Illness attributions among ethnic minorities: assessment and clinical relevance

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Therapist-patient discrepancy in illness explanations and early outcome in intercultural psychotherapy

Abstract

Illness attributions are culturally shaped views on illness causation, which may affect psychotherapy process and outcome. Poor quality of mental health care among members of ethnic minorities is thought to result from disparities between illness attributions of patients and therapists. The present study aimed to examine whether (a) higher therapist-patient discrepancies in different types of illness attributions are associated with poorer psychotherapy outcome, and (b) greater discrepancy predicts worse outcome due to patients’ lower psychotherapy attendance rates. A sample of 66 participants was recruited among patients from Turkish or Moroccan origins who received outpatient treatment for mood and anxiety disorders. Symptom severity, and illness attributions of patients and therapists across different categories of causes were assessed at the beginning (time 1) and after three months of psychotherapy (time 2). Results indicated that higher therapist-patient discrepancies in psychological attributions at time 1 and time 2 were both significantly associated with poorer outcome. Moreover, greater discrepancy in psychological attributions at time 1 was a significant predictor of lower psychotherapy attendance. However, attendance itself was not significantly associated with outcome. In conclusion, discrepancies between patients and their therapists in psychological attributions were associated with worse outcome, although psychotherapy attendance did not seem to mediate this relationship. Early assessment of patients’ illness attributions and strategies, aimed at enhancing therapist-patient attributional congruence, are important steps in the provision of adequate mental health care to ethnic minorities.
Introduction

Poor quality of mental health care among members of ethnic minority groups has been well documented (Atdjian & Vega, 2005; Department of Health and Human Services, 2001; Struijs & Wennink, 2000). With regard to psychotherapy, the effectiveness of evidence-based treatments has been equivocal (Hall, 2001), and there is currently no treatment, which can be considered ‘empirically supported’ among minority populations (Whaley & Davis, 2007). It has been argued that poor outcome may result from disparities in illness beliefs between therapist and ethnic minority patients, and that incorporating patients’ beliefs in therapeutic strategies will generate better outcome (Leventhal, Diefenbach, & Leventhal, 1992). However, there is a keen lack of empirical attempts to support these assumptions.

A central component of illness beliefs are culturally shaped views on illness causation (i.e., illness attributions). These ideas appear to be crucial in determining the experience of illness (Kleinman, 1988), strategies to cope with symptoms (Rutter & Rutter, 2002), and the choice of treatment among available options (Scheeres, Wensing, Severens, Adang, & Bleijenberg, 2008). Within the Explanatory Model Framework, Kleinman (1980) hypothesized that treatment effect will be greater, when patients and practitioners hold similar attributions of symptoms. When discrepancies arise between the dyads, treatment strategies will make no sense to patients, resulting in non-adherence, disengagement, and poor treatment outcome. Elaborating Kleinman’s hypothesis further, one may also assume that treatment disengagement (e.g., non-attendance) constitutes a mechanism through which discrepancy between attributions of patients and therapists may affect outcome. That is, patients with higher levels of attributional discrepancy with their therapists may attend less psychotherapy sessions, which may in turn result in poorer outcome. Thus far, the evidence for the association between treatment attendance and outcome has been equivocal (Reardon, Cukrowicz, Reeves, & Joiner, 2002). However, a meta-analytic review of the literature found a modest relationship between the number of sessions attended and better psychotherapy outcome (Smith, Glass, & Miller, 1980). Furthermore, there exists a plausible theoretical justification for the so-called “dose effect” in psychotherapy (Howard, Kopta, Krause, & Orlinsky, 1986).

To date, there have been modest attempts to examine the possible impact of illness attributions on treatment attendance and outcome. Foulks, Persons, and Merkel (1986) found that psycho-medical illness attributions were associated with
a higher number of clinic visits in their predominantly Caucasian sample. In a similar study, psychological attributions were associated with an increased likelihood of psychotherapy participation in a sample of veterans with PTSD (Spoont, Sayer, & Nelson, 2005). Focusing on outcome studies, baseline attributions of medically unexplained symptoms to biological (Chalder, Godfrey, Ridsdale, King, & Wessely, 2003) and external causes (Kennedy et al., 2006) were found to predict poor outcome in cognitive behavioral therapy (CBT). These findings suggest that attributions, which are incompatible with the treatment rationale, may undermine treatment attendance and outcome. However, biological attributions were found to predict poor outcome also in pharmacotherapy (Sullivan et al., 2003), while another study failed to find a relation between biological attributions and CBT outcome in chronic fatigue (Deale, Chalder, & Wessely, 1998). A major problem with the current literature is its exclusive focus on illness attributions of patients, regardless of their (in)congruence with therapist beliefs, which may explain some of the inconsistencies in the research findings. Furthermore, results do not clarify the mechanism, through which illness attributions may affect outcome. Finally, there is virtually no evidence for the presumed clinical relevance of illness attributions among ethnic minority patients.

The present study aimed to contribute to the existing literature by investigating the therapist-patient discrepancy in illness attributions in relation to psychotherapy attendance and outcome. Patients’ and therapists’ attributions across multiple categories of causes, as well as attendance rates and early outcome were assessed among a sample of Turkish and Moroccan patients during the initial phase of their psychotherapy. We examined whether (a) therapist-patient discrepancies for different categories of attributions at baseline and after three months predicted worse outcome, regardless of patients’ background characteristics (i.e., social demographics and degree of acculturation), and (b) the association between attributional discrepancy and outcome was mediated by lower treatment attendance.

Method

Design
The study employed a single-group naturalistic cohort design with repeated assessments at baseline and after three months of psychotherapy. A period of three months was thought to be a crucial phase during the treatment in terms of symptom
reduction, based on the evidence that the largest therapeutic gain is typically achieved during the initial 10 sessions of psychotherapy (Smith et al., 1980).

**Participants**

The sample consisted of patients who had participated at the treatment arm of a previous study (see chapter 5). Participants were recruited following their referral to two mental health outpatient facilities in Amsterdam and Rotterdam, one of which provided specialized treatment for depression. Patients were included, if they were 18 years or older, had at least one of their parents born in Turkey or Morocco, and had a DSM-IV-TR diagnosis of mood or anxiety disorders at intake. Exclusion criteria were having a presumed psychotic disorder, or any severe cognitive disability, which would affect the quality of assessments. Proficiency in the Dutch language was not an inclusion criterion.

**Instruments**

Illness attributions of patients and therapists were assessed, using the Explanatory Models Interview Catalogue (EMIC) (Weiss, 1997). This instrument consists of a collection of locally adapted semi-structured interviews for eliciting illness beliefs among specific cultural groups. The version, utilized in the present study, was based on a previously developed Turkish and Moroccan version (Ghane, Kolk, & Emmelkamp, 2010) (see chapter 2). The interview consists of an open query into perceived causes of patient’s condition, and a checklist of 41 causal factors that were divided into 11 different categories of causes: ingestion of food or substances, medical, interpersonal, stress, loss and grief, migration, victimization (e.g., physical or sexual abuse), magical (e.g., witchcraft, djinn), religious/mystical (e.g., divine punishment, fate), psychological (e.g., personality characteristics), and environmental causes (e.g., pollution). The final section of the interview inquires about the most important cause, and the first cause that patients considered when they became aware of their problems. Each item was assigned a weighted numerical value, corresponding to the degree of emphasis a respondent placed on that item as a perceived cause of his/her symptoms. Perceived causes, which were spontaneously reported in response to the open query, were assigned a score of 4. Items that were identified as causal factors after probing (using the checklist), received a score of 3 or 2, depending on whether they were emphasized or merely mentioned as a possibility during the interview. An additional score of 5 was assigned to the cause, which was perceived as the most important, and a score of 1.
to the cause, the respondent considered first after becoming aware of the symptoms (Weiss, 1997). Higher item scores reflected greater perceived significance of the item as a causal factor. For each category of causes, a score was generated by calculating mean values for the individual item scores in that category. Attributional discrepancy was estimated for each dyad by computing the absolute differences between therapists’ and patients’ average scores on each category of causes (Kleinman, 1980). The discrepancy score on a given category of causes represented the extent of disagreement between patient and therapist on that type of attributions.

**Outcome** was measured by the Dutch (De Beurs & Zitman, 2006), Turkish and Arabic versions of the Brief Symptom Inventory (BSI) (Derogatis, Melisaratos, & By, 1983), which is a reliable and valid, shortened form of the revised Symptom Checklist-90 (SCL-90-R) (Derogatis, 1977). For the purpose of this study, the BSI was adapted into Turkish and Arabic by selecting relevant items of the Turkish (Dag, 1991) and Arabic (Abdallah, 1992) versions of SCL-90 according to the composition of items in the original BSI. The BSI consists of 53 items and measures general psychopathology along nine different dimensions, i.e., somatization, obsessive-compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. Mean scores were generated for the entire scale, ranging from 0 to 4. Higher scores reflected more severe psychopathology.

**Attendance** data were extracted from patients’ medical files. Attendance rate was defined as the percentage of attended psychotherapy sessions, and was calculated by dividing the number of sessions attended by the total number of sessions planned. However, in some cases not all treatment sessions were planned in advance. Rather, each appointment was planned at the end of the prior session. Therefore, patients with low treatment participation could theoretically have rather high attendance rates.

**Acculturation** was measured, using the Dutch, Turkish and Moroccan versions of the Lowlands Acculturation Scale (LAS) (Mooren, Knipscheer, Kamperman, Kleber, & Komproe, 2001). This measure was constructed and validated, based on research among the Turkish and Moroccan communities in the Netherlands. The LAS consists of 27 items that form the following subscales: social integration, traditions, norms and values, skills, and loss. Acceptable levels of reliability (Kamperman, Komproe, & De Jong, 2003) and validity (Mooren et al., 2001) have been reported for the entire scale. Mean scores were calculated over
all items (range: 0-6), with higher scores representing greater orientation toward the culture of origin.

Social demographic characteristics were measured using a questionnaire, focusing on age, gender, ethnicity, education, and migration-related factors, such as age at migration, and the length of residence in the Netherlands. Items were adapted into Turkish and Arabic, using the translation and back translation procedure (Brislin, 1986).

**Procedure**
The inclusion criteria were applied to all new referrals to the outpatient facilities. Patients who met the inclusion criteria were approached at intake. Baseline assessment (time 1) was conducted within one week prior to the start of treatment, and was repeated following a period of three months (time 2). At time 1, patients provided written informed consent, and completed the EMIC, the BSI, the LAS, and the social demographic questionnaire. At time 2, patients were re-examined, using the EMIC and the BSI. All interviews were conducted by trained graduate students or, in the case where patients were not fluent in Dutch or English, by trained bilingual research assistants. In order to reduce patients’ potential tendency to misreport their attributions during interviews (Ghane et al., 2010), the following strategy was applied. First, patients were encouraged to provide their genuine accounts, by stating the following prior to each interview:

“People explain their complaints in different ways. These explanations may be different from those of doctors or family members. In this study we are interested in your explanations of your complaints”.

Second, interviewers were instructed to establish a good rapport with patients, and to demonstrate a non-judgmental attitude during each interview.

Parallel assessments were conducted with the therapists of participants. Therapists completed the EMIC within one week following their first treatment session with patients (time 1), and again after three months (time 2). The research design and procedure were approved by the ethical board of the Department of Psychology.
Data reduction and analyses

Preliminary analyses. Analyses of potential non-response bias were performed, using Chi-square and T tests. Attrition bias was analyzed with Chi-square and T tests for social demographic variables, and using MANOVA for baseline illness attributions. To assess the overall treatment outcome, a repeated measures ANOVA was performed with time (1 and 2) and BSI scores as within subject factors. Finally, a multiple regression analysis was performed to examine the association between therapist characteristics (i.e., sex, age, and experience) and outcome.

Main analyses. To examine whether therapist-patient discrepancies in illness attributions were associated with worse outcome, the following strategy was followed. First, potential predictors of outcome were selected from therapist-patient discrepancy scores on different categories of attributions at time 1, social demographic characteristics and acculturation. Partial correlations were calculated between each variable and BSI scores at time 2, while controlling for the baseline BSI scores. Variables with a high correlation with outcome (p < .10) were selected for further analysis. In the second phase, a stepwise multiple regression analysis was performed with BSI scores at time 2 as the outcome variable, and baseline BSI and selected social demographic characteristics (step 1), as well as selected baseline discrepancy scores (step 2) as predictors. A similar procedure was followed to assess which discrepancy scores at time 2 predicted outcome.

To test the hypothesis that psychotherapy attendance mediated the relation between attributional discrepancy and outcome, two different series of regression analyses were performed to establish Baron and Kenny's (1986) following criteria for mediation effects: (1) the independent variable (discrepancy scores) should predict the outcome variable (treatment outcome) (see previous analysis), (2) the independent variable should have an effect on the proposed mediator (attendance rate), and (3) the proposed mediator should predict the outcome variable, when controlling for the effect of the independent variable. Criterion 2 was examined, using multiple regression analyses with discrepancy scores and selected social demographic variables as predictors (see previous analysis), and attendance rate as the outcome variable. In order to establish criterion 3, a separate multiple regression analysis was conducted with selected social demographic variables, discrepancy scores, the BSI scores at time 1, and attendance rate as predictors, and the BSI scores at time 2 as the outcome variable.
Results

Participants
A detailed description of the response rate and attrition has been provided in chapter 5. Of 115 patients who were initially recruited and assigned to the psychotherapy condition, 86 (74.78%) completed the baseline assessment. No differences were found between completers and non-completers in age, gender, ethnicity and diagnosis.

| Table 1. Baseline sample characteristics ($N = 86$) |
|---------------------------------|-------------------|-----------------|
| Gender                          | $n$               | %               |
| Men                             | 26                | 30.20           |
| Women                           | 60                | 69.80           |
| Ethnicity                       |                   |                 |
| Turkish                         | 51                | 59.30           |
| Moroccan                        | 35                | 40.70           |
| Marital status                  |                   |                 |
| Single                          | 17                | 19.80           |
| Married                         | 41                | 47.70           |
| Divorced                        | 24                | 27.90           |
| Widow/widower                   | 4                 | 4.7             |
| Country of birth                |                   |                 |
| Turkey/Morocco                  | 74                | 86.00           |
| Netherlands                     | 12                | 14.00           |
| Diagnosis                       |                   |                 |
| Major depression                | 52                | 60.50           |
| GAD                             | 8                 | 9.30            |
| Dysthymia                      | 7                 | 8.10            |
| Panic disorder                  | 7                 | 8.10            |
| PTSD                            | 5                 | 5.80            |
| Other                           | 7                 | 8.10            |
| Age                             | 41.50             | 11.54           |
| Age at migration                | 21.62             | 8.71            |
| Years in the Netherlands        | 22.41             | 8.81            |
| Years of education              | 9.00              | 5.65            |
| Psychopathology (BSI)           | 1.90              | .77             |
| Acculturation (LAS)             | 3.67              | .74             |

GAD = generalized anxiety disorder; PTSD = Post-traumatic stress disorder; other mood and anxiety disorders = obsessive-compulsive disorder, mood/anxiety disorder NOS
Baseline sample characteristics are presented in Table 1. Of 86 baseline participants, sixty-six (76.74%) completed the final assessment. Completers did not differ significantly from non-completers on any of the baseline measures. The final sample (N = 66) had a mean attendance of 5.36 sessions (SD = 2.15), an attendance ratio of 86%, and had missed on average 1.24 sessions (SD = 1.70). BSI scores did not change significantly between time 1 and time 2, F(1, 65) = .36, p = .55.

Treatments were provided by a total of 23 therapists, of whom 15 (65.2%) were female, with a mean age of 39.42 years (SD = 13.73). Further, the therapists consisted of 12 (52.20%) psychologists, 5 (21.70%) psychiatric nurses, 4 (17.40%) licensed psychotherapists, and 2 (8.70%) health care psychologist, with an average 13.39 years of experience in mental health care (SD = 13.04). None of the therapist characteristics was significantly associated with outcome.

The association between attributional discrepancy and outcome

Table 2 presents the main data at time 1 and 2 for the final sample. As for the baseline data, five variables met the requirement for inclusion in the regression analysis. Partial correlations revealed that BSI scores at time 2 were positively associated with age, as well as with discrepancies in psychological and migration related attributions, and negatively correlated with years of education and discrepancies in magical and environmental attributions.

The outcome of the multiple regression analysis for baseline discrepancies is presented in Table 3. Discrepancy scores explained an additional 10% of variance in BSI scores at time 2. Regardless of age and education, higher discrepancies in both psychological and migration related causes were significantly associated with poorer outcome, while higher discrepancy in environmental causes predicted better outcome. Discrepancy in magical explanations was not associated with outcome.

To explore the possibility that the associations between discrepancies in illness attributions and outcome may have entirely been accounted for by either patient or therapist attributions, the following strategy was applied. First, partial correlations were calculated between BSI scores at time 2 and baseline patients’ and therapists’ EMIC scores on psychological, environmental and migration related attributions, while controlling for the baseline BSI scores. The analyses indicated that higher patient scores on environmental attributions and higher therapist scores on psychological and migration related causes were all significantly correlated with outcome. Therefore, these variables were added to the
original model in a new regression analysis. Discrepancy in environmental attributions showed considerable collinearity with patient environmental explanations, resulting in the exclusion of both variables from the model. In the final model, only therapist-patient discrepancy in psychological attributions ($\beta = .15, p = .04$), and therapist migration related attributions ($\beta = .17, p = .03$) remained significantly associated with higher BSI scores at time 2. Thus, at baseline, greater therapist-patient discrepancy in psychological attributions, and higher therapist migration related attributions predicted poorer outcome after three months.
At time 2, after controlling for baseline BSI scores, only higher discrepancies in psychological and migration related factors were significantly correlated with BSI scores at time 2. However, to gain insight in the potential contribution of discrepancy scores in magical and environmental attributions at time 2, these variables were also included in the regression analysis.

The results of this regression analysis are provided in table 4. Therapist-patient attributional discrepancy at time 2 accounted for 6% of the variance in BSI scores at time 2. Discrepancy in psychological attributions was the only significant predictor of outcome after correcting for age and education. To exclude the possibility that this finding could be fully explained by either patient or therapist psychological attributions, correlation analyses were performed with patient and therapist EMIC scores on psychological attributions and outcome. Therapist psychological attributions was the only significant correlate of outcome, and was therefore added to the original regression model. In the final model, however, only higher therapist-patient discrepancy in psychological attributions remained significantly associated with higher BSI scores at time 2 ($\beta = .21, p = .007$). This finding indicates that greater therapist-patient discrepancy in psychological attributions after three months of psychotherapy was related to worse outcome.
Table 4. Regression parameter estimates for predictors of post-assessment symptom severity (time 2)

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<th>B</th>
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<tr>
<td>Age</td>
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<td>.007</td>
<td>.15</td>
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<td>Education</td>
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<td>.01</td>
<td>-.10</td>
<td>.21</td>
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<tr>
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<tr>
<td>Age</td>
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<td>.59</td>
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<tr>
<td>Education</td>
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<td>Environmental attributions</td>
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<td>.11</td>
<td>-.11</td>
<td>.13</td>
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**Therapy attendance as the mediator of outcome**

The second criterion for mediation effects was examined only for discrepancy scores on psychological attributions at time 1 and 2. Regardless of age and education, higher baseline discrepancy between patients and therapists in psychological attributions was associated with lower attendance rates, $\beta = -.25$, $p = .02$. Concerning the third criterion, however, attendance was not significantly associated with BSI scores at time 2 ($\beta = -.08$, $p = .40$), when controlled for background characteristics, baseline BSI scores and discrepancies in psychological attributions.

At time 2, discrepancy in psychological attributions was not significantly associated with attendance, after controlling for age and education ($\beta = -.13$, $p = .28$). Thus, treatment attendance did not mediate the relation between attributional discrepancy and outcome.

**Discussion and conclusion**

The present study is the first to examine the association between therapist-patient discrepancy in illness attributions and psychotherapy outcome. The findings
indicated that greater discrepancies in psychological attributions at baseline and after three months of psychotherapy were predictive of poorer outcome, regardless of patients’ age and education. Although baseline discrepancy in psychological explanations predicted lower attendance rate, treatment attendance did not mediate the relationship between attributional discrepancy and outcome.

The results support the general assumption of the Explanatory Models Framework, linking therapist-patient discrepancy in explanations of illness to worse treatment outcome. However, the present findings suggest that discrepancy is not equally relevant for outcome for all categories of attributions. In fact, the study found evidence for the predictive value of attributional discrepancy only with regard to a single category of explanations. The importance of patients’ psychological attributions for psychotherapy participation (Spoont et al., 2005) and continuation (Foulks et al., 1986) has been previously established. In relation to outcome, however, the present study did not find patients’ psychological attributions to have any predictive value, whereas the discrepancy in psychological explanations at baseline and after three months of treatment was significantly associated with outcome. This finding suggests that the extent of congruence between the patient and his/her therapist may be a better predictor of outcome than patient’s attributions alone.

Furthermore, the study found greater discrepancy in psychological attributions to predict lower attendance rate, which underscore the idea that agreement on psychological causes of symptoms, and patients’ endorsement of the psychotherapy rationale foster greater treatment compliance. However, psychotherapy attendance was not associated with symptom reduction, and hence does not constitute a mechanism through which discrepancy in psychological attributions may have affected outcome. In general, empirical studies on the association between psychotherapy attendance and outcome have produced mixed findings. Whereas a number of studies have provided evidence for the psychotherapy “dose effect” (Howard, Kopta, Krause, & Orlinsky, 1986) others have failed to do so (Andrade, Lambert, & Bickman, 2000). Moreover, in a meta-analytic review, Smith et al. (1980) found only a modest association between the number of sessions and symptom reduction, and in another study the number of sessions attended per week was not significantly associated with improvement in short-term treatments (< five months) (Reardon et al., 2002).

As for the mechanisms, which may explain the relation between discrepancy in psychological attributions and outcome, one may consider a number
of factors. For instance, patients’ illness attributions has been shown to be associated with therapeutic relationship (McCabe & Priebe, 2004), and it is likely that therapist-patient attributional discrepancy may similarly affect the therapeutic bond and the working alliance, which are known as robust predictors of outcome (Horvath & Symonds, 1991; Martin, Garske, & Davis, 2000). Also, better outcome has been reported in relation to higher patient perceived treatment credibility (Hardy, Barkham, Shapiro, & Reynolds, 1995) and in-session responsiveness (Edelman & Chambless, 1993), as well as greater homework compliance (Addis & Jacobson, 2000; Schmidt & Woolaway-Bickel, 2000), all of which are likely to correlate negatively with therapist-patient attributional discrepancy.

The study provided additional findings, which require further elaboration. First, patients’ reports of environmental attribution were positively associated with symptom reduction. Correlational analyses at the item level revealed that outcome was significantly related to endorsement of infection and (cold/rainy) climate as causal agents (data not shown). It seems plausible that symptoms, which are thought to be caused by these temporary factors (e.g., seasonal depression), may diminish easier over time. This may explain why environmental attributions were associated with better outcome in the present study. Similarly, discrepancies in magical attributions were fully accounted for by patient’s scores, and although not significant in the multivariate analysis, patients’ magical explanations were positively correlated with symptom reduction. This finding is at odds with previous studies in non-western countries, in which magical attributions were associated with poor medication compliance (Adewuya et al., 2009; Razali, Khan, & Hasanah, 1996) and higher drop-out rates (Razali et al., 1996). However, in the present study, attributions of symptoms to magical causes were inversely related to attendance rate (data not shown), making it unlikely that symptom improvement has resulted from greater engagement with and benefit from psychotherapy. Factors, which may explain this symptom reduction may be (a) parallel help-seeking from the traditional sector, (b) mobilization of family and significant others, which may accompany magical attributions (Leavey, Guvenir, Haase-Casanovas, & Dein, 2007), and (c) reduced (self-)stigma, due to acquiring a sick role (Parsons, 1951) as a “victim” of evil forces, as opposed to a “mentally ill” patient. A final important finding concerns the lack of an association between discrepancies in medical attributions and outcome. Previous evidence for the clinical relevance of patients’ medical attributions has been equivocal (Chalder et al., 2003; Deale et al., 1998; Sullivan et al., 2003). Perhaps, discrepancy in medical
explanations poses a threat to psychotherapy outcome only when patients insist on excluding other relevant causal possibilities, such as psychological factors. In the present study, however, the participants held multiple attributions alongside medical beliefs, some of which were not necessarily incongruent with psychotherapy rationale (e.g., genetic factors).

The findings need to be viewed in the context of a number of methodological issues. First, given the relatively low response and high attrition rates, caution is warranted when generalizing the results to other samples. Second, the study focused only on the initial phase of psychotherapy, in which no statistically or clinically significant symptom reduction could be observed, most likely due to an insufficient psychotherapy exposure (approximately 5 sessions). Kraft, Puschner, and Kordy (2006) have demonstrated that in naturalistic settings statistically significant symptom change emerges typically after a period of three months. Thus, it is possible that discrepancy in non-psychological attributions may also be clinically relevant, however only in relation to long-term outcome. Third, the findings may not necessarily apply to other treatment modalities. For instance, discrepancy in psychological attributions may be less relevant in pharmacotherapy. Finally, despite the longitudinal nature of the study and applying corrections for a number of spurious variables, strictly, no causal inferences can be drawn from the present data.

Future studies may focus on the relation between attributional discrepancy and long-term outcome. Furthermore, the mechanisms through which belief congruence may affect outcome need to be more explicitly addressed in future endeavors. Finally, explicit protocols may be developed and examined to enhance attributional congruence between therapists and patients.

In conclusion, the present study found greater (baseline) therapist-patient discrepancy in psychological attributions to predict lower psychotherapy attendance, and worse early outcome. The findings have a number of important implications for clinical practice. Therapists are advised to (routinely) elicit their patients’ illness attributions in order to monitor attributional discrepancy, especially in the early phase of treatment. It is also essential to initiate an explicit “negotiation” regarding the etiology of symptoms, in order to establish an early congruence in therapy.
References


