

EPISTEMOLOGY AND PSYCHOTHERAPISTS: CLARIFYING THE LINK AMONG
EPISTEMIC STYLE, EXPERIENCE, AND THERAPIST CHARACTERISTICS

By

GIZEM AKSOY

A THESIS PRESENTED TO THE GRADUATE SCHOOL
OF THE UNIVERSITY OF FLORIDA IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE

UNIVERSITY OF FLORIDA

2005

Copyright 2005

by

Gizem Aksoy

ACKNOWLEDGMENTS

I would like to thank my advisor and committee chair, Dr. Greg J. Neimeyer, my beloved husband, Ferit Toska, and my dear friend Burhan Öğüt for their extensive guidance, support and encouragement. I am thankful for the assistance given to me by my committee members, Dr. Kenneth Rice and Dr. Michael Farrar. I am grateful to my family and my friends in Turkey and in Gainesville for their love and support. I could not have done this project without their help.

TABLE OF CONTENTS

	<u>page</u>
ACKNOWLEDGMENTS	iii
LIST OF TABLES	vi
ABSTRACT	vii
CHAPTER	
1 INTRODUCTION	1
Epistemic Style	2
Personal Epistemology and Personal Qualities	4
Personal Epistemology and Psychotherapy	7
Epistemic Style and Psychotherapy Theories	8
Epistemic Style and Psychotherapy Preferences	8
Epistemic Style and Psychotherapy Practices	9
Epistemic Style and Psychotherapists	14
Epistemic Style and Experience	17
Aim of the Present Study and Hypotheses	18
2 REVIEW OF THE LITERATURE	20
Epistemic Style	21
Personal Implications of Epistemic Style	24
Practical Implications of Epistemic Style	30
Epistemic Style and Psychotherapy Theories	31
Epistemic Style and Psychotherapy Preferences	33
Epistemic Style and Psychotherapy Practices	38
Thinking style	40
Focus of therapy	41
Direction of therapy	42
Therapeutic relationship	42
Conceptualization of central constructs	43
Conceptualization of change	45
Epistemic Style and Psychotherapists' Characteristics and Experiences	47
Pursuit of Self-Awareness	48
Attending to Emotions	50
Tolerance for Ambiguity	51

	Social Tolerance for Diversity.....	53
	Openness to Experience	55
	Epistemology and Psychotherapy Experience.....	57
	Purpose of the Study.....	60
3	METHODS	62
	Participants	62
	Procedure.....	62
	Instruments	63
4	RESULTS	69
	Demographics.....	69
	Descriptives and Preliminary Analyses.....	70
	Primary Analyses.....	73
5	DISCUSSION.....	79
	Summary of the Results.....	79
	Link between Constructivist Epistemologies and Therapist Characteristics.....	80
	Link between Rationalist Epistemologies and Therapist Characteristics.....	81
	Link between Therapy Experience and Therapist Characteristics	82
	Epistemology-by-Experience Interaction on Therapist Characteristics	84
	Limitations of the Present Study and Directions for Future Research	86
	Conclusion.....	91
 APPENDIX		
A	CONSTRUCTIVIST ASSUMPTION SCALE (CAS).....	93
B	THERAPIST ATTITUDE QUESTIONNAIRE-SHORT FORM (TAQ-SF)	94
C	PRIVATE SELF-CONSCIOUSNESS SCALE.....	96
D	ATTENDING TO EMOTIONS	97
E	MULTIPLE STIMULUS TYPES AMBIGUITY TOLERANCE.....	98
F	TOLERANCE SCALE.....	100
G	OPENNESS TO EXPERIENCE SCALE.....	101
H	DEMOGRAPHIC INFORMATION.....	102
	LIST OF REFERENCES.....	104
	BIOGRAPHICAL SKETCH	110

LIST OF TABLES

<u>Table</u>		<u>page</u>
1	Summary statistics of variables of interest.....	71
2	Intercorrelations among the variables of interest ^a	72
3	Results of hierarchical multiple regression analyses on the five dependent variables	77

Abstract of Thesis Presented to the Graduate School
of the University of Florida in Partial Fulfillment of the
Requirements for the Degree of Master of Science

EPISTEMOLOGY AND PSYCHOTHERAPISTS: CLARIFYING THE LINK AMONG
EPISTEMIC STYLE, EXPERIENCE, AND THERAPIST CHARACTERISTICS

By

Gizem Aksoy

December 2005

Chair: Greg J. Neimeyer
Major Department: Psychology

The present study examined the relationship among epistemic style, therapist characteristics and therapists' experience of conducting psychotherapy, and aimed to clarify whether divergent epistemologies predict different levels of therapist characteristics, and whether epistemic style can predict further differential psychotherapist change as an impact of years spent in clinical practice.

Findings suggested that higher constructivism scores predicted higher levels of pursuit of self-awareness, attending to emotions, ambiguity tolerance, social tolerance for individual diversity, and openness to experience, whereas higher rationalism scores predicted lower levels of these characteristics. The obtained results failed to support any epistemology-by-practice interactions on therapists' personal qualities.

The present study extended the developing literature on epistemology as a factor influencing psychotherapists' personal characteristics. Additional work is needed to

understand how epistemology is interwoven with psychotherapists' professional and personal lives.

CHAPTER 1 INTRODUCTION

Epistemic style refers to an individual's prevailing set of assumptions regarding the way in which knowledge is acquired, organized and developed. A broad range of therapy variables have been shown to correlate with epistemic style (e.g., Johnson et al., 1988; Lyddon, 1989a; Lyddon & Adamson, 1992; Mahoney & Gabriel, 1987; Neimeyer et al., 1993). Epistemic styles have been linked to several personal characteristics, as well as to the theory and practice of psychology. It has been suggested that the impact of epistemic style can be extended to psychotherapists' personal characteristics and experiences, and to the impact of conducting psychotherapy on psychotherapists (Neimeyer, Saferstein, & Arnold, 2005). However, to date there is no empirical evidence that links different epistemic styles to different psychotherapist characteristics or experiences. The present study attempts to clarify the link between epistemic style and therapist characteristics by investigating whether a therapist's epistemic style can predict conceptually related aspects of his or her personality or characteristic ways of relating to therapeutically relevant experience.

In order to provide the groundwork of the present study we first review the existing literature on epistemic style that relates epistemic style to psychotherapists' experience, and explain how epistemic style can predict a range of therapeutically relevant variables. Next, we outline five psychotherapist variables that are expected to vary according to the therapist's epistemic style. These include pursuit of self-awareness, attending to

emotions, tolerance of ambiguity, social tolerance of diversity, and openness to experience. Finally, we outline our predictions and summarize our research questions.

Epistemic Style

Our effort to explore the link between epistemic style and psychotherapists' personal characteristics and experiences requires a clear understanding of what epistemic styles are and how they are differentiated from one another. Epistemic style reflects the way an individual evaluates and tests the validity of his or her knowledge. Pepper's (1942) Root-Metaphor Theory, and Royce's (1964) Theory of Knowledge have been employed frequently in studies investigating the implications of epistemic style. Their approaches to the ways of knowing and organizing knowledge provide useful windows onto the expected interaction between epistemic styles, personal qualities and psychotherapy.

Pepper (1942) suggested four different ways of seeing the world and organizing experience. The first way of seeing the world is Formism, which assumes that reality operates within a set of predetermined universal forms and types, and that the essence of an object is discovered via its similarity to other objects. The second way of seeing the world is Mechanism, which assumes a machine-like deterministic universe in which observable effects are caused by natural factors. The third way of seeing the world is Contextualism, which assumes that meaning is embedded in the context and an event makes sense only when it is considered within its context. The fourth way of seeing the world is Organicism, which assumes that reality is dialectically-constructed and evolves over time by differentiation and integration. Contextualistic and organismic worldviews were recognized to be similar in nature, and Mechanism and Organicism has been considered two antithetical worldviews within this framework.

A complementary taxonomy has been proposed by Royce and his colleagues (Royce, 1964; Royce & Powell, 1983). Royce's Theory of Knowledge specifies three fundamental ways of knowing, namely empiricism, rationalism and metaphorism (Royce, 1964; Royce & Powell, 1983). Empiricists use their perceptual cognitive processes dominantly and they assume that the true knowledge can be obtained by reliable and consensual validation of data obtained by our senses. Rationalists use their conceptual cognitive processes dominantly, and they assume that the key to the true knowledge is logical consistency. Metaphorists use their symbolic cognitive processes dominantly, and they suggest the viability of knowledge is more important than its validity.

These distinct epistemologies can be summarized within the dichotomy of rationalist and constructivist epistemologies that has become common within the recent psychotherapy literatures (Mahoney & Gabriel, 1987). On the one hand, rationalist epistemologies propose that reality is independent of the observer and individuals experience the reality directly. Rationalist epistemologies can include those identified as a Mechanistic Worldview (Pepper, 1942), social-deterministic worldview (Berzonsky, 1994), Objectivist Simple Worldview (Botella & Gallifa, 1995), or simply Rationalism (Royce, 1964). These epistemologies are based on the assumption that human beings are passive recipients of a reality external to themselves that is itself stable, universal, and potentially knowable. They value the validity of knowledge, and knowledge is considered valid to the extent to which it matches external reality (Neimeyer, 1993). Constructivist epistemologies, on the other hand, view reality as constructed within the fabric of personal and social processes of interaction, leaving the individual as a participant-observer in the processes of reality construction. As a consequence, individuals can only

know reality indirectly, and cannot be separated from the reality that they perceive. Constructivist epistemologies may include Organicism (Pepper, 1942), Constructivist Complex Worldview (Botella & Gallifa, 1995), and Metaphorism (Royce, 1964). These are all based on the assumption that human beings actively construe their own reality and that this reality is dynamic and contextual (Lyddon, 1988; Mahoney & Lyddon, 1988). They seek viable knowledge that is internally consistent and consensually validated (Neimeyer, 1993).

Two fields of study have examined the relationship between personal epistemologies and aspects of psychotherapy. The first field has explored the relationship between epistemic style and a range of personal qualities and characteristics. The second field addresses the ways in which epistemic style interacts with psychological theories and psychotherapy approaches.

Personal Epistemology and Personal Qualities

Personal epistemologies have been linked to factors such as personality, intellectual style, cognitive complexity, self-construction and coping style (Berzonsky, 1994; Johnson et al., 1988; Neimeyer et al., 1993). Taken together, the literature on the relationship between epistemic style and various personal characteristics suggests that they related to one another in predictable ways. Johnson and his colleagues (1988), for example, explored the association between epistemic worldviews and personality traits, and linked personal worldviews to personality variables and intellectual style. Their findings revealed that individuals with a mechanistic worldview were more likely to be conventional and conforming, whereas individuals with an organismic worldview tended to be characterized by intellectual efficiency, flexibility, imaginativeness, empathy, tolerance, femininity, social-presence, self-acceptance, responsibility and autonomy.

Babbage and Ronan (2000) supported the idea that there are holistic differences in the personality profiles of the individuals committed to opposing worldviews. Replicating and extending the findings of Johnson et al. (1988), they revealed that organismically-oriented scientists were more likely to be women, to be social scientist, and to be characterized by imagination, compassion, good-nature, eagerness for cooperation and having a broad variety of interests, whereas mechanistically-oriented scientists were likely to be men, to be traditional scientists, and to be characterized by practicality, hardheadedness, skepticism, pride, competitiveness, traditionalism and preservation (Babbage & Ronan, 2000).

Neimeyer and his colleagues (1993) questioned whether the way a person acquires self-knowledge and constructs his or her identity can be explained by that person's epistemological commitments. Their study linked epistemic style to Berzonsky's (1990) styles of conducting personal science. Berzonsky (1990) asserted that individuals construct and process their identities in three different ways. The first is the information-oriented self-theorists who tend to be skeptical about their constructions, open to evidence, and willing to incorporate new information and modify their self-constructions when there is discrepancy. The second is the normative-oriented self-theorists who base their self-definition on significant others' norms. They are more likely to preserve their existing self-constructs. The third is the diffuse-oriented self-theorists that are characterized by the lack of defined self. Neimeyer et al. (1993) found that rational epistemic style was positively correlated with information-oriented style, while metaphorical epistemic style was negatively correlated with normative-oriented style. Their results suggested that rationalists tended to collect information and built their sense

of self from that point, whereas metaphorists tended to reject others' norms and expectations when they define their identity (Neimeyer et al., 1993).

Berzonsky (1994) further studied the relationship between epistemic worldview and individual differences in self-construction, i.e. the style of conducting personal science. The results of his study suggested that organismic worldviews and constructivist epistemological assumptions were associated with information-oriented style of self-construction, while mechanistic worldviews and social-deterministic epistemology were associated with normative-oriented style (Berzonsky, 1994). Individuals with mechanistic or formistic worldviews were more likely to follow others' expectations and orders when they constructed and maintain their sense of self if they did not avoid their self-construction process altogether. Individuals with contextual and organismic worldviews and constructivist epistemologies were more likely to work like a scientist on their self-project, analyzing the data and making the necessary changes. These findings suggested that the way individuals construct their identity can be predicted by their personal epistemologies, and that the way individuals with metaphorist epistemologies, contextual and organismic worldviews and constructivist epistemological assumptions tended to be open to experience and active in their identity-construction processes (Babbage & Ronan, 2000; Berzonsky, 1994; Caputi & Oades, 2001; Neimeyer et al., 1993).

Studying the relationship between epistemic worldview and individual differences in self-construction, Berzonsky (1994) also reported an association between epistemology and type of coping strategies. Individuals with constructivist epistemologies were more likely to seek social support and to engage in problem-solving as coping mechanisms.

This finding implied that epistemic style may shape the way an individual deal with personal difficulties.

Botella and Gallifa (1995) have linked epistemic style to cognitive complexity, regarded as the richness of an individual's conceptual structure in the domain of personal knowledge. They reported a significant relationship between organismic worldview, constructivist epistemic assumptions, and cognitive complexity. Mechanistic worldview and objectivist epistemic assumptions were associated with cognitive simplicity (Botella & Gallifa, 1995). These findings were consistent with the assumptions of these worldviews. Organismic worldview and constructivist epistemologies promote ideas such as reality is multiple and growth is continuous and complex that may require or facilitate the development of cognitive complexity and flexibility on the part of their adherents. Assumptions of mechanistic worldview and objectivist epistemologies such as reality is singular, stable and external, and that the world can be grasped by studying linear cause-effect relationships may facilitate or be satisfied with their adherents' cognitive simplicity.

Personal Epistemology and Psychotherapy

A thorough understanding of epistemic style's relationship to theories and practices of psychology is essential to understand whether epistemic style can be linked to the psychotherapists' personal characteristics and experiences. Literature connecting the epistemic style to psychology can be investigated with respect to three interdependent sets of studies. First, epistemic worldviews have been related to the theories of psychotherapy (Lyddon, 1989b; Sarbin, 1986, as cited in Botella & Gallifa, 1995). Second, epistemic worldviews have been related to therapy preferences of prospective clients and prospective and practicing psychotherapists (Lyddon, 1989a; Neimeyer et al.,

1993; Neimeyer & Morton, 1997; Schacht & Black, 1985). And third, epistemic worldviews have been employed to differentiate among forms of psychotherapy intervention (Lyddon, 1988; Mahoney & Gabriel, 1987; Mahoney & Lyddon, 1988).

Epistemic Style and Psychotherapy Theories

The literature investigating the link between epistemic style and psychology has examined how theories of psychotherapy are related to various epistemologies. Researchers have discussed which epistemologies underlie which theories of psychology and psychotherapy on a conceptual basis. Pepper's (1946) formistic worldview has been associated with the trait models of personality, and psychiatric diagnostic practices. A mechanistic worldview has been associated with Freudian theory, behaviorism and rationalist cognitive therapies (Lyddon, 1989b). Contextualistic worldview has been linked with Bandura's revised social-learning perspective, Rice and Greenberg's change process research program, and existential approaches reflect the contextualistic thinking (Lyddon, 1989b). An organicist worldview has been associated with developmental, humanistic and transpersonal movements and systems thinking (Lyddon, 1989b). Respectively, behavioral, rationalist and constructivist approaches to psychotherapy were identified as sharing the tenets of the empirical, rational, and metaphorical epistemic styles of Royce's (1964) theory of knowledge (Lyddon, 1991).

Epistemic Style and Psychotherapy Preferences

College students' preferences for various counseling approaches (Lyddon, 1989a; Lyddon & Adamson, 1992) have been associated with their epistemic style. Participants with empirical, rational, and metaphorical epistemic styles preferred behavioral, rationalist and constructivist therapy approaches, respectively (Lyddon, 1989a). Likewise, participants with an organismic worldview preferred constructivist approaches,

while participants with a mechanistic worldview preferred behavioral approaches (Lyddon & Adamson, 1992). The match between therapy approach preference and epistemic style was replicated for counselor trainees (Neimeyer et al., 1993), and practicing counselors and psychotherapists (Neimeyer & Morton, 1997; Schacht & Black, 1985); both lay people and practitioners reported preference for therapies that shared their own epistemological framework.

Epistemic Style and Psychotherapy Practices

Epistemic style has been conceptually linked to the different theories of psychology and has been linked to the psychotherapy preferences of lay people, as well as psychotherapists. Epistemic style has also been conceptually linked to the practice-related attitudes and behaviors of psychotherapists. It has been suggested further that epistemic styles could differentiate among different types of cognitive therapy (Lyddon, 1988; Mahoney & Gabriel, 1987; Mahoney & Lyddon, 1988).

Mahoney and Lyddon (1988) highlighted epistemological differences that undergird the wide range of different forms of cognitive psychotherapy. He suggested that differences in the psychotherapists' psychotherapy related attitudes and behaviors could be explained by divergent epistemological commitments of rationalism and constructivism. Rationalist and constructivist epistemologies, then, facilitated the differentiation among the different therapy approaches labeled as cognitive therapies. It was suggested that rationalist and constructivist approaches mainly differ in their understanding of reality and knowledge, and this difference reflects upon the way therapy is conceived and conducted. Therapists with rational epistemic commitments are primarily characterized by their belief in a-priori truths that are independent of the observer (Mahoney, Lyddon, & Alford, 1989). Individuals passively perceive reality as

singular and universal. Rationalist therapies aim to relieve the clients of their distress by replacing clients' irrational thoughts with rational ones. Therapists with constructivist epistemic commitments emphasize the active involvement of human beings in the construction of their realities (Mahoney et al., 1989). Reality is multiple and contextual. Constructivist therapies reject knowing the solution of clients' concerns and aim to explore the reality of the clients rather than providing solutions based within the framework of the therapists' worldviews.

These differences in epistemologies were linked to the practice of psychotherapy in detail. Conceptually, rationalist and constructivist therapies were differentiated in therapists' thinking style, focus and direction of therapy, conceptualization of therapeutic relationship, client problem, resistance, emotional distress, relapse and regression (Mahoney & Gabriel, 1987), and level of intervention (Lyddon, 1990). The empirical evidence supported that therapists identified with rationalist and constructivist epistemologies differed in the way they set the direction of the therapy, in the way they related to client and in the way they conceptualized and worked with their clients' emotional distress, relapse and regression (Nagae & Nedate, 2001; Vasco, 1994; Viney, 1994; Winter & Watson, 1999).

To begin with, rationalist and constructivist therapies were differentiated in therapists' thinking style. Rationalist cognitive therapies have been associated with a basic thinking style, simple format, and clear-cut methods, while constructivist cognitive therapies have a complicated thinking style, complex format, and unclear methods (Mahoney & Gabriel, 1987). Winter and Watson (1999) empirically supported the idea that constructivist epistemologies' tended to be more complex by establishing that clients

in personal construct therapies used more complex levels of processing during therapy compared to the clients in cognitive therapies. Consistent with this idea, Vasco (1994) found that a commitment to constructivist epistemologies predicted technical eclecticism.

Second, rationalist and constructivist therapies were differentiated in therapy focus. Rationalist cognitive therapies tend to focus on the clients' present problem, irrational thoughts and the elimination of them, while constructivist cognitive therapies tend to focus on history and development processes rather than the problem (Mahoney & Gabriel, 1987; Mahoney et al., 1989). Empirical support came from the findings of Vasco (1994) that revealed a negative correlation between constructivist epistemic commitments and therapist focus on the "problems" of the client. Therapists with constructivist epistemologies were less likely to focus on clients' problems.

Third, rationalist and constructivist therapies were differentiated in the direction of the therapy. Rationalist cognitive therapies tend to set specific client goals and determine the direction of the therapy at the very beginning of the therapy, while constructivist cognitive therapies tend to determine the route of the therapy without an explicit or external direction (Mahoney & Gabriel, 1987). Vasco (1994) supported this assumption by establishing that the more therapists are committed to constructivist epistemology, the less they lean on therapeutic structure and direction.

Fourth, they were differentiated in the nature of the client-therapist relationship. Rationalist cognitive therapies and constructivist cognitive therapies value different kinds of relationships. Rationalist therapists tend to be objective and analytical in their relationship with clients, while constructivist therapists tend to have personal and emotionally intense relationships with their clients (Mahoney & Gabriel, 1987). This

assumption has been validated empirically with various groups of participants. Winter and Watson (1999) established that personal construct psychotherapists took a less directive approach than rationalist therapists. Moreover, rationalist therapists exhibited less empathy, regard, and unconditionality for clients and they reflected more negative attitude towards the client than personal construct therapists did. Vasco (1994) observed that Portuguese therapists with constructivist commitments also tended to reject more directive helping styles. Nagae and Nedate (2001) confirmed these results with a group of Japanese therapists. Their findings suggested that rational cognitive therapists tended to have higher levels of psycho-educational instruction, and that constructive cognitive therapists were more successful in establishing rapport with their clients (Nagae & Nedate, 2001).

Fifth, rationalist and constructivist therapies were differentiated in their conceptualization of client problems, resistance, regression and relapse. Rationalist cognitive therapies tend to conceptualize client problems as deficits or dysfunctions, mental mistakes, or irrational beliefs, while constructivist therapies tend to define client problems as indicators of the discrepancies between external challenges and internal capacities (Mahoney & Gabriel, 1987). Rationalist therapists tend to view negative emotions as a problematic outcome of the discontinuity between the reality and its' perception, and they aim to remove them, while constructivist therapists tend to view negative emotions as an indicator of clients' current functioning, and they facilitate the experience and exploration of negative emotions as means of meaning-making (Mahoney & Gabriel, 1987; Mahoney & Lyddon, 1988). Viney (1994) found that personal construct and client-centered therapists acknowledged the negative emotions of their clients more

than rational-emotive therapists. In a similar fashion, rationalist therapists tend to perceive resistance, relapse and regression as an indicator of client failure in maintenance and generalization of therapy outcomes, while constructivist therapists tended to perceive resistance, relapse and regression as an indicator of clients' current capacity and efforts of self-preservation (Mahoney & Gabriel, 1987). Vasco (1994) found that therapists with strong constructivist epistemologies were less likely to confront their clients when they are faced with client resistance. Studying the transcripts of the two therapists who dealt with client's failure to complete homework, Winter and Watson (1999) provided specific examples for how a personal construct therapist and a rationalist therapist differed in the way they dealt with client resistance. Rationalist therapist approach was defined as pedagogical with an effort to convince the client to complete the homework, whereas personal construct therapist followed an exploratory approach with an effort to understand the dynamics of client's failure to complete it.

And finally, rationalist and constructivist therapies were differentiated in their conceptualization of change. Rationalist approaches to therapy tend to seek first-order change where change is made on the surface level without disturbing the existing systems, while therapies with constructivist commitments tend to facilitate second-order change where change involves fundamental restructuring of the existing systems (Lyddon, 1990).

Altogether, these conceptual and empirical works suggest that epistemologies underlying therapy approaches can differentiate the way psychotherapists construct and conduct psychotherapy. To some extent, epistemologies underlying different therapy approaches elicit divergent practices. Therapists thinking style, way of orchestrating

therapy session, focus, sense of direction, relationship with the client, understanding and dealing with client problem, resistance, emotional distress, relapse and regression can differ depending upon how the therapists and their therapy approach tend to know the world (Mahoney & Gabriel, 1987; Lyddon, 1990). Where epistemologies color how therapists construct and conduct therapy and how therapists relate to their clients, therapists conducting therapy with diverse epistemologies are expected to have different experiences. The nature of therapy defined by epistemological commitments will construct different sets of experiences for the therapists. Overall, the literature suggests that epistemic worldviews have been conceptually and empirically related to the theories of psychotherapy, to therapy preferences of prospective clients and prospective and practicing psychotherapists, and to the forms of intervention. This link between epistemic styles and the theories and practices of psychology suggests a potential link between epistemic style and personal characteristics and experiences of practicing psychotherapists.

Epistemic Style and Psychotherapists

Mahoney (1995) suggested that epistemic style can be related to psychotherapists' personal qualities as well as their experiences of conducting psychotherapy. He investigated the distinctive demands of constructivist therapies, and provided one of the first conceptualizations of the link between epistemologies and psychotherapists' personal characteristics and experiences. Basic tenets of constructivist epistemologies require therapists with constructivist commitments to be open to self-understanding (Mahoney, 1995). For instance, the assumption that reality is actively constructed by humans and the knowledge can only be obtained indirectly remind constructivist therapists that their understanding of a client will be limited by their perceptions and

constructions. As a result, constructivist therapists need to seek awareness of their own tendencies and biases to work effectively with their clients. Since therapists' emotional presence is regarded as a powerful facilitator in constructivist therapy, constructivist therapies tend to be more emotionally loaded, and require greater emotional presence and attendance on the part of the therapist (Mahoney, 1995). Then, therapists with constructivist commitments can be tuned to emotions. Constructivist therapies are less structured and less determined (Mahoney, 1995); therapists do not assume an authority role or presume correct understanding of their clients' realities, and they move towards outcomes that are not fully determined in advance, while acknowledging unconscious as well as conscious processes in therapy. Taken collectively, these features may require high levels of ambiguity tolerance. Mahoney (1995) suggested that constructivist therapists may also be more accepting of diversity as they believe that values that are always present during psychotherapy or any other human interaction are subjective and that individual differences always remain relative to a set of norms within a context. Interacting with, and being conscious about, the uniqueness of each client in a given personal, social and historical context, constructivist therapists may be expected to have high levels of diversity tolerance. The very basic tenet of constructivist epistemologies that humans actively construct their own knowledge and beliefs may also imply being open to alternative constructions and experiences.

Rationalist and constructivist approaches constitute largely complementary and their differences reflect upon the way therapy is conceived and conducted (Lyddon, 1988; Mahoney & Gabriel, 1987; Mahoney & Lyddon, 1988). Rationalist epistemologies can be expected to be less predisposed towards a pursuit of self-awareness, attending to

emotions, tolerance for ambiguity, social tolerance for diversity, and openness to experience. Since rationalist therapists tend to believe that they are objective observers of a stable and single and universal reality, and that they can correct their clients' faulty cognitions of reality, they may place fewer demands on the therapist to be insightful about their personal experiences such as emotions, thoughts or motivations. Since rationalist perspective views emotions simply as outcomes of cognitions that are not central to the realization of the external reality, rationalist therapists can be less likely to need special attunement to emotions. The relatively simple and straightforward approach of rationalist epistemology within psychotherapy might be expected to leave less room for ambiguity; therefore, less need for having or developing ambiguity tolerance. Rationalism that encourages a distant relationship with clients may not require its adherents to face the uniqueness of their clients or to appreciate and tolerate diversity. Although multicultural sensitivity is incorporated in any practice, the nature of rationalist therapies may not demand a deep appreciation of human differences, including cultural difference regarding the construction of reality and human experience. Followers of rationalist epistemologies may not need to be as open to new understandings or experiences either, as reality is single and set and as therapists are adequate authority figures to assist clients in their psychological problems. The determined, definitive and confident nature of this epistemological standpoint might be associated with lower levels of personal openness.

The literature on the association of epistemology with sets of personal characteristics also supported the expectation that constructivist epistemologies would be positively related to these psychotherapist characteristics when rationalist epistemologies

would be negatively related. Empirical evidence suggested that social tolerance and openness to experience were positively related to organismic worldview and negatively related to the mechanistic worldview (Babbage & Ronan, 2000; Johnson et al., 1988). Finding that organismically-oriented individuals were more likely to be empathic (Johnson et al., 1988) may provide evidence regarding the greater attending to emotions skills for these individuals. Similarly, finding that cognitive flexibility was positively related to organismic worldviews and negatively related to mechanistic worldview (Botella & Gallifa, 1995) supports the expectation that ambiguity tolerance and openness to experience can be associated with differing worldviews the same way since they are conceptually related to cognitive flexibility (Beitel, Ferrer, & Cecero, 2004).

Epistemic Style and Experience

Neimeyer et al. (2005) have noted the promising link between epistemic style and personal impact of conducting psychotherapy on psychotherapists, and they suggested that the impact of epistemic style on practice can be extended to understanding the ways in which psychotherapists may experience psychotherapy.

The general impact of practicing psychotherapy has been established with self-reports of practicing psychotherapists. Psychotherapists reported that they have experienced personal change as a result of conducting psychotherapy. Among other things, psychotherapists have reported that conducting psychotherapy has increased their emotional exhaustion, despair, self-awareness, appreciation for other human beings, and tolerance for ambiguity (Farber, 1983; Radeke & Mahoney, 2000). They also have reported change in their value systems (Radeke & Mahoney, 2000). Neimeyer et al. (2005) proposed that distinctive marks can be left by the divergent practices related to different epistemologies, and the current study attempts to clarify how different

epistemologies may register different impacts on psychotherapists across time. One implication of this proposal might concern the differing relationship between epistemic style and therapist characteristics across the course of conducting psychotherapy. In other words, it suggests the possibility that rationalism or constructivism might be differentially linked to the pursuit of self-awareness, a tolerance for ambiguity, an openness to experience, and so forth, as therapists accrue greater psychotherapy experience across time.

Mahoney (1995) asserted that conducting therapy in any forms within any framework would have its own challenges, yet conducting therapy with constructivist mindset amplifies the challenges of conducting therapy. Thus, the personal change introduced by conducting therapy might have been positively moderated by constructivist epistemologies such that therapists with higher levels of constructivist commitments might become increasingly attuned to emotionality, tolerant of ambiguity and differences, and open to experience over the course of their professional careers. In contrast, therapists with higher levels of rationalist commitments might be expected to show a decrease in their levels of these factors as they gain increasing confidence regarding their perceptions of reality and their effectiveness in working with clients from within this rationalist framework. That is to say the various therapist characteristics can be differentially related to the psychotherapy practice by levels of one's constructivist and rationalist tendencies.

Aim of the Present Study and Hypotheses

In light of the empirical and conceptual literature reviewed here, the present study aimed to clarify the relationship between epistemic style, therapist characteristics and therapists' experience of conducting psychotherapy and to address the impact of years

spent in practice on psychotherapists as a function of therapist epistemic style. Mainly, how therapists' commitment to rationalist and constructivist epistemologies were related to their personal characteristics when their level of experience is held constant was investigated since it would be the first step of discerning whether and how therapists experience of conducting psychotherapy differs with their epistemological commitments. The possible interaction between epistemology and personal impact of practice would be examined as well.

Specific hypotheses were identified in the order of importance as (1) levels of constructivist epistemology will predict higher levels of therapist pursuit of self-awareness, attending to emotions, tolerance for ambiguity, social tolerance for diversity and openness to experience when the number of years spent in clinical practice was controlled, (2) levels of rationalism will predict lower levels of therapists pursuit of self-awareness, attending to emotions, tolerance for ambiguity, social tolerance for diversity and openness to experience when the years spent in clinical practice was controlled, and (3) the epistemological commitment will moderate the personal impact of experience of conducting psychotherapy such that constructivist epistemologies will be increasingly related to those therapist characteristics and rationalist epistemologies will be decreasingly related to them over the course of psychotherapeutic experience.

CHAPTER 2 REVIEW OF THE LITERATURE

Mahoney (1988, 1995) has suggested that constructivist approaches to psychotherapy introduce high numbers of emotional encounters and high levels of ambiguity and diversity, and that such an approach to therapy requires higher levels of pursuit of self-awareness, attention to emotions, tolerance for ambiguity, and appreciation of diversity on the part of constructivist therapists. However, there is no empirical evidence that links epistemologies to psychotherapists' personal characteristics and experience of psychotherapy. There is also no evidence suggesting that any given therapist differences on such personal characteristics would be an outcome of the distinct demands of therapies fueled by diverse epistemologies. Whether epistemic style underlying psychotherapy approaches can predict differential therapist characteristics as well as differential effects of conducting psychotherapy on psychotherapists needs to be clarified.

In order to provide the groundwork for exploring this question, the present chapter reviews the existing literature on epistemic style, and links the epistemic style to psychotherapists' experience. The first three sections of the present chapter reflect critical reviews of the epistemic style literature and the literature linking epistemic style to personal characteristics, psychology theories and psychotherapy practices. In the fourth section, literature linking epistemic style to psychotherapists' experience of psychotherapy is reviewed in order to explain how epistemic style can predict personal impact of conducting psychotherapy on the psychotherapist. The next section outlines

five psychotherapist variables that are expected to vary according to the epistemic style. These include pursuit of self-awareness, attending to emotions, tolerance of ambiguity, social tolerance for diverse values and beliefs, and openness to experience. Finally, the hypotheses that are examined in the present study are presented.

Epistemic Style

Personal epistemology is one's theory about knowing and knowledge. Epistemic style reflects the way an individual evaluates and tests the validity of his or her knowledge. Epistemologies had been categorized into different groups by different researchers. Two of these efforts, Pepper's (1942) Root-Metaphor Theory, and Royce's (1964) Theory of Knowledge have been employed frequently in studies investigating the implications of epistemologies.

In his Root-Metaphor Theory, Pepper (1942) suggested four different ways of seeing the world and organizing experience, and tied down these world hypotheses to four basic analogies, or root metaphors. The first way of seeing the world is Formism, and it has been derived from the metaphor of similarities among entities. The formistic worldview assumes that reality is within the set of predetermined universal forms and types. Formists believe the essence of an object is discovered via its similarity to other objects, and they engage in categorical analysis of single elements. In psychology, trait models of personality, and psychiatric diagnostic practices reflect formistic thinking (Lyddon, 1989b). The second way of seeing the world is Mechanism in which the world resembles a machine. The mechanistic worldview assumes a machine-like deterministic universe in which observable effects are caused by natural factors. Mechanists focus on linear relationship between a single cause and a single event. In psychology, behaviorism

and rationalist cognitive therapies as well as some aspects of Freudian theory reflect the mechanistic thinking (Lyddon, 1989b).

The third way of seeing the world is Contextualism, and historical events are used as the root metaphor. The contextualistic worldview assumes the same event can be viewed differently depending on its context. Meaning is embedded in the context, and thus an event makes sense only when it is considered in its context, as it is in the case of historical events. In psychology, Bandura's revised social-learning perspective, Rice and Greenberg's change process research program, and existential approaches reflect the contextualistic thinking (Lyddon, 1989b). The fourth way of seeing the world is Organicism in which world is like a living organism. Organismic worldview assumes a dialectically-constructed reality; reality evolves over time with increasing differentiation and integration. Organicism differs from Contextualism with its emphasis on "identification of universal and/or teleological principles that govern the functioning of the phenomena" (Lyddon, 1989b, p. 443). In psychology, developmental, humanistic and transpersonal movements and systems thinking and self-organizational processes reflect organicist worldview (Lyddon, 1989b). Pepper (1942) claimed that that the contextualistic and organismic worldviews were very similar to one another in nature such that they can be assumed as one worldview. Mechanism and Organicism have been considered two antithetical worldviews within this frame. Mechanism may represent the dominant worldview of the modern era, while Contextualism and Organicism are associated with the worldview of postmodern era. The Organicism-Mechanism Paradigm Inventory (Germer, Efran, & Overton, 1982; OMPI) has been used to assess organismic and mechanistic worldviews of the individuals, and Kramer's worldview beliefs measure

(Kramer, Kahlbaugh, & Goldston, 1992) has been employed to measure Pepper's four world hypotheses.

Berzonsky (1994) suggested three types of hard-core epistemological assumptions. These consist of formistic, social-deterministic, and constructivist worldviews. Berzonsky (1994) developed the Constructivist Assumption Scale (CAS) to measure the degree to which one endorses constructivist epistemological assumptions, as distinct from formistic and social-deterministic worldviews. Botella and Gallifa's (1995) factor analytic study further supported this dichotomy of worldviews. They identified two main ways of knowing as Constructivist Complex Worldview versus Objectivist Simple Worldview. The Constructivist Complex Worldview was related to the organicist worldview, and mainly suggested that human beings actively construct their own reality. Objectivist Simple Worldview, by comparison, was related to the mechanist worldview that characterized world as a complex machine.

Another well-known conceptualization of personal epistemologies is Royce's "Theory of Knowledge" (Royce, 1964; Royce & Powell, 1983). Theory of Knowledge specifies three fundamental ways of knowing, namely empiricism, rationalism and metaphorism (Royce, 1964; Royce & Powell, 1983). Royce had pointed out that people draw upon three different cognitive processes during their daily pursuits that are perceptual, conceptual and symbolic cognitive processes. Yet there are individual differences in which cognitive processes were used more dominantly over others. Royce and his colleagues suggested that one of these three cognitive processes would be dominantly employed over the others, and the dominantly used cognitive process would indicate the individuals' dominant way of understanding the world and handling the

information. Empiricists use their perceptual cognitive processes dominantly. The empirical approach to knowledge favors induction, and assumes that the true knowledge can be obtained by reliable and consensual validation of data obtained by our senses. Rationalists use their conceptual cognitive processes dominantly. Rationalism favors deduction over induction and assumes that the key to the true knowledge is logical consistency. Metaphorists use their symbolic cognitive processes dominantly. Metaphorism suggests that the viability of knowledge is more important than its validity. Metaphorists argue that knowledge is constructed symbolically and they analyze information by analogies. Rational and empirical approaches to knowledge underlie the epistemic style of the modern era, while metaphorism taps onto the framework underlying postmodern era.

Royce and Mos (1980) developed a questionnaire named Psycho-Epistemological Profile (PEP) to assess individuals' epistemological commitments that has been frequently employed by the following studies investigating the role of epistemic style in the science and practice of psychology.

Personal Implications of Epistemic Style

Questioning how epistemologies are translated into our daily lives, researchers investigated the personal implications of epistemic styles. Exploratory studies have begun to suggest the impact of epistemic style on personal factors by successfully linking the epistemic style to personal variables. Epistemologies have been linked to factors such as personality characteristics, intellectual style, cognitive complexity, self-change, self-construction and coping style (Babbage & Ronan, 2000; Berzonsky, 1994; Johnson et al., 1988; Neimeyer et al., 1993).

Johnson and his colleagues (1988) explored the association between personality traits and worldviews. They have collected data from a diverse sample composed of 12 groups ($N = 622$). Their findings related participants' worldviews to their intellectual style, personality and occupational interests. Individuals with an organic worldview tended to have higher levels of intuition, dominance, capacity for status, social presence, self-acceptance, empathy, responsibility, tolerance, achievement via independence, intellectual efficiency, and flexibility (all $ps < .05$). Individuals with an organic worldview tended to score higher on self-control, communality and femininity (all $ps < .05$). In terms of occupational interests, individuals who scored higher on Organicism tended to score high on artistic and investigative vocational types, and low on conventional vocational type (all $ps < .05$). In summary, individuals with mechanistic worldviews were tended to be conventional, self-controlling, communal and masculine, whereas individuals with organic worldviews tended to be intuitive, dominant, socially present, self-accepting, empathic, responsible, tolerant, intellectually efficient and flexible.

Babbage and Ronan (2000) replicated and extended the Johnson et al.'s (1988) study, and examined the relationship between philosophical worldview and personality in scientists across various disciplines ($N = 94$). Their study revealed gender difference in orientation to organismic and mechanistic worldviews: Females tended to be organismically-oriented whereas males tended to be mechanistically-oriented ($p = .005$). Babbage and Ronan (2000) have linked personal worldview and scientific predilections as they have found that scientist in traditional sciences such as Mathematics, Physics, and Chemistry tended to have mechanistic orientation, whereas scientists in social sciences

such as Information Systems, Psychology and Social Anthropology tended to have organismic orientation (all $ps < .001$). Babbage and Ronan (2000) also supported the idea that there are holistic differences in the personality profiles of the individuals committed to opposing worldviews. Organismically-oriented scientists were likely to be characterized by imagination, compassion, good-nature, eagerness for cooperation and having a broad variety of interests, whereas mechanistically-oriented scientists were likely to be characterized by practicality, hardheadedness, skepticism, pride, competitiveness, traditionalism and preservation (all $ps < .004$). Babbage and Ronan (2000) additionally revealed that organismically-oriented scientists also scored higher on NEO-PI's Openness to Experience factor ($p < .001$).

Neimeyer and his colleagues (1993) questioned whether “the form and function of an individual's attempts at knowledge acquisition and self-change” can be interdependent with that person's epistemological commitments (p. 519), and they investigated the relationship between Royce's (1964) ways of knowing and Berzonsky's (1990) styles of conducting personal science. Berzonsky (1990) asserted that individuals construct and process their identities in three different ways. The first is the information-oriented self-theorists who tend to be skeptical about their constructions, open to evidence, and willing to incorporate new information and modify their self-constructions when there is discrepancy. The second is the normative-oriented self-theorists who base their self-definition on significant others' norms. They are more likely to preserve their existing self-constructs. The third is the diffuse-oriented self-theorists that are characterized by the lack of defined self. Neimeyer et al. (1993) found that rational epistemic style was positively correlated with information-oriented style ($r = .35, p < .01$), while

metaphorical epistemic style was negatively correlated with normative-oriented style ($r = -.26, p < .05$). Metaphorical epistemic style was also positively correlated with the information-oriented style ($r = .24, p < .08$) but this correlation failed to reach significance. That is, individuals with rational commitments were characterized by high levels of information seeking and by a scientist-like attitude towards their self-construction in which they actively analyze and incorporate new information into the definition of self. Individuals with metaphorical commitments were characterized by openness as they reject others' norms and expectations when they define their identity. The study showed that epistemic style can predict the way the person gathers, processes and responds to self-relevant information. Considering how one processes and acts on self-relevant information would be central to self-change, investigating styles of conducting personal science was considered one way of investigating the processes of self-change. The process of conducting personal science and process of self-change was linked to the epistemic style.

Berzonsky (1994) further studied the relationship between epistemic worldview and individual differences in self-construction, i.e. style of conducting personal science, by focusing on constructivist epistemological assumptions and Pepper's worldviews. Results of his study revealed a relationship between self-theorists style and epistemological worldviews somewhat similar to Neimeyer et al.'s (1993) findings. Organismic worldview and constructivist epistemological assumptions were positively related with information-oriented style of self-construction ($r = .20, p < .05$; $r = .42, p < .01$). Contextual worldview and constructivist epistemological assumptions were negatively correlated with normative-oriented style ($r = -.25, p < .01$; $r = -.29, p < .01$).

Mechanistic and formistic worldviews were associated with normative-oriented style ($r = .34, p < .01$; $r = .25, p < .01$). Diffuse/avoidant oriented style was related to formistic assumptions ($r = .20, p < .05$). Caputi and Oades (2001) replicated these findings using an Australian sample. Individuals with mechanistic or formistic worldviews were more likely to follow others' expectations and orders when they constructed and maintain their sense of self if they did not avoid their self-construction process altogether. Individuals with contextual and organismic worldviews and constructivist epistemologies were more likely to work like a scientist on their self-project, analyzing the data and exerting the necessary changes.

Another personal variable that has been linked to epistemic style is coping style. Studying the relationship between epistemic worldview and individual differences in self-construction, Berzonsky (1994) reported an association between epistemology and type of coping strategies. Constructivist epistemologies were positively correlated with problem-focused coping strategies ($r = .24, p < .01$) and with seeking social support in order to cope ($r = .16, p < .05$). These findings should not be surprising when we consider that individuals with organismic worldview tended to be autonomous, imaginative, intellectually flexible, socially tolerant and present, and eager to cooperate (Babbage & Ronan, 2000; Johnson et al., 1988).

Cognitive complexity is another personal variable that can be predicted by epistemic style. Botella and Gallifa (1995) defined cognitive complexity by the richness of one's conceptual structure in a given domain, and they assessed their participants' cognitive complexity in the domain of personal knowledge. Their findings indicated a significant relationship between organismic worldview, constructivist epistemic

assumptions, and cognitive complexity ($r = .57, p < .01$). A mechanistic worldview and objectivist epistemic assumptions were associated with cognitive simplicity. Organismic and contextualistic worldviews and constructivist epistemic assumptions were associated with cognitive complexity. This finding is consistent with the findings of Johnson et al. (1988) and Babbage and Ronan (2000) that organismic worldview associated with intellectual efficiency, flexibility, and having variety of interests and imagination; and taken together, these findings are consistent with the assumptions of organismic worldviews. The Organismic worldview and constructivist epistemologies suggest that individuals actively construct their reality. They emphasize existence of multiple realities and individual's continuous growth and change in dynamic and complex developmental processes. Such an understanding should require cognitive complexity and flexibility to deal with multiple constructions and facets of social and personal realities.

Taken together, research on the personal implications of epistemic style suggested that personal characteristics may mirror personal epistemologies. Individuals with rationalist epistemological commitments may tend to be conventional, conforming and cognitively simplistic that is consistent with the rationalist assumption that people are passive recipients of an external and stable reality. Individuals with constructivist epistemological commitments may tend to be autonomous, imaginative, intellectually flexible and complex, and interpersonally connected that is consistent with the constructivist assumption that people actively create their own reality within their dynamic interaction with the context.

Clarifying some of the ways that personal epistemologies color personal qualities supports the exploration of the link between epistemology and psychotherapists' personal

characteristics and experiences. Yet our attempts to study whether diverse epistemologies predict differential impact of conducting psychotherapy on psychotherapists can be clarified further and validated richer once the ways in which epistemologies color the professional lives of psychologists was clarified. The literature on the implications of epistemic style on theories and practice of psychology illuminates this connection between epistemic style and psychology.

Practical Implications of Epistemic Style

The implications of epistemic style have reached beyond the study of personal characteristics, and extended to the practice of psychology. The epistemological implications of psychological theories and techniques have been investigated since the 1970's; and studying the philosophical worldviews has enhanced our understanding of the process of therapy and counseling (Lyddon, 1989a). Epistemic style has been found to play at least a moderate role in guiding the way lay people and psychologists develop their attitudes and preferences for theories and practice of psychology.

Literature connecting the epistemic style to psychotherapy practice can be divided into three interdependent sets of studies. First, epistemic worldviews have been related to the theories of psychotherapy. Epistemologies underlying existing psychotherapy approaches have been linked to theories of psychology (Lyddon, 1989b; Sarbin, 1986, as cited in Botella & Gallifa, 1995). Second, epistemic worldviews have been related to the therapy approach preferences of prospective clients and prospective and practicing psychotherapists (Lyddon, 1989a; Neimeyer et al., 1993; Neimeyer & Morton, 1997; Schacht & Black, 1985). And third, epistemic worldviews have been employed to differentiate among forms of psychotherapy intervention (Lyddon, 1988; Mahoney &

Gabriel, 1987; Mahoney & Lyddon, 1988). Epistemic styles have been related to specific conceptual and strategic practices in conduction psychotherapy.

Epistemic Style and Psychotherapy Theories

The first set of studies linking epistemologies to psychotherapy examined the philosophical assumptions of the various therapy approaches. Lyddon (1989b) identified contemporary expressions of the Pepper's (1946) worldviews in psychology theories and practices. *The formistic worldview* was reflected in trait models of personality, and psychiatric diagnostic practices. Trait taxonomies classify traits based on the presence and absence of personal characteristics; and psychiatric diagnostic system classifies disorders based on the presence and absence of certain symptoms. Both assume stability of the traits and disorders, and tend to ignore temporal and contextual factors. *The mechanistic worldview* was reflected in behaviorism and rationalist cognitive therapies, as well as in some aspects of Freudian theory. Behavioral approach characterizes human beings as machines, and the behaviors of human beings are determined by antecedent conditions. Rationalist cognitive therapies are mechanistic as they suggest that emotional well-being is determined by beliefs and thoughts. Freud characterizes mind in mechanistic terms and explains mental processes in terms of interactions and collisions of psychological forces (Grof, 1985, as cited in Lyddon, 1989b). Mechanistic framework within the behavioral, rationalist and Freudian approaches to therapy also exerts itself in the shared assumptions that observer is separable from the entities of interest, and observer can objectively identify the causal interactions among these entities. *The contextualist worldview* was reflected in Bandura's revised social-learning theory, patterns and processes of change identified by Rice and Greenberg, and existential theories. Bandura's social learning theory highlights the importance of context in learning

and reciprocity between the person and environment. Rice and Greenberg emphasize understanding and facilitating change processes within the context of specific client-therapist interactions. Existential theories reflect the dynamic interactions of the human with the world; being-in-the-world entails simultaneously acting on the world and being acted on by the world. *The organicist worldview* was reflected in developmental theories, humanistic and transpersonal movements, and systems thinking that commonly emphasize individuals' active involvement in continuous, interactive, and complex processes of self-evolution, self-actualization, self-transcendence, and self-organization.

Royce's theory of knowledge (Royce, 1964) was also theoretically associated with the theories of psychology practice. Royce's (1964; Royce & Powell, 1983) empirical, rational, and metaphorical epistemic styles were associated with behavioral, rationalist and constructivist approaches to psychotherapy, respectively. Lyddon (1989a) suggested that behavioral approaches to psychotherapy were founded on empiricism evident in behaviorist therapists' emphasis on "the consensual, the objective, the empirical and the realist" (p. 425). Rationalist cognitive psychotherapies were tied to rational epistemic styles considering rationalist therapists' emphasis on conceptual cognitive abilities and their depending upon logical analyses to challenge clients' irrational thinking (Lyddon, 1991). Metaphorical epistemic style was suggested to be the dominant framework of the constructivist psychotherapies considering constructivist therapists' tendency to construct client experiences symbolically and to explore and facilitate clients' developmental processes (Lyddon, 1991).

These conceptual efforts suggest that psychotherapy theories may be related in systematic ways to the epistemologies that undergird them. How these epistemologies

influence the attitudes and behaviors of these theories' adherents has been further investigated; and epistemic style has been linked to psychotherapy preferences of clients and psychotherapists.

Epistemic Style and Psychotherapy Preferences

Linking psychology and psychotherapy theories to the epistemic styles, Lyddon (1990) suggested that matching epistemic styles of clients and psychotherapy approaches could facilitate the therapy process and outcomes. The second set of studies linking epistemologies to psychotherapy investigated this matching hypothesis, and these studies specifically explored the impact of epistemic style on psychotherapy approach preferences. Researchers empirically investigated how the theorized links between epistemologies and psychology theories were reflected in real world attitudes and behaviors. Lyddon (1989a) investigated whether potential clients may prefer therapy approaches that are matching their own epistemic style. He focused on behaviorist, rationalist and constructivist approaches to psychotherapy that were conceptually linked to the empirical, rational, and metaphorical epistemic styles, respectively. He measured epistemic styles of the college students, who were defined as potential clients, and asked them to evaluate audiotaped presentations of behavioral, rationalist and constructivist approach to psychotherapy, that were introduced by one-page descriptions. Results suggested that participants with empirical, rational, and metaphorical epistemic styles preferred behaviorist, rationalist and constructivist therapy approaches, respectively. 67.5% of the participants with empirical epistemic style preferred the behaviorist counseling presentation as their first-choice. 70% of the participants with rational epistemic style preferred the rationalist counseling presentation as their first-choice. 91% of the participants with metaphorical epistemic style preferred the constructivist

counseling presentation as their first-choice. Findings suggested that people reported preference for the therapy that shared their own epistemological framework; that is, individuals' dominant epistemological commitments may influence their therapy preferences.

Lyddon and Adamson (1992) replicated the study of Lyddon (1989a) by employing Pepper's mechanistic and organismic worldviews. They explored whether participants' dominant worldview can be matched to their psychotherapy approach preferences, as the previous research matched the individuals' epistemic style with their psychotherapy approach preferences. They measured participants' commitment to Mechanism or Organicism employing OMPI, and asked them to evaluate scripts of behavioral, rationalist and constructivist approaches to psychotherapy. Compared to participants with a mechanistic worldview, participants with an organismic worldview preferred the constructivist approach. Compared to participants with an organismic worldview, participants with a mechanistic worldview preferred the behavioral approach. Participants with an organismic worldview and a mechanistic worldview did not differ in their preferences for rationalist approaches. Their findings suggested that lay people may tend to prefer a therapy approach that is congruent with their philosophical worldviews.

Neimeyer et al., (1993) replicated and extended Lyddon's (1989a) and Lyddon and Adamson's (1992) findings about matching college students' epistemic style to their therapy approach preferences. A metaphorical epistemic style was negatively associated with behavioral counseling preference ratings and it was positively associated with constructivist counseling preference ratings. Individuals with metaphorical epistemic style tended to have more negative thoughts about the behavioral approach and more

positive thoughts about the constructivist approach, while individuals with empirical epistemic style tend to have more positive thoughts about behavioral approach.

Rationalist epistemic style appeared to be unrelated to preferences for rational, behavioral and constructivist approaches. Their findings also suggested positive association between metaphorical epistemic style, Organicism, and preference for constructivist counseling approaches.

Lay people's dominant way of knowing was related to the preference for therapy approach (Lyddon, 1989a; Lyddon & Adamson, 1992), and the results were extended to the counselor trainees' preference for therapy approach (Neimeyer et al., 1993). Trainees were presented with the names of seven counseling approaches (person centered, gestalt, behavioral, rational-emotive, reality therapy, psychodynamic, transactional analysis) and they were asked to indicate their preferences regarding the orientations. Their findings suggested significant positive correlation of rational epistemic style with behavioral therapy preference, and with rational-emotive theory approach preference. Metaphorical epistemic style, on the other hand, correlated with gestalt therapy preference, behavioral therapy preference, and rational-emotive theory approach preference. The findings were somewhat different than the findings of the previous studies; yet they supported the premise that epistemic styles can be a mediator for the counseling approach preference of counselor trainees (Neimeyer et al., 1993).

Epistemologies tended to predict the therapy approach preference of counselors and therapists as well (Arthur, 2000; Neimeyer & Morton, 1997; Schacht & Black, 1985).

Schacht and Black (1985) compared the epistemological commitments of behavioral and psychoanalytic therapists, and they revealed that behavioral and psychoanalytic therapists

had distinct epistemological commitments. Their findings indicated that psychoanalysts tended to have higher levels of commitment to metaphorical orientation compared to the behavioral therapists, whereas behavioral therapists tended to have higher levels of commitment to empirical epistemic style.

Neimeyer and Morton (1997) investigated the distinction between the rationalist and constructivist therapies that was theorized by several researchers (Mahoney & Gabriel, 1987; Mahoney & Lyddon, 1988) and explored the epistemic style of practicing psychotherapists associated with rational-emotive therapy and personal construct therapy. The first study that they conducted revealed a positive association between rationalist style and rational-emotive therapy ratings, and between constructivist style and metaphorical therapy ratings. The second study they conducted suggested rationalist therapists strong identification with prominent rationalist therapists, and constructivist therapists' strong identification with prominent constructivist therapists. Their results strengthen the link of epistemic style to preference for different psychotherapeutic orientations.

Further work that supports this link has been provided by Arthur (2000). Arthur (2000) examined the epistemic style of a group of psychotherapists with psychoanalytic and cognitive-behavioral orientation. Psychoanalytic therapists tended to score higher on Organicism compared to the scores of cognitive-behavioral therapists and the difference was significant. Their findings also indicated the role of experience on epistemological commitments of psychotherapists. Novice psychoanalytic therapists tended to score higher in Organicism than novice cognitive-behaviorists, and than senior psychoanalytic therapists. These findings suggest that psychoanalytic and cognitive-behavioral therapists

differ in their worldview; psychoanalysts tend to score towards Organicism, whereas cognitive-behaviorists tend to score towards Mechanism. The findings also suggest that experience can interact with orientation in determining the epistemological worldview of therapists. Psychoanalysts may tend to become more Mechanistic as they get more experienced.

Despite the differences among various studies, the overall findings can be generalized that Organismic worldview and metaphorical epistemic style predict a preference for constructivist therapies. The empirical epistemic style is linked to a preference for a behavioral approach. Rationalistic epistemic style is linked to the preference for rationalist therapies. Psychoanalysts tend towards Organicism, whereas cognitive-behavioral therapists tend towards Mechanism in their dominant worldview. Taken together, these findings suggest a moderate relationship between an individual's epistemological commitments and preferences for counseling and therapy approaches.

Neimeyer and Saferstein (2003) studied the link between epistemic style and therapy preference beyond the paper-pencil context by using more detailed and real-life-like therapy presentations. The participants listened to two pre-recorded audio therapy sessions that depicted constructivist and rationalist therapy orientations. Results failed to generalize the previous findings of epistemic matching; the majority of participants preferred rationalist therapy orientation regardless of their epistemic style. Yet, the results suggested further an understanding of the possible variables moderating the relationship between epistemic style and therapy approach preference (Vincent & LeBow, 1995). Neimeyer and Saferstein (2003) suggested that as the representation of therapy became more naturalistic and problem-specific, the effects of epistemic matching may fade. In

other words, the wide variety of additional factors associated with real life presentation may over-ride the effects of epistemic matching.

The empirical evidence confirming the expected relationship between epistemic style and psychotherapy preferences verified that epistemologies that underlie psychology theories affect the individuals' attitudes, or at least individuals' psychotherapy preferences. At the same time, to what extent epistemologies that underlie psychology theories can affect psychotherapists' attitudes and behaviors in psychotherapy session was questioned.

Epistemic Style and Psychotherapy Practices

The third set of studies linking epistemologies to psychotherapy investigated how epistemic style differentiates among the psychotherapy practices. Epistemic style was conceptually linked to the practice related attitudes and behaviors of psychotherapists. It was further suggested that epistemic styles could differentiate among different types of cognitive therapy (Lyddon, 1988; Mahoney & Gabriel, 1987; Mahoney & Lyddon, 1988).

Investigating the history of cognitive theories and therapies, Mahoney (1991) highlighted the differences in cognitive therapists' understanding and practicing psychotherapy, and he confirmed Lyddon's (1988) suggestion that different epistemologies can differentiate among cognitive therapies. Mahoney (1991) suggested that two distinct sets of philosophical assumptions reside within the cognitive psychology, namely rationalist and constructivist assumptions, with therapists falling along a continuum of rationalism and constructivism regardless of their theoretical orientation (DiGiuseppe & Linscott, 1993). It was suggested that rationalist and

constructivist approaches mainly differ in their understanding of reality and knowledge, and this difference reflects upon the way therapy is conceived and conducted.

Rationalist epistemology underlies the philosophy of modern cognitive therapies (Mahoney & Gabriel, 1987). Therapists with rational epistemic commitments are primarily characterized by their belief in a-priori truths that are independent of the observer (Mahoney et al., 1989). Reality is singular, universal, ahistorical and incremental (Mahoney & Gabriel, 1987). Individuals are assumed to perceive the world passively. Rationalists assume a boundary between mental and physical processes, and privilege thought processes as a means of reaching truth. Rationalist cognitive theories follow rational theories of knowledge, and assume reasoning and logical-analytic processes are superior means of validating knowledge (Lyddon, 1988; Mahoney & Lyddon, 1988). True knowledge is the one that matches the external reality (Neimeyer, 1993). Therapy seeks to replacing irrational thoughts with rational ones to set clients free from their negative emotions. Ellis' Rational Emotive Therapy (RET) can be an exemplar for therapy approaches with rationalist commitments (DiGiuseppe & Linscott, 1993; Lyddon, 1990).

Constructivist epistemology underlies the philosophy of postmodern cognitive therapies, and challenges the idea of an external and stable reality (Mahoney & Gabriel, 1987). Constructivist philosophy emphasizes the active involvement of human beings in the construction of their realities. Therefore, reality is multiple, contextual, historical and paradigmatic. "Knowing is thus a much more phenomenal and complex process than has been suggested by realist and rationalist theories" (Mahoney & Gabriel, 1987, p. 46). Constructivist cognitive theories follow metaphorical theories of knowledge, and are

committed to the construction and alteration of personal meanings when validating knowledge (Lyddon, 1988). Knowledge can be true to the extent that it is viable (Neimeyer, 1993). Therapy is more exploration-oriented and seeks developmental reorganization of personal knowing systems (Neimeyer et al., 2005). Kelly's Personal Construct Therapy can be an exemplar for a therapy approach with constructivist commitments (Neimeyer, 1995).

Mahoney and Gabriel (1987) conceptualized how the differences in philosophical perspective are translated to therapy in detail, and contrasted the practical differences between rationalist and constructivist therapies. The two approaches were contrasted with one another in relation to the dominant thinking style of the therapist, therapy focus, therapy direction, nature of therapeutic relationship, and conceptualization of central constructs such as client problem, resistance, emotional distress, relapse and regression. Among others Lyddon (1990) added the dimension of level of intervention to this list. The empirical evidence supported that therapists identified with rationalist and constructivist epistemologies differed in the way they set the direction of the therapy, in the way they related to client and in the way they conceptualized and worked with their clients' emotional distress, relapse and regression (Nagae & Nedate, 2001; Vasco, 1994; Viney, 1994; Winter & Watson, 1999).

Thinking style

The first dimension in which constructivist and rationalist therapies differ is simplicity and clarity of the thinking style and therapeutic format. Mahoney and Gabriel (1987) specified that rationalist cognitive therapies have a basic thinking style, simple format, and clear-cut methods, while constructivist cognitive therapies have a complicated thinking style, complex format, and unclear methods. Believing in reality as

singular, stable and external to human experience, rationalists suggest that irrational, invalid, and/or distorted thinking leads to personal distress that can be eliminated by simply replacing irrational cognitions with rational ones (Winter & Watson, 1999). Rationalist therapists also believe in the possibility of separating thoughts, behavior and emotions, and consider thoughts and emotions simple dichotomous terms of rational/irrational and positive/negative. Constructivist perspectives, on the other hand, have a more complex way of thinking, viewing realities as reflecting individual or collective constructions of personal experiences; and cognition, behavior and affect as interdependent expressions of holistic systemic processes (Mahoney & Gabriel, 1987). Winter and Watson (1999) provided some empirical support for this idea by noting that constructivist therapists used more complex levels of processing during therapy compared to traditional cognitive therapies. Constructivist therapists do not assume to know the solutions of clients' concerns, nor can they suggest one set way to "help" clients (Mahoney, 1995). In a pursuit of cognitive and experiential growth, constructivist therapies employ a wide range from techniques of different orientations. Consistent with this idea, Vasco (1994) studied a group of Portuguese psychologists and established that a commitment to constructivist epistemologies predicted technical eclecticism and the tendency to embrace a much wider array of different psychotherapeutic procedures.

Focus of therapy

The second dimension in which constructivist and rationalist therapies differ is the focus of the therapy. Rationalist cognitive therapies focus on the clients' present problem, irrational thoughts and the elimination of them, while constructivist cognitive therapies focus on history and development processes rather than the problem (Mahoney & Gabriel, 1987; Mahoney et al., 1989). Empirical support came from the findings of Vasco

(1994) that revealed a negative correlation between constructivist epistemic commitments and therapist focus on the “problems” of the client. Therapists with constructivist epistemologies were less likely to focus on clients’ problems. Instead, constructivist therapies focus on the process, and concentrate on the meaning and growth that therapy offers to the client as well as the therapist (Mahoney, 1995).

Direction of therapy

The third dimension in which constructivist and rationalist therapies differ is the direction of therapy. Rationalist cognitive therapies sets specific client goals and determine the direction of the therapy at the very beginning of the therapy, while constructivist cognitive therapies determine the course of the therapy without an explicit or external direction. Having a dynamic goal-orientation, therapists with constructivist commitments allow self-organizing processes of the client to determine the course of therapy (Mahoney & Gabriel, 1987). Vasco (1994) validated this assumption by establishing that the more therapists are committed to constructivist epistemology, the less they lean on therapeutic structure and direction. Constructivist therapists’ work is generally exploratory, experimental and existential.

Therapeutic relationship

The fourth dimension in which constructivist and rationalist therapies differ is the conceptualization of therapeutic relationship. Rationalist cognitive therapies and constructivist cognitive therapies conceptualize the nature of client-therapist relationships differently (Mahoney & Gabriel, 1987). Rationalist therapists tend not to engage in intense personal contacts with the clients; their relationship with clients is more objective and analytical and less emotionally evocative. Rationalist therapists are generally more active and directive in their relationships with clients (Garfield, 1989). Clients tend to be

recipients of rationalist therapists' guidance (Lyddon, 1988). Constructivist approaches assume intimate relationship as a necessary aspect of the healing process. Constructivist therapists tend to be emotionally and intellectually present and gently responsive in a way that would establish a strong bond with their clients (Mahoney, 1995). Constructivist assumptions value the mutual, collaborative relationship with the clients where clients actively explore their proactive processes (Lyddon, 1988).

These assumptions have been validated empirically with various groups of participants. Winter and Watson (1999) studied the full sessions of four personal construct therapists and six rationalist therapists and concluded that personal construct psychotherapists took a less directive approach than rationalists therapists, and clients in personal construct therapy are more personally involved in therapy than the clients of rationalists therapists. Moreover, rationalist therapists exhibited less empathy, regard, and unconditionality for clients and they reflected more negative attitude towards the client than personal construct therapists. Vasco (1994) verified that Portuguese therapists with constructivist commitments also tended to reject more directive helping styles. Nagae and Nedate (2001) confirmed these results with a group of Japanese therapists. They compared constructive cognitive therapies and rational cognitive therapies for Japanese students with social anxiety. The findings suggested that rational cognitive therapists tended to have higher levels of psycho-educational instruction, and that constructive cognitive therapists were more successful in establishing rapport with their clients (Nagae & Nedate, 2001).

Conceptualization of central constructs

The fifth dimension in which constructivist and rationalist therapies differ is the conceptualization of central constructs such as client problem, resistance, emotional

distress, relapse and regression (Mahoney & Gabriel, 1987). Rationalist cognitive therapies tend to conceptualize client problems as deficits or dysfunctions, mental mistakes, or irrational beliefs. Constructivist therapies tend to define client problems as indicators of the discrepancies between our external environmental challenges and internal adaptive capacities (Mahoney & Gabriel, 1987). Client problems are the vehicles for both the therapist and the client to learn the way the client perceives and interacts with the world.

Mahoney and Lyddon (1988) supported the idea that therapists with rationalist and constructivist epistemic commitments conceptualize negative emotions differently. Therapists with rationalist assumptions tend to view negative emotions as a problematic outcome of the discontinuity between the reality and its' perception; and they aim to control and remove the negative emotions by manipulating faulty cognitions and by increasing the congruity between reality and perception. Therapists with constructivist assumptions, on the other hand, view negative emotions as a form of knowing that indicates the current functioning of the client. Rather than aiming to eliminate negative emotions, constructivist therapists explore and encourage negative emotions and employ them as valuable resource in the meaning-making efforts. Viney (1994) further established the translation of epistemologies into concrete techniques by studying the transcripts of therapy sessions of different theoretical orientations. She established that personal construct and client-centered therapists acknowledged the negative emotions of their clients more than rational-emotive therapists did; and in return clients of the personal construct and client-centered therapists tended to explore their negative emotions further.

Different epistemological assumptions also account for the differences in therapists' conceptualization of, and work with, client resistance. Therapists with rationalist epistemologies regard client resistance as an indication of client failure to incorporate the new material. Therapists with constructivist epistemologies regard client resistance as an indicator of the rapid changes in client's system that serves to protect the client (Mahoney & Gabriel, 1987). Vasco (1994) found that therapists with strong constructivist epistemologies were less likely to confront their clients when they are faced with client resistance. The transcripts of the full sessions of personal construct and rationalist therapists also supported the difference in how therapists with different epistemic commitments would deal differently with client resistance (Winter & Watson, 1999).

Therapists with rationalist and constructivist epistemic commitments conceptualize relapse and regression in different ways as well. Rationalist cognitive therapies conceptualize relapse and regression as reflecting client failure in maintenance and generalization of what have been learned in therapy and they should be minimized in order for the therapy to be effective. In contrast, constructivist therapies conceptualize them as signals of the limitation in the client's current capacity (Mahoney & Gabriel, 1987). They are considered as unique opportunities to explore the developmental self-history and implicit views of self and world.

Conceptualization of change

Lyddon (1990) further established another dimension in which constructivist and rationalist therapies differ. He suggested that different epistemological commitments underlying these two approaches call for different conceptualizations of change. Lyddon (1990) suggested two levels of change, first-order change and second-order change. First-

order change is the change maintains the coherence of the existing system. Second-order change that is also named as deep change represents discontinuity and transformation, and it involves the fundamental restructuring of the system. Lyddon (1990) proposed that a rationalist approach to therapy mainly elicits first-order change, while therapies with constructivist commitments are designed to facilitate second-order change.

Altogether, these conceptual works with empirical validation suggest that epistemologies underlying therapy approaches can differentiate the way psychotherapists construct and conduct psychotherapy. Epistemologies underlying different therapy approaches elicit divergent practices. How therapists think, how they orchestrate therapy, how they relate to their clients, and how they understand and work with client problem, resistance, emotional distress, relapse and regression can differ depending upon how the therapists and their therapy approach tend to know the world (Mahoney & Gabriel, 1987; Lyddon, 1990). Where epistemologies color how therapists construct and conduct psychotherapy, therapists conducting therapy with diverse epistemologies are expected to have different experiences. The nature of therapy defined by epistemological commitments would construct different sets of experiences for the therapists. Consequently, the impact of conducting therapy might be different for therapists conducting epistemologically diverse therapies.

Literature suggests that epistemic worldviews have been conceptually and empirically related to the theories of psychotherapy, to therapy approach preferences of prospective clients and psychotherapists, and to the forms of intervention. This link between epistemic styles and the theories and practices of psychology indicates a potential link between epistemic style and personal experiences of practicing

psychotherapists. The literature suggesting that psychotherapy theories and practices are related to epistemological commitments validates the efforts to investigate how epistemic style can relate to the psychotherapist characteristics and to the personal impact of conducting psychotherapy on psychotherapists.

Epistemic Style and Psychotherapists' Characteristics and Experiences

Mahoney (1988) was first to assert that constructivist epistemological commitments as well as constructivist therapies have their distinct requirements that should promote differential personal characteristics and change experiences on constructivist psychotherapists. Mahoney (1988) highlighted that theory conducted from constructivist framework would seek and promote openness to self-examination, emotional presence and attendance, toleration of ambiguity and thorough questioning of both the questions and their answers at levels incomparable to the demands of other approaches. Mahoney (1988, 1995) further suggested that conducting constructive therapies may lead to increased pursuit of self-awareness, attending to emotions, tolerance of ambiguity, and appreciation of diversity. Rational epistemologies and rational therapies, on the other hand, may be associated with decreased levels of pursuit of self-awareness, attending to emotions, tolerance of ambiguity, and appreciation of diversity. Following that line of thought, Neimeyer et al. (2005) suggested that epistemology might channelize the experience of psychotherapy for the therapist, simultaneously enabling and disabling the experience of different facets of that experience at different levels. They questioned what distinctive marks can be left by the divergent practices related to different epistemologies, and encouraged researchers to study how personal challenges and satisfactions of practice are related to epistemological commitments.

The central questions that guided the present study concerned whether the personal effect of conducting therapy can be differential for therapists with differing epistemological commitments. Yet, understanding the association between epistemology and therapists' personal characteristics would be prerequisite to the exploration of how epistemology may relate to the personal impact of conducting psychotherapy. This study aims to empirically investigate whether epistemologies can predict the personal characteristics, and it focuses on a set of potential distinctive marks that Mahoney (1988, 1995) specified as the likely psychotherapist outcomes associated with constructivist epistemologies and with conducting constructivist therapies. These variables are pursuit of self-awareness, attending to emotions, tolerance for ambiguity, social tolerance for diversity, and openness to experience. In the next section, we examine what each variable means, and how constructivist and rationalist epistemologies may relate to different levels of personal characteristics in psychotherapists.

Pursuit of Self-Awareness

The self-awareness can be summarized as one's awareness of and contact with his or her inner world, and personal and professional functioning. Literature suggests various forms of self-awareness. First, therapists can be tuned to the messages of discomfort, to the sources of stress and frustration (Glicken, 1983; Skovholt, Grier, & Hanson, 2001; Wityk, 2002). Second, therapists can develop awareness of how they handle pressure and respond to stress, and of their inner responses to continuous working with human suffering (Jaffe, 1986). Third, therapists are encouraged to be aware of their personality, their needs as well as their unresolved traumas that may make them vulnerable to distress (Farber, 1990; Maslach & Goldberg, 1998; McCann & Pearlman, 1990; Watkins, 1983). Exploring the meaning and importance of being a healer and their motivations and

reasons to become dedicated therapists is also defined within self-awareness (Freudenberger, 1977; Glick, 1983; Jaffe, 1986). And finally, self-awareness includes being aware of personal boundaries and limitations in psychotherapy as well as the stress and psychological and personal growth associated with conducting therapy (Farber & Heifetz, 1982; Glick, 1983; McCann & Pearlman, 1990; Norcross 2000; Skovholt, Grier, & Hanson, 2001). Therapists are recommended to inquire how their attitudes and emotions change as they experience clients' painful stories (Maslach, 1976; McCann & Pearlman, 1990).

Farber (1983) studied the effects of psychotherapeutic practice upon psychotherapists by conducting one-hour interviews with 60 therapists. Reports of participated therapists suggested that their awareness had increased as a function of the amount of psychotherapy experience. Furthermore, the study conducted by Radeke and Mahoney (2000) found that compared to the psychologists involved in research, psychologists conducting psychotherapy reported higher levels of self-awareness, suggesting that being in the process of psychotherapy might have an impact on level's of self-awareness (Radeke & Mahoney, 2000).

Investigating the implications of constructivist epistemology for psychotherapy, Mahoney (1988) suggested that among the modern theories, constructivist theory demands therapists to maintain high levels of self-examining openness. Constructivist commitment asks therapists to attend to their values knowing that they can be powerful agents of change in clients' values systems (Mahoney, 1995). Fostering close working relationships with their clients, constructivist therapists may encourage the client's expression of his or her painful stories (Mahoney, 1995). Therapists with constructive

epistemological commitments not only seek deeper levels of client-change, but also seek deeper levels of self-understanding.

On the other hand, since rationalist therapists tend to believe that they are objective observers of the stable and single reality, and they can correct their clients' faulty cognitions of reality as an authority, they will be less required to be insightful about their personal experiences such as emotions, thoughts or motivations. Therefore, we expect constructivist epistemologies to predict higher levels of therapist pursuit of self-awareness, whereas rationalist epistemologies predict lower levels of this characteristic.

Attending to Emotions

Attending to emotions simply refers to individuals' tendency to attend to their emotions and it has been considered as an essential feature of emotional intelligence (Barchard, 2001, as cited in International Personality Item Pool, 2001). Psychotherapists suggested that conducting therapy had increased their sensitivity and greater understanding of universal difficulties (Farber, 1983). Attending to personal emotions is very similar to the pursuit of self-awareness since they both focus on individual's tendency to question their inner experiences, and conducting therapy is expected to facilitate therapists' attending to emotions as it facilitates their pursuit of self-awareness.

The constructivist approach facilitates deep, i.e. second-order change (Lyddon, 1990), and second-order change has been achieved by experiencing and working on intense and often painful emotions (Guidano, 1987). To facilitate the expression of these negative emotions in the therapy room, therapists develop close relationships with their clients (Lyddon, 1990), and position themselves as emotionally present and responsive during the therapy (Mahoney, 1995). Experiencing such a constant emotional presence and attendance to the emotional experiences of their clients, therapists with constructivist

epistemologies may have increased attendance to their personal emotions. Research had shown that individuals with organismic worldviews tended to be more empathic in general (Johnson et al., 1988) and such an empathic state for others might extend to the self as well.

On the other hand, rationalist perspective constructs emotions simply as outcomes of cognitions that are not central to the realization of the external reality. Rationalist therapists attend to emotions at times as a part of therapy, however they are neither required nor encouraged to have a deep emotional connection with their clients. As a consequence, their emotional presence is relatively remote. These aspects of rationalist epistemologies may restrict the degree that therapists will be tuned to emotions. Therefore, we expect constructivist epistemologies to predict higher levels of therapist attending to emotions, whereas rationalist epistemologies predict lower levels of this characteristic.

Tolerance for Ambiguity

Ambiguity tolerance defines the way an individual handles situations or stimuli that are unfamiliar, complex or incongruent, i.e. ambiguous (Furnham & Ribchester, 1995). Tolerance for ambiguity means one's ability to deal with this uncertainty and vagueness or with the presence of multiple meanings (Beitel et al., 2004). Ambiguity-tolerant (AT) people were characterized with being comfortable in "dealing with the shades of gray in life" without any need to rely upon black-or-white thinking (Beitel et al., 2004, p.570). People with low tolerance for ambiguity on the other hand tend to experience stress when they are presented with ambiguity, and they tend to react prematurely and avoid it (Furnham & Ribchester, 1995). Tolerance for ambiguity has been found to be positively associated with extroversion and openness, and negatively associated with neuroticism

(Wolfradt & Rademacher, 1999, as cited in Beitel et al., 2004). Chen and Hooijberg (2000), who studied the ambiguity intolerance of Master of Business Administration students, further suggested that ambiguity intolerance was negatively associated with supporting diversity interventions suggesting that ambiguity tolerance is associated with appreciation of diversity.

Psychotherapists reported greater tolerance for ambiguity than did research psychologists, suggesting the possibility that conducting therapy may increase the therapists' tolerance for ambiguity in their personal lives (Radeke & Mahoney, 2000). Tolerance for ambiguity has also been recognized as a critical skill for constructivist therapists because the constructivist epistemological assumptions introduce various sources of ambiguity into therapy (Mahoney, 1995). Therapists with strong constructivist commitments have less therapeutic structure and direction (Vasco, 1994). With fewer explicit, pre-determined client goals, constructivist therapists face the challenge of not following a specific path of actions, but instead the route of their journey is ambiguous. Moreover, the "patterns of experiencing self, others, the world, and the possible relations between them" is constantly revised in the therapy (Mahoney, 1995, p. 391). Constructivist assumption highlights that any interaction between therapist and client is ambiguous. Both therapist and client perceptions and experiences are biased and have multiple meanings. Facing the challenge of not following a specific path of actions, allowing the self-organizing processes of the client to shape the course of therapy, and continuous appreciation of the dynamic complexities taking place in therapy and life introduce high levels of ambiguity (Mahoney, 1995). Constructivist therapists would need to have or develop high levels of ambiguity tolerance in order to deal with these

challenges of constructive therapies. Ambiguity tolerance had been positively associated with openness to experience (Wolfradt & Rademacher, 1999, as cited in Beitel et al., 2004) that was empirically related to an organismic worldview (Babbage & Ronan, 2000). Moreover, ambiguity tolerance can be conceptually linked to cognitive flexibility that has also been linked to organismic worldview and constructivist epistemologies (Botella & Gallifa, 1995).

On the other hand, the simple and straightforward approach of rationalist epistemology to psychotherapy, where the therapist assumes the role of the knower with a true understanding of client problems, and with a clear mind-map to reach the final outcome, leaves less room for ambiguity. Rationalist epistemologies simply may not cultivate therapists' ambiguity tolerance. This suggestion can be supported by empirical finding linking mechanistic worldviews to being close to experience (Babbage & Ronan, 2000), and to cognitive inflexibility (Botella & Gallifa, 1995). Therefore, we expect constructivist epistemologies to predict higher levels of therapist ambiguity tolerance, whereas rationalist epistemologies predict lower levels of this characteristic.

Social Tolerance for Diversity

Within the context of present study, social tolerance for diversity indicates one's being respectful and tolerant to diverse sets of values, life-styles and identities. It can encompass appreciating personal differences, as well as cultural differences and can be identified and studied with respect to Cloninger's social tolerance character (Cloninger, Svrakic, & Przybeck, 1993). Social tolerance was among the constructs underlying an individual's cooperativeness and it mainly revealed one's tendency to accept other people as they are, even when they are different.

Farber (1983) suggested that more than half of the interviewed therapists agreed that they have had greater appreciation of human diversity, and greater understanding of human vulnerability. One therapist reported that he now had a “deeper understanding of people, a deeper appreciation, and a greater ability to accept” (Farber, 1983, p. 180). Another experienced psychiatrist commented on the maturing effect of therapy, and reported that conducting therapy made him appreciate diversity and the differences as it let him face wide range of phenomena (Farber, 1983). Similarly, psychotherapists suggested that their work changed their value system, and made them better and wiser people with increased appreciation for human relationships and with increased capacity to enjoy life (Radeke & Mahoney, 2000).

As a therapist with constructivist epistemological commitments, Mahoney (1995) also reported that his “readings and reflections have rendered a greater personal appreciation and respect for the diversity of belief systems” (p. 394). Mahoney (1995) suggested that constructivist therapies entail bi-directional learning during the therapy process, and the therapists come to realize the uniqueness of the each one of their clients. This learning process teaches therapists to accept and respect different identities, different life-styles and different values. Constructivist epistemologies suggest that humans actively construct their own knowledge and beliefs, that values are subjective and evolve within individual, social and historical contexts, and that any human interaction is colored by personal values (Mahoney, 1995). Such a framework, coupled with an exposure to a wide range of people in a collaborative relationship, may enhance constructivist therapists’ tolerance and respect for diversity. Research investigating the personal implications of epistemic style have supported the idea that epistemic style can be linked

to one's social tolerance (Johnson et al., 1988), as organismically-oriented individuals have been shown to be more likely to have higher social tolerance scores.

On the other hand, rationalism encourages more technical relationships with clients that may not require its adherents to face the uniqueness of their clients or to appreciate and tolerate differences among clients. Although multicultural sensitivity is incorporated in any forms of practice, the more instructional, directive nature of rationalist therapies may not demand deeper appreciation of human differences. This suggestion can be supported by empirical findings linking mechanistic worldviews to having less social tolerance (Johnson et al., 1988). Therefore, we expect constructivist epistemologies to predict higher levels of therapist social tolerance for diversity, whereas rationalist epistemologies predict lower levels of this characteristic.

Openness to Experience

Openness to experience is defined as one's openness to fantasy, aesthetics, feelings, actions, ideas and values (McCrae & Costa, 1991), and it is among the five broad personality factors. Openness to experience reflects active imagination, aesthetic sensitivity, receptiveness to inner feelings, preference for variety, intellectual curiosity, and independence of judgment (McCrae & Costa, 2003). Higher levels of openness to experience imply flexibility and tolerance for ambiguity and novelty, whereas lower levels of openness imply rigidity and intolerance for ambiguity and complexities (McCrae & Costa, 2003).

Openness to experience captures openness to self-understanding, to painful emotions, to ambiguous and novel circumstances, and to different beings and values. Therapists who are open to investigate what they personally experience will be more likely to pursue high levels of self-awareness. Therapists who are open to painful stories

and negative emotions of their clients will be more likely to be tuned to emotions as a result of conducting therapy. Therapists who are open to ambiguities of therapeutic processes will be more likely to built tolerance for ambiguity as they continue their practice. Therapists who are more open to different values and experiences will be more likely to have higher levels of tolerance and appreciation for human diversity. In that respect, we suggest that the features of pursuit of self-awareness, attending to emotions, tolerance for ambiguity, and tolerance for and appreciation of diversity collectively requires therapist to be open to experience.

Research investigating the personal implications of epistemic style suggested that epistemic style can be linked to one's openness to experience. Neimeyer et al. (1993) suggested that individuals with metaphorical orientations were more open to experience that is evident in their rejecting normative expectations when they define who they are. Berzonsky (1994) suggested that information-oriented self-theorists that tend to be high on constructivism also tend to be open to ideas, values, and actions (Berzonsky, 1990, 1994; Berzonsky & Sullivan, 1992). Recently, Babbage and Ronan (2000) empirically verified that organismically-oriented scientists also scored higher on Openness to Experience. In general, individuals with metaphorist epistemologies, contextual and organismic worldviews and constructivist epistemological assumptions tended to be open to experience and they tended to be open and active in their identity-construction processes (Babbage & Ronan, 2000; Berzonsky, 1994; Caputi & Oades, 2001; Neimeyer et al., 1993). Mahoney (1995) conceptually furthered the link between epistemological commitments and openness to experience by claiming that therapists with constructivist epistemologies would be open to different values because they believe humans construct

their own reality, and human values cannot be justified by realities external to themselves.

On the other hand, followers of rationalist epistemologies may be related to lower levels of openness to experience because therapists within this tradition tend to view themselves as adequate authority figures to assist clients in their psychological problems, helping to guide their clients towards a more accurate perception of what they take to be reality. The more definitive and confident nature of this epistemological standpoint might be associated with lower levels of personal openness. This suggestion can be supported by empirical finding linking mechanistic worldviews to being conventional (Johnson et al., 1988). Therefore, we expect constructivist epistemologies to predict higher levels of therapist openness to experience, whereas rationalist epistemologies predict lower levels of this characteristic.

Epistemology and Psychotherapy Experience

Neimeyer et al. (2005) have noted the promising link between epistemic style and personal impact of conducting psychotherapy on psychotherapists, and they suggested that the impact of epistemic style on practice can be extended to psychotherapists' psychotherapy experiences. The established differences in theory and practice of psychology fueled by different epistemological commitments might extend to the way in which the therapists experience psychotherapy, as well as the nature of the strengths they experience and stresses they draw from that experience. As constructivist and rationalist therapies differ in what happens in the therapy room, how these therapists are affected by conducting therapy can differ with distinct nature of the followed therapy approach. Knowing the epistemic style is linked to psychotherapy theories and practices, it is

reasonable to question whether epistemic style has any implications for therapist characteristics and for the way therapists change as a result of their therapy practices.

Neimeyer and his colleagues (2005) have pointed out that the effect of epistemological assumptions on practice may blur the boundary between the personal and professional domains. We suggest that the personal and professional domains are intertwined such that personal epistemic style influences how a therapist would conduct and experience psychotherapy, and in turn these professional differences affected by divergent epistemologies would further shape how the therapist is affected by his or her profession, i.e. by conducting psychotherapy. We suggest that therapist epistemic style would relate not only to the personal characteristics of psychotherapists but also to the impact of conducting psychotherapy on psychotherapists.

Several researchers demonstrated the personal impact of conducting psychotherapy on psychotherapists without considering the unique demands associated with different theory approaches. Practicing psychotherapists reported higher levels of emotional exhaustion, yet they also reported that their work made them better and wiser human beings with increased self-awareness, appreciation for other human beings, accelerated psychological development, increased tolerance for ambiguity and change in their value system (Farber, 1983; Radeke & Mahoney, 2000). Therapists also reported enjoying client growth, challenges of their work, continuous learning, increased self-knowledge, personal growth, emotional intimacy with their clients and being a role model and a mentor that comes with conducting psychotherapy (Kramen-Kahn & Hansen, 1998). A quote of Bugental (1978) summarized how conducting psychotherapy influenced his personal life:

“I am not the person who began to practice counseling or psychotherapy more than 30 years ago . . . And the changes in me are not solely those worked by time, education, and the life circumstances shared by most of my generation. A powerful force affecting me has been my participation in so many lives . . . My life as a psychotherapist has been . . . the source of anguish, pain, and anxiety--sometimes in the work itself, but more frequently within myself and with those important in my life . . . Similarly that work and those relationships have directly and indirectly brought to me and those in my life joy, excitement, and a sense of participation in truly vital experiences.” (pp. 149-150)

Additionally, Mahoney (1995) pointed that conducting therapy within any epistemological framework would have its own challenges, yet conducting therapy with constructivist mindset might amplify the challenges of conducting therapy in predictable ways. As explained above, previous self-report studies suggested that therapists’ self-awareness, attending to emotions, ambiguity tolerance, social tolerance and openness were expected to be positively related to years they have spent in practice. Moreover, these characteristics can be positively related to constructivist epistemologies. Mahoney (1995) further suggested that levels of change on these characteristics induced by psychotherapy practice may be positively moderated by constructivist epistemologies. Therapists with higher levels of constructivist commitments may change more on these above-mentioned characteristics as they practice becoming increasingly attuned to emotionality, tolerant of ambiguity and differences, and open to experience over the course of their professional careers. In contrast, therapists with lower levels of constructivist commitments or therapists with higher levels of rationalist commitments might be expected to show little change, or even a decrease, in their levels of these factors as they gain increasing confidence regarding their perceptions of reality and their effectiveness in working with clients from within this rationalist framework.

The existing literature indicates various ways that epistemic style exerts its influence on aspects of personality and experience. Epistemological commitments are

ted to personal characteristics as well as they are tied to the theory and practice of psychotherapy. Psychotherapists' epistemological commitments define how they would construct and practice psychotherapy. We suggest that psychotherapists' epistemological commitments can also relate to personal characteristics of psychotherapists and to their experience in terms of how they are affected by conducting psychotherapy. We suggest that certain epistemologies that require differential ways of conducting therapy will offer different strength and drawbacks. Literature on constructive approaches to therapy shows that distinctive demands of the constructivist epistemologies may relate to higher levels of therapist pursuit of self-awareness, attending to emotions, tolerance for ambiguity, social tolerance for diversity, and openness to experience. Considering the complementary nature of the constructivist and rationalist epistemologies, rationalist epistemologies can be expected to relate to lower levels of therapist pursuit of self-awareness, attending to emotions, tolerance for ambiguity, social tolerance for diversity, and openness to experience.

Purpose of the Study

The present study is an exploratory study investigating the relationship between therapists' epistemological commitments and a range of personal characteristics and experience. Specific hypotheses were identified in the order of importance as (1) therapists' commitment to constructivist epistemologies will predict higher levels of pursuit of self-awareness, attending to emotions, tolerance for ambiguity, social tolerance for diversity and openness to experience; (2) therapists' commitment to rationalist epistemologies will predict lower levels of pursuit of self-awareness, attending to emotions, tolerance for ambiguity, social tolerance for diversity and openness to experience; and (3) epistemological commitments will moderate the impact of the

number of years spent in clinical practice; constructivist epistemologies will be increasing related to those therapist characteristics and rationalist epistemologies will be decreasingly related to them over the course of psychotherapeutic experience.

CHAPTER 3 METHODS

Participants

Participants were professional psychologists that were recruited online via their membership in various professional organizations. Participants were primarily recruited from the American Psychological Association (APA) - Practice Organization (www.apapractice.org) online practitioner directory (approximately 15,057 members). Participant solicitation emails were also sent to APA Division 17 (Counseling Psychology, 355 members), APA Division 29 (Psychotherapy, approximately 224 members), APA Division 32 (Humanistic Psychology, approximately 130 members), The North American Personal Construct Network (NAPCN) list serve (approximately 95 members), the Albert Ellis Institute email list (approximately 57 members), in addition to a number of APA-approved counseling centers. The solicitation email also encouraged participants to forward the email survey on to other eligible practitioners; therefore calculating an accurate response rate was not possible.

Procedure

As part of a larger Internet survey, participants were invited to complete an online questionnaire that took 30 minutes to complete on average. Participants were informed that the study aimed to understand the interactions between therapists' epistemic style and its relationship with a range of therapist variables (e.g. therapy style, working alliance, and types of interventions used). Informed consent was required before the questionnaire appeared on the screen. Confidentiality of completed surveys was insured.

Participants answered one of four different versions of the main questionnaire in which the questions were ordered differently in order to test for the possible operation of any order effects. Participants were debriefed at the end of the study and were provided with the contact information for further inquiries.

Instruments

Therapist Attitude Questionnaire – Short Form (TAQ-SF). This scale assesses the degree of participants' commitments to rationalist and constructivist epistemologies. DiGiuseppe and Linscott (1993) developed the Therapist Attitude Questionnaire (TAQ) to measure the philosophical, theoretical, and technical dimensions of the rationalist and constructivist positions. Neimeyer and Morton (1997) developed the short version of the TAQ, named Therapist Attitude Questionnaire - Short Form (TAQ-SF). The TAQ-SF measures the same constructs the TAQ measures using a total of 16 items. Eight items represents rationalist positions, and the other 8 items represents constructivist positions. As in the TAQ, the respondents are asked to determine the degree to which they endorse the statements on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). Sample items include "Reality is singular, stable and external to human experience" and "Reality is relative. Realities reflect individual or collective constructions of order to one's experiences". Higher rationalism and constructivism scores reflect higher commitments to rationalist and constructivist epistemologies. The TAQ-SF was found to reproduce the basic factor structure of the TAQ. Predictive validity of the measure was established as it predicted the therapeutic identifications and descriptions of a group of practicing professionals (Neimeyer & Morton, 1997). TAQ-SF scores in the present study yielded a Cronbach's alpha of .72 for rationalist scale and a Cronbach's alpha of .64 for the constructivist scale.

Constructivist Assumption Scale (CAS). The *Constructivist Assumption Scale* (CAS) was employed as a secondary measure of epistemic style in order to provide support for the TAQ-SF. Berzonsky (1994) developed the Constructivist Assumption Scale to measure participants' constructivist assumptions. CAS is a 12-item self-administered measure. The respondents are asked to rate all of the statements on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). Sample items include "Scientific facts are universal truths; they do *not change* over time" and "Nothing is really good or bad, it always depends upon how we think about it." Higher scores reflect higher commitment to constructivist assumptions. CAS scores originally yielded a Cronbach's alpha of .55, and 2-month test-retest reliability of .68. Convergent validity of the measure was established with its positive correlations with contextualist and organismic worldviews and with its negative correlation with formistic worldviews (Berzonsky, 1994). CAS scores in the present study yielded a Cronbach's alpha of .70.

Pursuit of Self-Awareness. Pursuit of Self-Awareness was measured by the *Private Self-Consciousness* subscale of the *Revised Self-Consciousness Scale*. This subscale assesses the participants' tendency to attend to more covert and personal aspects of the self such as personal beliefs, aspirations, values and feelings. Fenigstein, Scheier and Buss (1975) developed the Self-Consciousness Scale to measure individual differences in private and public self-consciousness. Scheier and Carver (1985) revised the Self-Consciousness Scale to increase the scale's appropriateness for use with non-college populations. The Private Self-Consciousness subscale is a 9-item self-administered measure. The respondents are asked to indicate the extent to which each statement is like them on a 4-point Likert scale ranging from 0 (Not at all like me) to 3 (A

lot like me). Sample items include “I never take a hard look at myself” and “I’m constantly thinking about my reasons for doing things”. Higher scores reflect higher levels of self-consciousness. Revised Private Self-Consciousness subscale scores have yielded a Cronbach’s alpha of .75, and 4-week test-retest coefficient of .76. Revised Self-Consciousness Scale was found to reproduce the basic factor structure of the original Self-Consciousness Scale. Private Self-Consciousness scores in the present study yielded a Cronbach’s alpha of .78.

Attending to Emotions. Attending to Emotions was measured by the *Attending to Emotions* subscale of the *Emotional Intelligence Scale*. This subscale assesses the participants’ tendency to attend to their emotions. Goldberg (1999) developed the International Personality Item Pool (IPIP), and the Attending to Emotions subscale is among the IPIP scales that are related to “emotional intelligence” (Barchard, 2001, as cited in International Personality Item Pool, 2001). Attending to Emotions Scale is a 10-item self-administered measure. The respondents are asked to rate how accurately each item describes them on a five-point scale ranging from 1 (very inaccurate) to 5 (very accurate). Sample items include “Think about the causes of my emotions” and “Am not in touch with my feelings”. Higher scores reflect higher levels of attending to emotions. Attending to Emotions scores have yielded a Cronbach’s alpha of .81 for a sample of 432 women, and .83 for a sample of 317 men (International Personality Item Pool, 2001). Attending to Emotions scores in the present study yielded a Cronbach’s alpha of .90.

Tolerance for Ambiguity. Tolerance for Ambiguity was measured with the *Multiple Stimulus Types Ambiguity Tolerance (MSTAT)*. This subscale assesses the participants’ reactions to ambiguity. McLain (1993) designed the MSTAT to measure

individual's reactions to ambiguous situations and stimuli. MSTAT is a 22-item self-administered measure. The respondents are asked to rate how accurately each item describes them on a seven-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). Sample items include "I'm drawn to situations, which can be interpreted in more than one way", and "I try to avoid problems which don't seem to have only one "best" solution". Higher scores reflect higher tolerance for ambiguity. MSTAT scores have yielded a Cronbach's alpha of .86 for a sample of 148 undergraduate organizational behavior students at a medium sized mid-western university. Content validity of the measure was established with its positive correlations with three alternative ambiguity tolerance measures. Construct validity of the measure was established with the negative correlations of MSTAT scores with dogmatism and receptivity to change, and with the positive correlations of MSTAT scores with sensation-seeking. Ambiguity Tolerance scores in the present study yielded a Cronbach's alpha of .89.

Social Tolerance for Diversity. This variable was measured with the *Tolerance* subscale of the *International Personality Item Pool (IPIP)*. This subscale assesses the participants' reactions to socially diverse stimuli. The Tolerance subscale is among the IPIP scales measuring constructs similar to those in Cloninger's Temperament and Character Inventory (TCI; Cloninger et al., 1993), and it corresponds to the TCI's Social Acceptance subscale that measures the individuals' cooperativeness together with the other subscales of helpfulness, compassion, empathy, and pure-heartedness. IPIP's Tolerance subscale is a 12-item self-administered measure. The respondents are asked to rate how accurately each item describes them on a five-point scale ranging from 1 (very inaccurate) to 5 (very accurate). Sample items include "Accept people as they are" and

“Am quick to judge others”. Higher scores reflect higher social tolerance for diversity. Tolerance scores have yielded a Cronbach’s alpha of .72 (International Personality Item Pool, 2001). Tolerance subscale also satisfactorily correlates ($r = .67$) with the corresponding TCI scale (International Personality Item Pool, 2001). Tolerance scores in the present study yielded a Cronbach’s alpha of .76.

Openness to Experience. Openness to Experience was measured with the *Openness to Experience* subscale of the *International Personality Item Pool (IPIP)*. This subscale assesses participants’ degree of openness to experience (International Personality Item Pool, 2001). A set of IPIP subscales assesses the personality dimensions of the Five Factor Model (FFM) developed by Costa and McCrae (1985), and IPIP’s Openness subscale corresponds to FFM’s Openness to Experience subscale. IPIP’s Openness subscale is a 10-item self-administered measure. The respondents are asked to rate how accurately each item describes them on a five-point scale ranging from 1 (very inaccurate) to 5 (very accurate). Sample items include “Have difficulty understanding abstract ideas” and “Enjoy hearing new ideas”. The IPIP Openness to Experience scores have yielded a Cronbach’s alpha of .82 (International Personality Item Pool, 2001). Experience subscale correlates highly ($r = .83$) with the FFM’s corresponding NEO-PI-R scale (International Personality Item Pool, 2001). Openness to Experience scores in the present study yielded a Cronbach’s alpha of .73.

Demographics: Participants were asked to give information about their gender, age, ethnic background, name of their highest degree, the year they obtained their highest degree, total number of years they have spent in clinical practice, specialty area, primary

employment setting, primary job responsibility, dominant theoretical orientation, average number of clients seen weekly, and the country they live in.

CHAPTER 4 RESULTS

The results section is composed of three sections. First, the sample characteristics are described in some detail. Second, the descriptive information concerning the overall scores, psychometrics and relationships among the primary variables of interest are presented. And last, a series of multiple regression analyses are reported to address the primary questions regarding the ways in which therapists' epistemic leanings and levels of experience predict levels of self-awareness, attending to emotions, tolerance for ambiguity, social tolerance for diversity, and openness to experience.

Demographics

The sample consisted of 1,181 participants (733 women and 418 men) with a mean age of 45.09 (SD = 12.54, age range = 22-84 years). The majority of the participants were Caucasian, 88.9% (N = 1030), followed by multiracial, 2.8% (N = 33), Hispanic, 2.6% (N = 30), African-American, 2.4% (N = 28), Asian-American, 2.1% (N = 24), and Other, 1.2% (N = 14). The majority of the participants were from U.S., 96.5% (N = 1118), whereas 2.5% (N = 29) of the participants were from Canada and .9% (N = 11) of them were from other countries.

The majority of the participants had a Ph.D. degree, 60.1% (N = 700), followed by an M.A. or M.S., 18.6% (N = 216), Psy.D., 11.0% (N = 128), B.A. or B.S., 3.3% (N = 38), Ed.D., 1.7% (N = 20), M.S.W., 1.4% (N = 16), or other degrees, 4.0% (N = 46), as their highest degree. The majority of participants were non-students, 93.5% (N = 1,105) and only 6.5% (N = 77) of them were graduate students. The majority of the participants

were self-identified as psychologists, 83.2% (N = 967), followed by mental health counselors, 6.4% (N = 74), marriage and family therapists, 2.2% (N = 25), and social workers, 1.0% (N = 12). The remaining participants designated themselves as Other, 7.2% (N = 84).

The majority of the participants defined their primary responsibility as practice/clinical work, 75.1% (N = 867), followed by academic, 8.1% (N = 94), administrative, 4.6% (N = 53), research, 4.3% (N = 50) and other, 7.9% (N = 91). The majority of the participants indicated their primary employment setting as private practice, 40.4% (N = 466), followed by university academic department, 11.4% (N = 132), hospital, 10.8% (N = 125), university service delivery department, 10.6% (N = 122), mental health care, 7.7% (N = 89), community center, 4.0% (N = 46), school, 3.4% (N = 39), and other, 11.7% (N = 134). Mean number of years spent in clinical practice was 14.01, and ranged between 0 and 56 (SD = 11.03). The mean number of clients seen weekly was 15.98, and ranged between 0 and 70 (SD = 11.34).

The majority of the participants identified cognitive-behavioral theory as their dominant theoretical orientation, 35.9% (N = 414), followed by integrative, 18.1% (N = 209), psychodynamic, 15.2% (N = 175), interpersonal, 7.6% (N = 88), humanistic/person-centered, 7.2% (N = 83), constructivist, 3.2% (N = 37), existential, 2.2% (N = 25), rational-emotive, 1.7% (N = 20), and Gestalt, 0.7% (N = 8). The remaining participants designated themselves as other, 8.2% (N = 95).

Descriptives and Preliminary Analyses

One-way analyses of variance suggested that there were no difference in the mean scores of the variables of interest among the four types of questionnaire forms (all $ps > .007$). Thus for all analyses, the data from four different forms were combined.

Table 1 depicts summary statistics of the primary variables used in this study. This includes the measures of rationalism and constructivism derived from the Therapist Attitudes Questionnaire (TAQ), the measure of constructivism derived from the Constructivist Assumption Scale (CAS), and the measures that assessed the pursuit of self-awareness, attending to emotions, tolerance for ambiguity, social tolerance for diversity, and openness to experience. All scores were normally distributed. Skewness and kurtosis values were in the acceptable range for appropriate distribution. The epistemology scores obtained from TAQ were consistent with the scores reported by Neimeyer and Morton (1997). Overall, the scales yielded moderate to high reliability coefficients.

Table 1: Summary statistics of variables of interest

Variable	N	M	SD	Possible Range	Sample Range	Skewness	Kurtosis	n of items	α
1. TAQ- R	1130	22.11	5.12	8-40	8-36	-0.25	-0.29	8	0.72
2. TAQ- C	1138	32.74	3.42	8-40	12-40	-0.51	1.57	8	0.64
3. CAS	1113	45.33	5.28	12-60	27-60	-0.02	0.13	12	0.70
4. PSA	1141	18.96	4.28	0-27	4-27	-0.31	-0.17	9	0.78
5. AE	1139	43.61	5.51	5-50	21-50	-0.87	0.74	10	0.90
6. AT	1094	111.89	15.29	22-154	66-154	-0.07	-0.27	22	0.89
7. ST	1142	47.63	5.43	12-60	19-60	-0.50	0.86	12	0.76
8. OE	1147	43.30	4.92	5-50	11-50	-0.90	1.41	10	0.73

Note. TAQ-R = Therapist Assumption Scale - Rationalism; TAQ-C = Therapist Assumption Scale - Constructivism; CAS = Constructivist Assumption Scale; PSA = Pursuit of Self Awareness; AE = Attending to Emotions; AT = Ambiguity Tolerance; ST = Social Tolerance; OE = Openness to Experience

Table 2 depicts the Pearson Product-Moment correlation coefficients among the variables of interest. As expected, CAS and TAQ-Constructivism scores were positively associated, ($n = 1084$, $r = .30$, $p < .001$, two-tailed), and CAS and TAQ-Rationalism were negatively associated, ($n = 1077$, $r = -.36$, $p < .001$, two-tailed). These associations supported the expectation that participants with higher constructivism scores would show

higher commitment to constructivist epistemologies, and participants with higher rationalism scores would tend to show lower commitment to constructivist epistemologies.

Table 2: Intercorrelations among the variables of interest^a.

Variable	1	2	3	4	5	6	7	8
1. TAQ- R	—							
2. TAQ- C	-.09**	—						
3. CAS	-.36***	.30***	—					
4. PSA	-.12***	.20***	.21***	—				
5. AE	-.14***	.21***	.14***	.59***	—			
6. AT	-.23***	.13***	.19***	.07*	.09**	—		
7. ST	-.15***	.15***	.20***	-.03	.11**	.32***	—	
8. OE	-.24***	.17***	.31***	.26***	.21***	.34***	.24***	—

Note. For all variables, the higher number represents a greater amount of that construct. TAQ-R = Therapist Assumption Scale - Rationalism; TAQ-C = Therapist Assumption Scale - Constructivism; CAS = Constructivist Assumption Scale; PSA = Pursuit of Self Awareness; AE = Attending to Emotions; AT = Ambiguity Tolerance; ST = Social Tolerance; OE = Openness to Experience

^a Listwise N = 934

* $p < .05$ ** $p < .01$ *** $p < .001$

Consistent with previous distinctions outlined in the literature, a number of therapist qualities were associated with epistemic leanings in theoretically consistent ways. Levels of constructivism, for example, were generally positively related to greater levels of pursuit of self-awareness, attending to emotions, tolerance for ambiguity, social tolerance for diversity, and openness to experience, while rationalist leanings were negatively associated with these variables. Similarly, conceptually linked variables showed moderate to high associations: For example, pursuit of self-awareness and attending to emotions were positively associated with one another, as were levels of tolerance for ambiguity, social tolerance for diversity and openness to experience.

Primary Analyses

The final set of analyses utilized regression analyses to examine whether rationalist and constructivist epistemological commitments were related to the levels of pursuit of self-awareness, attending to emotions, tolerance for ambiguity, social tolerance for diversity, and openness to experience. Constructivist epistemologies were expected to predict the levels of these variables positively, where rationalist epistemologies were expected to predict the levels of these variables negatively when the number of years spent in practice was controlled. Whether constructivism and rationalism interacts with years of psychotherapy experience was also investigated. It was hypothesized that the epistemological commitment would moderate the relationship between experience and personal qualities such that constructivist epistemologies would be increasingly related to those therapist characteristics and rationalist epistemologies would be decreasingly related to them over the course of psychotherapeutic experience.

Epistemology-by-experience interaction terms are residualized product-term interactions. Rationalism-by-experience interaction terms were computed by multiplying participants' rationalism scores by the number of years the participants spent in practice, and then extracting the variance interaction term shared with rationalism and experience out of the computed product term via conducting a multiple regression analysis where rationalism and the number of years spent in practice were the independent variables, and the rationalism-by-experience product-term was the dependent variable. The constructivism-by-experience interaction term was computed following the same method.

We conducted hierarchical multiple regression analyses to study the main and interaction effects of the four independent variables on each of the five dependent variables while controlling for gender (dummy coded: 0 = male and 1 = female), and

experience (defined as the number of years participants spent in practice). The independent variables were TAQ-Rationalism and TAQ-Constructivism scores. In addition, there were two interaction variables representing interactions among the independent variables of epistemology and experience. The dependent variables were pursuit of self-awareness, attending to emotions, tolerance for ambiguity, social tolerance for diversity, and openness to experience. For each regression analysis, gender and experience was entered in Step 1, and the two independent variables were entered in Step 2 and two interaction variables were entered in Step 3. The main variables were entered in the second step and interaction variables were entered in the third step to examine whether these effects were above and beyond that of experience. With 5 dependent variables, Bonferroni adjustment was employed to guard against the Type I error, and the alpha level for the overall regression analysis for each dependent variable was set at .01. Effect size indexes for multiple regression analyses was f^2 , defined as the R^2 divided by one minus R^2 . The obtained f^2 s were evaluated according to the Cohen's (1992) operation definition of small (.02), medium (.15) and large (.35) effects.

To assess for the presence of multicollinearity, the variation inflation factor (VIF) statistics across the independent variables were examined. Myers (1990) pointed out that a VIF value above 10 indicates concern for the presence of multicollinearity. In our regression equation, VIF statistics ranged from 1.01 to 1.02, suggesting that multicollinearity was not present.

The results of the hierarchical multiple regression analysis for each of the five dependent variables are presented in Table 3. The results indicated significant regression equations (i.e., $p < .01$ for the overall F ratio at Step 3) for all five dependent variables:

pursuit of self-awareness, attending to emotions, tolerance for ambiguity, social tolerance for diversity, and openness to experience. The main models accounted for variances in five dependent variables between 5% and 10%. In the first step gender and experience together accounted for a significant variance in all of the dependent variables. In the second step, rationalism and constructivism scores accounted for a significant amount of additional variance in all of the dependent variables after controlling for the variance explained by gender and experience. In the third step, however, rationalism-by-experience and constructivism-by-experience interaction terms failed to account for a significant additional amount of variance in any of the dependent variables after controlling the variance explained by gender, experience and adherence to rationalist and constructivist epistemologies. No significant levels of the remaining variance in the dependent variables can be explained by the interaction terms.

To identify the location and direction of the effects on each of these dependent variables, we examined a standardized beta coefficient for each predictor. The results indicated that being women led to higher scores on pursuit of self-awareness and attending to emotions in comparison to being men. The number of years spent in practice had a negative effect on pursuit of self-awareness, and a positive effect on ambiguity tolerance, social tolerance and openness to experience. Participant adherence to rationalist epistemology were negatively related to all of the dependent variables; higher rationalism scores predicting lower scores on the pursuit of self-awareness, attending to emotions, ambiguity tolerance, social tolerance and openness to experience. By contrast, participant adherence to constructivist epistemology were positively related to all of the dependent variables; higher constructivism scores predicting higher scores on the pursuit

of self-awareness, attending to emotions, ambiguity tolerance, social tolerance and openness to experience. There were no significant additional rationalism-by-experience and constructivism-by-experience interaction effects for any of the dependent variables. Therapists with higher levels of constructivist tendencies did not score higher on pursuit of self-awareness, attending to emotions, ambiguity tolerance, social tolerance and openness to experience than therapists with lower levels of constructivist tendencies as the years they spent in practice increased. Nor did therapists' increasing levels of rationalism interact with their levels of experience in relation to their levels of self-awareness, attending to emotions, ambiguity tolerance, social tolerance and openness to experience scores. The magnitudes of the effect sizes of the main analyses were between .05 and .11 which correspond to small to medium effects (Cohen, 1992). Strength of the relations between the independent variables and the dependent variables were found to be limited, but not trivial (Cohen, 1992). Obtained effect sizes suggest that results have some practical significance in addition to statistical significance. Effect sizes for these significant differences suggested that gender, experience, rationalism and constructivism accounted for 5% to 11% of the variability in the dependent variable scores.

Table 3: Results of hierarchical multiple regression analyses on the five dependent variables

Variable	β	t	R^2	F	df_1	df_2	ΔR^2	f^2
Dependent Variable: Pursuit of Self-Awareness								
Step 1								
Gender	.13	3.97**						
Experience	-.10	-3.10*	.03	18.51**	2	1043	.03	.04
Step 2								
Gender	.10	3.02*						
Experience	-.11	-3.51**						
TAQ-R	-.14	-4.64**						
TAQ-C	.16	5.46**	.08	23.87**	4	1041	.05	.09
Step 3								
Gender	.09	2.97*						
Experience	-.11	-3.50**						
TAQ-R	-.14	-4.62**						
TAQ-C	.16	5.44**						
E x TAQ-R	-.01	-.45						
E x TAQ-C	.01	.20	.08	15.93**	6	1039	.00	.09
Dependent Variable: Attending to Emotions								
Step 1								
Gender	.22	6.76**						
Experience	-.00	-.09	.05	25.60**	2	1044	.05	.05
Step 2								
Gender	.18	5.84**						
Experience	-.01	-.41						
TAQ-R	-.12	-4.12**						
TAQ-C	.18	6.03**	.10	27.92**	4	1042	.05	.11
Step 3								
Gender	.18	5.76**						
Experience	-.01	-.41						
TAQ-R	-.12	-4.11**						
TAQ-C	.18	6.01**						
E x TAQ-R	-.02	-.79						
E x TAQ-C	-.00	-.03	.10	18.69**	6	1040	.00	.11
Dependent Variable: Ambiguity Tolerance								
Step 1								
Gender	-.05	-1.52						
Experience	.14	4.41**	.03	14.22**	2	1008	.03	.00
Step 2								
Gender	-.08	-2.56						
Experience	.13	4.00**						
TAQ-R	-.20	-6.67**						
TAQ-C	.14	4.48**	.09	25.27**	4	1006	.06	.10
Step 3								
Gender	-.08	-2.58						

Table 3. Continued.

Variable	β	t	R^2	F	df_1	df_2	ΔR^2	f^2
Experience	.13	4.00**						
TAQ-R	-.20	-6.65**						
TAQ-C	.14	4.47**						
E x TAQ-R	-.01	-.28						
E x TAQ-C	.01	.20	.09	16.84**	6	1004	.000	.10
Dependent Variable: Social Tolerance								
Step 1								
Gender	.08	2.43						
Experience	.12	3.66**	.01	7.58*	2	1047	.01	.01
Step 2								
Gender	.05	1.60						
Experience	.11	3.49**						
TAQ-R	-.11	-3.56**						
TAQ-C	.15	4.86**	.05	13.82**	4	1045	.04	.05
Step 3								
Gender	.05	1.59						
Experience	.11	3.48*						
TAQ-R	-.11	-3.60**						
TAQ-C	.15	4.84**						
E x TAQ-R	-.01	-.36						
E x TAQ-C	-.03	-1.02	.05	9.39**	6	1043	.00	.05
Dependent Variable: Openness to Experience								
Step 1								
Gender	.07	2.25						
Experience	.12	3.66**	.01	7.37*	2	1047	.01	.01
Step 2								
Gender	.04	1.16						
Experience	.10	3.20*						
TAQ-R	-.18	-5.94**						
TAQ-C	.15	4.87**	.07	19.80**	4	1045	.06	.08
Step 3								
Gender	.04	1.12						
Experience	.10	3.21*						
TAQ-R	-.18	-5.88**						
TAQ-C	.15	4.87**						
E x TAQ-R	-.01	-.23						
E x TAQ-C	.04	1.22	.07	13.46**	6	1043	.00	.08

Note. E = Experience; TAQ-R = Therapist Assumption Scale - Rationalism; TAQ-C = Therapist Assumption Scale - Constructivism

* $p < .01$ ** $p < .001$

CHAPTER 5 DISCUSSION

The discussion section is composed of three sections. First, the overall hypotheses and findings of the study are summarized. Second, a detailed account of the findings is provided where the results are interpreted in the light of literature on epistemology and therapists' personal experiences. At last, limitations and implications of the present study were presented, together with further suggestions for future studies.

Summary of the Results

Overall, the results of the present study supported the primary hypotheses regarding the relationship between epistemic style and selected therapist characteristics. These include the pursuit of self-awareness, attending to emotions, ambiguity tolerance, social tolerance and openness to experience. Findings suggested that higher constructivism scores predicted higher levels of these characteristics, whereas higher rationalism scores predicted lower levels. Obtained results also suggested that greater psychotherapy experience as reflected in the number of years practicing psychotherapy, was positively related to ambiguity tolerance, social tolerance and openness to experience, and negatively related to pursuit of self-awareness. These results were not only statistically significant but also practically meaningful, given the nature of the effect sizes. Moreover, there were no additional significant constructivism-by-experience, or rationalism-by-experience interaction effects for any of the dependent variables. Thus, the results did not support the expectation that constructivist and rationalist epistemic styles would be

differentially related to specific therapist characteristics as the years spent in professional practice increased.

Link between Constructivist Epistemologies and Therapist Characteristics

Mahoney (1995) had suggested that basic tenets of constructivist therapies may reinforce therapists to value and pursue self-awareness, to be more attuned to personal feelings, to be more tolerant of ambiguous circumstances, to be more socially tolerant of diversity and to be more open to new experiences. The primary aim of the present study was to understand the link between epistemology and personal characteristics of psychotherapists, and it was hypothesized that therapists' constructivist commitments would predict these variables positively, as Mahoney (1995) suggested. Results consistently supported this hypothesis; constructivist epistemic commitments were positively related to participants' pursuit of self-awareness, attending to emotions, ambiguity tolerance, social tolerance and openness to experience scores.

Mahoney's (1995) analyses of the assumptions of constructivist epistemologies may be employed to interpret the obtained findings. The constructivist worldview assumes that therapists' understanding of a client will be limited by their perceptions and constructions, and therefore self-awareness is a precondition to effectively understanding other people. In addition, a constructivist perspective conceptualizes emotions as primitive knowing systems, and therefore emotional attunement is vital to exploring and understanding the client and his or her presenting problems. Consequently, constructivist epistemologies might be positively related to personal attending to emotions. Further, from a constructivist position, neither the direction nor the outcomes of therapy can be clearly detailed at the outset. Instead, these processes and directions gradually emerge from the complexity and ambiguity of the client's broader context and the coordinated

actions of the client and the therapist in relation to those contexts. This stance obligates the therapist to tolerate high levels of ambiguity, both as the meaning system gradually becomes clearer, and as it transforms itself in response to the interventions that constitute the process of psychotherapy. Likewise the constructivist therapist assumes individual uniqueness and recognizes that the social, historical, and cultural contexts inform the client's presentation and his or her presenting problems. This position predisposes the constructivist therapist to embrace social diversity and to remain open to experience. The demands of this epistemic position commit the therapist to seek and embrace novel experience, and for that reason be associated with generally higher levels of personal openness.

Link between Rationalist Epistemologies and Therapist Characteristics

Various conceptual and empirical studies have suggested that constructivist and rationalist epistemologies could differentiate the way therapists construct and conduct psychotherapy (Lyddon, 1988; Mahoney & Gabriel, 1987; Mahoney & Lyddon, 1988). Where constructivist epistemologies were expected to predict the levels of the specified therapist variables positively, complementary epistemologies such as rationalism were expected to predict the levels of these variables negatively. Therapists' rationalist epistemologies were hypothesized to predict the levels of pursuit of self-awareness, attending to emotions, tolerance for ambiguity, social tolerance for diversity and openness to experience negatively. Results generally supported this expectation since commitment to rationalist epistemologies was negatively related to their scores on these personal qualities.

These findings can be interpreted by scrutinizing the basic assumptions of rationalist epistemologies. Rationalist therapists tend to operate assuming that they are

objective observers of the stable and single reality, and they can correct their clients' faulty cognitions of reality. Therefore, rationalist therapists might be less required to be insightful about their thoughts, feelings, attitudes, expectations or motivations. Rationalists perceive negative emotions as outcomes of dysfunctional cognitions, and rational therapists might be less likely to engage in emotional attunement for that reason. Rationalist epistemologies are relatively simple, straightforward and clear, leaving less room for ambiguity; therefore, therapists with rationalist epistemologies might be less tolerant of that ambiguity. The relatively constrained and straightforward nature of rationalist therapies and dichotomous thinking underlying rationalist epistemologies might hinder deeper appreciation of and tolerance for human differences. Rationalism by itself might not require its adherents to be socially tolerant in relation to diverse forms of living, because critical processes of human change are presumed to be uniform and universal. Consequently, the need to be open to new understandings or experiences may be diminished correspondingly, given that reality is assumed to be single and set and that therapists can capably assist clients to make contact with that objective reality and, as a result, address and resolve their presenting problems. In general, the more clearly determined, definitive and confident nature of this epistemological standpoint might lead it to be associated with lower levels of personal openness to experience.

Link between Therapy Experience and Therapist Characteristics

Previous studies that have investigated how seeing clients and conducting therapy affect the practitioners' personal lives have asked psychotherapists about the impact of their work on their life experiences (Farber, 1983; Radeke & Mahoney, 2000). These self-reports of psychotherapists in general suggested that therapists may change in complex ways as a result of their conducting psychotherapy. Among other things,

psychotherapists have reported that conducting psychotherapy had increased their self-awareness, their appreciation for other human beings, and their tolerance for ambiguity (Farber, 1983; Radeke & Mahoney, 2000), and that it had changed their value systems, making them better and wiser human beings (Radeke & Mahoney, 2000). The present study supported these general findings insofar as the number of years spent in clinical practice was positively related to higher levels of ambiguity tolerance, social tolerance and openness to experience scores. In other words, regardless of their epistemic commitments, therapists' reported higher tolerance for ambiguity, higher tolerance for social diversity, and higher levels of openness as the number of years spent in professional practice increased.

In addition, higher levels of psychotherapy experience were generally related to lower levels of self-awareness, and experience did not relate to either self-awareness or the extent to which therapists reported attending to emotions. These findings are inconsistent with previous work in this area. The one-hour interviews that Farber (1983) conducted with 60 therapists, for example, indicated that therapist awareness increased as a function of the amount of psychotherapy experience. Similarly, compared to researchers, Mahoney and Radeke (2000) found that practicing psychotherapists' reported higher levels of self-awareness as a consequence of their work. Findings of the present study may raise questions regarding the validity of the psychotherapists' self-reports of the personal impact of their work.

The discrepancy between the findings of the previous studies and the findings of the present study may be explained by the fact that previous studies depended on therapists self-reports of increased self-awareness, whereas the current study measured

therapists' dedication the pursuit of self-awareness, rather than their attainment of self-awareness, per se. Although questioning inner experiences could be one road to self-awareness, awareness could have been achieved without conscious questioning of how one is feeling, thinking or doing at a given moment. With more practice, therapists might have been gaining experience in being touch with their inner experiences without conscious inquiry; or the inquiry might have been less available to notice and report. On the other hand, therapists might simply refrain from questioning their personal experiences as they conduct more psychotherapy. Years spent in clinical practice might have hindered the private self-consciousness of therapists. Just as conducting therapy induced emotional exhaustion (Radeke & Mahoney, 2000), it might be inducing self-distancing self-consciousness. Failing to measure therapists' actual self-awareness and the limiting aspect of cross-sectional designs restricts empirical validation or invalidation of the available self-reports.

Epistemology-by-Experience Interaction on Therapist Characteristics

Mahoney (1995) asserted that conducting therapy in any form within any framework would have its own challenges, yet since constructivist therapies are characterized by heightened subjectivity, emotionality, ambiguity and diversity, conducting therapy with constructivist mindset would have amplified challenges for therapists. It was hypothesized that although conducting therapy by itself would positively affect the levels of specified therapist characteristics, conducting therapy with constructivist mindset would positively moderate the impact of conducting therapy on the level of these personal qualities. Conducting psychotherapy was expected to differentially relate to the specified therapist characteristics by levels of therapists' constructivist commitments, such that therapists with higher levels of constructivist commitment would

obtain higher scores on these variables as they continue to accrue psychotherapy experience. However, findings failed to reveal any additional constructivism-by-experience interaction for any of the dependent variables. Contrary to the expectations of Mahoney (1995), the present results failed to support the suggestion that constructivist epistemologies would be more positively related to higher levels of these variables across the course of greater psychotherapy experience.

The present study also questioned whether conducting psychotherapy can be differentially related to the specified therapist characteristics by levels of therapists' commitment to rationalist epistemologies. Findings failed to reveal any additional rationalism-by-experience interaction for any of the dependent variables. Specified therapist characteristics were equally related to the psychotherapy practice by varying levels of therapist commitment to rationalist epistemologies.

Our results supported the expectations of Neimeyer et al. (2005) and Mahoney (1995) that therapists' personal characteristics are related to their epistemological commitments, yet results failed to support the expectations that the impact of practical experience on therapist qualities might be further differentiated by psychotherapists' epistemological commitments. Being constructivist or being rationalist does not relate to the interplay between conducting therapy and specified therapist characteristics.

Our failure to find any experience-by-epistemology interaction effects on therapist characteristics may be explained by our operationalization of therapist experience. Investigating how epistemological commitments can relate to therapists' personal change fueled by clinical practice, the current study focused on the number of years the practitioners spent in clinical practice to tap on the variable of experience that may not

fully reflect the nature of the psychotherapeutic experience, either quantitatively or qualitatively. A therapist with limited years of experience might have had several remarkable experiences that left personal marks, whereas another therapist with longer years of experience might not have experienced encounters that were significant enough to have registered any impact on the therapist. In other words, nature or quality of the experiences were neither assessed nor controlled. Crude estimation of therapists' experience of conducting therapy in terms of years spent practice might have concealed the interaction of epistemology and experience in defining therapists' personal qualities.

Limitations of the Present Study and Directions for Future Research

The external validity of the findings might have been compromised by some limiting aspects of this study such as the characteristics of participants or data collection procedure. First, those who volunteered to participate may be a biased sample.

Volunteers are known to differ from non-volunteers in behavioral research with respect to their level of education, intelligence and desire of social approval (Rosenthal & Rosnow, 1975, as cited in Raquepaw & Miller, 1989). Collecting data via Internet may further differentiate the characteristics of the participants who volunteered to participate in the study from non-volunteers. However, inviting psychologists registered to APA-practice.org in every state of U.S. and having a population with a sample size over one thousand practicing professional might have increased the representativeness of the sample and thus, the generalizability of the obtained findings. Yet, it is also important to note that we cannot determine the representativeness of the sample vis-à-vis the larger field since we can neither completely determine the characteristics of the over 15,000

individuals who we contacted, nor we can assure that they did not forward the invitation email to other colleagues.

The self-report nature of the present study is another aspect that may limit the generalizability of the findings given that self-reports are subject to distortion and social desirability effects. Moreover, self-reports may not correlate well with the participants' actual behavior or experience (Rosenthal & Rosnow, 1991).

Another limiting factor to the study is its cross-sectional design that restricts the interpretability of the findings regarding longitudinal changes. Although including the number of year participants spent in clinical practice provides the study a quasi-longitudinal aspect, the present study was just examining cross-sectional differences that can be contaminated by a range of threats to validity, including cohort effects. Genuinely longitudinal studies are needed in order to permit stronger claims about how therapists' personal qualities were colored by their epistemological commitments across the course of their psychotherapeutic experience.

It is also important to note that the obtained findings are simply associations between the variables of interest and do not imply causal relationships. For instance, therapists with constructivist epistemologies may tend to be more open to experience; however we cannot claim that therapists' constructivist epistemologies cause them to have higher levels of openness. Results can only suggest relationships, not necessarily causality.

Despite the apparent limitations in the present study, the study does contribute to the understanding of the relationship between epistemic style and therapists' personal experiences. The present findings empirically support the claims of Mahoney (1995) and

Neimeyer et al. (2005) that therapists' epistemic style can relate to therapists' personal experiences and characteristics. The present study opens up a fertile area of research to investigate the link between epistemologies and various sets of personal characteristics. Whereas this study separately studied the association between epistemologies and personal qualities, future studies can compare personal characteristics of individuals with constructivist and rationalist epistemologies to further our understanding. How various epistemological commitments are associated with other sets of personal characteristics can be studied.

Most importantly, future studies can investigate further implications of the link between epistemology and personal characteristics. For instance, many schools of psychotherapy consider the therapists' capacity to deeply understand him or herself as the first-step in managing the stressful experience of conducting psychotherapy (Jaffe, 1986; Carroll, Gilroy, & Murra, 1999; Norcross, 2000), and self-awareness and self-monitoring were ranked as the most important contributors of the well functioning by a group of professional psychologists and program directors (Coster & Schwebel, 1997; Schwebel & Coster, 1998). Considering that therapists with constructivist epistemologies are found to be more open to question their state of mind and feelings, they may be protected against the negative effects of conducting psychotherapy such as burnout. Future studies can also investigate such a link between epistemology and therapist burnout.

Complementary ways of acquiring and evaluating knowledge and understanding the world are equally valuable. As Lyddon (1989b) suggested "... *none* of these worldviews provides the "correct" or best" frame of reference. They simply suggest different forms of understanding, inquiry, and theory."(p. 446). Their differences should

not cloud the fact that both rationalism and constructivism offers extended understanding of the “complexities of human experience” (Mahoney & Lyddon, 1988, p. 223). The present study was fueled by the conceptualizations of Mahoney (1995) about therapist characteristics possibly demanded and further facilitated by conducting therapy with constructivist mindset. Such a start point led us to focus only on a set of characteristics positively related to constructivism and negatively related to rationalism, and to ignore the positive personal contributions offered by rationalist perspective. Future research can investigate other set of characteristics that can be positively associated with rationalist commitment such as being in control, active problem solving, ability to take charge and sense of self-efficacy. Conducting therapy with adherence to rationalist epistemologies had already been suggested to be advantageous for working with clients who had external locus of control as these clients assessed behavioral or cognitive-rational therapists more favorably (Vincent & LeBow, 1995). Future studies should reflect on the value of rationalist epistemologies in understanding human nature and healing human suffering and consider other sets of therapist characteristics positively associated with rationalist epistemologies.

This study also partially validated the expectations that the number of years spent in clinical practice relates to the therapists’ personal experiences. Studies that have investigated the effect of conducting psychotherapy and seeing clients on therapists’ personal and professional lives had suggested that therapists are affected by their work in multiple and complex ways. Yet, our findings suggested that experience constructed as the number of years spent in practice may not affect personal experiences always in the way it is expected. This suggestion highlights the importance of future investigations

investigating to what extent and under which conditions those claims made by researchers and psychotherapists themselves can be empirically validated. Future research may also incorporate the perspectives of significant others such as partners or parents, in addition to therapists' reports of characteristics, to examine the personal impact of conducting psychotherapy.

The number of years therapists spent in clinical practice does not fully reflect the nature of the psychotherapeutic experience and remains to be a crude indicator of personal experience of conducting psychotherapy. Future research investigating the personal impact of conducting therapy can employ variables other than the number of years spent in practice of experience to tap on therapists' professional experience, or directly ask therapists and/or therapists' significant others how therapists were personally affected by conducting psychotherapy.

The central questions that guided the present study concerned whether the personal effect of conducting therapy can be differential for therapists with differing epistemological commitments. However, the cross-sectional nature of our study, without any assessment pertaining to perceived or observed impact of conducting therapy on therapists, limits our ability to address this question in any definitive manner. In spite of these limitations, the present study provides one of the first empirical attempts to explore this question. The present study suggests that epistemological tendencies are linked to several personal characteristics of therapists, and that constructivist and rationalist epistemologies are differentially related to these personal characteristics. Obtained results may stimulate further research that investigates whether the personal impact of being a

psychotherapist and conducting psychotherapy is differential for therapists with complementary or different epistemological commitments.

Conclusion

In conclusion, the present study examined the relationship between epistemic style, therapist characteristics and therapists' experience of conducting psychotherapy. Results of the study suggested that therapists' epistemologies were associated with the levels of their pursuit of self-awareness, attending to emotions, tolerance for ambiguity, social tolerance for diversity and openness to experience. Therapists with stronger constructivist epistemologies tended to score higher on these personal variables when therapists' level of experience is held constant, whereas therapists with stronger rationalist epistemologies tended to score lower on these personal variables. Experienced therapists tended to score lower on pursuit of self-awareness, while they tended to score higher on ambiguity tolerance, social tolerance and openness to experience. Results of the study also revealed that relationship between the number of years spent in practice and the specified personal qualities did not vary with the levels of therapists' epistemological commitments. Therapists with constructivist epistemologies did not come to pursue self-awareness, to attend to emotions, to tolerate ambiguity, to tolerate social diversity or to be open more as they practice more. Therapists' rationalist epistemologies did not interact with practice to affect the level of these personal qualities either.

The present study extended the developing literature on epistemology as a factor relating to psychotherapists' personal characteristics. Additional work is needed to understand how epistemology is interwoven with psychotherapists' professional and personal lives. The present study also provided literature with tentative empirical findings regarding the impact of conducting therapy on therapist characteristics. Additional and

ideally longitudinal work is needed to clarify how conducting therapy colors therapists' personal lives. The present study was the first study empirically investigating the epistemology-by-practice interactions on therapists' personal qualities. Although the results failed to support the expected interactions for the specified characteristics, subsequent work may benefit from focusing on how epistemologies further interact with the practice of conducting psychotherapy in shaping and informing the psychotherapists' personal experiences.

APPENDIX A
CONSTRUCTIVIST ASSUMPTION SCALE (CAS)

Please indicate the degree to which you agree or disagree with the following statements using the following scale:

1	2	3	4	5
Strongly disagree	Moderately disagree	Neither agree nor disagree	Moderately agree	Strongly agree

1. Facts speak for themselves.
2. Our understanding of the natural, physical world is influenced by our social values.
3. Scientific facts are universal truths; they do *not change* over time.
4. Nothing is really good or bad, it always depends upon how we think about it.
5. What we see with our own eyes is influenced by our expectations.
6. Truth is relative. What is true at one point in time may not be true at another.
7. Scientific investigations are objective; they are not influenced by social values.
8. We never see the world as it really is. What we perceive depends on what we believe and want to see.
9. Our understanding of human behavior is influenced by our social values.
10. Nothing is really important by itself. A thing is important if we think it is.
11. Seeing is believing.
12. The more people know, the more they are bound to feel that they cannot be completely sure about anything.

APPENDIX B
THERAPIST ATTITUDE QUESTIONNAIRE-SHORT FORM (TAQ-SF)

Please indicate the degree to which you agree or disagree with the following statements using the following scale:

1	2	3	4	5
Strongly disagree	Moderately disagree	Neither agree nor disagree	Moderately agree	Strongly agree

1. Reality is singular, stable and external to human experience.
2. Knowledge is determined to be valid by logic and reason.
3. Learning involves the contiguous or contingent chaining of discrete events.
4. Mental representations of reality involve accurate, explicit and extensive copies of the external world which are encoded in memory.
5. It is best for psychotherapists to focus treatment on clients' current problems and the elimination or control of these problems.
6. Disturbed affect comes from irrational, invalid, distorted or/and unrealistic thinking.
7. Clients' resistance to change reflects a lack of motivation, ambivalence or motivated avoidance and such resistance to change is an impediment to therapy which the psychotherapist works to overcome.
8. Reality is relative. Realities reflect individual or collective constructions of order to one's experiences.
9. Learning involves the refinement and transformation (assimilation and accommodation) of mental representation.
10. Cognition, behavior and affect are interdependent expressions of holistic systemic processes. The three are functionally and structurally inseparable.
11. Intense emotions have a disorganizing effect on behavior. This disorganization may be functional in that it initiates a reorganization so that more viable adaptive constructions can be formed to meet the environmental demands.

12. Psychotherapists should encourage emotional experience, expression, and exploration.
13. Clinical problems are current or recurrent discrepancies between our external environmental challenges and internal adaptive capacities. Problems can become powerful opportunities for learning.
14. Awareness or insight is one of many strategies for improvement, however, emotional and/or behavioral enactments are also very important.
15. Therapists' relationship with clients is best conceptualized as a professional helping relationship which entails the service and delivery of technical, instructional information or guidance.
16. Psychotherapists' relationship with clients can best be conceptualized as a unique social exchange which provides the clients a safe supportive context to explore and develop relationships with themselves and the world.

APPENDIX C
PRIVATE SELF-CONSCIOUSNESS SCALE

Please indicate the extent to which each of the following statements is like you using the following response format:

0	1	2	3
Not at all like me	A little like me	Somewhat like me	A lot like me

1. I'm always trying to figure myself out.
2. I think about myself a lot.
3. I often daydream about myself.
4. I never take a hard look at myself.
5. I generally pay attention to my inner feelings.
6. I'm constantly thinking about my reasons for doing things.
7. I sometimes step back (in my mind) in order to examine myself from a distance.
8. I'm quick to notice changes in my mood.
9. I know the way my mind works when I work through a problem.

APPENDIX D
ATTENDING TO EMOTIONS

On the following pages, there are phrases describing people's behaviors. Please use the rating scale below to describe how accurately each statement describes **you**. Describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex as you are, and roughly your same age. So that you can describe yourself in an honest manner, your responses will be kept in absolute confidence. Please read each statement carefully, and then fill in the bubble that corresponds to the number on the scale.

1	2	3	4	5
Very inaccurate	Moderately inaccurate	Neither inaccurate nor accurate	Moderately accurate	Very accurate

1. Think about the causes of my emotions.
2. Pay a lot of attention to my feelings.
3. Am usually aware of the way that I'm feeling.
4. Notice my emotions.
5. Often stop to analyze how I'm feeling.
6. Rarely think about how I feel.
7. Rarely analyze my emotions.
8. Am not in touch with my feelings.
9. Often ignore my feelings.
10. Rarely notice my emotional reactions.

APPENDIX E
MULTIPLE STIMULUS TYPES AMBIGUITY TOLERANCE

1	2	3	4	5	6	7
Strongly Disagree			Neither disagree nor agree			Strongly agree

1. I don't tolerate ambiguous situations well.
2. I find it difficult to respond when faced with an unexpected event.
3. I don't think new situations are any more threatening than familiar situations.
4. I'm drawn to situations, which can be interpreted in more than one way.
5. I would rather avoid solving a problem that must be viewed from several different perspectives.
6. I try to avoid situations which are ambiguous.
7. I am good at managing unpredictable situations.
8. I prefer familiar situations to new ones.
9. Problems which cannot be considered from just one point of view are a little threatening.
10. I avoid situations which are too complicated for me to easily understand.
11. I am tolerant of ambiguous situations.
12. I enjoy tackling problems which are complex enough to be ambiguous.
13. I try to avoid problems which don't seem to have only one "best" solution.
14. I often find myself looking for something new, rather than trying to hold things constant in my life.
15. I generally prefer novelty over familiarity.
16. I dislike ambiguous situations.

17. Some problems are so complex just trying to understand them is fun.
18. I have little trouble coping with unexpected events.
19. I pursue problem situations which are so complex some people call them “mind boggling”.
20. I find it hard to make a choice when the outcome is uncertain.
21. I enjoy an occasional surprise.
22. I prefer a situation in which there is some ambiguity.

APPENDIX F
TOLERANCE SCALE

On the following pages, there are phrases describing people's behaviors. Please use the rating scale below to describe how accurately each statement describes **you**. Describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex as you are, and roughly your same age. So that you can describe yourself in an honest manner, your responses will be kept in absolute confidence. Please read each statement carefully, and then fill in the bubble that corresponds to the number on the scale.

1	2	3	4	5
Very inaccurate	Moderately inaccurate	Neither inaccurate nor accurate	Moderately accurate	Very accurate

1. Accept people as they are.
2. Respect others.
3. Sympathize with the homeless.
4. Believe there are many sides to most issues.
5. Believe that others have good intentions.
6. Can accept a lot from others. Am a bad loser.
8. Get irritated easily.
9. Lay down the law to others.
10. Treat people as inferiors.
11. Am quick to judge others.
12. Am annoyed by others' mistakes.

APPENDIX G
OPENNESS TO EXPERIENCE SCALE

On the following pages, there are phrases describing people's behaviors. Please use the rating scale below to describe how accurately each statement describes **you**. Describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex as you are, and roughly your same age. So that you can describe yourself in an honest manner, your responses will be kept in absolute confidence. Please read each statement carefully, and then fill in the bubble that corresponds to the number on the scale.

1	2	3	4	5
Very inaccurate	Moderately inaccurate	Neither inaccurate nor accurate	Moderately accurate	Very accurate

1. Believe in the importance of art.
2. Have a vivid imagination.
3. Tend to vote for liberal political candidates.
4. Carry the conversation to a higher level.
5. Enjoy hearing new ideas.
6. Am not interested in abstract ideas.
7. Do not like art.
8. Avoid philosophical discussions.
9. Do not enjoy going to art museums.
10. Tend to vote for conservative political candidates.

APPENDIX H
DEMOGRAPHIC INFORMATION

Please tell us a little about yourself. This information will be used only to describe the sample as a group.

1. Gender:

Male Female

2. Age:

3. Ethnic background:

White/Caucasian, Black/African-American, Hispanic/Latino/a - Black, Hispanic/Latino/a - White, Asian-American-Pacific Islander, American Indian /Native-American, Multi-racial, Other

4. Name of your highest degree:

BA/BS, MA/MS, MSW, PsyD, PhD, Other

5. The year you obtained your highest degree (e.g. 1985):

6. Total number of years you spent in clinical practice:

7. Specialty area:

Psychologist, Mental Health Counselor, Marriage and Family therapist, Social worker, Psychiatrist, Other

8. Primary job responsibility:

Practice/Clinical work, Research, Academic, Administrative, Other

9. Primary employment setting:

Private practice, University academic department, University service delivery department, Hospital, Mental health care, School setting, Research setting, Community Center, Other

10. Please state your dominant therapy orientation:

Psychodynamic, Humanistic/Person-centered, Cognitive Behavioral, Rational Emotive, Constructivists, Interpersonal, Existential, Gestalt, Integrative, Other.

11. Average number of clients you see weekly:

12. Country you live in:

US, Canada, Other

LIST OF REFERENCES

- Arthur, A. R. (2000). The personality and cognitive-epistemological traits of cognitive behavioral and psychoanalytic psychotherapists. *British Journal of Medical Psychology, 73*, 243-257.
- Babbage, D. R., & Ronan, K. R. (2000). Philosophical worldview and personality factors in traditional and social scientists: Studying the world in our own image. *Personality and Individual Differences, 28*, 405-420.
- Beitel, M., Ferrer E., Cecero, J.J. (2004). Psychological mindedness and cognitive style. *Journal of Clinical Psychology, 60*, 567-582.
- Berzonsky, M. D. (1990). Self-construction over the life-span: A process perspective on identity formation. In G. J. Neimeyer & R. A. Neimeyer (Eds.), *Advances in personal construct theory* (Vol. 1, pp. 155-186). Greenwich, CT: JAI Press.
- Berzonsky, M. D. (1994). Individual differences in self-construction: The role of constructivist epistemological assumptions. *Journal of Constructivist Psychology, 7*, 263-281.
- Berzonsky, M. D., & Sullivan, C. (1992). Social-cognitive aspects of identity style: Need for cognition, experiential openness, and introspection. *Journal of Adolescent Research, 7*, 140-155.
- Botella, L., & Gallifa, J. (1995). A constructivist approach to the development of personal epistemic assumptions and worldviews. *Journal of Constructivist Psychology, 8*, 1-18.
- Bugental, J. F. T. (1978). *Psychotherapy and process*. Reading, MA: Addison-Wesley.
- Caputi, P., & Oades, L. (2001). Epistemic assumptions: Understanding self and the world (A note on the relationship between identity style, world view, and constructivist assumptions using an Australian sample). *Journal of Constructivist Psychology, 14*, 127-134.
- Carroll, L., Gilroy, P., & Murra, J. (1999). The moral imperative: Self-care for women psychotherapists. *Women and Therapy, 22*, 133-143.
- Chen, C. C., & Hooijberg, R. (2000). Ambiguity intolerance and support for valuing-diversity interventions. *Journal of Applied Social Psychology, 30*, 2392-2408.

- Cloninger, C. R., Svrakic, D. M., & Przybeck, T. R. (1993). A psychobiological model of temperament and character. *Archives of General Psychiatry, 50*, 975-990.
- Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*, 155-159.
- Costa, P. T., & McCrae, R. R. (1985). *The NEO Personality Inventory manual*. Odessa, FL: Psychological Assessment Resources.
- Coster, J. S., & Schwebel, M. (1997). Well-functioning in professional psychologists. *Professional Psychology: Research and Practice, 28*, 5-13.
- DiGuiseppe, R., & Linscott, J. (1993). Philosophical differences among cognitive behavioral therapists: Rationalism, constructivism, or both? *Journal of Cognitive Psychotherapy: An International Quarterly, 7*, 117-130.
- Farber, B. A. (1983). The effects of psychotherapeutic practice upon psychotherapists. *Psychotherapy Theory, Research and Practice, 20*, 174-182.
- Farber, B. A. (1990). Burnout in psychotherapists: Incidence, types and trends. *Psychotherapy in Private Practice, 8*, 35-44.
- Farber, B. A., & Heifetz, L. J. (1982). The process and dimensions of burnout in psychotherapists. *Professional Psychology, 13*, 293-301.
- Fenigstein, A., Scheier, M. F., & Buss, A. H. (1975). Public and private self-consciousness: Assessment and theory. *Journal of Consulting and Clinical Psychology, 43*, 522-527.
- Freudenberger, H. J. (1977). Burn-out: Occupational hazard of the child care worker. *Child Care Quarterly, 6*, 90-99.
- Furnham, A., & Ribchester, T. (1995). Tolerance of ambiguity: A review of the concept, its measurement and applications. *Current Psychology: Developmental, Learning, Personality, Social, 14*, 179-199.
- Garfield, S. L. (1989). The client-therapist relationship in rational-emotive therapy. In M. E. Bernard & R. DiGiuseppe (Eds.), *Inside Rational-Emotive Therapy. A Critical Appraisal of the Theory and Therapy of Albert Ellis*. (pp. 113-134). San Diego, CA: Academic Press.
- Germer, C. K., Efran, J. S., & Overton, W. F. (1982). The Organismic-Mechanism Paradigm Inventory: Toward the measurement of metaphysical assumptions. Paper presented at the 53rd Annual Meeting of the Eastern Psychological Association, Baltimore, MD.
- Glicken, M. D. (1983). A counseling approach to employee burnout. *Personnel Journal, 62*, 46-48.

- Goldberg, L. R. (1999). A broad-bandwidth, public domain, personality inventory measuring the lower-level facets of several five-factor models. In I. Mervielde, I. Deary, F. De Fruyt, & F. Ostendorf (Eds.), *Personality Psychology in Europe*, Vol. 7 (pp. 7-28). Tilburg, The Netherlands: Tilburg University Press.
- Guidano, V. F. (1987). *Complexity of the self: A developmental approach to psychopathology and therapy*. New York: Guilford.
- International Personality Item Pool (2001). A Scientific Collaboratory for the Development of Advanced Measures of Personality Traits and Other Individual Differences (<http://ipip.ori.org/>). Internet Web Site.
- Jaffe, D. T. (1986). The inner strains of healing work: Therapy and self-renewal for health professionals. In C. D. Scott & J. Hawk (Eds.), *Heal thyself: The health of health care professionals* (pp. 194-208). New York: Brunner/Mazel Inc.
- Johnson, J. A., Germer, C. K., Efran, J. S., & Overton, W. F. (1988). Personality as the basis for theoretical predilections. *Journal of Personality and Social Psychology*, 55, 824-835.
- Kramen-Kahn, B., & Hansen, N. D. (1998). Rafting the rapids: Occupational hazards, rewards, and coping strategies of psychotherapists. *Professional Psychology: Research and Practice*, 29, 130-134.
- Kramer, D. A., Kahlbaugh, P. E. & Goldston, R. B. (1992). A measure of paradigm beliefs about the social world. *Journal of Gerontology: Psychological Sciences*, 47, 180-189.
- Lyddon, W. J. (1988). Information-processing and constructivist models of cognitive therapy: A philosophical divergence. *The Journal of Mind and Behavior*, 9, 137-166.
- Lyddon, W. J. (1989a). Personal epistemology and preference for counseling. *Journal of Counseling Psychology*, 36, 423-429.
- Lyddon, W. J. (1989b). Root metaphor theory: A philosophical framework for counseling and psychotherapy. *Journal of Counseling & Development*, 67, 442-448.
- Lyddon, W. J. (1990). First- and second-order change: Implications for rationalist and constructivist cognitive therapies. *Journal of Counseling & Development*, 69, 122-127.
- Lyddon, W. J. (1991). Epistemic style: Implications for cognitive psychotherapy. *Psychotherapy*, 28, 588-597.
- Lyddon, W. J., & Adamson, L. E. (1992). Worldview and counseling preference: An analogue study. *Journal of Counseling and Development*, 71, 41-47.

- Lyddon, W. J., & Alford, D. J. (1993). Constructivist assessment: A developmental-epistemic perspective. In G. J. Neimeyer (Ed.), *Constructivist assessment: A casebook* (pp. 31-57). Thousand Oaks, CA: Sage Publications.
- Mahoney, M. J. (1988). Constructive metatheory: II. Implications for Psychotherapy. *International Journal of Personal Construct Psychology, 1*, 299-315.
- Mahoney, M. J. (1991). *Human change processes: The scientific foundations of psychotherapy*. New York: Basic Books.
- Mahoney, M. J. (1995). The Psychological Demands of Being a Constructive Psychotherapist. In R. A. Neimeyer & M. J. Mahoney (Eds.), *Constructivism in psychotherapy* (pp. 385-399). Washington, DC: American Psychological Association.
- Mahoney, M. J., & Gabriel, T. J. (1987). Psychotherapy and the cognitive sciences: An evolving alliance. *Journal of Cognitive Therapy: An International Quarterly, 1*, 39-59.
- Mahoney, M. J., & Lyddon, W. J. (1988). Recent developments in cognitive approaches to counseling and psychotherapy. *The Counseling Psychologist, 16*, 190-234.
- Mahoney, M. J., Lyddon, W. J., & Alford, D. J. (1989). An evaluation of rational-emotive theory of psychotherapy. In M. E. Bernard & R. DiGiuseppe (Eds.), *Inside rational-emotive therapy. A critical appraisal of the theory and therapy of Albert Ellis*. (pp. 69-94). San Diego, CA: Academic Press.
- Maslach, C. (1976). Burned-out. *Human Behavior, 5*, 16-22.
- Maslach, C., & Goldberg, J. (1998). Prevention of burnout: New Perspectives. *Applied & Preventive Psychology, 7*, 63-74.
- McCann, I. L., & Pearlman, L. A. (1990). Vicarious traumatization: A framework for understanding the psychological effects of working with victims. *Journal of Traumatic Stress, 3*, 131-149.
- McCrae, R. R., & Costa, P. T. (1991). Adding liebe und arbeit: The full five-factor model and well-being. *Personality and Social Psychology Bulletin, 17*, 227-232.
- McCrae, R. R., & Costa, P. T. (2003). *Personality in adulthood: A five-factor theory perspective*. New York: Guilford Press.
- McLain, D. L. (1993). The MSTAT-I: A new measure of an individual 's tolerance for ambiguity. *Educational and Psychological Measurement, 53*, 183-89.
- Myers, R. (1990). *Classical and modern regression with applications* (2nd ed.). Boston: Duxbury Press.

- Nagae, N., & Nedate, K. (2001). Comparison of constructive cognitive and rationalist cognitive psychotherapies for students with social anxiety. *Constructivism in the Human Sciences*, 6, 41-49.
- Neimeyer, G. J., & Morton, R. J. (1997). Personal epistemologies and preferences for rationalist versus constructivist psychotherapies. *Journal of Constructivist Psychology*, 10, 109-123.
- Neimeyer, G. J., Prichard, S., Lyddon, W. J., & Sherrard, P. A. D. (1993). The role of epistemic style in counseling preference and orientation. *Journal of Counseling and Development*, 71, 515-523.
- Neimeyer, G. J., & Saferstein, J. (2003). Personal epistemologies and psychotherapists' preferences. Unpublished manuscript, Department of Psychology, University of Florida, Gainesville, FL.
- Neimeyer, G. J., Saferstein, J. and Arnold, W. (2005). Personal construct psychotherapy: Epistemology and practice. In D. Winter and L. Viney (Eds.), *Personal construct psychotherapy: Advances in theory, practice and research* (pp. 81-93). London: Whurr Publishers.
- Neimeyer, R. A. (1993). Constructivism and the cognitive psychotherapies: Some conceptual and strategic contrasts. *Journal of Cognitive Psychotherapy*, 7, 159-172.
- Neimeyer, R. A. (1995). Constructivist psychotherapies: Features, foundations, and future directions. In R. A. Neimeyer & M. J. Mahoney (Eds.), *Constructivism in psychotherapy* (pp. 11-38). Washington, DC: American Psychological Association.
- Norcross, J. C. (2000). Psychotherapist self-care: Practitioner-tested, research-informed strategies. *Professional Psychology: Research and Practice*, 31, 710-713.
- Pepper, S. C. (1942). *World hypotheses*. Berkeley, CA: University of California Press.
- Radeke, J. T., & Mahoney, M. J. (2000). Comparing the personal lives of psychotherapists and research psychologists. *Professional Psychology: Research and Practice*, 31, 82-84.
- Raquepaw J. M., & Miller, R. S. (1989). Psychological burnout: A componential analysis. *Professional Psychology: Research and Practices*, 20, 32-36.
- Rosenthal, R., & Rosnow, R.L. (1991). *Essentials of behavioral research: Methods and data analyses* (2nd Edition). Boston: McGraw-Hill.
- Royce, J. R. (1964). *The encapsulated man: An interdisciplinary essay on the search for meaning*. Princeton, NJ: Van Nostrand.
- Royce, J. R., & Mos, L. P. (1980). *Manual: Psycho-Epistemological Profile*. The University of Alberta.

- Royce, J. R., & Powell, A. (1983). *Theory of personality and individual differences: Factors, systems, processes*. Englewood Cliffs, NJ: Prentice-Hall.
- Schacht, T. E., & Black, D. A. (1985). Epistemological commitments of behavioral and psychoanalytic therapists. *Professional Psychology: Research and Practice, 16*, 316-323.
- Scheier, M. F., & Carver, C. S. (1985). The self-consciousness scale: A revised version for use with general populations. *Journal of Applied Social Psychology, 15*, 687-699.
- Schwebel, M., & Coster, J. (1998). Well-functioning in professional psychologists: As program heads see it. *Professional Psychology: Research and Practice, 29*, 284-292.
- Skovholt, T. M., Grier, T. L., & Hanson, M. R. (2001). Career counseling for longevity: Self-care and burnout prevention strategies for counselor resilience. *Journal of Career Development, 27*, 167-176.
- Vasco, B. (1994). Correlates of constructivism among Portuguese therapists. *Journal of Constructivist Psychology, 7*, 1-16.
- Vincent, N., & LeBow, M. (1995). Treatment preference and acceptability: Epistemology and locus of control. *Journal of Constructivist Psychology, 8*, 81-96.
- Viney, L. L. (1994). Sequences of emotional distress expressed by clients and acknowledged by therapists: Are they associated with some therapists than others? *British Journal of Clinical Psychology, 33*, 469-81.
- Watkins, C. E., Jr. (1983). Burnout in counseling practice: Some potential professional and personal hazards of becoming a counselor. *Personnel and Guidance Journal, 61*, 304-308.
- Winter, D. A., & Watson, S. (1999). Personal construct psychotherapy and the cognitive therapies: Different in theory but can they be differentiated in practice? *Journal of Constructivist Psychology, 12*, 1-22.
- Wityk, T. L. (July, 2002). Burnout and the ethics of self-care for therapists. Symposium Paper presented at Linking Research to Educational Practice II, University of Calgary, Calgary, Alberta, Canada.

BIOGRAPHICAL SKETCH

I was born in Ankara, Turkey, on January 28, 1982. In 1995 my family moved to Istanbul, Turkey. I attended the Bogazici University in Istanbul double-majoring in guidance and psychological counseling and psychology programs as an undergraduate. In 2003, I graduated ranking first in the Department of Education.

I joined the Department of Psychology at the University of Florida as a counseling psychology graduate student in August of 2003. I completed my Master of Science degree in December of 2005.