Research paper

Therapeutic alliance mediates the association between personality and treatment outcome in patients with major depressive disorder

Shauna C. Kushner [a], Lena C. Quilty [a,b], Amanda A. Uliaszek [a,b], Carolina McBride [a,b], R. Michael Bagby [a,b,*]

[a] University of Toronto, Canada
[b] Centre for Addiction and Mental Health, Canada

ABSTRACT

Background: Patient personality traits have been shown to influence treatment outcome in those with major depressive disorder (MDD). The trait agreeableness, which reflects an interpersonal orientation, may affect treatment outcome *via* its role in the formation of therapeutic alliance. No published studies have tested this hypothesis in patients with MDD.
Method: Participants were 209 outpatients with MDD who were treated in a randomized control trial. Mediation analyses were conducted to examine the role of therapeutic alliance in the association between pretreatment personality and the reduction of depression symptom severity during treatment. Separate models were estimated for patient- versus therapist-rated therapeutic alliance.
Results: We found a significant indirect effect of agreeableness on the reduction of depression severity *via* patient-rated therapeutic alliance. Results were replicated across two well-validated measures of depression symptom severity. Results also partially supported indirect effects for extraversion and openness. Therapist ratings of alliance did not mediate the association between personality and treatment outcomes.
Limitations: Patients were recruited as part of a randomized control trial, which may limit the generalizability of results to practice-based clinical settings. Due to constraints on statistical power, intervention-specific mediation results were not examined.
Conclusions: These results highlight the importance of personality and the role it plays in treatment process as well as outcome.

© 2016 Elsevier B.V. All rights reserved.

1. Introduction

Patient personality traits, as operationalized using the five-factor model, are associated with treatment outcome in major depressive disorder (MDD; Bagby et al., 1995, 2008; Quilty et al., 2008). The five-factor model is a widely accepted hierarchical model of personality, and is composed of five higher-order dimensional trait domains–neuroticism, extraversion, openness-to-experience, agreeableness, and conscientiousness (Digman, 1997; McCrae and Costa, 2008). Investigators have documented positive associations between treatment responses for psychotherapy and agreeableness, a trait that encompasses interpersonal orientation; specifically, "agreeable" patient characteristics (e.g., trust, friendliness, warmth) have been associated with good treatment outcome, whereas disagreeable patient characteristics (e.g., distrust, manipulativeness, control-seeking) have been associated with poor treatment outcome (Gurtman, 1996; Ogrodniczuk et al., 2003). Results for pharmacotherapy have shown the opposite result, such that low variants of agreeableness (e.g., low trust and straightforwardness) were associated with lower posttreatment depression severity (Bagby et al., 2008). It has been theorized that agreeableness impacts treatment outcome through its influence on the therapeutic alliance (Miller, 1991; Zinbarg et al., 2008). For example, support for the influence of personality traits on client-therapist alliance and treatment outcomes would underscore the value of conducting pre-treatment personality assessments, as this data would inform prognostic utility and treatment selection determinations. For example, personality assessments may help illuminate the optimal foci of therapeutic change efforts, supply patients with realistic expectations of therapeutic gains, match treatment selection to patient personality traits, and facilitate the development of self in therapy (Harkness and Lilienfeld, 1997).

Despite its potential implications for treatment, investigators have yet to test directly the influence of patient personality traits on treatment outcome *via* their impact on therapeutic alliance among patients with MDD.

Therapeutic alliance refers to the collaborative bond between patients and therapists (Horvath and Luborsky, 1993; Krupnick et al., 1996; Martin et al., 2000). As with agreeableness, therapeutic alliance has been positively associated with treatment outcomes for both psychotherapy and pharmacotherapy (Castonguay et al., 1996; Falkenström et al., 2013; Klein et al., 2003; Krupnick et al., 1996; Orlinsky et al., 1994). Researchers have speculated that its effects on treatment outcome may be specious, in that therapeutic alliance represents a "proxy" for the influence of other variables, such as patient personality traits (Feeley et al., 1999; Klein et al., 2003; Orlinsky et al., 1994). Extensive research in personality psychology has substantiated agreeableness as a powerful predictor of positive interpersonal functioning (Roberts et al., 2007). Interpersonal processes within the therapeutic context have previously been operationalized according to the interpersonal circumplex, which characterizes interpersonal behavior across two bipolar dimensions: agency (dominance versus submission) and communion (warmth versus hostility; Kiesler, 1992; Wiggins, 1991). Agreeableness is positively associated with communion (DeYoung et al., 2013; McCrae and Costa, 1989; Wiggins and Pincus, 1994), and may likewise correspond to the complementary influence of interpersonal behaviors in therapy (Kiesler, 1983, 1996). That is, highly agreeable patients exhibit greater warmth in therapy, which elicits greater warmth from clinicians, thereby facilitating the development of therapeutic alliance. Moreover, aspects of agreeableness (e.g., compassion, politeness, and cooperation) may be associated with a desire for affiliative bonding and social regulation (DeYoung, 2015). Therapeutic alliance may thus be a manifestation of a characteristic adaptation (i.e., a stable goal, interpretation, and/or strategy) of agreeableness; however, the personality antecedents of therapeutic alliance have yet to be demonstrated empirically. Ratings of alliance by highly agreeable patients may likewise be influenced by an underlying desire to provide kinder, more positive evaluations of their therapists. Yet, there has been little investigation examining the associations among personality traits, therapeutic alliance and treatment outcome. Indeed, most investigations of personality in the context of treatment for depression have focused upon treatment outcomes rather than process.

Recently, Hirsh et al. (2012) found support for the mediation model linking agreeableness, therapeutic alliance and treatment outcome in a sample of patients with borderline personality disorder (BPD) treated with dialectical behavior therapy or treatment as usual. Results from this study revealed that associations between agreeableness and treatment outcome were mediated *via* therapeutic alliance, particularly in response to dialectical behavior therapy. Patients diagnosed with MDD and BPD notably exhibit discrepant five-factor model trait profiles, such that patients with BPD typically exhibit low agreeableness (Blais, 1997; Pukrop, 2002), whereas most studies have yielded no significant associations among agreeableness and MDD diagnoses or depression severity (Bienvenu et al., 2004; Rosellini and Brown, 2011). Nevertheless, preliminary evidence does support a positive association among patient agreeableness and therapeutic alliance in mixed outpatient samples (Bachelor et al., 2010; Coleman, 2006). It is currently unclear whether the associations among personality, therapeutic alliance, and treatment outcome are the same across diagnoses. The current investigation thus aimed to extend this research by examining whether agreeableness has a unique effect on therapeutic alliance in MDD, and whether this effect is specific to this personality trait.

1.1. The current investigation

The present study tests directly the hypothesis that therapeutic alliance mediates the association between personality and treatment response in patients with MDD. In this research, we examined the associations among personality, therapeutic alliance, and treatment outcome in 168 patients with MDD who were treated as part of a randomized control trial. Although data from this sample has been included in earlier reports (Bagby et al., 2008; Bulmash et al., 2009; Kushner et al., 2009; McBride et al., 2006; Quilty et al., 2013), no previous work has examined the role of therapeutic alliance. Consistent with clinical research and theory (Hirsh et al., 2012; Miller, 1991; Zinbarg et al., 2008), we hypothesized that agreeableness would be positively associated with therapeutic alliance and negatively associated with symptom severity at the end of treatment. At the outset, there was no conceptual or theoretical basis to anticipate that the other five-factor model domains would influence treatment outcome *via* therapeutic alliance. Given mixed evidence for the convergence of patients' and therapists' ratings of therapeutic alliance (De Bolle, 2010; Krupnick et al., 1996; Tryon et al., 2007), we tested separate models using patient and therapists' ratings of alliance. In addition, we repeated analyses across two well-validated measures of depressive symptom severity.

2. Methods

2.1. Participants

Participants were 146 outpatients (63.0% female) who participated in a large randomized control trial investigation conducted at a tertiary care psychiatric facility (see ClinicalTrials.gov, #NCT00744406—RMB Principal Investigator), which included three treatment conditions: antidepressant medication (ADM), interpersonal therapy (IPT), and cognitive behavioral therapy (CBT). Participant flow and demographic characteristics are displayed in Fig. 1 and Table 1, respectively. All participants were 18–65 years of age, fluent in English, and provided informed consent. Patients were not obligated to disclose racial or ethnic information; however, the general impression was that the sample was predominantly Caucasian and Canadian-born, reflecting the broader patient base at the clinic.
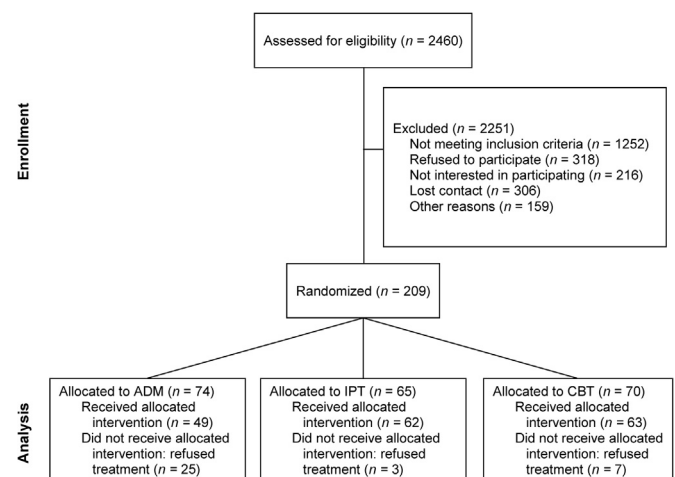

Fig. 1. Participant flow.