University of Tennessee, Knoxville
Trace: Tennessee Research and Creative Exchange

Doctoral Dissertations | Graduate School

8-2012

Openness to the Unconscious: Clinical Validity

Scott Andrew Swan
sswan@utk.edu

Recommended Citation
Swan, Scott Andrew, "Openness to the Unconscious: Clinical Validity. " PhD diss., University of Tennessee, 2012.
http://trace.tennessee.edu/utk_graddiss/1403

This Dissertation is brought to you for free and open access by the Graduate School at Trace: Tennessee Research and Creative Exchange. It has been accepted for inclusion in Doctoral Dissertations by an authorized administrator of Trace: Tennessee Research and Creative Exchange. For more information, please contact trace@utk.edu.

To the Graduate Council:

I am submitting herewith a dissertation written by Scott Andrew Swan entitled "Openness to the Unconscious: Clinical Validity." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.

Michael R. Nash, Major Professor

We have read this dissertation and recommend its acceptance:

John W. Lounsbury, Jacob J. Levy, James E. Diamond

Accepted for the Council:
Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

To the Graduate Council:

I am submitting herewith a dissertation written by Scott Andrew Swan Jr. entitled "Openness to the Unconscious: Clinical Validity." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.

_____
Michael R. Nash, Major Professor

We have read this dissertation
and recommend its acceptance:

_____
John W. Lounsbury

_____
Jacob J. Levy

_____
James E. Diamond

Accepted for the Council

_____
Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records)

Openness to the Unconscious: Clinical Validity

A Dissertation Presented for

the Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

Scott Andrew Swan Jr.

August 2012

Copyright © 2012 by Scott Andrew Swan Jr.

All rights reserved.

Acknowledgements

I owe a debt of gratitude to my major professor Michael Nash for his mentorship through the full course of my doctoral training. Not only did he accept and foster my changing interests and growing curiosity about mental and emotional life, but he provided reassuring stability and patient reflection to help me through many challenges I faced in the pursuit of this degree. Similarly, I owe special thanks to William MacGillivray, a caring, frank, attentive, and honest mentor who was instrumental in the formation of my identity as a clinician. Thankfully, he walked me through some of my most personal work as well. Also, I thank Jenny Macfie for her ongoing encouragement and support despite my capricious research goals. Further, I have deep gratitude for Alden Gaertner's love, inspiration, and encouragement.

More pertinent to this project, thank you to the patients and trainees at the University of Tennessee Psychological Clinic, and to Lance Laurence, Clinic Director, for their time and effort which made this project possible. I greatly appreciate that my colleagues Albert Wong, Erin Gray Volpe, and Michael Finn gave me their patience and curiosity, helping me to clarify and explore the ideas behind this program of research.

This dissertation is dedicated to my family, especially to my son, James Elliott Swan.

Abstract

Theory provides a background for the underlying construct of Openness to the Unconscious and in turn for the Openness to the Unconscious scale (OU), which was designed to predict personal fit for different kinds of psychotherapy. Two studies test the clinical validity of the scale using records review from a training clinic. Cross-sectional analysis with MMPI-2 data failed to support hypotheses regarding OU's relationship to personality psychopathology. More importantly, the scale failed to predict attrition from psychotherapy, which had been expected. Results also fail to support the hypotheses that OU interacts with treatment type to predict attrition. These findings are discussed. Exploratory analyses suggest possibilities for future research of the OU scale, especially regarding its possible relationship with hysteric and manic traits.

Keywords: attrition, openness, personality, psychotherapy, unconscious

Table of Contents

Introduction 1

Openness 1

The Unconscious 3

Openness to the Unconscious 4

Scale construction 4

Reliability and validity 5

Psychotherapy 7

Psychoanalytic psychotherapy 7

Cognitive behavioral psychotherapy 9

Psychotherapy and mindfulness 10

Attrition from Psychotherapy 10

Patient factors and attrition 12

Treatment characteristics and attrition 14

Study 1: Openness to the Unconscious: Clinical Personality Correlates 16

Correction (K). 16

Hypochondriasis (Scale 1). 17

Hysteria (Scale 3). 17

Paranoia (Scale 6). 17

Psychasthenia (Scale 7). 17

Repression (R). 18

Ego Strength (Es). 18

Analysis 18

Method.....19
Setting..... 19
Subjects 19
Measures..... 20
Procedure..... 25
Results 25
Hypothesis Testing..... 25
Exploratory Analyses 25
Discussion of Study 1.....26
Study 2: Openness to the Unconscious and Attrition from Psychotherapy 28
Method.....29
Setting..... 29
Subjects 29
Measures and Procedure..... 30
Results 31
Preliminary Analyses 31
Hypothesis Testing..... 32
Exploratory analyses 33
Discussion of Study 2.....34
Summary Discussion..... 36
Implications 36
Limitations.....37
Future research 38

References 39

Appendix 59

Tables 60

Figures 74

Vita 77

LIST OF TABLES

Openness to the unconscious: Items and item-total correlations. 60

Items shared between MMPI-2 scales, total items on the diagonal 61

Intercorrelations and descriptive statistics for MMPI-2 scores and OU, valid versuss invalid profiles. 62

Regression coefficients: MMPI-2 scales predicting OU. 63

Pearson correlation matrix: MMPI-2 validity scales and OU. 64

Pearson correlation matrix: MMPI-2 clinical scales and OU.....65

Pearson correlation matrix: Personality Psychopathology (PSY-5) and OU. 66

Regression coefficients and change statistics: MMPI-2 clinical scales predicting OU 67

Regression coefficients and change statistics: MMPI-2 clinical and validity scales predicting OU.....68

Tests of demographic differences by treatment status and type.....69

Descriptives for psychotherapy sessions and OU: Treatment type by status.....70

Binary logistic regression: OU x treatment predicting attrition.....71

Binary logistic regression: OU x treatment predicting attrition or denied treatment.....72

Classification rates: Negative Emotionality / Neuroticism predicting attrition 73

LIST OF FIGURES

Mean age by treatment type.....74

OU by treatment type.....75

Mean OU by treatment status 76

Introduction

The present program of research tests the validity of a self-report scale for Openness to the Unconscious (OU). Openness in this context comes from a Five Factor Model (FFM) of personality (Digman, 1990) defined as curiosity and receptivity, and the unconscious from within a psychoanalytic frame (Bromberg, 1996; Stern, 1997) defined as repressed and unformulated mental phenomena (Swan, 2009; Swan, Gray, Wong, Lounsbury & Nash, 2010). Openness to the unconscious as a construct was conceptually devised to capture a key difference in personality that corresponds to the theoretical differences between dominant traditions of psychotherapy. Ideally, a scale for OU would in turn predict fit between an individual and psychoanalytic versus cognitive-behavioral treatment. Prior unpublished research (Swan et al, 2010; Volpe, Finn, Swan, Wong, Nash & Lounsbury, 2011) has demonstrated encouraging findings, but was conducted in a non-clinical context.

As such, the two studies described below extend these prior efforts into a clinical setting to further assess the validity of the OU scale. First, cross-sectional results from a sample of psychological assessment patients explores the relationships between OU and several clinical aspects of personality using a ubiquitous clinical personality inventory. Second, results from psychotherapy patients assess the scale's usefulness for predicting attrition from psychotherapy, thereby also testing one kind of fit between personality and type of therapy. For each study, *post hoc* analyses explore unpredicted relationships between OU and other variables of interest, providing directions for future study.

Openness

From within the FFM tradition of personality (Digman, 1990; McCrae & John, 1992), McCrae and Costa define Openness to Experience as, "the breadth, depth, and permeability of

consciousness, and the recurrent need to enlarge and examine experience." (1997, p. 825) As McCrae and Sutin expound on this phrase later, "This description makes Openness fundamentally an intrapsychic variable, associated with... homesickness for the unknown." (2009, p. 257). The particular aspect of Openness to be captured by OU similarly involves one's receptivity to internal processes, such as feelings or fantasies, and the capacity to be surprised by them. Furthermore, many cognitive processes occur outside of awareness (Banse, 1999; Reingold & Merikle, 1990) and any given person could be more or less curious about them. Therein lies the nature of OU. Briefly, a review of the relationship between Openness and other relevant constructs clarifies OU, which we posit as a type of Openness specifically pertinent to psychotherapy.

Openness has been correlated with multiple measures for creativity with medium to large effect sizes (r = .41, Griffin & McDermott, 1998; r = .66, Silvia, Nusbaum, Berg, Martin, & O'Connor, 2009). Also, Openness correlates moderately with sentence completion measures of ego development (r = .29, Einstein & Lanning, 1998; r = .39, Kurtz & Tiegreen, 2005), and with frequency of dream recall, though at small effect size (r = .17, Schredl, Ciric, Götz, & Wittmann, 2003). Further, Openness correlates modestly with greater dopaminergic functioning in the prefrontal cortex (r = .21; DeYoung, Peterson, & Higgins, 2005), and modestly with improved physiological reactivity to stress (r = .13, Williams, Rau, Cribbet, & Gunn, 2009). Cognitive ability correlates of Openness are inconclusive, with some researchers reporting that Openness relates to fluency (r = .35), but not verbal skills (Unsworth et al., 2009), and others reporting that it correlates with both fluency (r = .24) and verbal skills (r = .44, Schretlen, VanDerHulst, Pearlson, & Gordon, 2010). Consequences for Openness in social or interpersonal contexts are multiple and varied, affecting the quality of friendships, marriages, and work groups (McCrae &

Sutin, 2009). Interestingly, a review of clinical literature on the FFM (Zinbarg, Uliaszek, & Adler, 2008) suggests that every factor but Openness has been differentially associated with personality disorders.

The Unconscious

Early psychoanalytic models of the unconscious tend to be dynamic, such that the unconscious works in opposition to integration of knowledge about oneself, blocking unacceptable experiences from awareness. A dynamic tension exists between disavowed aspects of the self that push for expression, and the defenses deployed to exclude them. We only experience the dynamic unconscious through its derivatives. In contrast, a contemporary theory of the unconscious (Bromberg, 1996; Slavin & Kriegman, 1992) more broadly posits a multiplicity in the self (Elster, 1986), such that we can be both deceived (Fingarette, 2000), and surprised (Reik, 1936) by the unconscious. Something similar occurs in processes of dissociation, when the observing self separates from the experiencing self (Fenichel, 1969) to create symbolic representations of the self (Fonagy, Steele, Steele, Moran, & Higgitt, 1991). Also, the unconscious drives us to interact with the world through a socially acceptable façade that hides a more spontaneous "true self" within (Winnicott, 1960, 1971).

Stolorow, Atwood and Brandchaft (1992) use an intersubjective framework to outline two related manifestations of the unconscious: a) the *prereflective*, “organizing principles that unconsciously shape and thematize a person’s experiences,” and b) the *unvalidated*, “experiences that… never evoked the requisite validating responsiveness from the surround." (p. 28) The intersubjective unconscious differs from the dynamic unconscious, primarily because it de-emphasizes the importance of repression and conflict. For Stern (1997), these theories underscore the role of unformulated experiences, events and patterns in the past that influence

the present simply because they have not yet been understood with language. The construct of OU encompasses curiosity about both the dynamic unconscious (i.e. “I’d like to know more about my own hidden motives.”), and unformulated experience (i.e. “I’m curious about the parts of my own personality that are unclear.”) Being open to one’s unconscious requires receptivity to any meaningful psychological phenomena that influence behavior from outside of full awareness.

Openness to the Unconscious

I propose a subtype of Openness, specifically focused on curiosity and receptivity towards repressed and unformulated mental experiences. In this vein, OU includes: 1) recognition that one’s own unconscious processes influence behavior, motivation, and perception, 2) curiosity about ambiguity or inconsistencies in the self, 3) desire to explore hidden aspects of the self and the ways that hiding occurs, and 4) receptivity to unbidden and possibly painful realizations about the self. A measure of OU should quantify these aspects of personality reliably, and should covary with other important measures of personality, psychopathology, and response to treatment. For instance, those who are especially receptive to the unconscious should be more likely remain in psychoanalytic therapy through termination, while those who are less receptive to the unconscious should more likely remain in cognitive behavioral therapy through termination.

Scale construction. In previous studies, 30 OU items were written to conceptually capture interest and awareness about ways in which someone opens up to derivatives of the unconscious (Swan, 2009). These statements were intended to reflect hidden aspects of the self (e.g. “There are parts of my personality that are hidden from my own awareness.”) and inexplicable behaviors or drives (e.g. “I experience impulses that are hard for me to

understand.”) Content areas covered in the original set included interpersonal patterns (e.g. “For me, old relationships surprisingly influence new ones.”) dreams or nightmares (e.g. “Trying to interpret my dreams would be meaningless.”) and unintentional behaviors (e.g. “I catch myself doing things unintentionally.”) Seven reverse-coded items were included in this set as well (e.g. “I ignore my own irrational impulses.”)

Using a five point Likert distribution, 231 undergraduate students enrolled in an introductory psychology class responded to this initial version, rating each statement Strongly Agree, Agree, Not Sure, Disagree or Strongly Disagree. Internal reliability was acceptable for the full 30 item set, Cronbach’s $\alpha = .79$. Statistical analyses, including item-total correlations, informed the removal of items, including those with poor response distribution, and those that were reverse-coded. A factor analysis informed the removal of items that fell into two small and only loosely related factors for interpersonal patterns, and for dreams or nightmares. After the set was reduced to 10 items, it maintained an acceptable internal reliability on that same sample, Cronbach’s $\alpha = .75$ (Swan, 2009).

For the 12-item version of OU developed in a subsequent study (Swan, Gray, Wong, Lounsbury, & Nash, 2010), two items were revised for clarity, and two items were added to emphasize the importance of surprise (i.e. “I notice things about myself that are unexpected.”) and curiosity (i.e. “It would be great to figure out the hidden things in my mind.”) Findings discussed next were found with this 12-item OU scale (see Table 1), the version used in the present study.

Reliability and validity. In a preliminary unpublished study of the revised scale (Swan, et al., 2010), OU demonstrated acceptible internal reliability, Cronbach’s $\alpha = .86$, with inter-item correlations ranging from $r = .10$ to $r = .54$. Also, corrected item-total correlations ranged from r

= .43 ("There are things going on in my mind that are hidden from me.") to r = .78 ("I'm curious about the parts of my own personality that are unclear.") Impression Management (Cattell, Cattell, & Cattell, 1993) yielded a small negative correlation with OU (r = -.21), suggesting that high OU responders were less likely to engage in intentional distortion. Further, OU correlated strongly with Openness to Experience (r = .66), suggesting that the two constructs overlap, and that additional studies should test the ability of OU to incrementally predict meaningful outcomes.

A subsequent unpublished study of OU and hypnosis (Volpe et al, 2011) showed that OU has a moderate test-retest reliability (r = .50, p < .05) after two weeks. Interestingly, OU significantly increased over that time ($t(119) = 6.87$, p <.05). Also, it was positively correlated with hypnotic susceptibility one week later (r = .33, p < .05) but not one week prior (r = .22, p = .06). Although hypnotic susceptibility did not moderate change in OU, hypnosis itself could ostensibly have increased OU, thereby decreasing its test-retest reliability, which has not yet been tested elsewhere.

Regarding psychotherapy, OU has correlated moderately with attitudes towards psychotherapy, particularly whether someone believes psychotherapy might help them personally (r = .31, p < .01; Swan et al, 2010). Also, OU correlates with the Philadelphia Mindfulness Scales (PHLMS; Cardaciotto, Herbert, Forman, Moitra, & Farrow, 2008), which represent complementary aspects of mindfulness: Awareness and Acceptance. OU correlated positively with Awareness (r = .54, p < .01) but negatively with Acceptance (r = -.40, p < .01), demonstrating validity in that it has a similar and yet unique relationship with mindfulness, with medium to large effect sizes (Swan et al, 2010).

This inverse relationship of OU with Awareness and Acceptance suggests that the measure captures a construct which relates to mindfulness and therefore has relevance to psychotherapy. Specifically, these findings suggest that OU measures awareness of unacceptable (repressed or unformulated) experiences. This can be contrasted with the PHLMS, which broadly measures "the tendency to be highly aware of one's internal and external experiences in the context of an accepting, nonjudgmental stance toward those experiences." (Cardaciotto, et al., 2008, p. 205) The Acceptance scale contains all reverse-coded items, such as "When I have a bad memory, I try to distract myself to make it go away," and "There are aspects of myself I don't want to think about." Such statements should be endorsed by those who are receptive to the importance of such defensive processes, i.e. someone high in OU.

Such a distinction between mindfulness and OU parallels important differences between psychoanalytic and cognitive-behavioral theories of psychotherapy. Dialectical Behavior Therapy (DBT; Linehan & Dexter-Mazza, 2008) and Mentalization Based Treatment (MBT; Allen & Fonagy, 2006; Fonagy & Gyorgy, 2004), are contrasted later, exemplifying theoretical differences between cognitive-behavioral and psychoanalytic forms of therapy. These findings also support the central hypothesis of the present project: that attrition can be predicted in an interaction between OU and treatment type.

Psychotherapy

Psychoanalytic psychotherapy. Descriptions of psychoanalytic[1] theory and technique for psychotherapy are complex, numerous, and varied (e.g. Greenberg & Mitchell, 1983;

---

[1] Some have used the terms *psychoanalytic* versus *psychodynamic* to differentiate intensity of treatment frequency or duration (Johnson, 1998), or to create distance from dated psychoanalytic

Levenson, 2010; Luborsky, 2000; Malan, 2001; McWilliams, 2004; Mitchell & Black, 1995; F. Summers, 1994; R. Summers & Barber, 2009; Yeomans, Clarkin, & Levy, K., 2005). In a recent article about its empirical support, Shedler writes (2010, p. 98), "The essence of psychodynamic therapy is exploring those aspects of self that are not fully known, especially as they are manifested and potentially influenced in the therapy relationship." Blagys and Hilsenroth (2000) have shown that the following characteristics of process and technique reliably distinguish manualized psychodynamic psychotherapy from manualized cognitive behavioral psychotherapy:

> (1) a focus on affect and the expression of patients' emotions; (2) an exploration of patients' attempts to avoid topics or engage in activities that hinder the progress of therapy; (3) the identification of patterns in patients' actions, thoughts, feelings, experiences, and relationships; (4) an emphasis on past experiences; (5) a focus on a patients' interpersonal experiences; (6) an emphasis on the therapeutic relationship; and (7) an exploration of patients' wishes, dreams, or fantasies. (Blagys & Hilsenroth, 2000, p. 167)

Regarding underlying conceptual differences, Summers and Barber (2009, pp. 60 - 61) outline distinctive characteristics along similar dimensions, highlighting the use of the relationship for a corrective emotional experience, and a relative lack of structure such that less

---

concepts such as the Oedipus complex (e.g. Puschner, Kraft, Kachele, & Kordy, 2007). I take McWilliams' lead (2004) however, using *psychoanalytic* where either word would suffice. Also, it should be noted that *psychoanalytic psychotherapy* represents a range of similar techniques, although *psychoanalysis* as a technique per se does not directly pertain here.

conscious material can surface more readily. Also, they contrast (p. 62) the explicit uncovering of automatic thoughts and thinking patterns typical to cognitive behavioral therapy, with a focus on implicit patterns for handling conflict, that surface through the interpretation of resistance, defense, and transference. To the extent that practitioners of both orientations work to change deep implicit structures that influence perception and behavior (e.g. Schema Therapy; Young, Klosko, & Weishaar, 2003), there are some areas of conceptual overlap between these orientations in their explanations for therapeutic change.

Cognitive behavioral psychotherapy. The earliest forms of cognitive-behavioral therapy can be traced back to Rational-Emotive Therapy, which Albert Ellis described as a departure from his own psychoanalytic methods, a more efficient form of therapy focused on cognition and emotional expression in the present, rather than unconscious conflict from the past (1969). Although originally developed in one of its forms as a short term structured treatment for depression (A. Beck, 1979), cognitive therapy has developed into a heterogenous set of complex and sometimes conflicting models for treating psychopathology (Barlow, 2008; A. Beck, 2005). On the other hand, all cognitive therapies have been built around the assertion (J. Beck, 1995) that psychopathology involves an essentially cognitive component: distorted or dysfunctional thinking that in turn influences behavior and mood. Basic principles of learned behavior (e.g. Skinner, 1988; Wolpe, 1968) have been regularly integrated with cognitive therapy, thus the popular designation: cognitive behavioral therapy.

Because the field has expanded significantly since its birth, these are not necessarily central components in some forms of CBT. However, Blagys and Hilsenroth (2002) have conducted a similar study of the distinctive aspects of process and technique that can reliably identify cognitive behavioral psychotherapy:

> (1) use of homework and outside-of-session activities; (2) direction of session activity; (3) teaching of skills used by patients to cope with symptoms; (4) emphasis on patients' future experiences; (5) providing patients with information about their treatment, disorder, or symptoms; and (6) an intrapersonal/cognitive focus. (Blagys & Hilsenroth, 2002, p. 671)

Psychotherapy and mindfulness. As described above, OU has a unique relationship with elements of mindfulness. Both broader concepts capture curiosity and awareness of human experience, but they diverge around the importance of unconscious influence. The same difference plays out in contrasts between cognitive behavioral and psychoanalytic models of therapy. Both DBT (Linehan, 1993a; Linehan & Dexter-Mazza, 2008) and MBT (Allen & Fonagy, 2006; Bateman & Fonagy, 2008; Fonagy & Target, 2003) propose models for helping patients with borderline personality disorder to improve awareness of mental states in the self and others. There are important differences that surface in the findings of RCT outcome studies (Bateman & Fonagy, 2001; Bouchard et al., 2008; Fonagy & Bateman, 2006).

Grounded in cognitive approaches (Linehan, 1993a), DBT practitioners validate patients, and they direct them to learn and apply explicit skills for mindfulness, interpersonal problem solving, and affect regulation (Linehan, 1993b). On the other hand, coming from the intersection of psychoanalysis and attachment theory (Fonagy, 2001), MBT practitioners work to develop a relationship which fosters embedded awareness. Rather than using directive skills-based interventions that operate explicitly (Linehan, 1993b), therapists using mentalization manage and interpret the relationship with the patient as a means for facilitating awareness implicitly (Allen & Fonagy, 2006).

Attrition from Psychotherapy

Premature patient-initiated termination causes substantial administrative and financial problems, ultimately limiting the efficiency of treatment utilization for all patients (Joyce, Piper, Ogrodniczuk, & Klein, 2007). Studies in clinic and community settings tend to yield attrition rates around 50% (Baekeland & Lundwall, 1975; Garfield & Bergin, 1986; Persons, Burns, & Perloff, 1988; Wierzbicki & Pekarik, 1993). Naturalistic studies of brief time-limited psychotherapies tend to report lower rates, ranging from 23% to 32% (Elkin et al., 1989; Sledge, Moras, Hartley, & Levine, 1990 respectively), while clinical research settings tend to report rates as low as 17% (Hunt & Andrews, 1992).

Not surprisingly, multiple operational definitions for attrition impact conclusions about factors that contribute to this outcome (Garfield, 1994; Pekarik, 1985). “Dropouts” have been defined as those who quit therapy prior to a minimal amount of therapeutic change (Hatchett & Park, 2003), a minimal number of sessions (Barrett, Chua, Crits-Christoph, Gibbons, & Thompson, 2008), or by simply missing the last scheduled appointment (Pekarik, 1985). Although these factors often converge, this experimental choice can have considerable impact on studies of client and therapist factors in premature termination (Wierzbicki & Pekarik, 1993). For example, mixed findings have surfaced regarding the effect that continuing with one's intake therapist can have on attrition, depending on the chosen operational definition for premature termination (Wise & Rinn, 1983).

In a call for consistency, some psychotherapy researchers (Garfield, 1994; Wierzbicki & Pekarik, 1993) have recommended an operational definition which includes attendance for at least one session of therapy, and missing the last scheduled appointment. Much of the literature on this topic since has followed suit, tending to define premature termination with cutoffs such as “termination by nonreturn for a scheduled appointment” (Lambert, 2010, p. 209), for patients

who have had at least one session following intake. Among definitions examined in an attrition study at a university training clinic, termination by failing to return for scheduled appointment conformed best with therapists' judgments that termination was premature (Hatchett & Park, 2003). Evidence suggests however (Swift, Callahan, & Levine, 2009), that some patients classified by the "nonreturn" definition have reported clinically significant change on pre-post comparison. In fact, patients often explain that they have terminated psychotherapy early because problems have improved, even when they opt not to return for a scheduled appointment to discuss their decision (Pekarik, 1983; Wierzbicki & Pekarik, 1993).

Patient factors and attrition. Clarkin and K. Levy assert that, "client characteristics are central to motivation for and the nature of participation in psychotherapy" (2004, p. 216). Demographic variables such as lower social class (Persons, et al., 1988), less education (Chiesa, Drahorad, & Longo, 2000), and lower occupational status (Roback & Smith, 1987) have been associated with attrition. Non-Caucasian race has also been identified as a risk factor for attrition (J. Levy, Thompson-Leonardelli, Smith, & Coleman, 2005; Wierzbicki & Pekarik, 1993). Furthermore, in a study of Transference Focused Psychotherapy (Yeomans, Clarkin, & Kernberg, 2002), younger patients were more likely (r = .21) to quit therapy early (Smith, Koenigsberg, Yeomans, Clarkin, & Selzer, 1995), though effect size for a similar finding was even smaller (r = .09) for pre-treatment dropouts at a university counseling clinic (Lampropoulos, Schneider, & Spengler, 2009).

Mixed results have surfaced regarding the impact of diagnoses on attrition. Personality disorders have been repeatedly associated with worse rates (from r = .10 to 1.04) of attrition (e.g. Chiesa, et al., 2000; Persons, et al., 1988), yet some studies have failed to replicate these findings (e.g. Keijsers, Kampman, & Hoogduin, 2001). During cognitive behavioral treatment for anxiety

disorders (Issakidis & Andrews, 2004), comorbid depression substantially increased the probability of dropping out, both pretreatment (r = .76) and during treatment (r = .38). Similarly, higher ratings of depression considerably predicted attrition (r = .41) in a study of cognitive behavioral therapy for depression (Persons, et al., 1988). On the other hand, lower ratings of depression severity at intake have also predicted attrition (r = .30) in another study of unspecified psychotherapy type (Simon & Ludman, 2010). In this vein, although results have been mixed (Garfield, 1994), subjective distress shows promise as a predictor of attrition, especially as a moderating variable for other patient or treatment factors (Ackerman, Hilsenroth, Clemence, Weatherill, & Fowler, 2000; Stark & Campbell, 1988).

Relatively little research on therapy outcomes has addressed client variables that go beyond diagnoses and demographics (Clarkin & K. Levy, 2004). Of these, readiness for change, interpersonal functioning, and expectations of treatment have received the most attention (Joyce, et al., 2007). A substantial literature shows that readiness for change (Prochaska, Norcross, & Diclemente, 1994; Prochaska, Redding, & Evers, 2002) predicts attrition well, such that patients in pre-contemplation or contemplation are substantially more likely (r = .90) to terminate early (Brogan, Prochaska, & Prochaska, 1999). Interpersonal factors relate as well, such that positive relationships outside of therapy may increase expectations for therapy, along with chances of early termination (Joyce, et al., 2007), and various measures of object relations predict increased benefits (r = .17 to .73) from psychoanalytic therapy (Valbak, 2004). In the Rorschach literature, more cooperative relationships, positive affect about relationships, and positive expectations for relationships have all been associated with quicker termination, suggesting that those suffering from more interpersonal distress utilize considerably more (r = .71) psychotherapy resources (Hilsenroth, Handler, Toman, & Padawer, 1995). Also, chances of attrition may be higher (r =

.63) for those who expect therapy will be shorter than it actually turns out to be, in both session length and treatment duration (Reis & Brown, 2006).

Five Factor Models have shown some promise at predicting psychotherapy attrition, though most of this literature has been focused on group psychotherapy. For example, in geriatric group therapy, Openness to Experience predicted successful completion (r = .50; Canuto, Meiler-Mititelu, Herrmann, Giannakopoulos, & Weber, 2008). Similarly, for both supportive and interpretive group psychotherapy in adults, higher Extraversion, Conscientiousness, and Openness, and low Neuroticism all predicted persistence in therapy (Ogrodniczuk, Piper, Joyce, Mccallum, & Rosie, 2003).

Walters, Solomon & Walden (1982) showed with MMPI-2 scores that among adults who persisted for at least 6 sessions of psychotherapy, men were more distressed (r = .19 to .25), while women were less impulsive (r = .20). A study of inpatient substance abuse treatment has demonstrated small effects of lower K values (r = .09) and higher Ma scores (r = .07) predicting dropouts (Polimeni, Moore, & Gruenert, 2010). On the other hand, multiple studies of MMPI-2 scales have failed to predict attrition, duration, or treatment outcomes (Chisholm, Crowther, & Ben-Porath, 1997; Hilsenroth, et al., 1995; Renk, Dinger, & Bjugstad, 2000).

Treatment characteristics and attrition. Qualitatively, patients tend to attribute early termination to the type of treatment used, or to the structure and culture of treatment provision (Chiesa, et al., 2000). Some forms of treatment may be more vulnerable to attrition in the treatment of certain disorders. For example, in an RCT comparing psychoanalytic versus relaxation-training treatments for panic disorder, patients in the relaxation group were more likely to terminate early (Milrod et al., 2007). Also, a meta-analysis comparing treatments for depression showed significantly higher dropout rates in cognitive-behavioral therapy (relative

risk = 1.17), when compared to other forms of therapy, including interpersonal (relative risk = .80) and non-directive supportive (relative risk = .94) treatments (Cuijpers, Van Straten, Andersson, & Van Oppen, 2008). These studies contribute to a diverse body of research that informs clinicians about likely fit between patient diagnoses and treatment options, which invaluably informs efforts at optimizing patient compliance (cf. Barlow, 2008; Roth & Fonagy, 2005).

Interactions between non-diagnostic patient factors and treatment conditions (e.g. Huppert, Barlow, Gorman, Shear, & Woods, 2006) provide particularly important information for clinicians (Clarkin & K. Levy, 2004), yet such outcomes have thus far been limited (Lambert, 2010). Looking beyond diagnostic and demographic characteristics, additional tools for systematically predicting a patient's fit with different models of psychotherapy could help guide clinical decisions around treatment and referral. Conducted properly, such research would ultimately reduce attrition, improve outcomes, and result in the more efficient delivery of psychological services.

Study 1: Openness to the Unconscious: Clinical Personality Correlates

In order to further assess the validity of the OU scale for a clinical setting, Study 1 aims to test its relationship with salient clinical measures of personality. It is assumed that identifiable patterns of psychopathology and defensiveness would preclude someone from an open and curious stance towards the internal world. Underlying theory and the definition of OU described above suggest that its scale should correlate positively with clinical indicators of psychopathology that can be understood verbally and directly, and inversely with clinical indicators of non-verbal and indirectly observed defenses. Therefore, OU would correlate negatively with defensiveness, paranoia, somatic complaints, and repression; while on the other hand, OU should correlate positively with obsessive anxiety and ego strength. The Minnesota Mulitphasic Personality Inventory, 2nd Edition (MMPI-2; Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989) has been well established as a commonly utilized self-report for use in psychopathology research (Greene, 2000), assessing a range of clinical personality constructs, including those listed above. As a result, 7 specific hypotheses were established prior to data collection, each a specific MMPI-2 scale expected to correlate with OU:

Correction (K). Originally derived to correct and adjust clinical scales based on response style, the Correction scale (K) on its own also provides important clinical information about defensiveness (Friedman, et al., 2001). According to underlying theory, those higher on K should be lower in OU, ostensibly because they would demonstrate general emotional constraint and defensiveness about their own psychological distress. If a negative relationship between K and OU results as expected, additional analyses of the relationship between OU and clinical variables will control for K.

Hypochondriasis (Scale 1). Scale 1 was developed on populations with somatic complaints that lacked medical or organic causes (Hathaway & McKinley, 1989). Scale 1 also measures preoccupation with oneself and with the body (Friedman, et al., 2001). Theory suggests that patients with elevations on these scales rely on defenses such as somatization and dissociation to handle internal conflict. These coping strategies suggest a tendency to experience conflict and emotion non-verbally, outside of awareness, therefore Scale 1 was expected to correlate negatively with OU.

Hysteria (Scale 3). Scale 3 was developed on populations with unexplained or unusual sensory and cognitive complaints (Hathaway & McKinley, 1989). Also, the construct underlying this scale includes the denial of common non-physical problems such as social anxiety (Friedman, et al., 2001). Patients elevated in Scale 3 tend to rely on defenses such as repression, suppression, and denial, suggesting that OU should be lower in patients high on Scale 3.

Paranoia (Scale 6). Patients who score high on Scale 6 are likely to exhibit worry about others' aggression, ideas of reference, delusions, brooding, hostility, and displacement (Hathaway & McKinley, 1989). Scale 6 represents a turning of attention outwards, through the use of primitive defenses such as projection. Because they disown negative impulses and threatening aspects of the self, patients with this presentation will be less likely to turn inwards and embrace internal ambiguity. Therefore, scale 6 was also expected to relate negatively to the OU scale.

Psychasthenia (Scale 7). Obsessive and compulsive patients were used to develop Scale 7 (Hathaway & McKinley, 1989). Although they may not necessarily express curiosity or surprise about the influence of the unconscious, patients higher on Scale 7 should endorse cognition about unconscious aspects of the self (e.g. "I think about sides of my personality that

rarely surface.”) and convey an awareness of hidden conflict (e.g. “There are things going on in my mind that are hidden from me.”) Characterized by cognitive symptoms of anxiety, this scale was expected to be associated with higher levels of OU.

Repression (R). One of the special clinical subscales available from extended score reports, Welsh’s A and R scales for the MMPI (1956, 1965) capture orthogonal constructs of anxiety, versus “reliance on mechanisms of repression and denial with rationalization and lack of effective insight” (Welsh, 1965, p. 43). Although some awareness of phenomena like repression would seem prerequisite for OU, it was expected to correlate negatively with R, because the items contributing to this supplemental scale seem to tap into a lack of awareness resulting from defensiveness.

Ego Strength (Es). Barron (1953) originally developed the Ego Strength scale (Es) to measure one's ability to benefit from psychotherapy, but it has more recently come to represent a general indicator of effective psychological functioning (Sprock & Bienek, 1998). These factors should generally enable someone to embrace curiosity about the self and the unconscious, therefore OU was expected to correlate positively with Es.

Analysis. Initially, each of the 7 hypotheses above will be tested with Pearson correlations, using two-tailed significance testing. To control for multiple comparisons, the conservative Bonferroni correction calls for an adjusted $\alpha = .007$, calculated from the formula $\beta = \alpha / n$, where $\alpha = .05$ and $n = 7$ *a priori* comparisons (Abdi, 2007). Next, if more than one correlation remains significant, simultaneously regressing them onto OU as the dependent variable may inform relative contributions to the variance.

Method

Setting. The Psychological Clinic at the University of Tennessee serves as a training clinic for doctoral students in an APA accredited PhD program in Clinical Psychology. The clinic does not accept insurance, and patients pay for testing on a fixed scale structured by hourly or flat rates. All therapists providing testing services are students, typically but not always in their second year of training. Students at least in their third year of training conduct intake interviews. Before intake appointments, all patients complete the MMPI-2, the OU, and questionnaires affixed to other studies. Patients under 18, couples, and families do not complete these measures, and thus were excluded from the present study.

Subjects. The sample includes *n* = 84 adult subjects who presented for psychological assessment. Of these, 3 were excluded because their files were missing either the OU questionnaire or some part of the MMPI-2 profile, leaving *n* = 81. Using the criteria outlined below, 34 subjects (42%) met at least one of the MMPI-2 criteria for exclusion.

Of *n* = 47 participants remaining, 21 (45%) are women, 7 (15%) reported they were employed, and 7 (15%) reported a race other than White or Caucasian, 3 (6%) African American or Black, and 4 (9%) Hispanic or Latino. The mean age of the sample is 28.0 years (SD = 12.5 years), ranging from 18 to 61 years. The mean education level of the sample is 12.9 years (SD = 1.8 years), ranging from 11 to 18 years (12 years = high school diploma; two participants did not report education level), and the mean reported annual income is $51,500 (SD = $33,505), ranging from $5,000 to $100,000 (important note: only 12 participants reported income). A majority of participants (*n* = 35, 74.5%) were referred for disability testing, most often due to suspected attention problems or learning disorder. The remainder were either court-ordered for a

parenting fitness evaluation (*n* = 5, 10.6%) or sought testing for diagnostic clarification and treatment recommendations (*n* = 7, 14.9%).

Measures.

Openness to the Unconscious. The OU scale reviewed above (pp. 9-12) was used in the present study in its revised 12-item format (Swan, et al., 2010). It was included in the standard packet of intake questionnaires provided to all individual adult patients of the clinic. Internal consistency of OU was good for the 81 participants in Study 1, Cronbach's α = .94, and for the 47 with valid MMPI-2 profiles, Cronbach's α = .94.

Minnesota Multiphasic Inventory, Second Edition. The most frequently used self-report instrument in the research of psychopathology (Greene, 2000), the MMPI-2 (Butcher et al, 1989), has a lengthy and complex history (Helmes & Reddon, 1993) and has received extensive attention in publication (Friedman, Lewak, & Nichols, 2001; Graham, 1993). Using a cross-sectional design, concurrent correlates of OU are assessed using extended score reports from the MMPI-2. Each report provides 9 validity scales, 10 clinical scales, and 31 special clinical subscales (Friedman, et al., 2001; Greene, 2000). Hypotheses for Study 1 each correspond with an MMPI-2 scale, which are reviewed and explained above (also see Table 2). On the other hand, the full range of MMPI-2 validity and clinical scales were used for exploratory analyses, therefore pertinent MMPI-2 scales and the Personality Psychopathology Five are reviewed next.

Lie Scale (L). Those who score high on L, a key validity scale, should endorse items describing, "socially virtuous behaviors (e.g. denial of dishonesties or aggressive feelings) that may be desirous for many people, but are rarely true for most people." (Friedman et al, 2001, p. 47). Example items include, "I get angry sometimes," and "I gossip a little at times." (Butcher et al, 1989). No relationship with OU was predicted.

Symptom Validity (FBS). Another validity scale, FBS (formerly the Fake Bad Scale; Lees-Haley, English & Glenn, 1991) was initially developed in the context of personal injury cases, to measure one's tendency to over-report psychopathology. Although somewhat controversial in part because of reported problems with high false-positives (Butcher, Arbisi, Atlas & McNulty, 2003), replicated findings and meta-analysis have supported its validity (Nelson, Hoelzle, Sweet, Arbisi, and Demakis, 2010) as a means for predicting malingering and exaggeration of somatic symptoms in particular. Ultimately, the FBS scale has been accepted as a valid sign of possible over-reporting, both generally in the field of forensic psychology, and by the University of Minnesota Press Test Division (Ben-Porath & Tellegen, 2008).

Depression (Scale 2). One of the clinical scales, Scale 2 was developed using populations with clinically observed symptoms of depression, especially low mood, poor motivation, and somatic complaints. Five groups were used in the development of the scale, including one with "severe depressive illness characterized as psychotic," and another "depressed normal group," were used to improve the scale's capacity to differentially measure progressively debilitating symptoms of depression (Friedman et al, 2001). No *a priori* hypotheses were formed regarding the relationship between OU and Scale 2.

Psychopathic Deviate (Scale 4). Scale 4 was designed to measure "personality characteristics of the amoral and asocial subgroup of persons with psychopathic personality disorders" (Dhalstrom, W., Welsh, and Dhalstrom L., 1972; as cited in Friedman et al, 2001; p. 101.) Salient components of the scale include poor impulse control, socially disruptive or hostile behavior, and emotional instability (Butcher et al, 1989). No relationship was anticipated between Scale 4 and OU.

Schizophrenia (Scale 8). Scale 8 was intended to include a broad range of characteristic symptoms of schizophrenia (American Psychiatric Association, 2000), while providing a useful level of predictability regarding diagnostic classification. Due to an alarming percentages of false positives, this scale was improved by the introduction of the K scale (see p. 33). Overall, Scale 8 measures the extent of psychotic symptoms and behaviors (Butcher et al, 1989; Friedman et al, 2001). No outcomes were expected *a priori* regarding correlations between OU and Scale 8.

Hypomania (Scale 9). As described by Friedman et al (2001), Scale 9 originally evolved such that attempts at measuring mania proper were fruitless, because truly manic patients were on the whole unable or unwilling to consistently respond to test items. Ultimately, a measure of hypomania provided a broader range of clinical and sub-clinical behaviors. Salient symptoms of hypomania include elevated, expansive, or irritable mood, grandiosity, pressured speech, flight of ideas, and excess goal-directed or high-risk activities (American Psychiatric Association, 2000). In particular, excitement, ambitiousness, hyperactivity, and expansive mood should be captured by Scale 9 (Butcher et al, 1989). Scale 9 was not expected to correlate with OU.

Personality Psychopathology Five. Developed as a supplemental set of scores (Harkness, McNulty & Ben-Porath, 1995), the PSY-5 model uses existing MMPI-2 response sets to provide a supplementary five factor profile for personality. These factors, originally derived using hierarchical methods and principle components extraction (Harkness, 1992) and psychopathology constructs from the DSM-III-R (American Psychiatric Association, 1987), included Aggressiveness, Psychoticism, Constraint, Negative Emotionality / Neuroticism, and Positive Emotionality / Extraversion. Since then, independent programs of research have replicated their findings, supporting both their underlying trait constructs, and the validity of their MMPI-2 scales in measuring those traits (Harkness, Finn, McNulty & Shields, 2011). The

updated PSY-5 model has reversed the direction for two scales, but the overall structure remains essentially the same: Aggressiveness (AGGR), Psychoticism (PSYC), Disconstraint (DISC), Negative Emotionality / Neuroticism (NEGE), and Introversion (INTR).

AGGR. Aggressiveness roughly corresponds to the traditional five factor construct Agreeableness, including elements of antagonism and dominance. Also, "AGGR should be related to anger and rage, and scores should reflect the elevation of personal goals in relation to others." (Harkness et al, 2011; p. 9)

PSYC. Psychoticism should measure one's ability to accurately perceive the world, and in turn how flexibly they can acquire, adjust, or discard those perceptions based on new experiences. Harkness et al (2011) have also related this scale to Tellegen's Absorption scale (1982; cited by Harkness et al, 2011) and to components of the Chapmans' program of research on psychosis proneness (1987; cited by Harkness et al, 2011), such as perceptual aberration and magical ideation, emphasizing the cognitive and perceptual components of psychopathy. This construct roughly corresponds to five factor constructs Openness (Watson et al, 2008; cited by Harkness et al, 2011) and Peculiarity (Tackett et al, 2008; cited by Harkness et al, 2011).

DISC. Originally modeled as Constraint (Harkness, 1992), Disconstraint measures the inverse: one's tendency to neglect risk assessment, in other words one's failure to accurately estimate and apply the future consequences of one's behavior (Harkness et al, 2011). Traditionality and concerns with rules (Harkness, 1992) should also reduce as one's Disconstraint increases. Ostensibly, Disconstraint should relate inversely with the five factor trait Conscientiousness.

NEGE. Negative emotionality / Neuroticism involves sensitivity to fear and anxiety, correlating highly with similar personality traits for dispositional anxiousness, harm avoidance,

and emotional instability. NEGE scores correlate with symptoms of Avoidant, Borderline, Narcissistic, Paranoid, and Schizotypal personality disorders, and with the more affective components of psychopathy (Harkness et al, 2011; Harkness et al, 1995).

INTR. The Introversion / Low Positive Emotionality scale involves the joy and pursuit systems of personality, demonstrating high negative correlations with other scales measuring extraversion, social engagement and positive emotionality, and positive correlations with depressive symptoms (Harkness et al, 2011).

Excluding Invalid Profiles. Butcher et al (1995) suggest that in research, profiles with any one of the following validity problems should be excluded from hypothesis testing: an excessive VRIN score (T > 80), more than 30 omitted items, and TRIN raw scores either greater than 12, or less than 6. These same three criteria are used for removing inconsistent profiles from analysis in the present study. Profiles could also be invalid from extreme fake-good or fake-bad responses. The conservative F-K cutoffs +12 for men and +17 for women have been most accurately used to detect fake-bad profiles (Graham, 1993; Graham, Watts, & Timbrook, 1991), and they establish invalid fake-bad profiles to be excluded in the present study. On the other hand, negative F-K scores are less accurate, and "cannot be used actuarially" to measure faking good (Graham, 1993, p. 49). Based on its independent ability to outperform L and K in a psychiatric population (Archer, et al., 2004), elevated S scores are used to establish invalid fake-good profiles for exclusion, using the Archer et al cutoff ($T \geq 70$). Finally, tendencies to fake psychopathology can be identified with about 85% accuracy (Archer, Handel, Greene, Baer, & Elkins, 2001) using the Fp scale. Archer et al (2001) found that using cutoff scores to identify subjects faking extreme psychopathology, $T \geq 90$ works best at identifying male subjects, and $T \geq 80$ works best as a cutoff for identifying female subjects. Together, these established cutoff

values for VRIN, TRIN, F-K, S, and Fp are applied in the present study for selecting invalid MMPI-2 profiles for exclusion.

Procedure. Archival data were collected at the University of Tennessee Psychological Clinic, on site where charts are stored, by entering data into encrypted electronic files that contained no patient identifying information. Charts of patients who completed intakes over 10 months, between June 23, 2010 and April 25, 2011 were scored for demographic variables including age, race, gender, level of education, occupational status, and income at the time of intake. MMPI-2 scores were tabulated and entered into the database, along with responses to the OU questionnaire. Data from patients who received testing services but not psychotherapy were used for Study 1.

Results

Hypothesis Testing

When analyzed with Pearson correlations using a Bonferroni correction for multiple comparisons (Table 3), two of the hypothesized correlations between OU and MMPI-2 scales were supported by results: a positive correlation with Scale 7, and a negative correlation with R, both of medium effect size (Cohen, 1992). Two more hypotheses, a negative correlation with Scale 3 and a positive correlation with Es, were disconfirmed due to correlations of medium strength in the opposite direction than was expected. Finally, no significant relationship was found between OU and the other three variables of interest, K, Scale 1, and Scale 6.

Exploratory Analyses

As planned in the case of multicollinearity, all four of the MMPI-2 variables that correlated significantly with OU were regressed simultaneously onto OU. When submitted to this analysis, only Scale 3 demonstrated a significant contribution to the variance (Table 4).

Correlation matrices of OU with MMPI-2 validity (Table 5), clinical scales (Table 6), and five-factor scales (Table 7) suggest some relationships of interest. First, with a Bonferroni correction for 23 comparisons (OU with each of the 8 validity, 10 clinical, and 5 factor scales; $\alpha = .002$), negative correlations with L and S were significant, with high effect size. Second, correlations between OU and MMPI-2 clinical scales were significant and positive, for four of ten scales. Third, OU and the PSY-5 variables yielded no significant correlations.

In order to further explore the statistical relationship between MMPI-2 constructs and OU in the face of evident multicollinearity (Tables 5 and 6), the ten clinical scales were multiply regressed onto OU, the dependent variable. Using an automated step-wise method for linear regression, independent variables were entered into the model with an F probability tolerance set at $p \leq .05$, and they were removed from the model with the tolerance set at $p \geq .10$. This step-wise regression yielded four steps (see Table 8) demonstrating that Scales 2, 8, and 9 each significantly contribute unique variance to the prediction of OU. When all three variables were entered (Table 8, model 3), scale 8 no longer predicted OU significantly. When scale 8 was removed in the next step however (Table 8, model 4), the change in R^2 did not suffice to significantly improve the model's strength. Because L and S each correlated with OU, the above regressions were repeated, using the same step-wise criteria but adding the validity scales as independent variables. Their introduction changed the results, such that S, Scale 3, and Scale 9 each contributed unique variance in OU in the third and final model (see Table 9).

Discussion of Study 1

Although the relevance of these findings is limited without replication, some tentative assertions can be made based on these results. Among the clinical variables, the strong positive relationship between OU and hysteria survives multiple iterations of statistical analysis, while

other hypothesized relationships did not. Possibly, those who are more likely to turn away from emotion through non-physical problems (Scale 3) are in turn more likely to be open towards the unconscious, because they also tend to rely on defenses such as denial or positivization (Friedman et al, 2001). Somatization (Scale 1), projection (Scale 6), or obsession (Scale 7) are perhaps less open to one's awareness by their very nature, and those who tend towards these strategies would therefore be less likely to consciously apprehend the associated defenses.

Regarding the relationship between clinical aspects of personality and OU, exploratory results suggest three possibilities. First, OU demonstrated a strong negative correlation with the MMPI-2 validity variable S. This suggests that participants who reported that they were more open to the unconscious were less likely to portray themselves in an unusually positive light. Second, due to the apparent influence of Scale 9, manic tendencies may relate to OU in addition to hysteric ones. On the other hand, the extent to which OU correlates with overall psychopathology may simply reflect its now replicated inverse relationship with positive self-presentation. Third, although insignificant in the face of the conservative Bonferroni correction, some of the correlations between OU and PSY-5 factors could warrant additional attention in another study, especially disconstraint and negative emotionality / neuroticism. Future studies of personality psychopathology and OU might further test the hypotheses that OU is higher in those who are less likely to portray themselves as unusually positive, and more likely to endorse hysteric and manic styles of defense.

Study 2: Openness to the Unconscious and Attrition from Psychotherapy

The first study provides an initial impression regarding the relationship between OU and personality variables of interest. Moving into the realm of clinical utility, Study 2 tests the ability of OU to predict attrition from psychotherapy. Single-cohort design (often used in medical research; Mann, 2003) was used, because those who persist in psychotherapy are considered internal controls for estimating attrition effects. Because the design lacks random assignment or multiple cohorts, causal inferences are minimal at best, yet the results of the study can inform future research of a longitudinal or experimental design. Participants in the psychotherapy cohort presented at the same clinic as the testing patients used for Study 1, during the same interval of time. They completed the same initial intake, as well. All patients with at least one session of psychotherapy were assigned to Study 2, thus including patients who received both testing and psychotherapy.

Three hypotheses were anticipated based on the theoretical underpinnings of the OU scale. First, assuming that OU measures one's openness to psychological experiences uncovered in psychotherapy, OU should positively predict the number of therapy sessions on file for a patient. This hypothesis will be tested using linear regression analysis. Second, participants in the attrition group are expected to score lower in OU than others who are active in treatment or completed a planned termination. This hypothesis will be tested using binary logistic regression and if significant, calculation of relative risk to inform effect size. Third, an interaction should surface between treatment type and OU, such that members of the attrition group in psychoanalytic therapy will tend to have lower OU when compared to the completed psychoanalytic group, while members of the attrition group in cognitive behavioral therapy will tend to have higher OU compared to the completed cognitive behavioral group. This hypothesis

will also be tested using binary logistic regression and relative risk, if significant. These findings are expected to inform the clinical utility of OU in predicting treatment outcome.

Method

Setting. As described above for Study 1, the Psychological Clinic at the University of Tennessee serves as a training clinic for doctoral students in an APA accredited PhD program in Clinical Psychology. Patients pay for psychotherapy on a sliding scale (typically from $5 to $35), determined by household income. In a recent unpublished study of attrition at the same clinic (Winkel, 2006), intakes from 2000 to 2004 were composed of 44% psychotherapy, 38% testing, 8% couples therapy, and 12% both psychotherapy and testing. All therapists providing therapy are students, at least in their second year of training on practicum. Training and the supervision of students primarily occurs within psychoanalytic or cognitive behavioral models of psychotherapy, with a minority teaching integrated techniques. Students also conduct new intakes, during their third year of training. At intake appointments, all patients complete the MMPI-2 and the OU before meeting for a clinical interview. Patients under 18, couples, and families did not complete these measures, and thus were excluded from the present study.

Subjects. Of the charts reviewed between June 23, 2010 and April 25, 2011, 77 were participants who presented to the clinic for psychotherapy (Among them, 9 received both psychotherapy and assessment services, and were not included in Study 1). The sample includes 44 (57%) women, and 68 (88%) of the sample reported they were either Caucasian or White, leaving 4 (5%) Hispanic or Latino, 3 (4%) African American or Black, and 2 who did not report race. In contrast to the assessment patients from the first study, 35 (46%) reported they were employed. The mean age of the group is 31.0 years (SD = 10.7 years) ranging from 19 to 69 years old, and the mean education level is 14.1 years (SD = 2.4 years; 12 years indicates high

school diploma), ranging from 10 to 19 years. The mean income of the sample is $27,770 (SD = $16,876), ranging from $5,000 to $80,000, with 36 (47%) who did not report income at intake. All participants had completed the OU questionnaire at intake.

Measures and Procedure.

Openness to the unconscious (OU). The OU scale reviewed above (pp. 4-7) was used in its revised 12-item format (Swan et al., 2010). The questionnaire was included in a standard packet of forms provided to all individual adult patients of the clinic at intake. Internal reliability for OU in this sample was good, Cronbach's $\alpha = .84$.

Attrition, duration and treatment type. Archival data were collected at the clinic, where records are stored, by entering data into encrypted electronic files that contained no patient identifying information. Charts of patients who completed intakes were scored for demographic variables including age, race, gender, level of education, occupational status, and income at the time of intake. MMPI-2 scores were tabulated and entered into the database, along with responses to the OU questionnaire. Record review covered intake notes, treatment plans, progress notes, termination notes, written communication between patient and therapist, court orders for treatment or testing, and relevant supplemental materials (e.g. process notes or thought records). Data from patients who attended at least one session of psychotherapy were used for Study 2.

Records of all patients who had at least one session of psychotherapy were reviewed to establish three variables: 1) Progress notes provided the total number of psychotherapy sessions attended by each patient. 2) Attrition was determined to fall into one of four classifications: a) current continuous treatment (active), b) termination planned collaboratively with therapist (planned), c) termination by failing to attend a scheduled appointment (attrition), or d) treatment

ended by the therapist or clinic director due to problems with payment or boundary violations (noncompliance). Progress notes, written communication, and termination or transfer notes informed the assignment of treatment status to each participant. 3) Treatment plans and progress notes informed the assignment of each case into a categorical treatment type, whether psychoanalytic, cognitive behavioral, or integrative. Cases which were exclusively dedicated to the use of hypnosis were assigned to a fourth category. Treatment plans have built in prompts for clinicians to indicate the type of treatment planned. When these were left blank or unclear, progress notes were used, following the guidelines described above, for example those given by Blagys & Hilsenroth (2000, 2002).

Results

Preliminary Analyses. Concerning treatment variables of interest, the mean number of therapy sessions following intake was 6.0 (SD = 5.4), ranging from 0 to 24. The status of treatment was assigned to one of five categories: a) intake only with no subsequent sessions, b) active and current treatment, c) completed with documented termination, d) termination by failing to attend a scheduled session (attrition), and e) termination by the clinic due to patient noncompliance (see Table 7). This final category (unexpected *a priori*) marks instances when the clinic director denied a patient ongoing treatment due to repeated intrusive boundary violations in one case, and an excessive unpaid balance in the other case. Treatment type was recorded for all but 6 patients, who were missing treatment plans and progress notes because they had only presented for intake.

In order to determine any need for control variables, potential statistical relationships between demographic variables and clinical variables of interest were examined. First, Pearson correlations and ANOVAs were used to test relationships between demographic variables and

OU. With two-tailed significance testing, neither age, $r = .04$, $p = .80$; years of education, $r = .11$, $p = .11$; nor income, $r = .25$, $p = .42$, were significantly correlated with OU. Using ANOVAs with two-tailed significance testing, neither minority status, F (15, 31) = 1.09, $p = .45$; sex, F (15, 31) = 1.70, $p = .14$, nor employment status, F (15, 31) = 1.33, $p = .11$, significantly differed by levels of OU. Second, none of the demographics varied by treatment status when analyzed using ANOVA and χ^2 (Table 10). Third, again using ANOVAs, treatment type did not vary significantly by any of the demographics, except for age. Despite this finding however, age was not used as a covariate in the analyses that follow, because the present study lacks sufficient power to compare 5 groups, and because *a priori* hypotheses concern the psychoanalytic and CBT categories (which do not demonstrate an appreciable difference in age; see Figure 1). Finally, using ANOVA, OU did not significantly vary between treatment types (see Figure 2).

Hypothesis Testing. Three outcomes were anticipated: First, OU should positively predict the number of therapy sessions a patient has attended. Second, the attrition group should have a significantly lower OU at intake than those who are either actively engaged, or who terminated collaboratively with the therapist. Third, and most importantly for the purposes of this study, an interaction between OU and treatment type in the prediction of attrition should surface, such that those who terminated by attrition from psychoanalytic therapy will tend to have had lower OU at intake (relative to those who were active and completed in psychoanalytic therapy), while those who terminated by attrition from CBT will tend to have had higher OU (relative to those who were active and completed in CBT).

OU predicting total sessions. Initial descriptive statistics inform the distribution of the groups, OU, and psychotherapy sessions (Table 11). Using linear regression with the full sample ($n = 77$), OU did not significantly predict the number of therapy sessions attended, $B = .09$, SE =

.08, β = .13; t = 1.10, p = .23. This null finding remained unchanged with the exclusion of participants who attended only intake and those who were denied treatment by the clinic following the onset of therapy, B = .07, SE = .11, β = .11; t = .65, p = .52.

OU predicting attrition. Similarly, OU did not significantly predict attrition from psychotherapy. Two sets of participants were dropped from the sample for the following analysis: those who had completed only an intake (n = 11), and those who were denied treatment during active care (n = 2). Patients who were active (n = 34) and those who terminated collaboratively (n = 3) were combined for comparison with those who terminated through attrition (n = 27). Attrition was entered into a binary logistic regression as the categorical outcome variable, and OU was entered as a continuous independent variable, yielding null findings, B = .01, SE = .03; Wald's χ^2 = .11, p = .74 (see also Figure 3). Null results were also found when the regression was repeated, assigning both intake only participants and those who were denied treatment to the attrition group, B = .02, SE = .03; Wald's χ^2 = .39, p = .53.

OU x treatment type predicting attrition. Regarding the hypothesized interaction between type of therapy and OU in the prediction of attrition, binary logistic regression yielded null findings (Table 12). These analyses were repeated, adding those who were denied by the clinic into the attrition group (n = 2; without those who presented for intake only, because they have no treatment type data). Results for this second group were similar, yielding null findings (Table 13).

Exploratory analyses. As planned, additional exploratory analyses were conducted. The same binary logistic regression used previously with attrition as the categorical dependent variable was repeated, this time with a step-wise method, setting thresholds using the probability of the Wald χ^2 at $p \leq .05$ to enter, and $p \geq .10$ to remove each variable. First, OU and the ten

MMPI-2 clinical scales were regressed onto attrition. No significant results were found. Second, the five PSY-5 scales were added to the list of potential independent variables. This regression stopped at the first model, with only NEGE (Negative Emotionality / Neuroticism) entered; B = .16, $SE\ B$ = .07; Wald χ^2 = 5.03, $p < .05$. This model using NEGE alone predicted attrition with 71.4 % accuracy (Table 14). The converted effect size of the relationship between NEGE and attrition was high, r = .51, with a higher NEGE score predicting increased likelihood for attrition from therapy. Third, MMPI-2 validity scales were added, and the same results were found. Fourth, demographic variables including age, gender, minority status, income, and employment were also added, and again, only NEGE remained in the model. Finally, all of the above logistic binary regression exploratory analyses were repeated using the broader definition of attrition (n = 32; see p. 38), with similar results that only NEGE remained in the model, B = .13, $SE\ B$ = .06; Wald χ^2 = 4.67, $p < .05$; similarly predicting attrition with 68.8% accuracy.

Discussion of Study 2

None of the hypotheses for Study 2 on attrition and OU were supported by statistical analyses of the sample. These findings suggest that the scale does not serve a predictive purpose regarding attrition and fit with these two types of treatment. Considering the possibility of type II error, some factors that potentially could have contributed to these results include: the convenience sample of a university training clinic, limited data regarding the actual types of interventions actually occurring in sessions, and a lack of specificity in the OU scale items themselves for the context of psychotherapy. On the other hand, the theoretical underpinnings of the study itself may be simply misguided or unrealistic.

Further studies of the relationship between OU and clinical outcomes should be explored to rule out the possibility that this test could as yet predict fit for differing types of

psychotherapy. Such additional research could further assess the instrument's criterion validity, for example testing the relationship between OU and the Lambda scale of the Rorschach (Exner, 2003). Also, the scale may benefit from revision, for example by enlisting well known experts in psychoanalytic, cognitive behavioral, and experimental branches of the field to improve the face validity of the test items and wording.

Regarding limitations of the present study, primarily its ecological validity could be questioned, because the treatment under examination was conducted by trainees, bringing important issues of both competence (Sharpless & Barber, 2009) and adherence (Perepletchikova & Kazdin, 2006) into question. Such problems could be addressed in future research, but would require significantly greater resources. For example, more precise measurement of the type of interventions, possibly with multi-rater analysis of taped sessions or segments (cf. Barber, Crits-Cristoph & Luborsky, 1996; Weck, Bohn, Ginzburg & Stangier, 2011) would vastly improve design to more effectively test for associations between personality, treatment type, and outcome (Leichsenring, Salzer, Hilsenroth, Leibing, Leweke & Rabung, 2011).

Exploratory results regarding attrition yielded one finding, that higher levels of neuroticism predicted early drop-out from individual psychotherapy with high effect size. This result replicates findings from one prior study on group therapy, which further found that in addition to high neuroticism, low extraversion, high openness, and high conscientiousness also predicted attrition (Ogrodniczuk, Piper, Joyce, McCallum, & Rosie, 2003).

Summary Discussion

With the intent of establishing clinical validity for the OU scale, and ultimately of testing its utility in predicting attrition, the present study yielded few results that support initial hypotheses. In Study 1, it was thought that if valid, OU would relate differentially with several clinically framed personality traits, and these hypotheses were generally unsupported. Also, in Study 2, OU was expected to predict attrition from psychotherapy, and furthermore, to do so in interaction with treatment type. Data did not support these hypotheses either. Finally, exploratory results provide future directions for research on openness to the unconscious and existing models of personality and psychopathology and replicate prior findings on neuroticism and attrition. Implications, limitations, and future directions for the broader program of research evolve from these outcomes.

Implications

Conclusions that can be drawn from these results are somewhat limited, however four points may guide future research. First, the salience of hysteria and its relationship with OU was unexpected, suggesting both that the underpinnings of OU as a construct should be reconsidered, and that the scale may not measure the construct in question with enough precision. Second, the strong negative correlation (r = -.50) between OU and S (Superlative Self) was unexpected as well, because a previously found negative relationship between OU and impression management was of small effect size (r = -.21; Swan, et al., 2010). This difference in effect size may have surfaced for multiple reasons: the data in the present study was collected in a clinical context, invalid data was excluded from analysis in this study, and the two measures of positive self-presentation tap subtly different personality traits. The replicated negative relationship between OU and positive self presentation has not yet been explained. Third, OU demonstrated utility for

predicting neither attrition, nor fit with psychotherapy types. These were the primary reasons for the scale's initial development. Because prior data has demonstrated a relationship with psychotherapy attitudes, the OU scale may be rewritten to fit the context of treatment more precisely. Fourth, data from another study of hypnosis and OU, in combination with the present study, suggest the possibility that OU as operationalized in the present study measures more of a state rather than a trait. As a relatively fluid and contextual construct, the scale would provide less utility at intake across the full course of a treatment episode, but may be more useful in other more time-sensitive contexts.

Limitations

These results should also be understood in the context of certain limitations. First, MMPI-2 variables were used in isolation, while the utility of the instrument lies in the interpretation of complex profiles. In other words, the individual scales of the MMPI-2 take on additional meaning within the context of an entire profile (Friedman et al, 2001), such that patterns emerge across validity and clinical scales that were not accounted for in the type of statistical analysis conducted in Study 1. Second, there are ecological concerns with Study 2 that have potentially serious implications. Services were provided in a training clinic, where the quality and fidelity of interventions are at best dubious. For example, data that more closely represented the type of therapy in question (e.g. independently and reliably rated video tape segments) would far surpass treatment plans and progress notes in their accuracy and credibility. Third, Study 2 did not include measures of psychotherapy outcomes. Although important for understanding psychotherapy, attrition would be less pertinent if outcomes data were available. That is to say, if patients remain in therapy but fail to improve in meaningful ways, or if they

leave therapy early with significant improvements in their lives, the conditions of termination itself become less important.

Future research

If this program of research on openness to the unconscious were to continue, future directions follow directly from these implications and limitations. Most broadly, the OU scale should be revised to relate more closely to clinical contexts, with increased sensitivity to the theoretical differences between common forms of psychotherapy. The original derivation of the 12 OU items did not include consultation with experts in the field, a step which might improve the scale's validity. For example, if items were formed based on data experts in each of several types of therapy, the scale itself should more accurately predict one's personality fit with each of them. Furthermore, future studies could test for personality fit with different types of therapy in other settings, such as hospitals or private practices. Such settings would afford better opportunities for acquiring data from more experienced clinicians, who may be more likely to adhere to the form of therapy they claim to practice. Exploratory findings inform other possibilities for future directions. For example, the role of hysteria and mania in patients' curiosity and beliefs about the unconscious could be explored using interviews. Also, the importance of neuroticism in patient compliance with psychotherapy deserves additional empirical attention, as it could usefully inform clinical practice and screening for psychotherapy services. Finally, additional research might explore the notion of OU as a relatively flexible state rather than a trait. Additional research with a time-series model might demonstrate more short-term validity and utility in clinical work.

REFERENCES

Abdi, H. (2007). Bonferroni and Šidák corrections for multiple comparisons. In N. J. Salkind (Ed.), *Encyclopedia of Measurement and Statistics*. Thousand Oaks, CA: Sage.

Ackerman, S., & Hilsenroth, M. (2003). A review of therapist characteristics and techniques positively impacting the therapeutic alliance. *Clinical Psychology Review, 23*(1), 1-33. doi:10.1016/S0272-7358(02)00146-0

Ackerman, S., Hilsenroth, M., Clemence, A., Weatherill, R., & Fowler, J. (2000). The effects of social cognition and object representation on psychotherapy continuation. *Bulletin of the Menninger Clinic, 64*(3), 386-408. Retrieved from: http://psycnet.apa.org/psycinfo/ 2000-05829-004

Allen, J., & Fonagy, P. (2006). Handbook of mentalization-based treatment: Wiley.

American Psychiatric Association. (1987). *Diagnostic and Statistical Manual of Mental Disorders, Revised Third Edition (DSM-III-R)*. Washington, DC.: American Psychiatric Association.

American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR).* Washington, DC. American Psychiatric Association.

American Psychological Association Task Force on Evidence Based Practice (2006). Evidence-Based Practice in psychology. *American Psychologist, 61*(4), 271-285. doi: 10.1037/0003-066X.61.4.271

Archer, R., Handel, R., & Couvadelli, B. (2004). An evaluation of the incremental validity of the MMPI-2 Superlative (S) Scale in an inpatient psychiatric sample. *Assessment, 11*(1), 102. doi:10.1177/1073191103257396

Baekeland, F., & Lundwall, L. (1975). Dropping out of treatment: A critical review. *Psychological Bulletin, 82*(5), 738-783. doi:10.1037/h0077132

Banse, R. (1999). Automatic evaluation of self and significant others: Affective priming in close relationships. *Journal of Social and Personal Relationships, 16,* 803–821. doi: 10.1177/0265407599166007

Barlow, D. (Ed.). (2008). Clinical handbook of psychological disorders: A step-by-step treatment manual. (4th ed.). New York: Guilford.

Barber, J., Crits-Cristoph, P. & Luborsky, L. (1996). Effects of therapist adherence and competence on patient outcome in brief dynamic therapy. *Journal of Consulting and Clinical Psychology, 64*, 619-622. doi:10.1037/0022-006X.64.3.619

Barrett, M., Chua, W., Crits-Christoph, P., Gibbons, M., & Thompson, D. (2008). Early withdrawal from mental health treatment: Implications for psychotherapy practice. *Psychotherapy: Theory, Research, Practice, Training, 45*(2), 247-267. doi: 10.1037/0033-3204.45.2.247

Barron, F. (1953). An ego-strength scale which predicts response to psychotherapy. *Journal of Consulting Psychology, 17*(5), 327-333. doi: 10.1037/h0061962

Bateman, A., & Fonagy, P. (2001). Treatment of borderline personality disorder with psychoanalytically oriented partial hospitalization: An 18-month follow-up. *American Journal of Psychiatry, 158*(1), 36-42. doi:10.1176/appi.ajp.158.1.36

Bateman, A., & Fonagy, P. (2008). Mentalization-Based Treatment for BPD. *Social Work in Mental Health, 6*(1), 187-201. doi:10.1300/J200v06n01_15

Beck, A. (1979). *Cognitive therapy of depression.* New York: Guilford.

Beck, A. (2005). The current state of cognitive therapy: a 40-year retrospective. *Archives of General Psychiatry, 62*(9), 953. doi:10.1001/archpsyc.62.9.953

Beck, J. (1995). *Cognitive therapy: Basics and beyond*. New York: Guilford.

Ben-Porath, Y. & Tellegen, A. (2008). *MMPI-2 FBS (Symptom Validity) scale bibliography: Response to The Wall Street Journal story on the FBS (Symptom Validity) Scale.* Retrieved from: http://psychcorp.pearsonassessments.com/NR/rdonlyres/A25DB8F8-435F-4066-801B-B641978A97DA/0/MMPI2FBS.pdf

Blagys, M., & Hilsenroth, M. (2000). Distinctive features of short-term psychodynamic-interpersonal psychotherapy: A review of the comparative psychotherapy process literature. *Clinical Psychology: Science and Practice, 7*(2), 167-188. doi:10.1093/clipsy.7.2.167

Blagys, M., & Hilsenroth, M. (2002). Distinctive activities of cognitive-behavioral therapy:: A review of the comparative psychotherapy process literature. *Clinical Psychology Review, 22*(5), 671-706. doi:10.1016/S0272-7358(01)00117-9

Bouchard, M. A., Target, M., Lecours, S., Fonagy, P., Tremblay, L. M., Schachter, A., et al. (2008). Mentalization in adult attachment narratives: Reflective functioning, mental states, and affect elaboration compared. *Psychoanalytic Psychology, 25*(1), 47-66. doi:10.1037/0736-9735.25.1.47

Brogan, M., Prochaska, J., & Prochaska, J. (1999). Predicting termination and continuation status in psychotherapy using the transtheoretical model. *Psychotherapy: Theory, Research, Practice, Training, 36*(2), 105-113. doi:10.1037/h0087773

Bromberg, P. (1996). Standing in the spaces: The multiplicity of self and the psychoanalytic relationship. *Contemporary Psychoanalysis, 32*, 509-535. Retrieved from: http://www.wawhite.org/uploads/PDF/E1f_5%20Bromberg_P_Standing_in_the_Spaces.pdf

Butcher, J., Arbisi, P., Atlis, M., & McNulty, J. (2003). The construct validity of the Lees-Haley Fake Bad Scale: Does this scale measure somatic malingering and feigned emotional distress? *Archives of Clinical Neuropsychology, 18*, 473-485. doi: 10.1016/j.acn.2008.10.001

Butcher, J., Dahlstrom, W., Graham, J., Tellegen, A., & Kaemmer, B. (1989). *Minnesota multiphasic personality inventory-2 (MMPI-2): Manual for administration and scoring*. Minneapolis: University of Minnesota.

Butcher, J., Graham, J., & Ben-Porath, Y. (1995). Methodological problems and issues in MMPI, MMPI-2, and MMPI-A research. *Psychological Assessment, 7*(3), 320-329. doi: 10.1037/1040-3590.7.3.320

Butcher, J., & Han, K. (1995). Development of an MMPI-2 scale to assess the presentation of self in a superlative manner: The S scale. *Advances in personality assessment, 10*, 25-50.

Canuto, A., Meiler-Mititelu, C., Herrmann, F., Giannakopoulos, P., & Weber, K. (2008). Impact of personality on termination of short-term group psychotherapy in depressed elderly outpatients. *International journal of geriatric psychiatry, 23*(1), 22-26. DOI: 10.1002/gps.1829

Cardaciotto, L., Herbert, J. D., Forman, E. M., Moitra, E., & Farrow, V. (2008). The assessment of present-moment awareness and acceptance: The Philadelphia Mindfulness Scale. *Assessment, 15*(2), 204-223. doi: 10.1177/1073191107311467

Cattell, R. B., Cattell, A. L., & Cattell, H. E. P. (1993). *16PF Fifth Edition Questionnaire*. Champaign, IL: Institute for Personality and Ability Testing.

Chapman, B., Talbot, N., Tatman, A., & Britton, P. (2009). Personality traits and the working alliance in psychotherapy trainees: An organizing role for the five factor model? *Journal of Social and Clinical Psychology, 28*(5), 577-596. doi: 10.1521/jscp.2009.28.5.577

Chiesa, M., Drahorad, C., & Longo, S. (2000). Early termination of treatment in personality disorder treated in a psychotherapy hospital: Quantitative and qualitative study. *The British Journal of Psychiatry, 177*(2), 107. doi: 10.1192/bjp.177.2.107

Chisholm, S., Crowther, J., & Ben-Porath, Y. (1997). Selected MMPI-2 scales ability to predict premature termination and outcome from psychotherapy. *Journal of Personality Assessment, 69*(1), 127-144. doi: 10.1207/s15327752jpa6901_7

Clarkin, J. F., & Levy, K. N. (2004). The Influence of Client Variables on Psychotherapy. In M. Lambert (Ed.), *Handbook of psychotherapy and behavior change.* (5th ed. ed., pp. 194-296). New York: Wiley.

Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*(1), 155-159. doi: 10.1037/0033-2909.112.1.155

Cronbach, L. (1975). Beyond the two disciplines of scientific psychology. *American Psychologist, 30*(2), 116-127. doi: 10.1037/h0076829

Cuijpers, P., van Straten, A., Andersson, G., & van Oppen, P. (2008). Psychotherapy for depression in adults: a meta-analysis of comparative outcome studies. *Journal of Consulting and Clinical Psychology, 76*(6), 909-922. doi: 10.1037/a0013075

Derisley, J., & Reynolds, S. (2000). The transtheoretical stages of change as a predictor of premature termination, attendance and alliance in psychotherapy. *British Journal of Clinical Psychology, 39*(4), 371-382. doi: 10.1348/014466500163374

DeYoung, C., Peterson, J., & Higgins, D. (2005). Sources of openness/intellect: Cognitive and neuropsychological correlates of the fifth factor of personality. *Journal of Personality, 73*(4), 825-858. doi: 10.1111/j.1467-6494.2005.00330.x

Digman, J. M. (1990). Personality structure: Emergence of the Five-Factor Model. *Annual Review of Psychology, 41*, 417-440. doi: 10.1146/annurev.ps.41.020190.002221

Einstein, D., & Lanning, K., 66, 555–582. (1998). Shame, guilt, ego development, and the five-factor model of personality. *Journal of Personality, 66*, 555-582. doi: 10.1111/1467-6494.00024

Elkin, I., Shea, T., Watkins, J., Imber, S., Sotsky, S., Collins, J., et al. (1989). National Institute of Mental Health treatment of depression collaborative research program. *Archives of General Psychiatry, 46*, 971-982. Retrieved from: http://archpsyc.ama-assn.org/cgi/content/abstract/46/11/971

Ellis, A. (1969). Rational-emotive therapy. *Journal of Contemporary Psychotherapy, 1*, 82-90. doi: 10.1007/BF02110062

Elster, J. (1986). *The Multiple Self*. New York: Cambridge University.

Epstein, L. (1981). Countertransference and its influence on judgements of fitness for analysis. *Contemporary Psychoanalysis, 17*, 55-68. Retrieved from: http://www.pep-web.org/document.php?id=CPS.017.0055A

Exner, J. E. (2003). *The Rorschach: A comprehensive system.* Hoboken, NJ: John Wiley & Sons.

Fingarette, H. (2000). *Self-deception*. Berkeley: University of California.

Fonagy, P. (2001). *Attachment theory and psychoanalysis.* New York: Other Press.

Fonagy, P., & Bateman, A. (2006). Progress in the treatment of borderline personality disorder. *British Journal of Psychiatry Vol, 188*(1), 1-3. doi: 10.1192/bjp.bp.105.012088

Fonagy, P., & Gyorgy, G. (2004). *Affect regulation, mentalization, and the development of the self.* London: Karnac Books.

Fonagy, P., Steele, M., Steele, H., Moran, G., & Higgitt, A. (1991). The capacity for understanding mental states: The reflective self in parent and child and its significance for security of attachment. *Infant Mental Health Journal, 12*(3), 201-218. doi: 10.1002/1097-0355(199123)12:3<201::AID-IMHJ2280120307>3.0.CO;2-7

Fonagy, P., & Target, M. (2003). *Psychoanalytic theories: Perspectives from developmental psychopathology*. Philadelphia: Whurr Publishers.

Friedman, A., Lewak, R., & Nichols, D. (2001). *Psychological assessment with the MMPI-2*. Florence, KY: Lawrence Erlbaum.

Garfield, S. (1994). Research on client variables in psychotherapy. In S. Garfield (Ed.), *Handbook of psychotherapy and behavior change, 4th Edition*. 190-228. New York: John Wiley & Sons.

Garfield, S., & Bergin, A. (1986). *Handbook of psychotherapy and behavior change*. New York: John Wiley & Sons.

Graham, J. (1993). *MMPI-2: Assessing personality and psychopathology*. New York: Oxford University.

Greenberg, J. R., & Mitchell, S. A. (1983). *Object relations in psychoanalytic theory*. Cambridge: Harvard University.

Greene, R. (2000). *The MMPI-2: An interpretive manual*. Boston: Allyn & Bacon.

Griffin, M., & McDermott, M. R. (1998). Exploring a tripartite relationship between rebelliousness, openness to experience and creativity. *Social Behavior and Personality, 26*(4), 347-356. doi: 10.2224/sbp.1998.26.4.347

Harkness, A. (1992). Fundamental topics in the personality disorders: Candidate trait dimensions from lower regions of the hierarchy. *Psychological Assessment, 4,* 251-259. doi: 10.1037/1040-3590.4.2.251

Harkness, A., Finn, J., McNulty, J., and Shields, S. (2011). The Personality Psychopathology Five (PSY-5): Recent constructive replication and assessment literature review. *Psychological Assessment.* Advance online publication, no pagination specified. doi: 10.1037/0025830

Harkness, A., McNulty, J., & Ben-Porath, Y. S. (1995). The Personality Psychopathology Five (PSY-5): Constructs and MMPI-2 scales. *Psychological Assessment, 7*, 104-114. doi:10.1037/1040-3590.7.1.104

Hatchett, G., & Park, H. (2003). Comparison of four operational definitions of premature termination. *Psychotherapy: Theory, Research, Practice, Training, 40*(3), 226-231. doi: 10.1037/0033-3204.40.3.226

Hathaway, S. R., & McKinley, J. C. (1989). *MMPI-2: Manual for administration and scoring.* Minneapolis: University of Minnesota Press.

Helmes, E., & Reddon, J. (1993). A perspective on developments in assessing psychopathology: A critical review of the MMPI and MMPI-2. *Psychological Bulletin, 113*(3), 453-471. doi: 10.1037/0033-2909.113.3.453

Hilsenroth, M., Handler, L., Toman, K., & Padawer, J. (1995). Rorschach and MMPI-2 indices of early psychotherapy termination. *Journal of Consulting and Clinical Psychology, 63*(6), 956-965. doi: 10.1037/0022-006X.63.6.956

Hunt, C., & Andrews, G. (1992). Drop-out rate as a performance indicator in psychotherapy. *Acta Psychiatrica Scandinavica, 85*(4), 275-278.

Huppert, J., Barlow, D., Gorman, J., Shear, M., & Woods, S. (2006). The interaction of motivation and therapist adherence predicts outcome in cognitive behavioral therapy for panic disorder: Preliminary findings. *Cognitive and Behavioral Practice, 13*(3), 198-204. doi: 10.1016/j.cbpra.2005.10.001

Issakidis, C., & Andrews, G. (2004). Pretreatment attrition and dropout in an outpatient clinic for anxiety disorders. *Acta Psychiatrica Scandinavica, 109*(6), 426-433. doi: 10.1111/j.1600-0047.2004.00264.x

Johnson, D. E. (1998). *Applied multivariate methods for data analysts.* Pacific Grove, CA: Brooks/Cole.

Joyce, A., Piper, W., Ogrodniczuk, J., & Klein, R. (2007). Patient-Initiated Termination *Termination in Psychotherapy: A Psychodynamic Model of Processes and Outcomes* (pp. 133-156). Washington, DC: American Psychological Association.

Keijsers, G., Kampman, M., & Hoogduin, C. (2001). Dropout prediction in cognitive behavior therapy for panic disorder. *Behavior Therapy, 32*(4), 739-749. doi: 10.1016/S0005-7894(01)80018-6

Kurtz, J. E., & Tiegreen, S. B. (2005). Matters of conscience and conscientiousness: The place of ego development in the Five-Factor Model. *Journal of Personality Assessment, 85*(3), 312 - 317. doi:10.1207/s15327752jpa8503_07

Lambert, M. (2010). *Prevention of treatment failure: The use of measuring, monitoring, and feedback in clinical practice.* Washington, DC: American Psychological Association.

Lampropoulos, G., Schneider, M., & Spengler, P. (2009). Predictors of early termination in a university counseling training clinic. *Journal of Counseling & Development, 87*(1), 36-46. Retrieved from: http://aca.metapress.com/link.asp?id=63rm673743060418

Leichesenring, F., Salzer, S., Hilsenroth, M., Leibing, E., Leweke, F., and Rabung, S. (2011). Treatment integrity: An unresolved issue in psychotherapy research. *Current Psychiatry Reviews, 7*(4), 313-321.Retrieved from: http://www.ingentaconnect.com/content/ ben/cpsr/2011/00000007/00000004/art00005

Lees-Haley, P., English, L. & Glenn, W. (1991). A Fake Bad Scale on the MMPI-2 for personal injury claimants. *Psychological Reports, 68*, 203-210. doi: 10.2466/PR0.68.1.203-210

Levenson, H. (2010). *Brief Dynamic Therapy*. Washington, DC: American Psychological Association.

Levy, J., Thompson-Leonardelli, K., Smith, N., & Coleman, M. (2005). Attrition after intake at a university counseling center: Relationship among client race, problem type, and time on a waiting list. *Journal of College Counseling, 8*(2), 11. doi: 10.1002/j.2161-1882.2005.tb00077.x

Linehan, M. M. (1993a). *Cognitive-behavioral treatment of borderline personality disorder*. New York: Guilford.

Linehan, M. M. (1993b). *Skills training manual for treating borderline personality disorder*. New York: Guilford.

Linehan, M. M., & Dexter-Mazza, E. T. (2008). *Dialectical behavior therapy for borderline personality disorder*. New York: Guilford.

Luborsky, L. (2000). *Principles of psychoanalytic psychotherapy: A manual for supportive-expressive treatment*. London: Basic Books.

Malan, D. H. (2001). *Individual psychotherapy and the science of psychodynamics.* (2nd ed.). New York: Oxford University Press.

Mann, C. (2003). Observational research methods. Research design II: cohort, cross sectional, and case-control studies. *Emergency Medicine Journal, 20*(1), 54-57. doi: 10.1136/ emj.20.1.54

McCrae, R. R., & Costa, P. T. (1997). Conceptions and correlates of Openness to Experience. In R. Hogan, J. A. Johnson & S. R. Briggs (Eds.), *Handbook of personality psychology* (pp. 825-847). Orlando, FL: Academic Press.

McCrae, R. R. and John, O. P. (1992). An introduction to the five-factor model and its applications. *Journal of Personality, 60*, 175–215. doi: 10.1111/j.1467-6494.1992.tb00970.x

McWilliams, N. (1994). *Psychoanalytic diagnosis: Understanding personality structure in the clinical process*. New York: Guilford.

McWilliams, N. (2004). *Psychoanalytic psychotherapy: A practitioner's guide*. New York: Guilford.

Milrod, B., Leon, A., Busch, F., Rudden, M., Schwalberg, M., Clarkin, J., et al. (2007). A randomized controlled clinical trial of psychoanalytic psychotherapy for panic disorder. *American Journal of Psychiatry, 164*(2), 265. doi: 10.1176/appi.ajp.164.2.265

Mitchell, S., & Black, M. (1995). *Freud and beyond: A history of modern psychoanalytic thought*. London: Basic Books.

Nelson, N., Hoelzle, J., Sweet, J., Arbisi, P., & Demakis, G. (2010). Updated meta-analysis of the MMPI-2 Symptom Validity Scale (FBS): Verified utility in forensic practice. *The Clinical Neuropsychologist, 24*, 701-724. doi: 10.1080/13854040903482863

Ogrodniczuk, J., Piper, W., Joyce, A., McCallum, M., & Rosie, J. (2003). NEO-five factor personality traits as predictors of response to two forms of group

psychotherapy. *International Journal of Group Psychotherapy, 53*(4), 417-442. doi: 10.1521/ijgp.53.4.417.42832

Pekarik, G. (1983). Improvement in clients who have given different reasons for dropping out of treatment. *Journal of Clinical Psychology, 39*(6), 909-913. doi: 10.1002/1097-4679(198311)39:6<909::AID-JCLP2270390614>3.0.CO;2-4

Pekarik, G. (1985). The effects of employing different termination classification criteria in dropout research. *Psychotherapy: Theory, Research, Practice, Training, 22*(1), 86-91. doi: 10.1037/h0088531

Perepletchikova, F. & Kazdin, A. (2006). Treatment integrity and therapeutic change: Issues and research recommendations. *Clinical Psychology: Science and Practice, 12*(4), 365-383. doi: 10.1037/0022-006X.75.6.829

Persons, J., Burns, D., & Perloff, J. (1988). Predictors of dropout and outcome in cognitive therapy for depression in a private practice setting. *Cognitive Therapy and Research, 12*(6), 557-575. doi: 10.1007/BF01205010

Piper, W., Ogrodniczuk, J., Joyce, A., McCallum, M., Rosie, J., O'Kelly, J., et al. (1999). Prediction of dropping out in time-limited, interpretive individual psychotherapy. *Psychotherapy: Theory, Research, Practice, Training, 36*(2), 114-122. doi: 10.1037/h0087787

Polimeni, A., Moore, S., & Gruenert, S. (2010). MMPI-2 profiles of clients with substance dependencies accessing a therapeutic community treatment facility. *E-Journal of Applied Psychology, 6*(1). Retrieved from: http://ojs.lib.swin.edu.au/index.php/ejap/ article/viewArticle/165

Prochaska, J., Norcross, J., & DiClemente, C. (1994). *Changing for good: A revolutionary six-stage program for overcoming bad habits and moving your life positively forward*. New York: Willliam Morrow.

Prochaska, J., Redding, C., & Evers, K. (2002). The transtheoretical model and stages of change. In edited by K. Glanz, B. K. Rimer & K. Viswanath (Eds.) *Health Behavior and Health Education: Theory, Research, and Practice* (pp. 97-121). New York: Wiley.

Puschner, B., Kraft, S., Kachele, H., & Kordy, H. (2007). Course of improvement over 2 years in psychoanalytic and psychodynamic outpatient psychotherapy. *Psychology and Psychotherapy: Theory, Research and Practice, 80*(1), 51-68. doi: 10.1348/147608306X107593

Reik, T. (1936). *Surprise and the psychoanalyst*. London: Kegan Paul, Trench and Trubner.

Reingold, E. M. & Merikle, P. M. (1990). On the inter-relatedness of theory and measurement in the study of unconscious processes. *Mind and Language, 5*, 9-28. doi: 10.1111/j.1468-0017.1990.tb00150.x

Reis, B., & Brown, L. (2006). Preventing therapy dropout in the real world: The clinical utility of videotape preparation and client estimate of treatment duration. *Professional Psychology: Research and Practice, 37*(3), 311-316. doi: 10.1037/0735-7028.37.3.311

Renk, K., Dinger, T., & Bjugstad, K. (2000). Predicting therapy duration from therapist experience and client psychopathology. *Journal of Clinical Psychology, 56*(12), 1609-1614. doi: 10.1002/1097-4679(200012)56:12<1609::AID-11>3.0.CO;2-U

Roback, H., & Smith, M. (1987). Patient attrition in dynamically oriented treatment groups. *American Journal of Psychiatry, 144*(4), 426. Retrieved from: http://ajp.psychiatryonline.org/article.aspx?volume=144&page=426

Roth, A., & Fonagy, P. (2005). *What works for whom?: a critical review of psychotherapy research*. New York: Guilford.

Schredl, M., Ciric, P., Götz, S., & Wittmann, L. (2003). Dream recall frequency, attitude towards dreams and openness to experience. *Dreaming, 13*(3), 145-153. doi: 10.1023/A:1025369311813

Schretlen, D., van der Hulst, E., Pearlson, G., & Gordon, B. (2010). A neuropsychological study of personality: Trait openness in relation to intelligence, fluency, and executive functioning. *Journal of Clinical and Experimental Neuropsychology, 9*(1), 1-6. doi: 10.1023/A:1025369311813

Sharpless, B. & Barber, J. (2009). A conceptual and empirical review of the meaning, measurement, development, and teaching of intervention competence in clinical psychology. *Clinical Psychology Review, 29*(1), 47-56. doi:10.1016/j.cpr.2008.09.008

Shedler, J. (2010). The efficacy of psychodynamic psychotherapy. *American Psychologist, 65*, 98-109. doi: 10.1037/a0018378

Silvia, P. J., Nusbaum, E. C., Berg, C., Martin, C., & O'Connor, A. (2009). Openness to experience, plasticity, and creativity: Exploring lower-order, high-order, and interactive effects. *Journal of Research in Personality, 43*(6), 1087-1090. doi: 10.1016/j.jrp.2009.04.015

Simon, G., & Ludman, E. (2010). Predictors of early dropout from psychotherapy for depression in community practice. *Psychiatric Services, 61*(7), 684. doi: 10.1176/appi.ps.61.7.684

Skinner, B. (1988). The operant side of behavior therapy. *Journal of Behavior Therapy and Experimental Psychiatry, 19*(3), 171-179. doi: 10.1016/0005-7916(88)90038-9

Slavin, M. O., & Kriegman, D. (1992). *The adaptive design of the human psyche.* New York: Guilford.

Sledge, W., Moras, K., Hartley, D., & Levine, M. (1990). Effect of time-limited psychotherapy on patient dropout rates. *American Journal of Psychiatry, 147*(10), 1341. Retrieved from: http://www.ncbi.nlm.nih.gov/pubmed/2400003

Smith, T., Koenigsberg, H., Yeomans, F. E., Clarkin, J. F., & Selzer, M. (1995). Predictors of dropout in psychodynamic psychotherapy of borderline personality disorder. *Journal of Psychotherapy Practice and Research, 4*(3), 205. Retrieved from: http://jppr.psychiatryonline.org/cgi/reprint/4/3/205

Sprock, J., & Bienek, J. (1998). Barron's Ego Strength scale and Welsh's Anxiety and Repression scales: A comparison of the MMPI and MMPI-2. *Journal of Personality Assessment, 70*(3), 506-513. doi:10.1207/s15327752jpa7003_8

Stark, M., & Campbell, B. (1988). Personality, drug use, and early attrition from substance abuse treatment. *The American Journal of Drug and Alcohol Abuse, 14*(4), 475-485. doi: 10.3109/00952998809001565

Summers, F. (1994). *Object Relations Theories and Psychopathology*. Hillsdale, NJ: Analytic Press.

Summers, R., & Barber, J. (2009). *Psychodynamic therapy: a guide to evidence-based practice.* New York: Guilford.

Swan, S. A. (2009). *Openness to the Unconscious - Development and Validity*. (Unpublished manuscript). Knoxville: The University of Tennessee.

Swan, S. A., Gray, E. I., Wong, A. J., Lounsbury, J. W., & Nash, M. R. (2010). *Openness to the Unconscious: Reliability and validity*. Poster presented at the 30th Annual Spring Meeting of the American Psychological Association Division of Psychoanalysis, Chicago, IL.

Swift, J., Callahan, J., & Levine, J. (2009). Using clinically significant change to identify premature termination. *Psychotherapy: Theory, Research, Practice, Training, 46*(3), 328-335. doi: 10.1037/a0017003

Unsworth, N., Miller, J., Lakey, C., Young, D., Meeks, J., Campbell, W., et al. (2009). Exploring the relations among executive functions, fluid intelligence, and personality. *Journal of Individual Differences, 30*(4), 194-200. doi: 10.1027/1614-0001.30.4.194

Valbak, K. (2004). Suitability for psychoanalytic psychotherapy: a review. *Acta Psychiatrica Scandinavica, 109*(3), 164-178. doi: 10.1046/j.1600-0447.2003.00248.x

Volpe, E., Finn, M. Swan, S., Wong, A., Nash, M. & Lounsbury, J. (2011, August). Openness to the Unconscious: Clinical and theoretical correlates. Poster presented at the Annual Convention of APA, The Society of Psychological Hypnosis, Washington, D.C.

Walters, G., Solomon, G., & Walden, V. (1982). Use of the MMPI in predicting psychotherapeutic persistence in groups of male and female outpatients. *Journal of Clinical Psychology, 38*(1), 80-83. doi: 10.1002/1097-4679(198201)38:1<80::AID-JCLP2270380110>3.0.CO;2-D

Weck, F., Bohn, C., Ginzburg, D. & Stangier, U. (2011). Assessment of adherence and competence in cognitive therapy: Comparing session segments with entire sessions. *Psychotherapy Research, 21*(6), 658-669. doi: 10.1080/10503307.2011.602751

Welsh, G. S. (1956). Factor dimensions A and R. In G. Welsh & W. Dahlstrom (Eds.), *Basic readings on the MMPI in psychology and medicine*. Minneapolis: University of Minnesota Press.

Welsh, G. S. (1965). MMPI profiles and factors A and R. *Journal of Clinical Psychology, 21*, 43-47. doi: 10.1002/1097-4679(196501)21:1<43::AID-JCLP2270210113>3.0.CO;2-O

Wierzbicki, M., & Pekarik, G. (1993). A meta-analysis of psychotherapy dropout. *Professional Psychology: Research and Practice, 24*(2), 190-195. doi: 10.1037/0735-7028.24.2.190

Williams, P., Rau, H., Cribbet, M., & Gunn, H. (2009). Openness to Experience and stress regulation. *Journal of Research in Personality, 43*(5), 777-784. doi: 10.1016/j.jrp.2009.06.003

Winkel, J. D. (2006). Exploring the relationship between time-series data collection and duration of treatment in a university clinic: A survival analysis. (Unpublished doctoral dissertation), University of Tennessee, Knoxville.

Winnicott, D. (1960). Ego distortion in terms of true and false self. *The maturational processes and the facilitating environment.* (pp. 140-152). New York: International Universities Press.

Winnicott, D. (1971). *Playing and Reality*. London: Tavistock.

Wise, M., & Rinn, R. (1983). Premature client termination from psychotherapy as a function of continuity of care. *Journal of Psychiatric Treatment and Evaluation, 5*(1), 63-65.

Wolpe, J. (1968). Psychotherapy by reciprocal inhibition. *Integrative Psychological and Behavioral Science, 3*(4), 234-240. doi: 10.1007/BF03000093

Yeomans, F. E., Clarkin, J. F., & Kernberg, O. F. (2002). *A primer on transference-focused psychotherapy for the borderline patient*. New York: Aronson.

Yeomans, F. E., Clarkin, J. F., & Levy, K. N. (2005). Psychodynamic Psychotherapies. In Oldham, J.M., Skodol, A.E., & Bender, D.S. (Eds.), *Textbook of personality disorders*. Washington, DC: American Psychiatric Publishing, 275-288.

Young, J., Klosko, J., & Weishaar, M. (2003). *Schema therapy: A practitioner's guide*. New York: Guilford.

Zinbarg, R., Uliaszek, A., & Adler, J. (2008). The role of personality in psychotherapy for anxiety and depression. *Journal of Personality, 76*(6), 1649-1688. doi: 10.1111/j.1467-6494.2008.00534.x

APPENDIX

Table 1.

Openness to the unconscious: Items and item-total correlations.

	Corrected item-total correlation
1. There are things going on in my mind that are hidden from me.	0.43
2. I'm curious about the parts of my own personality that are unclear.	0.78
3. I catch myself doing things unintentionally.	0.45
4. I think about sides of my personality that rarely surface.	0.60
5. I wonder about aspects of myself that are unconscious.	0.64
6. I'd like to know more about my own hidden motives.	0.66
7. There's room for me to learn more about myself.	0.45
8. I notice things about myself that are unexpected.	0.60
9. It would be great to figure out the hidden things in my mind.	0.63
10. I contemplate on my own unconscious motivations.	0.45
11. I'd try to figure it out if I had feelings I didn't understand.	0.57
12. I'm open to what's going on in my imagination.	0.47

Table 2.

Items shared between MMPI-2 scales, total items on the diagonal.

	K	1 Hs	3 Hy	6 Pa	7 Pt	R	Es
Correction (K)	(30)	0	7	2	2	4	1
Hypochondriasis (1 Hs)		(32)	19	0	1	3	3
Hysteria (3 Hy)			(60)	1	7	4	11
Paranoia (6 Pa)				(40)	4	2	3
Psychasthenia (7 Pt)					(48)	0	7
Repression (R)						(37)	4
Ego Strength (Es)							(52)

Table 3.

Intercorrelations and descriptive statistics for MMPI-2 scores and OU, valid versus invalid profiles.

	OU	K	1 Hs	3 Hy	6 Pa	7 Pt	R	ES	M (SD)
Openness to the Unconscious (OU)	–	**.17**	**.17**	**.42**[†]	**.31**	**.40**[†]	**-.36**[†]	**-.35**[†]	29.6 (12.9)
Correction (K)	.08	–	.08	.18	-.09	-.02	-.17	-.11	56.5 (8.7)
Hypochondriasis (1 Hs)	.21	.26	–	.71	.26	.41	.09	-.15	55.9 (9.0)
Hysteria (3 Hy)	.26	.27	.80	–	.52	.50	.18	-.06	55.3 (10.1)
Paranoia (6 Pa)	.27	-.17	.25	.21	–	.57	.17	-.20	51.3 (10.1)
Psychasthenia (7 Pt)	.39	-.18	.31	.43	.52	–	-.17	-.45	54.4 (9.1)
Repression (R)	-.12	.30	.17	.22	.15	.19	–	.31	56.7 (8.9)
Ego Strength (ES)	-.04	.09	-.37	-.32	-.48	-.43	-.28	–	50.8 (8.9)
M	33.6	40.8	61.1	60.7	62.5	71.5	50.7	37.4	
(SD)	(9.7)	(8.4)	(14.3)	(13.8)	(16.2)	(11.7)	(11.0)	(7.8)	

Note: Intercorrelations for valid MMPI-2 profiles (n = 47) are presented above the diagonal, and intercorrelations for invalid MMPI-2 profiles (n = 34) are presented below the diagonal; see pp. 23-24 for exclusion criteria. Hypothesis testing in bold.

[†] significant, $p < .007$, two-tailed; Bonferroni correction for 7 comparisons.

Table 4.

Regression coefficients: MMPI-2 scales predicting OU.

	B	*SE B*	β	*t*
(Constant)	33.36	17.75		1.88
Hysteria (Scale 3)	.43	.17	.38	2.53*
Psychasthenia (Scale 7)	.16	.19	.12	.80
Repression (R)	-.37	.19	-.28	-1.96
Ego Strength (Es)	-.28	.19	-.21	-1.48

Note: n = 47 valid MMPI-2 profiles; * $p < .05$, two-tailed.

Table 5.

Pearson correlation matrix: MMPI-2 validity scales and OU.

	VRIN	TRIN	F	Fb	Fp	FBS	L	K	S
OU	**.07**	**.22**	**.16**	**.14**	**-.24**	**.38**	**-.46**[†]	**-.29**	**-.51**[†]
VRIN	–	.03	.21	.36	.05	.05	-.28	-.45	-.30
TRIN		–	.29	.09	.10	.34	-.05	-.04	-.04
F			–	.20	.17	.25	.07	-.16	-.34
Fb				–	.08	.10	-.34	-.51	-.45
Fp					–	-.14	.58	.11	.15
FBS						–	-.03	-.10	-.11
L							–	.55	.54
K								–	.82

Note: n = 47 valid profiles; [†] $p < .002$, two-tailed, Bonferroni correction for 23 comparisons, two tailed; VRIN = Variable Response Inconsistency, TRIN = True Response Inconsistency, F = Infrequency, Fb = Back F, Fp = Infrequency - Psychopathology, FBS = Symptom Validity, L = Lie, K = Correction, S = Superlative Self-Presentation.

Table 6.

Pearson correlation matrix: MMPI-2 clinical scales and OU.

	1 Hs	2 D	3 Hy	4 Pd	5 Mf	6 Pa	7 Pt	8 Sc	9 Ma	0 Si
OU	**.22**	**.46**†	**.35**	**.45**†	**.01**	**.39**	**.41**	**.46**†	**.49**†	**-.02**
1 Hs	–	.51	.71	.25	-.01	.15	.34	.41	-.05	-.15
2 D		–	.46	.43	.02	.29	.51	.40	.22	.19
3 Hy			–	.33	.06	.43	.37	.38	.01	-.31
4 Pd				–	.07	.35	.44	.37	.41	-.08
5 Mf					–	-.03	.24	.06	.22	.26
6 Pa						–	.46	.57	.48	-.06
7 Pt							–	.68	.50	-.05
8 Sc								–	.43	-.07
9 Ma									–	.13

n = 47 valid profiles only; † $p < .002$, two-tailed, Bonferroni correction for 23 comparisons, two-tailed; 1 Hs = Hypochondriasis, 2 D = Depression, 3 Hy = Hysteria, 4 Pd = Psychopathic Deviate, 5 Mf = Masculinity / Femininity, 6 Pa = Paranoia, 7 Pt = Psychasthenia, 8 Sc = Schizophrenia, 9 Ma = Hypomania, 0 Si = Social Introversion.

Table 7.

Pearson correlation matrix: Personality psychopathology (PSY-5) and OU.

	AGGR	PSYC	DISC	NEGE	INTR
OU	**.28**	**.12**	**.39**	**.39**	**.11**
Aggressiveness (AGGR)	–	.21	.27	.23	-.09
Psychoticism (PSYC)		–	.18	.54	-.03
Disconstraint (DISC)			–	.29	.21
Negative Emotionality (NEGE)				–	.12
Introversion (INTR)					–

Note: *n* = 47 valid profiles; no correlations met α = .002, two-tailed, Bonferroni correction for 23 comparisons, two-tailed.

Table 8.

Regression coefficients and change statistics: MMPI-2 clinical scales predicting OU.

	B	*SE B*	β	*t*	R^2	ΔR^2	F_Δ (df)
1 (Constant)	-6.55	9.73		-.67	.247	.247	15.12 (1, 46)*
Schizophrenia	.69	.18	.50	3.89*			
2 (Constant)	-21.55	10.90		-1.98	.343	.096	6.55 (1, 45)*
Schizophrenia	.50	.18	.36	2.70*			
Hypomania	.50	.20	.34	2.56*			
3 (Constant)	-28.94	10.74		-2.69*	.424	.081	6.16 (1, 44)*
Schizophrenia	.28	.19	.20	1.44			
Hypomania	.49	.19	.33	2.64*			
Depression	.37	.15	.33	2.48*			
4 (Constant)	-23.69	10.23		-2.32*	.396	-.027	2.08 (1, 44)
Hypomania	.59	.18	.40	3.34*			
Depression	.46	.13	.41	3.45*			

Note: Testing sample; n = 47 valid MMPI-2 profiles. * $p < .05$, two-tailed.

Table 9.

Regression coefficients and change statistics: MMPI-2 clinical and validity scales predicting OU.

	B	*SE B*	β	*t*	R^2	ΔR^2	F_Δ (df)
1 (Constant)	64.96	8.70		7.47*	.26	.26	15.83 (1, 46)*
Superlative	-.61	.15	-.51	-3.98*			
2 (Constant)	40.58	9.24		4.39*	.48	.22	19.11 (1. 45)*
Superlative	-.69	.13	-.57	-5.27*			
Hysteria	.52	.12	.48	4.37*			
3 (Constant)	13.88	15.26		.91	.53	.05	4.63 (1, 44)*
Superlative	-.53	.15	-.44	-3.66*			
Hysteria	.49	.11	.45	4.29*			
Hypomania	.38	.18	.26	2.15*			

Note: Testing sample; n = 47 valid MMPI-2 profiles. * $p < .05$, two-tailed.

Table 10.

Tests of demographic differences by treatment status and type.

	Treatment Status		Treatment Type	
	F (*df*)	*p*	*F* (*df*)	*p*
Age	1.35 (4, 72)	.26	2.72 (4, 72)	.04*
Education	.88 (4, 71)	.48	1.21 (4, 71)	.32
Income	.49 (3, 37)	.69	.60 (3, 37)	.67
	χ^2 (*df*)	*p*	χ^2 (*df*)	*p*
Gender	1.16 (4)	.88	2.85 (4)	.59
Race	6.10 (12)	.91	8.21 (12)	.77
Employment	4.16 (4)	.39	7.53 (4)	.11

Note: Status groups include active treatment, attrition, intake only, and denied by clinician. Type groups include psychoanalytic, CBT, integrative, hypnosis only, and no treatment. $^{*}p < .05$, two-tailed.

Table 11.

Descriptives for psychotherapy sessions and OU: Treatment type by status.

	Treatment Status: *n* (row %)					Sessions	OU
Treatment Type	Intake Only	Active	Completed	Attrition	Denied	*M* (*SD*)	*M* (*SD*)
Psychoanalytic	–	11 (50%)	1 (5%)	9 (40%)	1 (5%)	7.00(4.64)	45.7(8.2)
CBT	–	18 (54%)	2 (6%)	13 (39%)	–	7.97(5.76)	42.6(7.5)
Integrative	–	3 (37%)	–	5 (63%)	–	4.50(3.85)	46.1(7.0)
Hypnosis	5 (63%)	2 (25%)	–	–	1 (12%)	1.63(2.83)	43.4(10.1)
None	6 (100%)	–	–	–	–	n/a	41.0(7.3)
Total	11 (14%)	34 (44%)	3 (4%)	27 (35%)	2 (3%)	6.05(5.39)	43.8(7.9)
Sessions, *M* (*SD*)	n/a	8.7 (5.5)	9.0 (4.6)	4.6 (3.3)	10.0 (11.3)		
OU, *M* (*SD*)	41.6 (7.8)	43.9 (8.3)	40.3 (12.4)	44.3 (6.7)	52.5 (10.6)		

Note: N = 77.

Table 12.

Binary logistic regression: OU x treatment predicting attrition.

	B	*SE*	Wald χ^2	*df*	*p*
OU	.01	.04	.13	1	.72
Treatment [a.]	-1.75	3.31	.28	1	.60
OU x Treatment [a.]	.04	.07	.28	1	.60
Constant	-.96	1.66	.33	1	.56

a. Psychoanalytic (-.5) versus CBT (.5), *n* = 55; integrative, hypnosis, and no treatment excluded.

Table 13.

Binary logistic regression: OU x treatment predicting attrition or denied treatment.

	B	*SE*	Wald χ^2	*df*	*p*
OU	.01	.04	.12	1	.73
Treatment [a.]	-1.87	3.30	.32	1	.57
OU x Treatment [a.]	.04	.07	.30	1	.59
Constant	-.90	1.65	.29	1	.41

a. Psychoanalytic (-.5) versus CBT (.5), *n* = 57; integrative, hypnosis, and no treatment excluded.

Table 14.

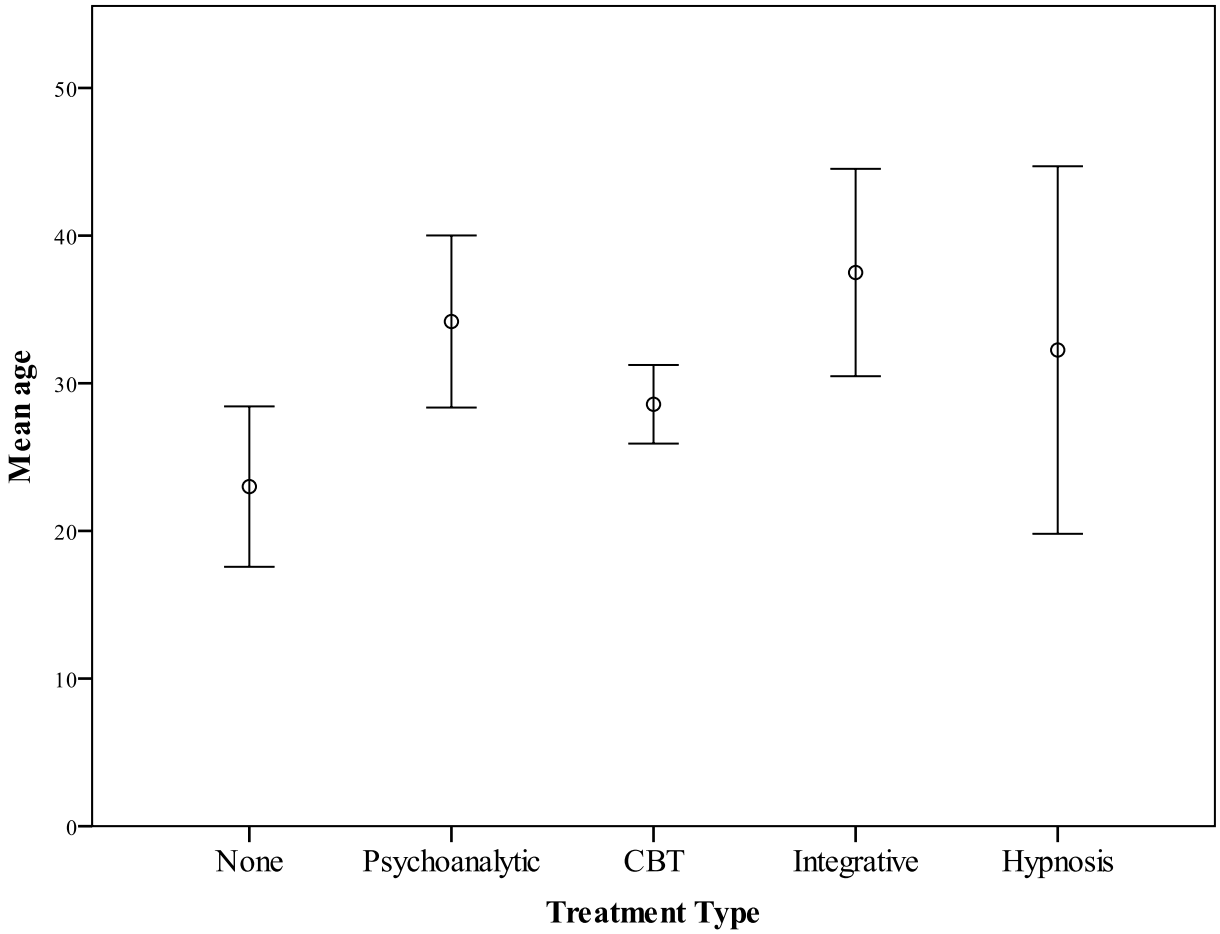
Classification rates: NEGE (Negative Emotionality / Neuroticism) predicting attrition.

	Predicted		
Observed	Retention	Attrition	% Correct
Retention	13	3	81.3
Attrition	5	7	58.3
		Overall	71.4

Note: *n* = 32; cut value = .50

Figure 1.

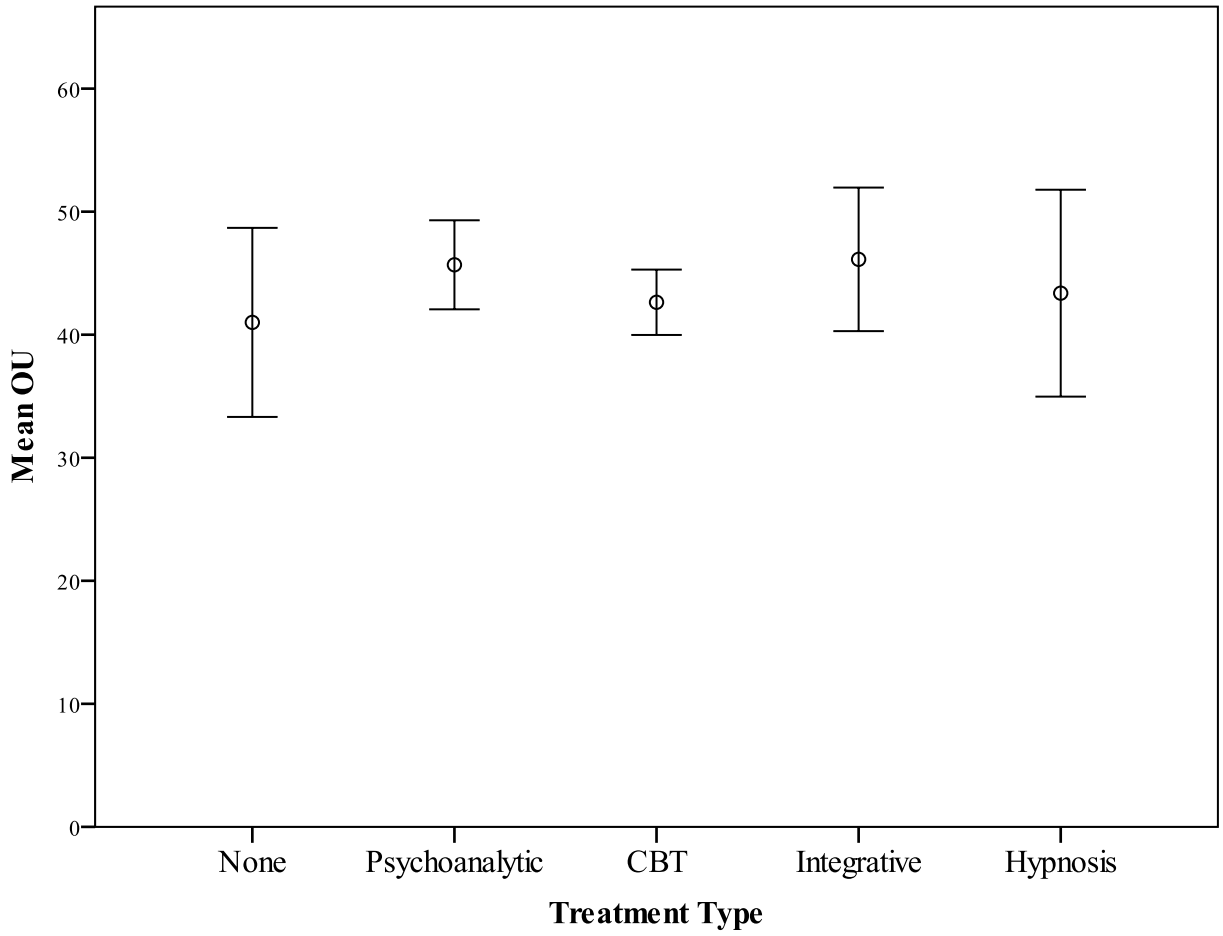
Mean age by treatment type.



Note: N = 77; 95% Confidence Intervals.

Figure 2.

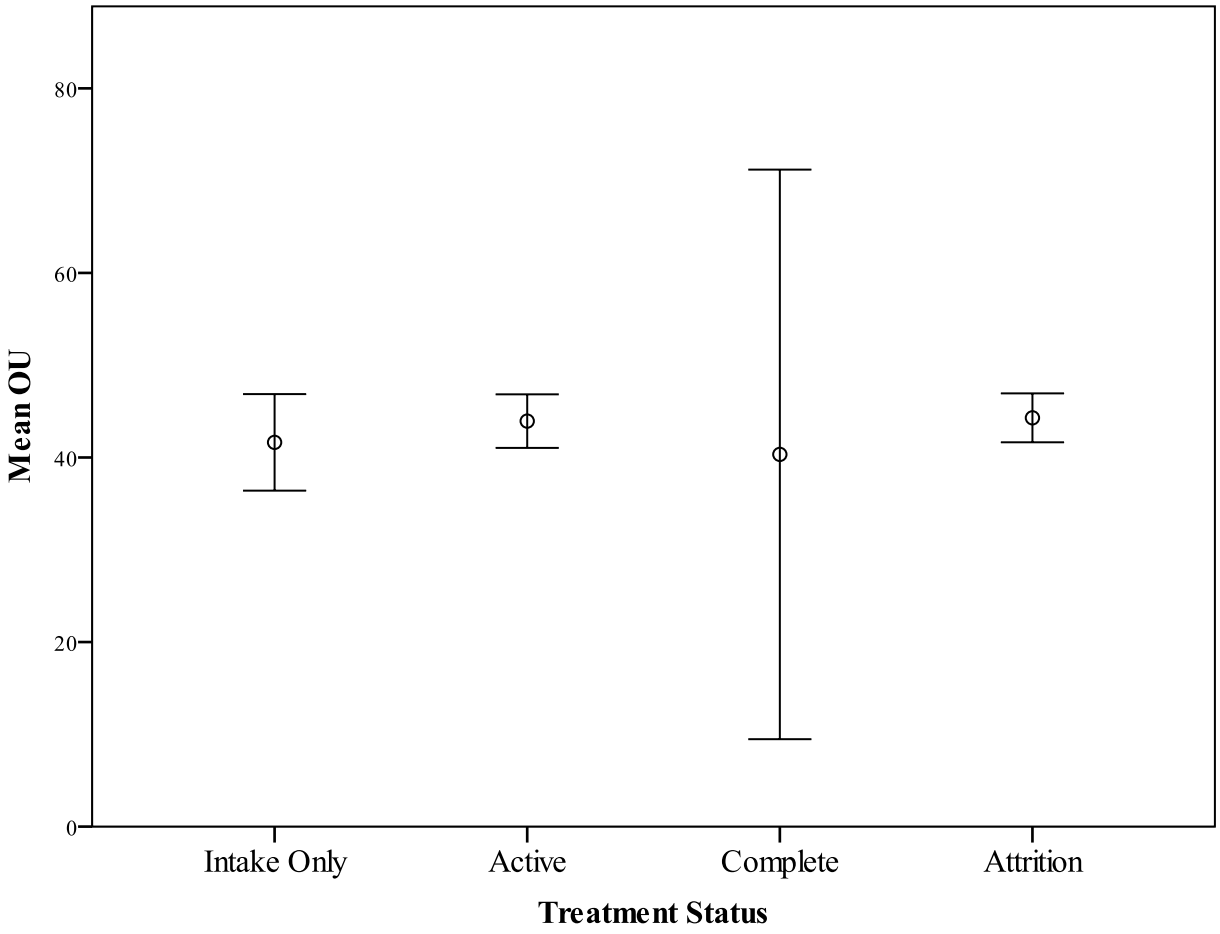
Mean OU by treatment type.



Note: N = 77; 95% Confidence Intervals.

Figure 3.

Mean OU by treatment status.



Note: N = 77; 95% confidence intervals; the group denied treatment by the clinic (n = 2) is excluded from the graph for clarity – its confidence interval is too wide.

Vita

Scott Andrew Swan Jr. graduated from the University of Tennessee, at Knoxville, TN with a Bachelor's degree in Psychology in August of 2001. In June of 2006 he earned a Master's degree in Counseling Psychology from the Family Institute at Northwestern University, in Evanston, IL. Currently, he works as a pre-doctoral intern at Pennsylvania Hospital in Philadelphia, PA.