcome of psychotherapy for depression, or the factor determining for whom interpersonal behaviors affect outcome. We seek to establish which of these two alternatives receives empirical support. **Method:** We conducted a secondary analysis of the findings from the Treatment for Depression Collaborative Research Program to examine two alternative models. First, a deterministic model, in which clients’ ability to create satisfactory interpersonal relationships affects their ability to build a strong therapeutic relationship, which in turn affects outcome; and second, a compensation model, in which patients in a treatment focusing on interpersonal mechanisms of change and not in placebo, who compensate for their maladaptive pretreatment interpersonal behaviors by building a strong therapeutic relationship, benefit from treatment more than do patients who cannot build such relationship. **Results:** The compensation, rather than the deterministic model, was supported, suggesting that the interpersonal behavior–outcome association is significantly moderated by the therapeutic relationship in interpersonal psychotherapy and not in placebo. **Conclusions:** Findings support an optimistic view whereby patients seeking treatment for maladaptive interpersonal behaviors can achieve good outcomes if work on interpersonal relationships is conducted in the presence of a strong therapeutic relationship.

Keywords: therapeutic relationship; interpersonal behaviors; TDCRP; corrective experience

Clinical or methodological significance of this article: This study highlights an important optimistic view in which patients with maladaptive interpersonal style who can form a strong therapeutic relationship can benefit from treatment focusing on interpersonal relationships.

Theoretical conceptualizations and accumulated empirical work attest to the important role of maladaptive interpersonal behaviors in the source and persistence of depression (Luborsky & Mark, 1991). Patients with major depressive disorder (MDD) tend to form significantly fewer positive interpersonal interactions and more negative ones (Zlotnick, Kohn, Keitner, & Della Grotta, 2000). They also tend to show less interpersonal involvement (less interest in interpersonal interactions) and to seek fewer opportunities to form interpersonal interactions (Lorr & DeJong, 1986), which in turn results in lower probability of forming satisfying relationships with others (Gibbons, Crits-Christoph, Levinson, & Barber, 2003).

The maladaptive interpersonal behaviors that may characterize patients with MDD outside the therapy room also have the potential to deterministically affect their ability to interact adaptively with the therapist in the therapy room, and to form a helping relationship with the therapist, affecting in turn the process and the outcome of treatment. Patients who are less capable of forming satisfying relationships outside of treatment may be less inclined and able to form a strong relationship with the therapist, complicating the process of treatment, and are likely to have poorer treatment outcomes (Holtforth et al., 2014; Mikulinser, Shaver, & Berant, 2013). Nevertheless, one way in which patients with maladaptive interpersonal behaviors can benefit from treatment

is to develop an adaptive relationship with their therapist, perceiving it as a corrective experience, and generalizing from the relationship with the therapist to the interpersonal relationships outside of therapy (Safran & Muran, 2000; Shedler, 2012). Patients can also benefit from treatment if maladaptive interpersonal patterns outside of treatment result in intensive work aimed at improving interpersonal relationships outside of treatment, as in the case of interpersonal treatment, which in turn manifest in a strong adaptive relationship with the therapist (Klerman, Weissman, Rounsaville, & Chevron, 1984). Such a strong therapeutic relationship may then enable further effective work in therapy on modifying maladaptive interpersonal patterns, which can facilitate therapeutic change. In both cases, the relationship with the therapist is expected to play an important role in breaking a deterministic vicious cycle between maladaptive interpersonal behaviors, maladaptive interactions with the therapist, and treatment outcome.

Although theoretically the interpersonal behaviors of the patient can be expected to play a role in treatment outcome, the findings regarding the association between the two are mixed. Several studies have found an association between pretreatment interpersonal behaviors and symptom change in psychotherapy for depression (Huber, Henrich, & Klug, 2007; Renner et al., 2012; Vittengl, Clark, & Jarrett, 2003). In these studies, the maladaptive pretreatment interpersonal style of the patient was found to be related to poorer outcome of treatment for depression. For example, in a naturalistic study with patients whose main diagnosis was depression, the pretreatment interpersonal distress and rigidity of the interpersonal problems of the patient were associated with poor outcome at the seventh session and at termination (Ruiz et al., 2004). Similar results were found in another study in which patients' interpersonal functioning, as assessed during a clinical interview, was found to be significantly related to poor outcome in short-term, psychoanalytically oriented individual psychotherapy (Piper, Decarufel, & Szkrumelack, 1985). These findings were replicated in different types of therapies, including brief psychodynamic therapy (Horowitz, Rosenberg, Baer, Ureño, & Villaseñor, 1988) and cognitive therapy (Vittengl et al., 2003). Yet, the literature reports mixed findings, and other studies failed to find a significant association between pretreatment interpersonal behaviors and outcome. For example, in a longitudinal study with predominant affective disorders, which assessed several types of psychotherapy (psychodynamic psychotherapy, cognitive behavioral therapy, and analytical psychotherapy), the pretreatment interpersonal style of the patients was

not associated with the rate of symptom change (Puschner, Kraft, & Bauer, 2004). In another study, in which patients received individual CBT for depression or anxiety, pretreatment interpersonal style was again unrelated to outcome (McEvoy, Burgess, & Nathan, 2013).

The mixed results of previous studies regarding the association between interpersonal behaviors and outcome are surprising, given the large amount of influential theoretical literature arguing for the existence of such an association (e.g., Bowlby, 1988). A close review of the theoretical literature, however, reveals two competing frameworks for understanding the association between interpersonal behaviors and outcome, and the potential role of the therapeutic relationship with the therapists in this association. Some theories claim that the relationship between patient and therapist may mirror the pretreatment interpersonal behaviors of the patient, with a similar internal working model serving to understand both (Bowlby, 1988). Others, however, argue that this relationship can be a space for a corrective experience to occur (Castonguay, Constantino, & Holtforth, 2006; Hill et al., 2012).

Based on the literature, two models can be proposed in theory. One is a deterministic model, which focuses on interpersonal behavior as a deterministic factor of the therapeutic relationship, which in turn affect outcome. The other is a compensation model, which posits that in a treatment focusing on interpersonal mechanisms of change, patients compensate for their maladaptive pretreatment interpersonal behaviors by building a strong therapeutic relationship, which in turn leads to better treatment outcome. By contrast, patients who engage in maladaptive interpersonal behavior but cannot compensate for it in their relationship with the therapist, benefit less from treatment. Understanding the role of the therapeutic relationship in the association between interpersonal behaviors and outcome may help explain the mixed results found in studies that examined this association.

The Deterministic Model of the Association Between Interpersonal Behaviors, the Therapeutic Relationship, and Outcome

One model that may explain the role of the therapeutic relationship in the association between interpersonal behaviors and outcome suggests that the patient's interpersonal behaviors affect the relationship with the therapist, which in turn affects treatment outcome. According to this perspective, the ability to form adaptive interpersonal relationships with significant others is theoretically expected to be carried over from the patient's interpersonal

experiences in childhood (e.g., attachment working models, internal representations of self and others), and repetitively applied later in life in different relationships, including in the relationship with the therapist during treatment (Bowlby, 1988). Therefore, the interpersonal behaviors brought to the therapy room by the patient may preclude the formation of a new adaptive relationship with the therapist. Several empirical studies provide support for this theoretical assumption. For example, some patients mentioned parallels between the way they behaved in their pretreatment interpersonal relationships with significant others and in their relationship with the therapist, showing similar types of difficulties in both (Coutinho, Ribeiro, Hill, & Safran, 2011). Other studies also attest to the commonalities between the patients' patterns of relationship with significant others and their patterns of relationship with the therapists (Crits-Christoph, Demorest, & Connolly, 1990; Zilcha-Mano, McCarthy, Dinger, & Barber, 2014). The patient's pretreatment interpersonal behaviors were found to correlate with the therapeutic relationship between patient and therapist (Paivio & Bahr, 1998). In previous studies, it has been shown that more maladaptive interpersonal behaviors of the patient correlate with a poorer therapeutic relationship (Gibbons et al., 2003; Muran, Segal, Samstag, & Crawford, 1994; Puschner, Bauer, Horowitz, & Kordy, 2005).

Although there is evidence to suggest that the interpersonal behaviors of the patient affect the therapeutic relationship and that the therapeutic relationship predicts outcome, few studies have systematically examined this deterministic model, describing how this happens. One study that did explore this issue found that in multiple sclerosis patients who received treatment for depression, interpersonal style predicted outcome and the therapeutic relationship, and that the therapeutic relationship predicted outcome. When controlling for the therapeutic relationship, the correlation between outcome and interpersonal style was no longer significant, supporting a full mediation model (Howard, Turner, Olkin, & Mohr, 2006). In another study, severe pretreatment interpersonal problems predicted a weaker therapeutic relationship and higher symptom levels throughout treatment, again providing some support for the deterministic model (Renner et al., 2012). Other studies, however, that examined this deterministic model failed to find support for it, because the indirect effect of pretreatment interpersonal problems on symptom levels through the early therapeutic relationship was not significant (McEvoy et al., 2013; Paivio & Bahr, 1998).

In sum, based on the theoretical literature, it is possible to make a case for the deterministic model,

in which patients with maladaptive interpersonal behaviors form a poor therapeutic relationship with the therapist, and therefore are less likely to benefit from treatment. But such a model received little empirical attention to date, and studies show mixed results.

The Compensation Model Between Interpersonal Behaviors, the Therapeutic Relationship, and Outcome

The patients' interpersonal behaviors have the potential to negatively affect interpersonal interactions with the therapist. There are situations, however, when this may not be the case, and another process may be better able to capture the association between interpersonal behaviors and outcome. The compensation model focuses on types of treatments in which the therapeutic relationship becomes a space where a corrective experience with the therapist can take place, making it possible for patients to form a strong therapeutic relationship with the therapist even if they were not able to form such a relationship outside of treatment (Castonguay et al., 2006). Thus, patients with a maladaptive interpersonal behavior may still benefit from treatment through the formation of a strong therapeutic relationship with the therapist. Theoretically, such compensation is expected to be manifest mainly in treatments that focus on the creation of satisfying adaptive interpersonal relationships that may facilitate a therapeutic process. The creation of a satisfying adaptive relationship may be the result of work focusing explicitly on improving the therapeutic relationship with the therapist, such as in alliance-focused treatment (AFT, Safran & Muran, 2000), or transference-focused work in psychodynamic treatment (TFP, Clarkin, Foelsch, & Levy, 2001; Clarkin, Yeomans, & Kernberg, 2006); or of work focusing on interpersonal relationships outside the therapy room, which develops the skills needed to form an adequate relationship also with the therapist, such as in interpersonal psychotherapy (IPT, Klerman et al., 1984). In all cases, the creation of an adaptive relationship with the therapist results in better outcomes, either directly or by creating the environment needed for effective use of therapeutic techniques (Horvath, Del Re, Flückiger, & Symonds, 2011; Klerman et al., 1984).

Although a theoretical case can be made for the proposed compensation model, to the best of our knowledge no study has directly tested it to date. However, several studies focusing on various aspects of this model produced promising results. In a study treating patients with higher levels of maladaptive pretreatment interpersonal behaviors using

IPT, a stronger therapeutic relationship with the therapist and higher levels of improvement in treatment were found to be correlated with more corrective relational experiences in treatment (Huang, Hill, Strauss, Heyman, & Hussain, 2015). Compensation for the lack of adaptive relationships with others through a strong therapeutic relationship with the therapist is theoretically expected to result in symptom reduction (Book, 1998; Shedler, 2012; Zilcha-Mano, 2017). Yet, no study to date has directly examined the compensation model according to which patients with maladaptive interpersonal behaviors who form a strong therapeutic relationship with the therapist are able to benefit more from treatment than are patients who were not able to form a strong therapeutic relationship. Therefore, with limited empirical support, a compensation model may be proposed based on the theoretical literature and available empirical studies.

The Present Study

The present study tests two competing models in IPT vs. placebo based on theoretical conceptualizations and on the empirical literature. No study to date has compared the two proposed models based on the same dataset. The competing models are:

- (1) A deterministic model, suggesting that patients' interpersonal behaviors affect their ability to build a strong therapeutic relationship with their therapist, which in turn is related to their ability to benefit from treatment in IPT, but not in a control, placebo condition (Figure 1).
- (2) A compensation model, suggesting that patients compensate for their maladaptive interpersonal behaviors by building a strong therapeutic relationship, which in turn

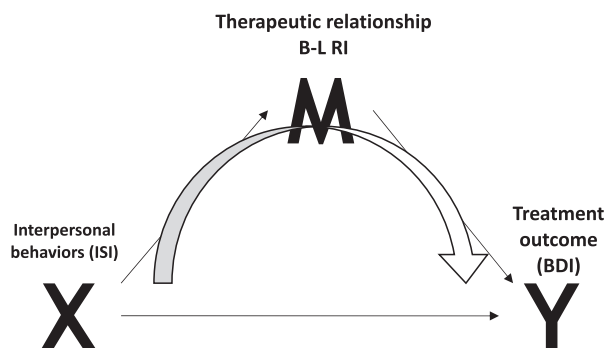


Figure 1. Mediation model. Along the first path, interpersonal behaviors (X) can directly affect treatment outcome (Y). Interpersonal behaviors (X) can also affect treatment outcome (Y) indirectly, through the therapeutic relationship (M).

affects their ability to benefit from treatment in IPT, but not in a control, placebo condition (Figure 2).

To test the two alternative models against each other, the present study conducted a secondary analysis of the Treatment for Depression Collaborative Research Program (TDCRP). The TDCRP, sponsored by the National Institute of Mental Health (NIMH), was a multisite program implemented between 1982 and 1984, aimed at investigating the effectiveness of different forms of psychotherapy for various patient populations diagnosed with MDD (Elkin, Parloff, Hadley, & Autry, 1985). The study was the first large-scale multisite collaborative research program in psychotherapy research. IPT, cognitive behavior therapy (CBT), and pharmacotherapy with imipramine hydrochloride and placebo were compared using an identical research protocol across three sites in the US. In the present study, we choose IPT because of the focus on interpersonal relationships outside the therapy room, which develops the skills needed to form an adequate relationship with the therapist as well. We chose to focus also on placebo to compare IPT with a condition in which interpersonal compensation is not expected to occur, and in which there is no direct work on the therapeutic relationship.

Many previous findings from the TDCRP have focused on the therapeutic relationship, but interpersonal behaviors have received little attention. In the TDCRP, based on Rogers's (1957) conceptualization, the therapeutic relationship was assessed as consisting of the extent to which the patient experiences empathy, positive regard, unconditional regard, and congruence expressed by the therapist. Many studies have examined the therapeutic relationship in the TDCRP dataset, showing that a stronger

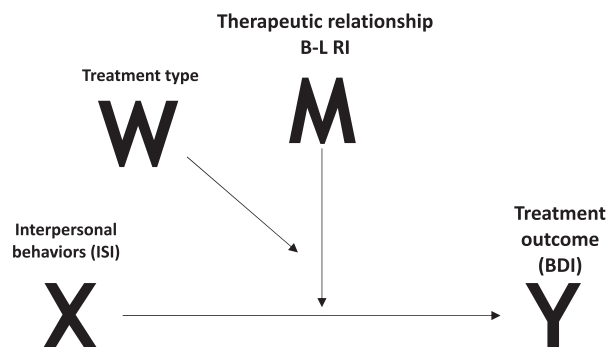


Figure 2. Moderation model. Along the first path, interpersonal behaviors (X) can directly affect treatment outcome (Y). The association between interpersonal behaviors (X) and outcome (Y) can also be moderated by the therapeutic relationship (M), and change with different levels of interpersonal behaviors and treatment type (IPT and placebo).

therapeutic relationship predicted better treatment outcome (Blatt & Zuroff, 2005; Zuroff, Kelly, Leybman, Blatt, & Wampold, 2010) and lower rates of dropout (Blatt, Zuroff, Quinlan, & Pilkonis, 1996). In contrast, the interpersonal behaviors of the patients and their effects received little attention, and we were not able to find studies that examined the association between interpersonal behaviors and outcome, or between interpersonal behaviors and the therapeutic relationship.

Method

Participants

Participants in the TDCRP included outpatients who met the criteria for a current episode of MDD (DSM-III; American Psychiatric Association, 1980), receiving a minimum score of 14 on an amended version of the 17-item Hamilton Rating Scale for Depression (HRSD; Hamilton, 1967). Two hundred and fifty male and female outpatients between the ages of 21 and 60 met the study criteria and were randomly assigned to one of four treatment groups. In the present analyses, we focused on the interpersonal therapy ($n = 63$), and placebo ($n = 62$) conditions. In these 2 conditions, 89 participants (71%) were women, and their average age was 35.5 years ($SD = 8.74$). Twenty-seven patients (22%) were single, 58 (46%) were married or living in a long-term relationship, and 40 (32%) were separated, divorced, or widowed. Twenty therapists took part in the two treatment groups, seeing an average of 7 ($SD = 1.8$) patients each, ranging from one to nine. Additional details about the sample and design can be found elsewhere (Elkin et al., 1985).

Treatment

IPT involved manual-based treatment (Klerman et al., 1984) for 16 individual weekly sessions, plus 4 optional sessions. *IPT* is based on the idea that depression occurs in an interpersonal context. The treatment uses techniques to help patients better understand their interpersonal difficulties and improve their social functioning. The therapists were carefully selected and received further training in *IPT*.

Placebo: The placebo condition included the administration of a non-active drug. Placebo was given together with clinical management for 16 weeks (Fawcett, Epstein, Fiester, Elkin, & Autry, 1987). This condition was double-blind with the active medication condition, with neither patient nor therapist knowing the condition.

Therapists adjusted the dosage as needed on the assumption that an active medication is being administered.

Measures

Barrett-Lennard Relationship Inventory (B-L RI; Barrett-Lennard, 1962): A patient self-report measure assessing the patient's perception of the necessary and sufficient conditions for therapeutic change, based on Rogers (1957) conceptualization, according to which the conditions that matter are therapist empathy, positive regard, unconditional regard, and congruence, which form the four subscales of the measure. Each subscale is comprised of 16 items, rated on a 6-point scale.

Following Blatt et al. (1996; see also Blatt & Zuroff, 2005; Elkin, Falconnier, Martinovich, & Mahoney, 2006; Zuroff et al., 2010), a factor analysis on the four subscales of the B-L RI resulted in a single factor, in which three of the subscales (empathy, positive regard, and congruence) loaded above 0.85, and one subscale (unconditional regard), which loaded only 0.49. As a result, a measure summing the three higher-loading subscales was constructed. The potential range in this subscale extends from -48 to 48 , and in the present study, the range was -25.33 to 43.67 ($M = 20.78$, $SD = 11.05$). The alpha coefficient for the three-subscale factor of the B-L RI in the present study was 0.95.

The Abbreviated Interpersonal Style Inventory (ISI; Lorr & DeJong, 1986; Lorr & Youniss, 1973): A patient self-report measure assessing the way in which the patient relates or responds to others, including aspects of interpersonal behavior and impulse control (Lorr & DeJong, 1984). The inventory consists of 15 primary personality subscales (sociable, help-seeking, nurturant, sensitive, conscientious, trusting, tolerant, directive, independent, rule-free, deliberate, orderly, persistent, stable, and approval-seeking), and five higher-level factors: interpersonal involvement vs. social isolation (sociable, help-seeking, nurturant, and sensitive), socialization (conscientious, trusting, and tolerant), autonomy vs. dependence (directive, independent, and rule-free), self-control vs. impulsiveness expressiveness (deliberate, orderly, and persistent) and emotional stability (stable and approval-seeking).

The interpersonal involvement subscale received the greatest research attention in the TDCRP because of its psychometric properties and its relevance for studying the construct of interpersonal relationship (Gibbons et al., 2003). Therefore, we chose this subscale for the present study as well. This second-order subscale demonstrates good

construct validity, as attested to by high convergent validity. As expected, the Interpersonal Involvement Scale correlated highly with sociable, help-seeking, nurturant, and sensitive interpersonal behaviors in previous studies (Lorr & DeJong, 1984). Patients who score high on this subscale are likely to have more opportunities to form interpersonal interactions, and have greater interest in interpersonal processes. The heightened interest in interpersonal processes may affect the relationship with the therapist and the way in which the patient views interpersonal relationships in general (Gibbons et al., 2003). Therefore, it is assumed that this component of interpersonal style has the greatest effect on relationships with others, specifically with the therapist. The inventory includes 40 items, rated as true or false. The potential range extends from 0 to 40, and in the present study, it was 4–38 ($M = 18.05$, $SD = 6.38$). The alpha coefficient for the present study was 0.81.

Beck Depression Inventory (BDI; Beck, Ward, & Mendelson, 1961): A patient self-report assessing the severity of depression. The inventory is comprised of 21 items on one overall scale. The potential range of the scale is 0–63; in the present study, the range was 0–49 ($M = 16.84$, $SD = 11.21$). The range of the alpha coefficient was 0.77–0.93 across time points.

Procedure

Demographic data were collected at intake. The outcome assessments of BDI were completed at intake and at weeks 4, 8, 12, and 16. Measures of interpersonal behaviors and therapeutic relationship were obtained at intake and at 16 weeks. In the present study, only the intake assessments of both the interpersonal behaviors and therapeutic relationship were used.

Data Analysis

First model: the deterministic model. To examine the deterministic model where interpersonal involvement (intake ISI) predicts the therapeutic relationship (B-L RI week 2), which in turn predicts outcome (BDI), we conducted a series of analyses (Figure 1). The outcome measure for the deterministic mediation analysis was estimated as the slope of BDI changes from week 1 to the end of treatment for each patient. Time was introduced into the model to predict BDI, and the slopes were saved and later used as the outcome variable in the mediation model.

Following Preacher and Hayes (2004), we examined mediation using two models: (i) a multiple

regression of the association between the predictor (intake ISI) and the mediator (B-L RI at week 2); and (ii) a multiple regression of the associations between the mediator (B-L RI at week 2) and the outcome (slope of change in BDI), controlling for the predictor (intake ISI). In all analyses, the predictors were mean-centered before the analysis, and a bias-corrected and accelerated bootstrapping test, based on 5000 repetitions, was used to test the significance of the indirect paths (see MacKinnon, Lockwood, & Williams, 2004; Williams & MacKinnon, 2008). Pretreatment symptom severity was entered as a covariate.

Second model: the compensation model. We examined the compensation model, in which the therapeutic relationship (B-L RI at week 2) moderates the ability of interpersonal involvement (intake ISI) to predict outcome (BDI) in the IPT but not in the placebo condition (Figure 2). Given the nested structure of the dataset (repeated assessments nested within patients nested within therapists), we used the SAS PROC MIXED procedure (SAS Institute, 2003) multilevel modeling for longitudinal data in all analyses. The therapists' random effect was not significant ($ICC = 0$, $p = .99$), therefore it was dropped from the model. All analyses were conducted within a two-level hierarchically nested model. To examine the development of the outcome variable over time, we evaluated the following trend models for each: linear and linear in log of time, either as fixed or random effects. We used the log-likelihood test and the AIC criterion to compare nested models to choose the model with the best fit.

We examined the compensation model using a moderation analysis a four-way interaction between interpersonal involvement, the therapeutic relationship, treatment type, and time ($ISI \times B-L RI \times treatment\ type \times time$) on the outcome (BDI), introducing all lower-level effects to the model. Pretreatment symptom severity was entered as a covariate. An alpha level of 0.10 was selected a priori in the study protocol for the moderation analyses to balance the risk of Type II errors (Altman, 1997; Kraemer, Wilson, Fairburn, & Agras, 2002; for a similar procedure, see Johansson et al., 2010).

Results

The deterministic model. To examine the first model, we constructed a mediation model. The first model revealed a non-significant ability of pretreatment interpersonal involvement (intake ISI) to predict the therapeutic relationship (B-L RI at week 2), in the

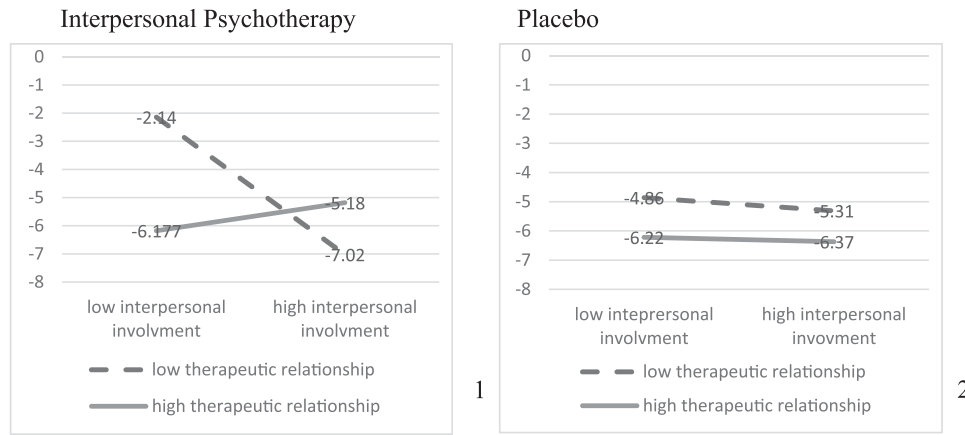


Figure 3. (a) The moderation effect of the alliance on the association between interpersonal involvement and outcome in the IPT condition. (b) The moderation effect of the alliance on the association between interpersonal involvement and outcome in the placebo condition.

multiple regression ($b = -0.20, p = .19$). The second model revealed a significant ability of the therapeutic relationship to predict the slope of change in the outcome (BDI), in the multiple regression when controlling for pretreatment interpersonal involvement ($b = -0.06, t(106) = -2.66, p = .009$). The significant model suggested that a stronger therapeutic relationship predicted a greater reduction in BDI at outcome. Given that the first model was not significant, the full mediation model cannot be valid. The indirect effect was not significant (IE = 0.01, CI95% [-0.0041, 0.0518]). Repeating this mediation analysis controlling for sex, age, and marital status produced similar results.

The compensation model. A model with a random intercept and random slope of log of time, as well as log of time as a fixed effect, demonstrated the best fit among the models tested. In the compensation model, a moderation analysis of the effect of a four-way interaction between the therapeutic relationship, interpersonal involvement, treatment type, and time (B-L RI \times ISI \times treatment type \times log of time) on the outcome (BDI) was significant ($\beta = -0.01, SE = 0.010, t(128) = -1.93, p = .056$), effect size $R^2 = 0.4\%$ (Nakagawa & Schielzeth, 2013). Repeating this analysis controlling for marital status produced similar results ($\beta = -0.01, SE = 0.010, t(128) = -1.93, p = .056$).

To interpret the significant four-way interaction, we compared the slopes between high and low B-L RI, dividing by treatment type and ISI (Figure 3). High and low B-L RI, and high and low ISI were calculated as one standard deviation above and below the mean, respectively. In the IPT condition, for patients with high pretreatment ISI there was no significant difference between the BDI time slopes in high vs. low B-L RI ($\Delta\beta = 1.83, SE = 1.49, t(128) = 1.23, p = .22$). In the IPT

condition, however, for patients with low pretreatment ISI, there was a significant difference between the BDI time slopes in high vs. low B-L RI ($\Delta\beta = -4.02, SE = 1.44, t(130) = -2.78, p = .006$). The findings suggest that patients with low interpersonal involvement, forming a good therapeutic relationship, had better treatment outcome than did patients with low interpersonal involvement who did not form a strong therapeutic relationship. By contrast, patients with high interpersonal involvement did not show the same pattern, rather they had a similar outcome whether they formed a high or low therapeutic relationship.

In the placebo condition, there was no difference between BDI time slopes in high vs. low B-L RI for patients who had high pretreatment ISI ($\Delta\beta = -1.06, SE = 1.68, t(120) = -0.63, p = .53$) or low pretreatment ISI ($\Delta\beta = -1.32, SE = 1.21, t(133) = -1.09, p = .27$). The findings suggest that patients with high or low interpersonal involvement had a similar outcome whether they had a high or low therapeutic relationship in treatment.

To examine the specificity of the findings to the IPT condition (rather than psychotherapy in general), we compared in a *post hoc* analysis the CBT condition of the TDCRP with the placebo condition.¹ The manual-based CBT condition (Beck, Rush, Shaw, & Emery, 1979) contained 20 individual weekly sessions. The therapists used techniques designed to help patients identify and think more realistically about psychological problems, and to help correct distorted conceptualizations and dysfunctional beliefs underlying these cognitions. In the *post hoc* moderation model, similar to the previous moderation model, we examined the effect of a four-way interaction between the therapeutic relationship, interpersonal involvement, treatment

type (CBT vs. placebo), and time (B-L RI \times ISI \times treatment type \times log of time) on the outcome (BDI); the effect was not significant ($\beta = -0.00$, $SE = .004$, $t(122) = -0.13$, $p = .89$).

Discussion

Theories and empirical findings attest to the contribution of the individual's maladaptive interpersonal behaviors to the origin and maintenance of depression (Luborsky & Mark, 1991). It has also been suggested that interpersonal behaviors contribute to the process and outcome of treatment for depression (Zlotnick et al., 2000). Based on the theoretical literature about the role of the therapeutic relationship in the association between interpersonal behaviors and outcome in IPT, two alternative models have been proposed. The first is a deterministic model, according to which the patients' pretreatment interpersonal behaviors affect their ability to form and maintain a strong therapeutic relationship with the therapist, which in turn affects their ability to benefit from treatment. The second is a compensation model, according to which the therapeutic relationship moderates the effect of interpersonal behaviors on outcome. It is possible to find theories to support either model, but neither of them received clear empirical support in previous studies, and no study to date has compared the two models on the same cohort. The present study sought to compare the two models using the TDCRP dataset to determine the role that the therapeutic relationship plays in the association between interpersonal behaviors and outcome in IPT.

The present study found support for the compensation model but not for the deterministic model. Although we did find that the therapeutic relationship predicted outcome, which is consistent with the literature (Horvath et al., 2011), we did not find support for the ability of the patient's interpersonal involvement to predict the therapeutic relationship. Therefore, the full deterministic model was not supported. This finding is consistent with previous studies that did not find support for the proposed deterministic mediation model (McEvoy et al., 2013; Paivio & Bahr, 1998), but is not consistent with previous findings that found support for a significant deterministic mediation model (Howard et al., 2006; Renner et al., 2012). The type of treatment may explain some of the inconsistency in previous studies. It is possible that in some treatments, where interpersonal relations are not directly targeted, the patients' interpersonal involvement is automatically projected onto the therapeutic relationship, whereas in others, in which interpersonal

relations are an integral part of the treatment, other processes take place that affect the possibility of a strong therapeutic relationship being formed even in the face of poor pretreatment interpersonal involvement. Future studies should systematically examine this *post hoc* hypothesis.

Consistent with the proposed compensation model, the present findings suggest that patients treated with IPT, who showed low pretreatment interpersonal involvement, showed better treatment outcome if they formed a strong therapeutic relationship with the therapist than if they did not form such a relationship. Patients treated with IPT, who exhibited high interpersonal involvement, showed similar treatment outcome whether or not they formed a strong therapeutic relationship. As hypothesized, all patients who received placebo combined with clinical case management showed similar treatment outcome, whether they had high or low interpersonal involvement, and whether or not they formed a strong therapeutic relationship. Therefore, the compensation model was supported. Although the study did not show direct evidence of the specificity of IPT, the *post hoc* analysis of CBT vs. placebo was not significant which suggests that further exploration of the issue is warranted.

The present findings suggest that in treatment that is expected to focus on the interpersonal relationships of the patient, work on the interpersonal problems related to the depression and the formation of new satisfying adaptive interpersonal relationships may help patients with maladaptive interpersonal behaviors benefit from the treatment (Klerman et al., 1984). Patients who are able to compensate with a good therapeutic relationship for their poor levels of interpersonal involvement, presumably as a result of the interpersonal work in treatment (Klerman et al., 1984), have a better chance of benefiting from treatment than do those who cannot achieve such compensation. We suggest that the therapeutic relationship serves as a space for the patient to form a strong and adaptive relationship with the therapist based on the therapeutic work on the interpersonal relationships (Constantino et al., 2010).

The present study found that for patients who start treatment with adaptive interpersonal behaviors, the effect of the therapeutic relationship was not significant, and that these patients benefited from treatment whether or not they formed a strong therapeutic relationship in IPT. In these cases, the high interpersonal involvement may serve as a resilience factor that enables the patient to benefit from treatment despite poor therapeutic relationship. This explanation is consistent with previous studies demonstrating that the strength of the effect of the therapeutic relationship on outcome may depend on the patient's

pretreatment characteristics, so that the effect on outcome is significant for some patients but not for others (for a review, see Zilcha-Mano, 2017). For patients with fewer personality problems (Falkenström, Granström, & Holmqvist, 2013), less severe symptoms (Zilcha-Mano & Errázuriz, 2015), and better interpersonal abilities (Zilcha-Mano & Errázuriz, 2015), the strength of the therapeutic relationship had a smaller effect on treatment success than it did for patients with the opposite characteristics. An alternative explanation is that because in the present study the therapeutic relationship was examined in the second week of treatment, the poor initial therapeutic relationship may not represent the therapeutic relationship that developed later in treatment. Patients with adaptive interpersonal behaviors may have the capabilities needed to overcome and cope with disagreements with the therapists, and to regulate their responses to such disagreements. Therefore, even in the case of disagreement, they have the tools and resources to work with the therapist on their problems.

Although the compensation model is supported by many theoretical conceptualizations, the present study is the first one to bring direct empirical support for it. Our findings are consistent with previous studies indirectly examining aspects of such a compensation model, for example, those of studies showing correlations between maladaptive interpersonal behaviors, a stronger therapeutic relationship, and better treatment outcome (Huang et al., 2015). Our findings are also consistent with studies demonstrating the importance of patients' pretreatment characteristics in tailoring psychotherapy to the individual patient. Specifically, severely depressed patients with significant life stress were found to benefit more from behavioral-focused than from cognitive-focused treatment (Coffman, Martell, Dimidjian, Gallop, & Hollon, 2007). These studies add to the growing understanding of the importance of personalized treatment for increasing treatment efficacy.

Based on the present findings, we suggest adopting an optimistic view at least with respect to IPT compared to placebo, rather than positing a deterministic effect of the patient's interpersonal behaviors on the therapeutic relationship, and therefore on outcome, such that the poor get poorer and the rich get richer. Therefore, the role of the therapeutic relationship in the association between interpersonal behaviors and outcome may depend on the type of therapeutic work. The type of therapy and the therapeutic relationship formed within it may play an important role in the effect of interpersonal behaviors on the outcome of treatment for depression. If a patient with depression, who starts therapy with maladaptive interpersonal behaviors, is able to form

a strong therapeutic relationship with the therapist in a treatment that focuses on interpersonal work, that patient can benefit more from therapy than one who cannot form such a therapeutic relationship. This finding highlights the importance of the interpersonal focus in treatment in providing opportunities for corrective experiences. Future studies should examine other determining factors associated with depression, such as problematic behaviors or distorted cognitions (e.g., Lorenzo-Luaces, German, & DeRubeis, 2015). It is possible that part of the therapeutic relationship serves to moderate the interpersonal behavior–outcome association, whereas another part serves to mediate this association. It has been suggested that it is important to disentangle the distinct trait-like and state-like components of the therapeutic relationship (Zilcha-Mano, 2017). We suggest that the trait-like component of the therapeutic relationship, which represents the general ability of the patient to form satisfying relationships with other people, serves to deterministically mediate the interpersonal behavior–outcome association. By contrast, the state-like component, which reflects the dynamic nature of the therapeutic relationship and represents the changes taking place across treatment, such as rupture and repair processes, serves to moderate the interpersonal behavior–therapeutic relationship association through compensation. In the present study, the therapeutic relationship was assessed at only one-time point, therefore it was not possible to disentangle the two components.

The present findings shed light on important theoretical questions that have received little empirical attention so far. Several limitations must be taken into account, however, when interpreting the findings. First, the study focused only on a certain type of interpersonal behavior of the patient, and did not look into others that may be of interest, such as domineering (Puschner et al., 2005) and non-assertive (Paivio & Bahr, 1998) behaviors, because they were not represented in the TDCRP dataset. A variety of different tools are available for measuring different but interrelated interpersonal constructs. In the present study, we used a tool measuring the interpersonal behavior construct,² this construct may be related in some ways to the existing literature on interpersonal problems, interpersonal ability, and interpersonal style, but still distinct from it. It is therefore important to empirically examine the ways in which the proposed compensation model gains support when focusing on other constructs, such as interpersonal problems, interpersonal ability, and interpersonal style.

Furthermore, the present study assessed the therapeutic relationship based on a conceptualization

made by Rogers, which differs from other conceptualizations of the therapeutic relationship. Bordin's conceptualization of the working alliance consists of three components: the emotional bond within the therapeutic dyad, agreement on the goals of therapy, and agreement on the tasks involved in achieving these goals (Bordin, 1979). It also differs from the transference configuration, comprising both the patient transference and therapist countertransference (Gelso & Carter, 1994), both occurring in all therapies, and capable of being beneficial, neutral, or destructive to the therapy. Another important construct is the real relationship, which is relatively independent of transference, including two features: genuineness and realistic perceptions (Greenson, 1967). Furthermore, we focused on only one-time point in treatment, and therefore we do not have information about the development and the dynamic nature of the therapeutic relationship or the ability to examine it (Zilcha-Mano, 2017). Use of the week 2 measurement in the present study may not have captured the emerging alliance and the rupture and resolution processes. It has also been argued that the broad conceptualization of the therapeutic relationship should be examined closely to understand the association between interpersonal behaviors and outcome (Safran & Muran, 2000). Measures of certain processes evolving in the therapeutic relationship, such as rupture-resolution processes, characterized by deterioration or tension in the therapeutic relationship, which the therapist attempts to repair using resolution strategies, may shed more light on the present findings (Eubanks-Carter, Muran, & Safran, 2009; Safran & Muran, 2006). The effect of other treatments, especially those focusing on repairing ruptures in the therapeutic relationship and the formation of a corrective experience with the patient (Safran & Muran, 2000), should also be examined, because in the present study only three conditions were compared, which differ in aspects other than the focus on improving interpersonal abilities. In addition, there have been many previous studies relying on the TDCRP dataset and making assumptions based on it (Solomonov & Barber, 2017), therefore the findings of the present study need to be replicated on a different, larger dataset to confirm their validity.

In conclusion, the deterministic model, suggesting that patients with maladaptive interpersonal behaviors cannot form a strong therapeutic relationship and therefore are unable to benefit from treatment, was not supported. By contrast, we found that the compensation model, suggesting that the effect of interpersonal behaviors on outcome depends on the type of treatment the patient receives and on the therapeutic relationship formed, was supported. A

patient with maladaptive interpersonal behaviors, able to form a strong therapeutic relationship, can benefit more from treatment focusing on interpersonal work, than can a patient with maladaptive interpersonal behaviors who is unable to form a strong therapeutic relationship. This compensation model offers a more optimistic view of therapy for patients with maladaptive interpersonal behaviors, which places important responsibility on the therapist to work on forming and maintaining a strong therapeutic relationship, specifically with patients with maladaptive interpersonal behaviors.

Acknowledgements

The study is based on secondary analyses of the Treatment for Depression Collaborative Research Program.

Funding

The writing of this article was supported by the Israel Science Foundation (ISF 186/15).

Notes

- ¹ The condition involved 62 patients, 47 (76%) women, with an average age of 34 years (SD = 8.68). Twenty (32%) were single, 20 (32%) were married or living in a long-term relationship, and 22 (35.5%) were separated, divorced, or widowed.
- ² There is a debate on how to interpret the interpersonal style inventory scale. A review of literature on this measure yielded over 40 articles, in most of which the authors used the term "interpersonal style," and in others "personality traits." "Interpersonal disposition," "ways of relating to others," "interpersonal behaviors," and "interpersonal features" were also used. Given the variety of terms used in previous articles, we chose the original term, "interpersonal behavior," as was used by the developers of the measure: "aspects of interpersonal behavior and impulse control" (Lorr & DeJong, 1984, p. 1378).

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