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QUALITY OF OBJECT RELATIONS, DEFENSE STYLE AND OUTCOME IN SHORT-TERM, TIME-LIMITED, INDIVIDUAL PSYCHOTHERAPY

by

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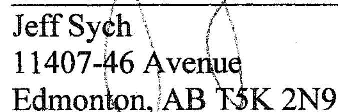

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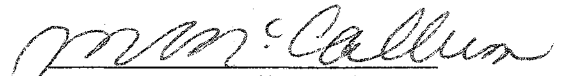

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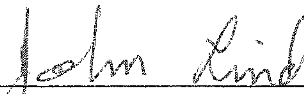

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Abstract

This study explored relationships between patient variables, specifically, quality of object relations and defense style, and outcome in short-term, time-limited, individual psychotherapy. The study addressed the dynamics of pre- to posttherapy change in defense style and nature of change occurring in patient's defensive behavior over the course of therapy. Also examined were variables related to changes in defense styles, including interactions between patient's quality of object relations and the type of therapy they received. Associations between change in defense style and indices of outcome, including interpersonal distress, self-esteem, life-satisfaction, and general symptomatic distress, were also addressed. Chi-square, regression, and repeated measures analyses were employed to test the hypotheses. While significant results were meager, the implications may be useful to clinicians in determining optimal approaches to therapy for specific patients based on their pretherapy characteristics.

Dedication

This work is dedicated to my late Grandmother, Edna Work. Her special blend of encouragement, support, love, and wisdom was instrumental in fostering the confidence needed to pursue my dream, and integral in my decision to further my education. This Thesis is a token of remembrance and enduring love.

To my late Grandfather, Andrew Sych and Grandmother Sophie Sych, I dedicate this work in recognition of their commitment and contributions, and to show appreciation for them always being proud of their grandchildren's accomplishments.

To my parents, John and Arlene Sych, I also dedicate this work. Their support, encouragement, and unabashed belief in me gave me the strength to meet the many challenges along the road that I have traveled to get me to where I am today.

To Hailey and Ryley, my niece and nephew, I dedicate this to you as encouragement and proof that it is important to find your passions and to pursue them.

To Joan Neehall, for always believing in what I can accomplish and helping me to believe it too. I present this work as evidence of what I have done, and more importantly what I will go on to do. I dedicate this thesis not to an end, but to the beginning of realizing many more of these accomplishments.

To Victor Helfrick, I dedicate this work. After all is said and done, this accomplishment would be meaningless without someone to share it with. It is even more special to have shared the journey with someone who gives so freely – of his love and support.

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Table of Contents

Introduction 1
Overview 1
Defense Mechanisms 3
Theory 3
Research 6
Object Relations 11
The Object 12
The Structure and Relationships 12
The Inner World 13
Process of Internalization and Externalization 14
Quality of Object Relations 15
Importance of the Study 16
Central Objectives 18
Hypotheses and Rationale 18
Hypothesis A 18
Hypothesis B 19
Hypothesis C 20
Hypothesis D 21
Hypothesis E 22
Hypothesis F 23
Methods 25
Context 25
Setting 26
Participants 26
Therapists 28
Type of Therapy 27
Measures 29
Defense Styles Questionnaire 29
Quality of Object Relations 31
Defense Mechanism Rating Scales 33
Outcome Variables 36
Ethical Considerations 37
Procedures 37
Hypothesis Testing 37
DMRS Audio-tape ratings 38
DMRS Rater Reliability 40
Results 41
Approach to Analysis 41
Hypothesis A 42
Hypothesis B 44
Hypothesis C 45
Hypothesis D 47
Hypothesis E 48
Hypothesis F 49

Discussion 51
Patient Variables 52
QOR and DSQ 52
Pretherapy Defense Style and In-therapy Defensive Behavior 54
Changes in Defense Style 56
QOR, Type of Therapy, and Outcome Variables 58
Summary 61
Strength of the Study 62
Limitations of the Study 63
Future Research 64
Table 1: Chi-Square Analysis of Pretherapy DSQ and Late Session DMRS Profiles 66
Table 2: Simultaneous Regression Analysis for Changes in DMRS-Rated Defenses and Change in DSQ Scores 67
Table 3: Change in DSQ Residual Gain by Pre-treatment DSQ 68
Table 4: Correlation Between Changes in DSQ Profiles and Indices of Therapy Outcome 69
References 70
Appendix A: Definition of Defense Mechanisms 75

List of Tables

Table 1 Chi-Square Analysis of Pretherapy DSQ and Late Session DMRS Profiles. 65

Table 2 Simultaneous Regression Analysis for Change in DMRS-Rated Defense and Change in DSQ Scores....66

Table 3 Change in DSQ Residual Gain by Pre-treatment DSQ....67

Table 4 Correlation Between Changes in DSQ Profiles and Indices of Therapy Outcome 68

Introduction

Overview

This overview commences with a statement of the questions the current research was designed to address, then describes the patient and therapy variables considered in the study. A historical review of the literature regarding the development of the theories of defense mechanisms and quality of object relations, directly related to the current study, is then provided. Subsequently, the importance of the study is discussed, with specific attention paid to unification and synthesis of the theories and research related to defense mechanisms and quality of object relations. Finally, the central objectives of the current study are described.

The focus of the research described in this thesis was to: a) to identify the relationships between the patient's pretherapy defense style and quality of object relations; b) to examine whether self-reported defense style is predictive of the patient's actual use of defenses during short-term, time-limited, individual (STI) therapy; c) to examine whether change in defense style as a function of treatment is associated with change in defensive behavior from early to late during therapy; d) to examine whether changes in defense style vary as a function of the patient's quality of object relations and the form of STI therapy received; and e) to assess whether change in defense style as a function of treatment is associated with other indices of treatment outcome.

Therapy cases were drawn from a sample of 144 psychiatric outpatients who participated in a comparative clinical trial of two forms (interpretive, supportive) of STI therapy (Piper, Joyce, McCallum, & Azim, 1998). The Quality of Object Relations (QOR) assessment and Defense Style Questionnaire (DSQ) are both measures that reflect

dimensional constructs. Each measure is scored by assigning weights to different levels on the respective dimension. For example, an individual's overall score on the QOR is based on weights assigned to the five levels of the QOR dimension: mature, triangular, controlling, searching, and primitive (Azim, Piper, Segal, Nixon, & Duncan, 1991). Likewise, the patient's defense style profile is based on the nature of the defenses reported to be used most frequently: mature (e.g., altruism, humor), intermediate (e.g., repression, displacement), or immature (e.g., acting-out, projection) (Vaillant, 1993).

This study examined patient scores on the two assessments to determine whether there was a relationship between patients' QOR and DSQ profile at intake. The prediction was that a direct relationship existed between QOR and DSQ, that is, the more mature the QOR, the more mature the defense style.

The Defense Mechanism Rating Scale (DMRS; Perry & Cooper, 1990) is an observer rating that was applied to therapy session audio-tapes. Defenses the patient exhibited in therapy were identified based on the detailed descriptions provided in the DMRS. Each of the defense mechanisms was rated on a continuum that ranged from no use, probable use, to definite use. An analysis determined whether DSQ scores at pretherapy predicted the defenses that patients actually used in therapy, as measured with the DMRS. In turn, change in the use of defenses from early to late in the therapy process (as assessed by the DMRS) was considered as a predictor of change in defense style from pre- to posttherapy (as measured by the DSQ).

The data were also examined to see if a change in defense style occurred as a result of therapy. This was accomplished by examining patients' DSQ scores at specific intervals: pretherapy, posttherapy, 6-month follow-up, and 12-month follow-up. The

hypothesis was that changes in the DSQ varied as a function of QOR and form of therapy. Specifically, the expectation was that a more positive change would occur for patients high in QOR who received the interpretive form of therapy.

The relationship between change in defense style and outcome following therapy was also assessed. The outcome indices used to assess these relationships addressed interpersonal distress, self-esteem, life-satisfaction, and symptomatic distress.

Defense Mechanisms

Theory.

Embedded in the foundation of psychoanalytic theory are efforts to define the nature of intrapsychic defense mechanisms that individuals spontaneously use, consciously or unconsciously, to reduce and control conflict. Collectively, defenses have been identified as being instrumental in one's ability to manage the strength of their needs, desires, and affect. From the psychodynamic perspective, defenses serve as a means of protecting one's self-esteem. This is accomplished by inhibiting those thoughts or ideas that might cause anxiety from coming into consciousness (Cooper, 1998). Ultimately, these mechanisms can lead to interpersonal conflict as the individual detects reciprocal needs and desires of individuals around them (Cooper, 1998). Early theories of defense were intrapsychic in nature, concentrating on an individual's struggle to maintain an internal equilibrium. Contemporary notions broadened to include a relational dimension, viewing defenses as being part of a set of relational and cognitive styles that develop as an adjunct to close relationships with significant others (Cooper, 1998). In the literature, the first discussion of defenses originated at the turn of the 20th century with Sigmund Freud, following the development of his structural theory of the mind

(incorporating the elements of id, ego, and superego) and the role that each played in one's conscious and unconscious functioning (Freud, 1893). Freud initially viewed defense in terms of a force struggling against some counterforce (Freud, 1915). The forces usually reflected an anxiety-producing component, and the purpose of the defense was to reduce one's drive or affect (1915). Freud developed his view of defense into a theory of signal anxiety, where defenses were hypothesized to be processes within the ego that served to maintain the unconscious state of forbidden impulses, thus lessening anxiety (Freud, 1938). Freud originally used the word "defense" to refer only to the notion of repression. As he articulated his theory, the term came to include other methods of defending, including projection, isolation, regression, reaction formation, undoing, and splitting (Freud, 1938).

Anna Freud (1937) expanded upon her father's theory of defenses, and described a number of additional defense mechanisms. She created a taxonomy of defenses based primarily on the source of a person's anxiety (Freud, 1937). Most of her work focused on the *interpretation* of defenses. She asserted that by defining the defense mechanisms, the individual would come to understand the source of their symptoms, and, given this insight, they would be able to work toward reducing the effort required to maintain the defenses (1937). Thus, early psychoanalytic theorists focused on unconscious drives. In other words, the focus was on elucidating what the individual was defending against (Cooper, 1998).

The ego psychologists Hartmann, Kris, and Lowenstein (1946) also made contributions to the theory of defenses. They proposed that the ego was "an organ of adaptation and accommodation" by which a variety of ego functions cope with drive

demands. Schafer (1976 built upon the contributions of Hartman et al., describing defenses as "double agents," suggesting that defenses gratified as well as defended against undesirable impulses. As such, defenses had to remain unconscious to be effective.

A founder of the object relations school, Winnicott (1965) was pivotal in advancing the notion that defending was a reflection of the individual's experiences associated with impulses in relations to "others," thus bringing an interpersonal dimension to the theory of defenses. Winnicott (1965) went on to argue that defenses manifest primarily to work against the traumatic environmental failures that lead to the development of a "false self" adaptation. By the "false self," he meant the self that is outwardly exhibited in interpersonal relationships, and is comprised of the defenses that protect the individual from the reality of their "true self." Winnicott reported that individuals need to defend against this "true self" in order to avoid pure desires and needs; the true self, without defenses, is akin to a state of psychosis (1965).

A number of theorists have incorporated defense mechanisms into their notions of interpersonal functioning. The unifying element in these views is that defenses, whether adaptive or pathological, serve to protect the individual from anxiety. Modell (as cited in Cooper, 1998) suggested that defense mechanisms are organized to protect against failures, similar to those experienced early in life with significant caretakers, by inhibiting the expression of one's needs towards other individuals later on in life. Kohut, along the same line as Modell, defined defenses as an individual's attempts to protect one's self from the failures of a disappointing person in their life, that as a child was experienced as part of the self (as cited in Cooper, 1998). Winnicott, Modell, and Kohut,

as well as British object relation theorists like Fairbairn and Guntrip, placed more emphasis on the degree to which "the self" needs to be safeguarded in its state of vulnerability (as cited in Cooper, 1998).

Kernberg (1975) focused on the use of primitive defenses in a more severely psychologically disturbed patient population, thereby contributing to the analytic understanding of psychopathology. Kernberg (1975) proposed that while defense mechanisms were intrapsychic, they also include the self and the object relations concepts. Adolf Meyer proposed that in many instances of defenses, instead of dealing with an individual exhibiting signs of psychopathology, in actuality one is dealing with a person's "reactions" to others and situations (Meyer, as cited in Vaillant, 1993). These propositions suggest that defenses represent a constellation of self and other object representations that serve to oppose anxiety-provoking repressed self and object representations. Kernberg's propositions and research led to refinements in the diagnosis of borderline personality and understanding of the predominant defenses such individuals use (1975). His research led to many of the modern empirical studies of defensive organization (e.g., Bond, Gardner, Christian & Sigal, 1983; Perry & Cooper, 1986; Vaillant, 1993). Current theory regarding defense mechanisms thus aims at an integration of their intrapsychic function and involvement in object relations.

Research.

The classical views of the defense mechanisms have been synthesized and researched by George Vaillant (1993). Vaillant's primary focus has been the nature of ego functioning. In his work, he describes three main modes by which our minds cope with stress and danger. The first mode is through the help of others, which Vaillant

identified as one's social supports. The second mode is established through the development of learned cognitive coping strategies ("adaptation"). The third mode is through the use of unconscious and involuntary strategies, identified as ego mechanisms of defense.

Vaillant (1993) has described mental defenses as being akin to the body's immune system. They are mechanisms, or reactions, that protect individuals by providing a variety of illusions that serve to filter out emotional pain and promote self-soothing (Vaillant, 1993). This patterned rearrangement of the source of conflicts makes them manageable, so that individuals are able to survive (Vaillant, 1993). This "emotional and intellectual dishonesty" (Vaillant, 1993, p.1) can be healthy, mature, and creative, but can also be maladaptive, immature, and insipid.

Vaillant (1993) classifies defense mechanisms into clusters, representing four levels in a hierarchical manner. These clusters (from least adaptive to most adaptive) are psychotic, immature, intermediate, and mature. Vaillant (1993) purports that psychotic defenses are used almost exclusively by individuals not fully aware of their situation or circumstances (i.e., delusional), and as such were not part of the current study. The defenses associated with the remaining three clusters are as follows (for detailed definitions see Appendix A):

Immature: Projection/Projective Identification, Fantasy, Hypochondriasis, Passive aggression, Acting out, Dissociation/Neurotic denial/Rationalization.

Intermediate: Displacement, Isolation of affect/Intellectualization/Undoing, Repression, Reaction formation.

Mature: Altruism, Sublimation, Suppression, Anticipation, Humor.

Vaillant (1993) has argued that an individual's unique "defense style" evolves over time, reflecting a progressively regular deployment of a pattern of individual defense mechanisms. It is important to understand Vaillant's model, as it forms the basis upon which the DSQ and DMRS were developed.

Vaillant (1993) defined the fundamental properties of defense mechanisms as reflecting a creative synthesis, in that the mind creates a perception that is not there and did not originate solely from external reality. For the most part, defenses are unconscious, involuntary, and serve to distort the inner and outer reality of the individual. They also distort the connection between affect and an idea, as well as between the subject and the object. For the most part, defenses are more healthy than pathological. The appearance of defenses seems odd or surprising to everyone but the person using them. Vaillant (1993) reported that in his longitudinal study, wherein he followed a population from college through late adult life, a maturation of defenses (moving from the maladaptive to the adaptive end of the spectrum) was evident in those clients who had successfully reached several developmental and social milestones. Most predictive of a positive shift in defenses was the development of warm and meaningful relationships with significant others, over the span of the individual's life (Vaillant, 1993).

The major tenet of the present study is that defense mechanisms are important to the process of therapy, and can change as a result of psychotherapy. Defenses can mature over the course of therapy. The individual receiving psychotherapy manifests an improvement in his or her defensive functioning, which in turn leads to greater self-esteem, more satisfying interpersonal relationships, and a reduction in symptoms that initially brought the person to therapy.

There is a noticeable paucity of research regarding the relationship between defense mechanisms and the process and outcome of psychotherapy. However, an important study in this area, directly related to the current research is one reported by Winston, Winston, Samstag, and Muran (1994). These investigators examined patients' use of defensive behaviors and how therapists addressed defenses (TAD) for 28 cases treated with 40 sessions of psychotherapy. All patients in the sample were diagnosed with cluster C personality disorders (i.e., avoidant, dependent, obsessive-compulsive). Two forms of manualized therapy were used: short-term dynamic psychotherapy (STDP) and brief adaptive psychotherapy (BAP). Both are defined as psychodynamic therapies, incorporating the standard brief psychotherapy techniques of Davanloo, Malan, Mann, and Sifneos (Winston et al., 1994). STDP is a more active and confrontational therapy where defensiveness, anxieties, and impulses are actively confronted, clarified, and interpreted. BAP is defined as a more cognitive form of therapy, focusing on the major maladaptive patterns in a patient's past and current relationships. Overall, the goal of both STDP and BAP is to produce more adaptive interpersonal relationships (1994). These two forms of therapy have similarities with the treatments examined in the current study, with STDP similar to the interpretive approach and the BAP similar to the supportive approach. Winston et al. (1994) divided the 40 therapy sessions into four quartiles, with one session from each quartile being rated for patient defensive behavior and TAD.

Winston et al. (1994) investigated whether defenses change over the course of psychotherapy, both in terms of frequency of use and level of defense. Individual

defenses were identified and assigned to a cluster level, based on Vaillant's (1993) definitions.

Winston et al (1994) predicted that there would be (a) a decrease in overall defensive behavior over the course of psychotherapy; (b) an increase in the use of higher level defenses and a concurrent decrease in use of the lower level defenses; (c) a positive relationship between change in the level of defense and treatment outcome, and; (d) a direct relationship between the level of defense at the beginning of treatment and outcome.

Winston et al. (1994) also investigated the effect of the therapist on patient defensiveness by assessing TAD. In both therapeutic approaches, TAD was tracked by having raters tally the frequency with which questions, confrontations, clarifications, and interpretations were used by the therapist in video taped sessions. They predicted that: (a) more frequent patient use of lower level defenses would result in a more instances of TAD; and (b) the frequency of TAD in one quartile would contribute to a diminished use of these defenses during the subsequent quartiles of treatment. A post-hoc analysis was performed to determine if there was a relationship between TAD and outcome.

Winston et al. (1994) reported that: a) there was a significant decrease in overall defensiveness over the course of treatment; b) there was a significant difference in how defenses changed across therapy for each of the types of psychotherapies, such that intermediate defenses decreased over time while mature and immature defenses showed no significant change; c) from pre- to posttherapy, there was significant improvement reported on all measures, but it was not directly related to change in levels of defenses;

and d) the higher the frequency of intermediate and immature defenses used in the first quartile, the better the outcome on reduction in target complaints.

Relative to the current study, the implications are that: a) a decrease in DMRS defensive behaviors across therapy; b) patients operating at the intermediate level would show the most change over therapy; c) relationships between DSQ change and outcome would not be expected, unless; d) a high level of immature and intermediate defenses early predicts outcome.

With regard to TAD, Winston et al. (1994) reported that: a) there was no significant change in TAD over the course of treatment; and b) there was a relationship between TAD and the diminished use of immature and intermediate defenses in the middle phases of treatment.

The implications of these findings are such that it was expected that those patients in the interpretive form of STI therapy would mature in defensive behaviors during the middle phase of therapy.

Object Relations

Object relations theory incorporates many theoretical perspectives that each bring along a set of assumptions and abstract perspectives. As a result, it is challenging to distill these and provide a cohesive definition or operationalization of a unified theory. This section will address the origins of the major theories, beginning with the object, the psychological structures and the inner world, and then the dynamic process for internalization and externalization.

The Object.

Freud (1915) defined the object as having a connection to an individual's instinctual drive as a result of the object's contribution to one's feeling of satisfaction. The object can serve to satisfy several instincts simultaneously, e.g., a mother with a child serves to satisfy several instincts, including security, nourishment, and connectedness (Freud, 1915). Fairbairn (1952) believed that it was the object that was responsible for the creation of an energy that served to establish a relationship between psychic structures (e.g., the object and instinctual drive) constituting their dynamic relationship. Greenberg and Mitchell (1983) asserted that: a) the object refers to both the person in the external world and the internal images of that person; b) the definition of "object" is broad enough to be ascribed to an object that is alive or dead, active or static, favorable or unfavorable; c) the object was experienced as real; and d) operations allowed for the manipulation and modification of the object. Moore and Fine (1995) proposed that the term object relations be reserved for the inconstancy of the intraspychic object representations and be inferred on the basis of experience.

The Structure and Relationships.

Object relations theory purports that the structural constituents of the psyche are formed by way of our external experiences with others (Piper & Duncan, 1999). A structural point of view developed by Rapaport and Gill (1959) stated that complex psychological processes create structures that have further effects on process, such that the structures can be inferred from behaviors, change slowly, are shaped by mental processes, and are hierarchically ordered. Blanck and Blanck (1986) purported that such structures of the psyche were comprised of a multitude of internalizations that were more

primitive forms of defenses, and further that connections with objects and object images coalesce single experiences into "island" and "continent" structures.

The Inner World.

Freud (1938) believed that developmentally, an individual's objects are transmuted from their external world to their internal world through an ego process. Sandler and Rosenblatt (1962) built upon Freud's theory, describing this internal world as the "representational world," reflecting a belief that the ego and its multidimensional organization of images and experiences (from both the internal and external world) come together there to integrate into the individual's perceptual world. The individual synthesizes the real world and their experiences to form the perceptual world that directly influences how they relate to it (Sandler & Rosenblatt, 1962). The representational world collects the stable object images from the external world, and gradually integrates these many images and experiences into an experiential entirety. In this way an external object, and the diverse experiences the individual has with him/her, is unified into an internal object representation. For example, a child's experience of the gratifying mother, the frustrating mother, the happy mother, etc., is transformed into the object relation of "mother." These mental representations are the foundations of the unconscious that manifest and influence an individual's conscious mental activities (Beres & Joseph, 1970). Outlining the functions of object representations, Blanck and Blanck (1986) found "provisions for feelings of safety, establishment of internal regulatory functions, promotion of ego autonomy, character development, superego development, provisions for ego ideal, resolution of oedipal wishes, and progression to latency" (Blanck & Blanck, as cited in Piper & Duncan, 1999, p. 11).

Process of Internalization and Externalization.

The process by which the experiences come to be located within as well as outside of the individual are the most important and essential components of object relations theory (Piper & Duncan, 1999). Melanie Klein worked to understand and describe the mechanisms that allowed an individual's external experiences to become embedded in their internal world. Specifically, Klein focused on describing the perceptual apparatus through which the external objects are taken into the psyche (Klein, 1936). She identified such mechanisms as projection, "when the child turns his hatred against the denying or 'bad' breast, he attributes to the breast itself all his own active hatred against it" (1936, p. 291), and introjection, "the mental activity in the child, by which, in his phantasy, he takes into himself everything which he perceives in the outside world" (Klein, 1936, p. 291). Beres and Joseph (1970) later included internalization as another mechanism. They found that internalization occurred through three mechanisms: introjection, incorporation, and identification, with the latter being the only "clinical manifestation" (Beres & Joseph, 1970).

The notion is that the mechanisms by which external objects are integrated into an individual's internal world closely mirror the unconscious defense mechanisms (Piper & Duncan, 1999). Many of the terms used in object relations theory to describe the integration of the external into the internal world have also been used to describe defense mechanisms, such as projection, introjection, internalization, incorporation, and identification. Therefore, the premise of the current research is that object relations reflect a global style of interpersonal functioning, while defense style reflects the actual maneuvers the individual employs in his or her attempts to maintain stability in

interpersonal relations. In effect, QOR is a backdrop against which defense mechanisms "play out."

Quality of Object Relations.

Current views of object relations can be summarized as follows. It involves a distinction between the "real" external person and representations. What is internalized ultimately becomes the object through interpersonal transactions, where the object performs some function for the subject. These relationship functions are internalized through the use of introjection, incorporation, and identification, which is also central constituent processes of defense mechanisms. Introjection involves the symbolic taking in of an object by the individual, and therefore making it a safer target for otherwise unacceptable feelings in the guise of the self (Laughlin, 1979). Incorporation refers to when objects are symbolically taken or assimilated into the self (Laughlin, 1979). Identification requires that one takes over or develops attributes, traits, or attitudes which are in various degrees like those of another significant person (Laughlin, 1979).

The process of internalization is thought to be important in the development of psychic structures, i.e., internal objects or relationships, that define an individual's identity (the "I" in these relationships) and interpersonal roles (the "me" in these relationships) vis-à-vis others. Internal object relations influence and are influenced by social perceptions, and determine the individual's relation to self-function (e.g., Blanck & Blanck, 1986).

Quality of object relations refers to the relative maturity of the individual's internal representations of relationships. At the primitive end are individuals whose sense of self and well-being is largely contingent on the actions of others, with poor or no

regulation of affect, intense efforts at merger or enmeshment and difficulties distinguishing internal components (anxiety, impulses) from external realities. At the mature end are individuals who perceive and respect others as separate and autonomous, with capable regulations of affect and self-esteem, tolerance of ambivalence in relationships, and good reality testing.

Importance of the Study

There is general agreement that object relations theory incorporates the notion of defense mechanisms (i.e., Azim, Piper, Segal, Nixon, & Duncan, 1991; Pine, 1990; Greenberg & Mitchell, 1983). Object relations represent the dynamics associated with a person's internal tendencies to form specific types of interpersonal relationships. The defensive behaviors represent the patient's current actions, referred collectively as their defense style, employed as a means of maintaining stability in emotional experiences and self-esteem. As such, defense styles are a practical point on which to focus this investigation: a clinician is more likely to see changes in defense style over the course of therapy than a discernible shift in QOR. Thus, an observed increase in the use of more mature defense mechanisms over the course of therapy is predictive of a more positive outcome, and is reflected in a maturation of self-reported defense style. If there is a significant relationship, therapists could use change in defensive styles as an indicator of ultimate outcome. The development of a more mature defense style is more likely in interpretive versus supportive therapy, as a result of the nature of the therapy itself, i.e., the therapist in interpretive therapy addresses the patient's defenses more directly than supportive therapy. Thus, the development of more mature defenses may be a direct consequence of interpretive activity in that form of treatment.

It is also assumed that the defenses regularly used by the patient in their interpersonal functioning, as reflected in the DSQ, will be the same as those used in therapy. The individual's level of defenses, or defense style, has direct consequences for the type and quality of relationships that they are likely to experience. Thus, it is postulated that there may be interdependence between the nature of the defenses a patient uses and the dynamics that reappear across their interpersonal interactions (i.e., between defense style and QOR). One possible implication is that if a therapist knew, pretherapy, the patient's defense style, actual therapy behaviors could be anticipated.

Vaillant (1993) believed that, in general, the more immature one's defense style, the more they appear to reflect interpersonal maladaption and pathology. For example, projection involves attributing one's own unacceptable, anxiety-provoking feelings to another individual. The use of projection may thus be associated with intense and unstable relationships with poor boundaries that are characteristic of a primitive QOR. Likewise, more mature defenses reflect health and interpersonal adaptation. The use of humor, for example, permits the overt expression of feelings without individual discomfort or immobilization by minimizing the unpleasant effects on others. The use of these defenses may be characteristic of individuals with a more mature QOR.

Thus, the greatest distinction between the defense clusters of Vaillant (1993) is that the mature defenses are perceived by others to be virtuous and attractive, while the more immature defenses are perceived to be irritating and repelling. We believe that the use of more mature defenses is associated with a tendency for an individual to engage others in interpersonal relationships that reflect a more mature QOR. This study attempts to provide insight to an important question regarding the nature of defenses: is change in

defense style (internal functioning) an isolated and independent phenomenon, or does it serve as a useful indicator of change in other dimensions of behavior (e.g., external functioning).

Central Objectives

The central objective of the proposed research was to assess the importance of defense style for the process and outcome of brief dynamic psychotherapy. The following research questions were addressed:

A. Is there evidence for a relationship between DSQ and QOR profiles at pretherapy?

B. Are pretherapy DSQ profiles associated with in-therapy use of defenses as measured by observer DMRS ratings of a) early sessions, b) middle sessions, or c) late sessions?

C. Are pre- to posttherapy changes in DSQ profiles associated with patterns of change in defensive behavior across phases of therapy?

D. Does significant change take place in DSQ profiles across assessments at pretherapy, posttherapy, 6-month follow-up, and 12-month follow-up?

E. Is there an interaction between QOR and type of STI therapy that is directly associated with changes in defense style that take place across assessments?

F. Does a change in DSQ profiles across assessments correlate with other indices of outcome?

Hypotheses and Rationale

A. Is there evidence for a relationship between DSQ and QOR profiles at pretherapy?

The QOR reflects the dynamics associated with the patient's enduring tendency to form certain types of interpersonal relationships, based on their experiences in earlier relationships. Interpersonal behavior includes the use of defensive maneuvers to maintain

stability in emotional experience and self-esteem. The DSQ assesses the defenses individuals currently report using in their interpersonal relationships. Thus, the scope of defenses that one employs is reflected in the DSQ score, while the patient's broader interpersonal style is measured by the QOR assessment. The two measures thus occupy different levels of abstraction: QOR addresses a global style of interpersonal relations, while the DSQ addresses more specific aspects of defensive functioning in relationships. The former (QOR) subsumes several aspects of the latter (defense style). Correspondence is expected across certain levels associated with each measure.

- There will be a correspondence between the pretherapy profile levels on the DSQ and the QOR, such that:
  - Primitive and searching levels on the QOR will only be significantly associated with the immature defenses on the DSQ.
  - Triangular and controlling levels on the QOR will only be significantly associated with the intermediate defenses on the DSQ.
  - The mature level on the QOR will only be significantly associated with the mature defenses on the DSQ.

B. Are pretherapy DSQ profiles associated with in-therapy use of defenses as measured by observer DMRS ratings of a) early sessions, b) middle sessions, or c) late sessions?

Studies that assessed the reliability and validity of the self-report DSQ indicated that the cluster of defenses it identifies is an accurate portrayal of defenses that are measured by way of an observer rating (Bond, 1995). Because patients are more anxious early in therapy, it was assumed that they will employ their usual defensive behaviors to cope with this anxiety. As the therapeutic alliance grows, the patient will become less

anxious. Therefore, we expect that the pretherapy DSQ assessment will be directly associated with the type and level of defenses used early in therapy.

- The pretherapy self-report DSQ will accurately reflect the nature of the defenses that the patient uses early in therapy, as measured by the observer-rated DMRS, and thus a direct association would be expected. It was further assumed that the patient's defenses will change in the middle and later phases of therapy as a result of diminished anxiety, as the therapeutic alliance gets stronger, and as the patient engages in therapeutic work. Thus, the pretherapy DSQ profile will not be directly associated with the defenses used later in therapy.

C. Are changes in DSQ profiles as a function of treatment associated with the patterns of change in defensive behavior across phases of therapy?

The maturation of defenses will take place in the middle sessions of therapy. The early sessions of therapy focus on building the therapeutic alliance. For work to take place in therapy there needs to be a collaboration between the patient and therapist. Therefore, it was assumed that once the alliance is established, work that impacts on defensive behavior will occur. It was anticipated that there will be a slight regression from the use of more mature defenses found in the middle sessions, to less mature defenses in the later sessions of therapy. This regression can be attributed to termination effects, as reported by Winston, Winston, Samstag, and Muran (1994). In that study, the impact of termination in the late sessions eliminated the effects produced by the therapist in addressing defenses in earlier sessions.

Changes that take place on the DSQ between pretherapy and posttherapy assessments were expected to be directly associated with the changes found between middle and late sessions in therapy, as rated using the DMRS. A significant and direct association was expected between change in the self-report that identifies the defenses the patient uses and change in the observer rating of the patient's defensive behavior in therapy sessions.

- The changes on the DSQ that take place between the pretherapy and posttherapy assessments will be significantly and directly associated with changes in the defenses used from early to late sessions of therapy, as rated with the DMRS.

D. Does significant change take place in DSQ profiles across assessments at pretherapy, posttherapy, 6-month follow-up, and 12-month follow-up?

Patients already found to be using mature defenses will not show any improvement, as there is no superior level of defense functioning beyond this level on the DSQ. Patients using intermediate defenses, who are better able to withstand the therapy process, build an alliance with the therapist, and work in therapy, will show the greatest amount of improvement across DSQ assessments. Patients who predominantly use immature defenses will show improvement across DSQ assessments; however, it will not be to the same degree as those using intermediate defenses. As found in previous research, it was anticipated that those patients using immature defenses would have difficulty tolerating the therapeutic relationship and completing therapy.

In general, patients assessed at pretherapy who are found to use intermediate defenses were expected to exhibit the most improvement on the DSQ from pre- to

posttherapy, and to maintain the improvement to 12-month follow-up. This can be attributed to the interference that intermediate defenses have with one's capacity to engage in self-exploration. Once patients are using more mature defenses, they will be able to self-explore and maintain their improvement.

Previous research has shown that patients who received the interpretive or supportive form of STI therapy exhibited equivalent improvements, posttherapy, on statistical and clinical criteria (Piper, McCallum, Joyce, Azim, & Ogrodniczuk, 1999). After 20 sessions, when STI therapy has been completed, the patient will no longer be exposed to the exploration process of therapy, and no further improvement on the DSQ will be found at 6-month or 12-month follow-up. In other words, defense styles have to be challenged in order to change.

- Improvement in DSQ profiles from pretherapy to posttherapy will be greatest for patients whose defense style falls predominantly in the intermediate cluster on the DSQ at intake.

E. Is there an interaction between of QOR and type of STI therapy that is directly associated with changes in defense style that take place across assessments?

The greatest change in defense style over the course of therapy will be found to take place with those patients who are high in QOR (i.e., a score greater than 5) at pretherapy, and who received the interpretive form of STI therapy. Interpretive STI therapy focuses on the development of insight through an uncovering process during which the therapist's interventions heighten patient awareness of their defensive behavior; this should result in the use of more mature defense mechanisms (Winston, Winston, Samstag, & Muran, 1994). In the supportive form of STI therapy, the therapist

focuses on reducing the patient's anxieties and regression in the session, and on current external relationships (Piper, Joyce, McCallum, & Azim, 1998). Defenses are not directly addressed by the therapist in supportive STI therapy; the result is that there should less impact on the patients' predominant pattern of defense use.

Patients who are higher in QOR will be better able to cope with the anxiety in the early stages of therapy, form a strong therapeutic alliance, and tolerate the therapist's confrontation of their defensive behavior. This capacity for work in interpretive therapy, in turn, will lead to greater change in defense style, and better outcome for these patients relative to other patients (i.e., low QOR in interpretive therapy, patients receiving supportive therapy).

- There will be an interaction between the patient's QOR and the form of STI therapy the patient received on change in defense style. High QOR patients who received the interpretive form of therapy will show a maturation of defenses on the DSQ from the pretherapy to 12-month follow-up assessments. Low QOR patients in interpretive therapy and patients who received the supportive form of therapy will not show any improvement across assessments.

F. Does a change in DSQ profiles across assessments correlate with other indices of outcome?

It was expected that maturation on the DSQ would be directly associated with the degree of change in interpersonal problems as a result of therapy. As stated earlier, more immature defenses appear pathological and reflect maladaption while the more mature defenses reflect health and adaptation. It is the reaction of other people to the defense that

the patient uses that elicits interpersonal distress. Therefore, maturation in defenses will lead to the patient being experienced as healthier and better adapted, and result in a reduction in interpersonal distress.

An improvement in self-esteem across assessments was expected to be directly associated with maturation on the DSQ. In STI therapy the patient learns to manage conflict, and as a result feels better about his or her ability to cope. An improvement in life satisfaction was expected to be directly associated with improvement on the DSQ. As the patient learns to cope with interpersonal conflict and adaptation, they will also report an improvement in life satisfaction. Improvement in the severity of symptomatic distress will be associated with an improvement on the DSQ (i.e., greater maturation of defenses was expected to be associated with greater symptom relief). This maturation leads to less stress and anxiety, contributing to a reduction in any associated somatic symptoms.

- The maturation of DSQ profiles across assessments was correlated with other indices of outcome, as follows:
    - Improvement in the DSQ profile (towards greater use of mature defenses) will be directly associated with improvement in the level of interpersonal distress. Interpersonal distress was assessed by the overall score of the Inventory of Interpersonal Problems (IIP; Horowitz, Rosenberg, Baer, Ureño, & Villaseñor, 1988).
    - Improvement in the DSQ profile will be directly associated with improvement in the level of self-esteem. Self-esteem was assessed by the overall score of the Self-Esteem Scale (Rosenberg, 1979).

- Improvement in the DSQ profile will be directly associated with improvement in the level of life satisfaction. Life satisfaction was assessed by a 7-point Likert-type scale self report, ranging from 1 (completely dissatisfied) to 7 (completely satisfied).
- Improvement in the DSQ profile will be directly associated with improvement in the level of general symptomatic distress. General symptomatic distress was assessed by the overall score of the Global Severity Index (Derogatis, 1977).

Methods

Context

The current study involved an analysis of the therapy session material from outpatients who participated in a comparative clinical trial of psychotherapy in the Psychiatric Treatment Clinic, Department of Psychiatry, University of Alberta Hospital Site (Piper et al., 1998). The trial involved an examination of the effects of the interaction of two forms of time-limited, short-term, individual psychotherapy (interpretive and supportive) and two dimensions of patient personality (psychological mindedness and quality of object relations) on such constructs as the therapeutic alliance, premature termination, and therapy outcome. The sample was comprised of psychiatric outpatients who presented to the Clinic with difficulties that included depression, generalized anxiety, and recurrent internal conflicts. Patients were matched in pairs on the basis of their psychological mindedness (PM) (McCallum & Piper, 1997) and quality of object relations (QOR) scores, age, gender, and medication use. Each member of each pair was then randomly assigned to one of the two forms of therapy. At posttherapy, it was found

that patients in both forms of therapy did not differ on overall improvement, i.e., patients benefited to the same degree from the two forms of STI therapy. The analysis also identified a direct relationship between QOR and improvement in interpretive therapy, and a direct relationship between PM and improvement in both forms of therapy.

Setting

The patients involved in the parent study (Piper et al., 1998) were referred to the Research and Evaluation Unit from the Psychiatric Treatment Clinic. The clinic is part of large, multifaceted, psychiatric outpatient service that is located within a 600-bed teaching hospital. On average, 1800 initial assessments are conducted in the clinic each year. The clinic staff are drawn from the disciplines of psychology, social work, occupational therapy, and nursing.

Participants

The sample consisted of 144 patients who completed short-term, time-limited individual psychotherapy. The average age of the patients was 34.3 years (*SD* = 9.6, range = 18-62). Sixty-one percent were women. Forty-two percent were married or living with a partner, 21% were separated or divorced, and 37% had never been married. Sixty percent were educated beyond high school and 71% were employed. The racial composition was White (94%), East Indian (2%), Native American (2%), Asian (1%) and Semitic (1%). Many (73%) reported receiving previous psychiatric treatment, but few (8%) had a history of psychiatric hospitalization.

The patients were diagnosed with the following Axis I disorders, based on the Structured Clinical Interview (Mini-SCID; First, Gibbon, Williams, & Spitzer, 1990) for the revised third edition of the *Diagnostic and Statistical Manual of Mental Disorders*

(DMS-III-R; American Psychiatric Association, 1987): major depression (48.6%), dysthymia (26.4%), anxiety disorder (7.6%), adjustment disorder (7.6%), and alcohol abuse (6.2%). Axis II diagnoses were determined with the computer-administered Structured Clinical Interview for DSM-III-R (SCID-II PQ; First, Gibbon, Williams, Spitzer, 1991) and Auto-Structured Clinical Interview for DSM-III-R (Auto-SCID II; First, Gibbon, Willims, & Spitzer,1991). Of the 144 patients, 60.4% received an Axis II diagnosis. The most frequent Axis II categories included avoidant (29.2%), obsessive-compulsive (24.3%), borderline (22.2%), and paranoid (21.5%). With respect to co-morbidity, 38% of the patients received both Axis I and Axis II diagnoses. Patients with primary problems related to psychosis, substance abuse, or sociopathic behavior were excluded. For follow-up, 121 (84%) of the therapy completers provided outcome data at 6 months and 98 (68%) provided outcome data at 12 months.

Patients were matched in pairs on the basis of two important personality variables (QOR and psychological mindedness), age, gender, and medication use. Each patient from each pair was then randomly assigned to one of the two forms of therapy (interpretive or supportive) with a given therapist.

Therapists

The eight therapists involved in the comparative psychotherapy project, of whom five were female, came from the disciplines of psychology (n=3), social work (n=2), occupational therapy (n=2), and psychiatry (n=1). Seven were White and one was East Indian. The therapist's average age was 43.6 years (*SD* = 6.1, range = 37-52), and their average experience practicing individual psychotherapy was 11.8 years (*SD* = 4.9, range

3-19). Each therapist treated 9 interpretive therapy patients and 9 supportive therapy patients.

Type of Therapy

Each patient received a form of psychotherapy that emphasized interpretive or supportive features. The patient was scheduled for weekly 50-minute sessions at a regular, prearranged time for 20 weeks. Punctual attendance was emphasized, and missed sessions were not rescheduled.

In interpretive therapy, the primary objective is to enhance the patient's insight about repetitive conflicts (intrapsychic and interpersonal) and trauma that serve to underlie and sustain the patient's problems. The patient's use of maladaptive defenses, in and outside of therapy, is directly challenged and interpreted. The therapist encourages the patient to explore uncomfortable emotions and withholds immediate praise and gratification. The therapist is active, interpretive, and transference focused (Piper et al., 1998).

In supportive therapy, the primary objective is to improve the patient's immediate adaptation to his or her life situation through gratification, praise, guidance, structured problem solving, and therapist disclosure. The supportive therapist works to undermine maladaptive defenses and reinforce adaptive defenses without directly addressing defense style as a focus of therapy. The therapist is active, non-interpretive, and other focused (i.e., focused on the patient's current external relationships) (Piper et al., 1998).

The therapists participated in a 6-month training seminar prior to taking cases in the project. The training included treatment of pilot cases and attendance at weekly seminars where technical principles were covered and cases were presented. All therapy

sessions were audio-taped and external observers (bachelor-level research assistants) rated adherence to the technical manual. Adherence ratings were based on the use of two observer measures, one focused on the therapist's interpretive versus supportive technical strategies and the second addressing the type of interventions provided by the therapist. The reliability of both measures was strong. The adherence data indicated that both forms of therapy had been implemented as intended and could be reliably differentiated (Piper et al., 1998).

Measures

Defense Styles Questionnaire (DSQ).

The DSQ is a self-report questionnaire developed by Bond, Gardner, Christian, and Sigal (1983) to examine the range of defenses that are generally accepted by psychodynamically-oriented clinicians (Bond, 1995). Generally, self-report questionnaires were not thought to be accurate measures of individual defenses due to their subjective nature and in ability to target unconscious constructs. In order to overcome these limitations, the DSQ targets the self-reporting of the behaviors that are strongly associated with the unconscious defenses. The initial aim in developing the DSQ was to focus on measuring clusters of defenses; this came to be known as the patient's "defense style" (Bond, 1995) and reflects the schema suggested by Vaillant (1971). The original DSQ has undergone revisions, which improved its psychometric properties. The most current version, the DSQ-III (Andrews, Singh, & Bond, 1995), was included in the outcome battery employed for the comparative study. It is comprised of 40 items that the patient rates on a 9-point Likert scale. The rating scale ranges from 1= "strongly disagree" to 9= "strongly agree."

The DSQ-III produces scores for 16 defenses, classified into clusters identified as immature, intermediate, or mature. The clusters are made up as follows:

Immature: Projection/Projective Identification, Fantasy, Hypochondriasis, Passive aggression, Acting out, Dissociation/Neurotic denial/Rationalization.

Intermediate: Displacement, Isolation of affect/Intellectualization/Undoing, Repression, Reaction formation.

Mature: Altruism, Sublimation, Suppression, Anticipation, Humor.

Both the immature and intermediate defenses are scored on continua, such that the lower the score the more immature the defenses. Mature defenses are scored in a positive direction, thus, higher scores are more favorable. An individual's aggregate score on all three scales reflects the global defense score. There are generally accepted advantages of using the DSQ over a clinical interview (Bond, 1995): it saves time, does not require highly trained or highly paid professionals to administer, eliminates problems of interrater reliability, provides a measure of the degree to which defenses are present on a standardized continuum, and allows for the collection of normative data.

There are a number of findings that support the validity of the DSQ. First, a principal components analysis of the 16 defense mechanisms resulted in factors that overlap with the cluster levels, supporting the theoretical coherence of the measure (Bond, 1995). In addition there was a high negative correlation between immature defenses and the defenses that were expected to be at a higher level. Criterion validity has been established through significant correlations with other indices of ego development, such as the Ego Strength Questionnaire (Bellak, Hurvich, & Gediman, 1973), a measure of the individual's general level of adaptation, and the Sentence Completion Test

(Loevinger, 1976), a measure of ego development. A second criterion validity study demonstrated that psychiatric patients tended to use the less mature defenses and non-patients tend to use the higher level of defenses (Bond, 1995)

A study of 156 subjects (130 subjects were adult psychiatric outpatients, and 26 were youth psychiatric outpatients) (Bond, Perry, Gauthier, Goldenberg, Oppenheimer, & Simard, 1989) provided support for the predictive validity of the DSQ. A comparison was made between patients' responses on the DSQ (self-report measure of defense style) and scores on the DMRS (observer rated defenses exhibited in therapy). There was a significant positive correlation between the use of the DSQ immature and intermediate defense styles and the ratings of immature defensive behaviors on the DMRS and a significant negative correlation between maladaptive DSQ defense styles and DMRS mature defenses (Bond et al., 1989).

Quality of Object Relations (QOR).

QOR is defined as a person's tendency to establish certain kinds of relationships with others (Azim, Piper, Segal, Nixon, & Duncan, 1991). In the comparative study, Piper et al. (1998) utilized a nine-point scale with semi-structured interviews, conducted in two one-hour sessions held a week apart. The patient's life-long pattern of relationships was explored in reference to criteria that characterize five levels of object relations: mature, triangular, controlling, searching, and primitive. The criteria referred to behavioral manifestations, regulation of affect, regulation of self-esteem, and historical antecedents.

The interviewer was familiar with the prototypical case for each level and a set of overall guidelines. The interviewer distributed 100 points among the five levels of the

scale and calculated an overall rating that ranges from 1 to 9. A score of 4.5 or higher was defined as high QOR, and a score below 4.5 was defined as low QOR (Piper, et al.)

Interrater reliability of the QOR was examined by Piper et al.(1998). Based on a sample of 24 audio-taped cases rated by independent raters, the reliability coefficient between the original interviewer and the independent raters was .68 [ICC(2,2)]. The correlation between the scores assigned by the original interviewer and the reliability rater was high, $r(142) = .85$, $p<.001$ (Piper et al., 1998).

In examining the predictive validity of the QOR, Piper, Azim, Joyce, McCallum, Nixon, and Segal (1991) compared the QOR to a set of recent interpersonal functioning variables as predictors of the therapeutic alliance and therapy outcome. QOR was found to be significantly related to both patient-rated and therapist-rated measures of the therapeutic alliance and indices of therapy benefit. In each instance, the higher the quality of object relations the stronger the alliance and outcome. QOR was not significantly related to age, sex, marital status, education, or employment (Piper et al., 1991). However, QOR was found to be significantly related to a diagnosis on Axis II of the DSM: 45% of the low QOR patients received a diagnosis of personality disorder, while only 17% of high QOR patients received an Axis II diagnosis (Piper et al., 1991).

The patient's quality of object relations has been shown to have a significant bearing on the therapeutic alliance and outcome in STI therapy. In interpretive STI therapies, alliance, as rated by both therapist and patient, was reported to be strongest for patients who had a higher level of QOR (Piper, Azim, McCallum, & Joyce, 1990). Patients with a higher level of QOR also showed more benefit from the interpretive form of STI (Piper, Azim, McCallum, & Joyce, 1990; Piper, Joyce, McCallum, & Azim,

1998). Thus, a patient's rating on the QOR has been demonstrated to be a useful match for the interpretive form of STI therapy (Piper, Joyce, McCallum, & Azim, 1998).

Defense Mechanism Rating Scales (DMRS).

The DMRS (Perry & Cooper, 1986) is a set of observer-rated scales used to make judgments regarding the defense mechanisms that a person employs during an interaction. The current DMRS (Perry & Cooper, 1990) describes 22 defense mechanisms, each of which is accompanied by a definition and a scale anchored by clinical examples of evidence for the defense's use (Bond, 1995). The use of a specific defense is scored on a continuum that ranges from probable use to definite use of the defense. The DMRS also provides summary scale scores that are an aggregate of specific weighting for each defense mechanism. The scale score divides the defense mechanisms into clusters of defense mechanisms (immature, intermediate, mature) based on Vaillant's (1971) and closely approximating those used in the DSQ. The DMRS is designed to be used in conjunction with videotaped interviews, life vignettes data, as well as sessions taken from ongoing psychotherapy (Perry & Cooper, 1990).

Using nonprofessional raters observing videotaped psychodynamic interviews of individuals with personality disorders, the median interrater reliability for the individual defense scales was .36 [ICC(2,1)]. However, the interrater reliability was .57 for a group consensus rating [ICC(2,2)], and .74 when related defenses were grouped into defense summary scales (Perry & Cooper, 1990). Follow-up data on life vignettes had a median interrater reliability of .55 for defenses occurring at least 5% of the time and .66 for defense summary scales (Perry & Cooper, 1990).

In the current study the group consensus rating method was utilized, requiring the rating groups to agree on (a) incidents where defense were used (i.e., no defense, probable use of defense, or definite use of defense), and (b) the dynamics of each defense rated (i.e., once a defense was identified, assessing its maturity level, and specific type based on the definitions and examples provided in the manual). This process resulted in defenses being aggregated into clusters using the summary scales. The summary scales are based upon Vaillant's hierarchy and therefore directly correspond to his immature, intermediate, and mature cluster levels. The DMRS was adapted to be used in conjunction with audio-taped psychotherapy sessions. This was a feasible adaptation, given that the DMRS manual provides detailed examples of the use of each defense, as well as the method of rating the use of a defense on a continuum ranging from their probable to definite use. However, it should be pointed out that in using audio-tapes, the raters were not able to rate the nonverbal reactions that may have been indicative of a defense, and instead relied upon the therapist addressing these nonverbal reactions to determine if this kind of evidence for a defense mechanism was present. Through extensive training of raters in the use of the DMRS with audio-tapes, accurate and reliable identification of the defenses was possible. The overt nature in which the therapist addressed the defenses was also useful in identifying and rating them.

For the purpose of this study the DMRS was adapted to facilitate a valid and reliable comparison to the DSQ. None of the adaptations was believed to affect the fundamental psychometric properties of the DMRS. Vaillant, and Perry and Cooper articulate the same theory of defense mechanisms and defense style in the respective manuals for the DSQ and DMRS. As such, while there was some variation in the labeling

of the different defense mechanisms, it was possible to identify and operationalize a common definition for the same defense or cluster of defenses. For consistency, defense mechanisms were named and defined based on the system provided in the DSQ manual and described in detail in *Wisdom of the Ego* (Vaillant, 1993). In some instances the DSQ was found to contain a defense mechanism that was of a wider scope, by definition, than that of the DMRS. In such cases, when two or more defenses on the DMRS were found to be (a) on the same level in the hierarchy, (b) the weightings assigned to the individual defenses on the DMRS were the same, and (c) the DMRS definitions were clearly encapsulated in one defense on the DSQ, the names and definitions were synthesized into a single defense for rating purposes. For example, the individual defense mechanisms detailed on the DMRS as dissociation, neurotic denial, and rationalization were subsumed under the defense on the DSQ labeled "Dissociation". For the purposes of rating, the DSQ definition and the three DMRS definitions were provided to the raters.

In all cases, where defense mechanisms were renamed, or several were combined into a new defense consistent with the DSQ, integrity of the categorical dimension was retained. In other words, while individual defenses (e.g., projection and projective identification) were combined, they retained their associated level of defense style (i.e., immature, intermediate, and mature) and associated weighting on the DMRS. As discussed previously, this study utilized the summary scales of the DMRS and DSQ, and as such the individual defenses, while important operationally for identification by the DMRS raters, were not the primary focus of this study. For the purpose of this study, individual's summary defense scores on the DMRS are referred to as their defensive behavior style.

Outcome Variables.

A comprehensive battery of outcome measures provided by three sources (patient, therapist, and independent assessor) was used in the comparative study. The outcome measures were assessed at pretherapy, posttherapy, and at six and twelve months following therapy. The battery included nine measures that were in an interview or questionnaire format. The variables assessed such areas as interpersonal distress and functioning, psychiatric symptomology, self-esteem, life satisfaction, and use of defenses.

In the current study four of the outcome measures were used to evaluate patient outcome over the course of therapy, specifically: (a) Inventory of Interpersonal Problems (IIP) (Horowitz, Rosenberg, Baer, Ureño, & Villaseñor, 1998), the 64-item self report questionnaire; (b) Self-Esteem Scale (Rosenberg, 1979), the 10-item self report questionnaire; (c) the Global Severity Index (Derogatis, 1977); and (d) Life Satisfaction Rating.

The IIP (Horowitz et al., 1998) is based on the theories of the interpersonal aspects of personality and on systematic research about interpersonal problems. The IIP specifically assesses problems in two areas: "I find it hard to for me to:" (e.g., express my feelings to other people directly", and "Things that you do too much;" (e.g., I am too independent."

The Rosenberg Self-Esteem Scale (Rosenberg, 1979), was developed in an attempt to achieve a unidemensional measure of global self-esteem. The scale represented by a continuum of self-worth statements that range from those that are endorsed even by individuals with low self-esteem, to those that are endorsed by only persons with high self-esteem.

The Global Severity Index (Derogatis, 1977) is a short form of the Symptom Checklist-90-R, a brief multidimensional self-report inventory designed to screen for a broad range of psychological problems and symptoms, in both clinical and research settings.

The Life Satisfaction Rating is a single item that is rated using a 7-point Likert-type scale, with 1 = "completely dissatisfied," and 7 = "completely satisfied."

Ethical considerations

The procedures required for the current study did not involve any contact with patients. Participants in the comparative trial of STI therapy had provided informed consent to have their sessions audio recorded and utilized in subsequent research investigations. All identifying information was deleted from patient data records. The procedures of the comparative trial met all review criteria of the Health Research Ethics Board (Panel B), Faculty of Medicine & Dentistry, University of Alberta.

Procedures

Hypothesis Testing.

All of the data collected in the previous research (Piper et al., 1998) relevant to the investigation of the current hypotheses were utilized in the analyses. The data analyses involved contingency analysis, correlation, and multiple regression analysis. The total number of patients in the sample was $N = 144$. Alpha was set at $p = .05$, which is a conventional level of significance in behavioral and biological research. According to Cohen and Cohen (1983), .30 is a medium effect size for Pearson correlations. Winston et al. (1994) reported effect sizes that ranged from .00 to .89, with an average effect size of .23, when looking at shifts in immature and intermediate defenses from pre- to

posttherapy. Given the sample size of 144, the alpha level of .05, and an expected effect size of .30, power was determined to be at an appropriate level of 0.97.

DMRS Audio-tape ratings.

A total of n = 80 subjects was involved in the investigation of defenses used in early, middle, and late phases of therapy. Given the sample size of 80, the alpha level of .05, and an expected effect size of .30, power was determined to be at an appropriate level of 0.78. Eighty patients were randomly selected from the entire sample of the comparative study for DMRS ratings of specific therapy sessions. The 80 patients consisted of an equal number who completed the interpretive form (n = 40), and the supportive form (n = 40) of STI therapy. Three audio-taped sessions per patient were then selected to represent early, middle, and late phases of therapy, usually sessions 3,11, and 17, respectively. However, in instances where an audio-tape was missing for any of the identified sessions, the subsequent session was used (i.e., if session 3 was missing then session 4 was rated).

In the preliminary assessment it was hypothesized that patients were more anxious at the beginning of the sessions. Thus, a majority of defenses would be used early on in the session, as an unconscious attempt was made to reduce their own anxiety. As sessions progressed, anxieties diminished, with defenses being employed less often. This was confirmed when, during the initial rater training sessions, the middle twenty minutes of the sessions were being rated. Raters identified very few defenses compared to when the same session was started from the beginning, and the initial twenty minutes rated. The middle and concluding sections were less reliable. It may have been a result of the low frequency with which the patient used defenses during these sections.

The DMRS, as utilized in the current project, reflects a patient's global defense style. Therefore, global defense style is best measured when the frequency of defenses one uses is high. The degree of reliability achieved in rating the middle and later sections of the sessions was also confounded by difficulty the raters had in identifying defenses when contextual cues were not available.

Only the first twenty minutes of all sessions were rated. It was determined through an pre-investigation assessment of sessions, consisting of tapes not selected for use in the current study, that patients were more anxious early in each session than in the middle or end, resulting in the manifestation of more observable defensive behavior. Secondly, rating the first part of the session allowed the raters to utilize contextual clues from the preceding discussion in therapy. Ratings starting in the middle or end of the session resulted in missed ratings of defenses, as contextual clues were omitted. Finally, the twenty minute segment was selected for two reasons: (a) there was a lack of resources and a time constraint preventing the rating of longer session excerpts, and (b) the first twenty minutes was found to be most representative of the entire session. When ratings taken from the first twenty minutes of the session were compared to those of an entire sixty minute session, the resulting defense style score was the same. It was determined that no significant loss of data or integrity would result from rating only the first twenty minutes of the sessions.

A team of five raters was involved throughout the duration of the current project. All of the raters were graduates of baccalaureate psychology programs. Four of the raters were employed as research assistants with the Research and Evaluation Unit of the Department of Psychiatry, and one was the principal investigator of the study.

A preliminary training phase occurred prior to data collection for the project. This phase involved raters being provided with an audio-tape, initially containing the middle twenty 20 minutes of a therapy session, later with training focused on the first 20 minutes, taken from the case material of patients who participated in the comparative study. Raters were not told in advance which type of therapy the patients received nor the session number. In a group setting, the five raters worked through the DMRS training manual, discussing the procedures and methods of rating the tape segment. The process took place with different tapes until the group was familiar with the DMRS. Once familiar with the DMRS, ten rater pairs were each assigned to rate the session material from 8 cases.

DMRS Rater Reliability.

A modified version of the DMRS group consensus method was used for application of the DMRS to session material. Due to time and resource constraints, the current research employed pairs of raters rather than triads of raters. This alteration did not effect the reliability of the rating, as demonstrated by assessment of the interrater reliability of rater pairs versus triads. This assessment was completed on two separate occasions. A subset of 20 patients, who had not previously been chosen to be used in the DMRS research phase of this study, were randomly selected from the comparative study sample. Then, for each of the subjects, one tape was randomly selected to represent a specific phase in the therapy (e.g., early, middle, or late). The selection was constrained by the requirement to have equal numbers of patients involved in each form of STI therapy. An equal number of patients were selected based on the type of therapy they had received.

The first rater reliability assessment took place prior to the start of any rating of the sample sessions. The second reliability assessment took place at the midpoint of data collection, when each rater pair had completed ratings for one half of their assigned cases. In each reliability study the 5 raters were randomly selected to be in one of two groups, either with a pair of raters or with a triad of raters. The rater group results were then compared utilizing proportion analysis. Proportion analysis compared a) the frequency and b) global defensive style obtained by each of the rater groups by means of dividing one groups data by the others. As such, 1.00 represented perfect or 100% agreement. In both instances of assessing reliability, the analysis indicated that there was 100% agreement between the two groups. Across the sample of 20 cases, the rater pairs and triads were in perfect agreement in assigning each case's defense style to one of the three Vaillant clusters (immature, intermediate, mature).

In an analysis of the number or frequency of defenses used in a session, there was 100% agreement between the two groups on both rater reliability assessments. There was some slight variations found to exist between the rater groups with regard to identifying individual defenses within the mature cluster. However, this difference did not adversely affect the defense style rating; the DMRS summary scales do not require agreement on the individual defense mechanism, only the assigned cluster level.

Results

Approach to Analysis

The results are presented in six sections, each focusing on one of the hypotheses that was advanced. Each individual section addresses testing of the major hypothesis as

well as any additional post-hoc analyses. In each section, a description of the statistical procedures used precedes a presentation of the findings.

Viewing the variable distributions on scatter plots and histograms demonstrated that the data closely approximated a normal distribution with no apparent outliers. The analyses involved chi-square tests of independence, by way of cross-tabulation, as well regression, and repeated measures ANOVAs. Specific levels of the original scales on the QOR and DSQ were collapsed, producing a smaller number of levels. This was done in order to combine those levels considered to be homogeneous, and to gain some statistical power through increasing the number of individuals in specified categories.

A. Relationship between DSQ and QOR profiles at pretherapy

This first hypothesis predicted a relationship between the pretherapy profiles on the QOR and DSQ, such that (a) primitive and searching levels on the QOR would only be significantly associated with immature defenses on the DSQ, (b) controlling and triangular levels on the QOR would only be significantly associated with the intermediate defenses on the DSQ, and (c) the mature levels on the QOR would only be significantly associated with the mature defenses on the DSQ.

A chi-square analysis was employed to examine whether the distribution of continuous scores on the DSQ and QOR were related, providing evidence of an association between these quantitative attributes. The pretherapy raw scores of one of the three DSQ scales (immature, intermediate, and mature) or the global, or average, of these scales were represented in the rows of the cross-tabulation. One of the five QOR level weights or the overall QOR score were represented on the columns of the cross-tabulation. These analyses resulted in tables that ranged in size from 46x10 (in the case of

immature DSQ and triangular QOR) to 106x14 (in the case of intermediate DSQ and primitive QOR). A separate analysis was conducted for each sub-scale of the DSQ and each level of the QOR. Only a subset of the cross-tabulations was expected to provide evidence of a significant relationship. i.e., the cross-tabulations between (a) the immature scale on the DSQ and the primitive and searching levels on the QOR; (b) the intermediate scale on the DSQ and the controlling and triangular levels on the QOR; and (c) the mature scale on the DSQ and the mature level on the QOR. There was no reliable evidence to suggest an association existed between defense style (the DSQ) and quality of object relations (the QOR).

Both variables were transformed from continuous data into categorical data. Global QOR scores were assigned as either high, medium, or low in QOR. Low QOR was set at an overall QOR score below 3 ($\underline{n} = 55$), medium QOR, 3 to 5.49 ($\underline{n} = 69$), and high QOR 5.5 or greater ($\underline{n} = 30$). Global defense styles were also divided into three categories, immature, intermediate, or mature. Scores on this variable lower then 4 were assigned to the immature category ($\underline{n} = 46$), 4 to 5.49 as intermediate ($\underline{n} = 106$), and 5.5 or greater as mature ($\underline{n} = 18$).

Classical regression analyses was performed using the categorical QOR and DSQ variables. The dependent variable was represented by one of the QOR category variables. The dependent variable was predicted by the DSQ taking one of the three values (representing immature, intermediate, mature), as defined above.

The regression analyses suggested that there was no significant relationship between QOR and defense style at pretherapy.

B. Pretherapy DSQ profiles and their association with in-therapy use of defenses, as measured by observer DMRS rating

The second hypothesis predicted that pretherapy DSQ profiles would be significantly associated with DMRS rated defense styles during the early phase of therapy, but would not be found to be directly associated with DMRS rated defense styles in the middle or late phases of therapy.

A chi-square analysis was employed to examine whether pretherapy DSQ profiles were associated with in-therapy use of defenses, as measured by the observer rated DMRS. The pretherapy DSQ global styles (represented by the categorical data as derived in hypothesis I, as either immature, intermediate, mature) were crossed with the DMRS global style (immature, intermediate, mature) from the early, the middle, and the late phases of therapy.

The chi-square analysis addressing the relations between pretherapy DSQ profiles and DMRS profiles from the early phase of therapy failed to find a significant association between these two measures.

The chi-square analysis addressing the relationship between pretherapy DSQ profiles and the DMRS profiles from the middle phase also failed to find a significant association between these two measures.

The chi-square analysis addressing the relationship between the pretherapy DSQ profiles and the DMRS profiles from the late phase of therapy indicated a degree of association between the variables, but the relationship was not at a conventional level of significance [X^2 (80, df = 4) = 8.06, p<.09] (see Table 1). The findings suggest that in an analysis involving more subjects this relationship may well fall within the conventional

level of significance. The current results indicate the possibility that an individual's pretherapy defense style may be predictive of behaviors in the late phase of therapy, more so than for either of the early or middle phases.

C. Are pre- to posttherapy changes in DSQ profiles associated with patterns of change in defensive behavior across phases of therapy?

The third hypothesis predicted that the change on the DSQ that took place between the pretherapy and posttherapy assessments would be directly associated with change in defenses used from early to late sessions of therapy, as rated with the DMRS.

Several regression analyses were performed utilizing residual gain scores. First, residual gain scores for the global DSQ variable were calculated to represent pre- to posttherapy change on defense style. This gain score served as the dependent variable in the regression analysis. In each analysis, one of the three residual gain scores on the DMRS represented the independent variable, incorporating assessment of changes from (a) early sessions to late sessions, (b) early sessions to middle sessions, or (c) middle sessions to late sessions. These regression analyses suggested that there was no significant relationship between a patient's pretherapy change on the DSQ, and change on the DMRS from early sessions to late session, from early sessions to middle sessions, or from middle sessions to late sessions.

These analyses were repeated using the residual gain scores on the DSQ global score to define change in defensive style between pretherapy and 6-month follow-up. The same set of DMRS residual gain scores were tested as independent variables. No significant predictive relationships were identified.

These analyses were repeated a third time. Residual gain scores on the DSQ global score were used to represent change in defensive style between pretherapy and 12-month follow-up. The same set of DMRS residual gain scores were used as independent variables. No significant process-outcome relationships were identified when the independent variable reflected DMRS change from early to middle or early to late phases of therapy. However, there was a significant association between defense style change from pretherapy to 12 months following therapy and change in defensive behavior from middle to late sessions in therapy, as rated by the observer on the DMRS, ($t(31) = 2.17$, $p<.04$) (see Table 2). That is, changes on the DSQ from pretherapy to 12 months following completion of therapy were predicted by the changes in patients' defensive behavior during therapy. Specifically for each increment of change on the DMRS, occurring over the course of therapy from middle to late sessions, the increase in DSQ residual gain was 1.12 (see Table 2).

Other investigations have suggested that patients manifest a deterioration in defense style as a result of the anxiety associated with starting and again with ending therapy. As a means of simplifying the representation of DMRS change during treatment, additional regression analyses were conducted that only considered defensive behavior during the early and late halves of therapy. The analysis was repeated using only two predictor variables (early to middle and middle to late DMRS residual gain scores).

As in the previous analyses, residual gain scores for the global DSQ variable were used to represent pre- to post therapy change in defense style, and served as the dependent variable in the regression analyses. The residual gain scores on the DMRS represented the independent variable, incorporating changes from (a) early to middle

sessions and (b) middle to late sessions. The regression analysis suggested that there was no relationship between an individual's change, pretherapy to posttherapy on the DSQ, with change rated on the DMRS from early sessions to middle sessions, or from middle sessions to late sessions.

These analyses were repeated using the residual gain scores on the DSQ global score to define change in defensive style between pretherapy to 6-month follow-up and pretherapy to 12-months follow-up. The same set of DMRS residual gain scores were tested as independent variables. No significant outcome relationships were identified.

The results of these analyses suggest within-therapy defensive behavior was not a good predictor of change in defense style.

D. Does significant change take place in DSQ profiles across assessments at pretherapy, posttherapy, 6-months follow-up, and 12-months follow-up?

The fourth hypothesis predicted that the patients assessed at pretherapy who were found to use intermediate defenses would exhibit the greatest amount of improvement on the DSQ from pre- to post therapy, and maintain this improvement through to the 12-month follow-up.

A repeated measures ANOVA was employed as a means of testing this hypothesis. The within subject variable was the global defense style, as reported on the DSQ at pretherapy, posttherapy, at 6-month follow-up, and at12-month follow-up. The results of this analysis failed to support the existence of a significant change on the global DSQ scores across the repeated assessments. Next, the within subject variables were residual gain scores, representing global changes on the DSQ from (a) pre- to posttherapy (b) pretherapy to 6-months follow-up, and (c) pre- to 12-months follow-up. The results

failed to provide evidence to suggest significant change took place across assessments from pretherapy to posttherapy, 6-months follow-up, and 12-months follow-up.

The results of these tests suggest that there was no appreciable increase or decrease in DSQ scores across assessments.

Next, the mean residual gain score for each of the pretherapy DSQ global defense categories (immature, intermediate, mature) was assessed to determine which group demonstrated the greatest amount of improvement on the DSQ from (a) pre- to post therapy, (b) pre- to 6-months follow-up, and (c) pre- to 12-month follow-up (see table 3). The results indicate that the mature group of patients demonstrated the greatest amount of improvement from pre- to post therapy (M = .4, SD = 1.49), and the pre- to 12 months following therapy (M = 2.17, SD = 1.47). The immature patients demonstrated the greatest amount of improvement in the period from pre-therapy to 6 months following therpy (M = .3, SD = 1.32). Caution should be used when interpreting these results, as the improvements reported here were not found to be statistically significant.

E. Is there an interaction between QOR and type of STI therapy that is directly associated with changes in defense style that take place across assessments?

The fifth hypothesis predicted that there would be an interaction between a patient's QOR and the form of STI therapy they received, and change in defense style. Specifically, high QOR patients who received the interpretive form of therapy would show a maturation of defenses on the DSQ from pretherapy to the 12-month follow-up assessment. Low QOR patients in interpretive therapy and patients who received the supportive form of therapy would show minimal improvement across assessments.

A repeated measures ANOVA was employed to test the hypothesis. The within subject factor was the DSQ global defense style score at pretherapy, posttherapy, at 6-months follow-up, and at 12-months follow-up. The between-subject factors were designated as (a) the type of treatment, supportive or interpretive, and (b) the level of QOR, either high or low. Results failed to reveal a significant interaction between QOR and treatment on change in defense style across assessments nor was there a significant main effect for type of therapy or level of QOR .

F. Does a change in DSQ profiles across assessments correlate with other indices of outcome?

The sixth hypothesis predicted that maturation of defense style would be reflected by an overall improvement on the DSQ across assessments, and that this change would be directly associated with the degree of change on other indices of therapy outcome. Alternatively, an improvement in interpersonal distress, self-esteem, life-satisfaction, and general symptomatic distress across assessments would be directly associated with maturation on the DSQ.

A chi-square analysis was employed to assess the relationship between changes in DSQ profiles across assessments and indices of therapy outcome. Distributions were cross-tabulated, with the rows representing the difference between the global DSQ raw scores at pretherapy, and at (a) posttherapy, (b) 6-month follow-up, and (c) 12-month follow-up. In each case the columns represented differences in raw scores between pre- to posttherapy on each outcome index.

Next, a correlation analysis was undertaken, assessing change in DSQ raw scores from pre to (a) post therapy, (b) 6-month follow-up, and (c) 12-month follow-up with raw score change on each outcome index from pre- to posttherapy.

Results failed to reveal a significant relationship between the changes in DSQ profiles and interpersonal distress, self-esteem, and general symptomatic distress. The results did reveal a significant inverse relationship between maturation of defense style at 6-months following therapy and the index of life satisfaction from pre- to posttherapy [r (88) = -.22, $p<.05$] (see Table 4). Additionally, evidence of a direct relationship was found between maturation of defense style at 12 months following therapy and change on the index of life satisfaction from pre- to posttherapy [r (57) = .35, $p<.01$] (see Table 4). An improvement in life satisfaction at post therapy was inversely associated with maturation in defense style at six months but directly associated with defense style maturation at one year. Thus, it might be suggested that while maturation in defenses twelve months following therapy is associated with an overall increase in life satisfaction, the maturation of defenses that initially follows therapy possibly causes a degree of difficulty for the patient, thus resulting in being inversely associated with life satisfaction.

Next, the analyses were repeated, replacing the raw difference with residual gain scores. This accounted for the pretreatment status, allowing the actual change elicited by the therapeutic process to be assessed without any undue influence that may have negated or inflated the change and effected the findings. In the chi-square analyses, the rows represented the residual gain scores on the DSQ from (a) pre- to posttherapy (b) pretherapy to 6-months follow-up, and (c) pre- to 12-months follow-up. The columns consisted of the residual gain score, from pretherapy to posttherapy, on indices of (a)

interpersonal distress, (b) self-esteem, (c) life-satisfaction, and (d) general symptomatic distress. For example, the residual gain scores were used in the analysis of pre-to posttherapy DSQ and pre- to post IIP scores. This resulted in a 69 x 53 table, with each cell containing the number of individuals that represented each level of the residual gain score on the DSQ and the IIP outcome measure.

The analyses all failed to provide evidence of a significant relationship between the variables (change on the DSQ and change on the individual indices). Accounting for the pretherapy status eliminated any relationship between change on the DSQ and change on the outcome indices.

Discussion

The current study explored the relationships between patient variables, specifically, quality of object relations and defense style, and outcome in short-term, time-limited, individual psychotherapy. The study had three main objectives. The first was an exploration of the relationship between the patient variables at pretherapy. Specifically, the association between pretherapy QOR and pretherapy defense style was explored. In addition, the analysis also assessed the association between pretherapy defense style and use of defensive behaviors early in therapy.

The second objective was to highlight the nature of the changes in the patient's defense style over the course of therapy. This included identification of the relationship between change, pre- to posttherapy on the DSQ, with changes in use of defenses observed during phases of therapy, as rated by the DMRS.

The third objective involved the examination of variables that would be expected to be related to the change in patients' defense style. Specifically, defense style change as

a function of the interaction between a patient's level of QOR and the type of STI therapy received was studied. The current study also addressed the nature of the change in defense style across assessments (i.e., pre- to posttherapy and at 6-month and 12-month follow-up), and the relationship between change in defense style and change on other indices of outcome. These indices included measures of interpersonal distress, self-esteem, life-satisfaction, and general symptomatic distress from pre- to posttherapy and at 6-month and 12-month follow-up.

In general, evidence in support of the study hypotheses was meager.

Patient Variables

QOR and DSQ.

Object relations and defense styles have been linked repeatedly in the literature, and it has been postulated that they have a direct association. The theory is that QOR reflects a global style of interpersonal functioning, arising out of the nature of significant relationships from early childhood, with defense style representing one's characteristic response to anxiety-provoking interpersonal situations. It was hypothesized that pretherapy QOR and pretherapy defense style would demonstrate a significant relationship. No significant association between these two variables was observed.

One implication of this finding is that QOR may be a constant, or trait type variable, with defense style reflecting a more dynamic variable that changes with the nature of the anxiety with which one is confronted. As such, a pretherapy DSQ may reflect a combination of one's "normal" defense style and the defensive behaviors elicited in response to the anxiety for which the patient is seeking relief from through psychotherapy. Thus, defense "style" may differ based on the nature of the individual's

distress. For example, the anxiety associated with a disagreement in an intimate relationship versus the anxiety associated with an oral exam might elicit different defensive behaviors. One would expect that self-rated defense style would have a significant relationship with pretherapy QOR when the primary disturbance, for which the patient is seeking therapy, is directly related to interpersonal anxiety with a significant other.

Another implication is that a clinician cannot infer from the QOR alone the style of defenses likely to be exhibited by a patient early in therapy. It is suggested that a constellation of patient variables may determine the defense style, including object relations, defense style, defensive behavior, internal locus of control, ego strength, as well as contextual variables, and other, as of yet unidentified variables, and these may need to be considered in concert with one another.

A limitation in the current study was the lack of a non-therapy (or clinical) control group for comparisons of QOR and defense style in patients and non-patients. The assumption was made that a pretherapy DSQ score would accurately reflect an enduring tendency of the individual, when what it may measure is the nature of the defenses employed to deal with the current, perhaps novel, distressing situation. Future investigations into relationships between QOR and DSQ might include an assessment of a population that is known to be free of a high level of psychological distress (e.g., in a normal population sample). It may also provide useful in future research to assess defense style using multiple measures, including a rating of defensive behaviors and their relationship to a particular stimulus or stressor, to more accurately ensure that what is reflected can be defined as trait or state defense style.

Pretherapy Defense Style and In-therapy Defensive Behavior.

Pretherapy defense style, as self-reported on the DSQ, was examined for its relationship to in-therapy defensive behavior, as observer-rated on the DMRS. A moderate, and near statistically significant association was found between pretherapy DSQ and DMRS profiles from the late phase of therapy. There was no significant relationship found between pretherapy DSQ and DMRS from either the early or middle phases of therapy.

These results suggest that patient's self-report of defense style, on the DSQ at pre-therapy, may not accurately reflect their current defensive behavior, or more specifically, those defenses elicited in response to their current distress as examined during therapy sessions. The observer-rated DMRS identifies the patient's current defensive behavior, thus more closely approximating the patient's true defense style at the time. As therapy progresses, anxiety and distress is reduced in the patient and the DSQ (the way the patient sees himself or herself) becomes more closely related to their actual defensive behavior. In other words, more usual defensive behaviors, or a reduction in the use of novel defensive behaviors, were evident later in therapy as the stimulus by which they were elicited abated. It may also be that pretherapy DSQ ratings are contaminated by the patient's current, problem-oriented distress and elicited defenses. In late therapy, the DMRS may show a relationship with the true "uncontaminated" measure of defense style at pretherapy. The underlying assumption is that the self-rated DSQ at pre-therapy and the observer rated DMRS were likely measuring the same construct, defense style (a trait type variable) in the late phase of therapy than in either the early phase or the middle phase.

Another limitation of the present study was that there was no established baseline or manner in which to determine the pretherapy habitual level of defense style for the patients. Without this, researchers are limited in their ability to determine whether the pretherapy score actually reflects a situational response (state-like), or true defense style (trait-like). Pretherapy DSQ and late session DMRS have a relationship, while pretherapy and early and middle session DMRS do not. Therefore, the pretherapy DSQ may in fact reflect how the patient normally views their defense style, but does not reflect the current defensive functioning, in response to psychological distress. As a patient's distress is resolved or lessened, the pretherapy DSQ and the DMRS from the phase of therapy where the symptoms abated, converge and accurately reflect the patient's true and enduring defense style.

A third limitation in the current project was the limited number of psychotherapy sessions. Twenty sessions may not be enough time for defense style change. Perhaps the general construct of defense style is less amenable to change over the short-term, and requires more time within which to change. As Winston, Winston, Samstag, and Muran (1994) reported, change in defense style was reported to occur during the middle phase of a course of 40 psychotherapy sessions. Another limitation of these findings was the relatively small number of patients who were reported as having a mature defense style on either the DSQ or DMRS. This small number of mature patients contributed to a skewed data set, and limited the statistical power and certainty with which generalizations about the findings could be made. A larger, more stratified sample, equitably distributed in each of the defense style categories (immature, intermediate, mature) at pretherapy would assist in increasing the validity and certainty of the results.

In future research, it could prove useful to determine the relationship between the amount and nature of psychological distress and how it affects one's normal defensive style. It might prove a useful predictor to determine if, over the course of psychotherapy, patients return to their normal defense style or, actually demonstrate a maturation that exceeds this. Depending on the results, such research could form the basis of a useful predictor of outcome. Future research may also assess the optimal number of psychotherapy sessions required to elicit a significant amount of change in defense style. A comparative study assessing the interaction between QOR level, type of STI therapy, and optimal number of sessions until significant change in defenses are elicited would be useful. The design could involve random assignment of matched patients to either supportive or interpretive therapy of different durations (e.g., three groups, receiving 20, 40, or 50 sessions).

Changes in Defense Style

The first part of the investigation regarding changes in defense style involved assessing change in DSQ profiles (pre- to posttherapy) with changes in defensive behavior across the phases of therapy (as measured by the DMRS at early, middle and late phase of therapy). Previous research (Winston, Winston, Samstag, & Muran, 1994) reported that maturation of defense style occurred during the middle phase of therapy, and regressed in the late phase due to termination effects. The present study found change in defensive behaviors during the late phase of therapy was predictive of changes to defense style 1 year after therapy.

Patients rated their change occurring later than the observer rated DMRS. This suggests that there is a difference in self and observer ratings of defenses, with the patient

being less aware of the defensive behaviors and changes made to them than an objective observer. Significant change was observed to take place in the late phase, starting after the middle phase, and continuing to termination of therapy. Patients rated the change as occurring 6 months following therapy. The implication is that while patients improved in therapy, it took them a greater length of time to successfully employ the same defense style in their real world interpersonal lives. Another implication is that once defense style changed in therapy, and therapy was over, the patient was able to continue to utilize what they had learned from therapy, apply it to other situations, and rate themselves as improving on defense style 12 months following therapy. The improvements made by the patient continued in the absence of the therapeutic relationship, emerging and impacting the patient 12 months after therapy.

The contribution of the therapist (technical interventions) and therapeutic relationship (alliance) were likely important factors associated with the change in defensive behavior during the therapy sessions. The change reported by the patient may have been accomplished through the internalization of the therapist, whereby the therapist became integrated into the patient's internal world using the unconscious mechanisms of introjection, incorporation, and identification. The patient's use of these mechanisms was then generalized to other interpersonal relationships, leading to an eventual change in self-reported defense style.

The second part the investigation focused on the amenability of defense style to change as a result of the therapeutic process. As suggested by other researchers (e.g., Winston, Winston, Samstag, & Muran, 1994), it was anticipated that the intermediate level of defenses would exhibit the greatest amount of change over the course of therapy.

Instead, the results suggested that there was no statistically significant increase or decrease in DSQ scores across assessments. For the changes that did occur, it was the other levels, not the intermediate level, that demonstrated the greatest amount of relative change.

The implications of these findings are that all levels of defense styles (immature, intermediate, and mature) are more resistant to change than anticipated. Further, no one defense style exhibited characteristics to indicate that the dynamics of change varied as a function of the pretherapy defense style.

As previously discussed, a major limitation to the findings was the length of psychotherapy. Specifically, as to its effects on maturation of defenses, perhaps 20 sessions did not provide sufficient time for a significant degree of maturation in defense style to occur. Another limitation was that there were few patients who, pretherapy, were rated as intermediate in defense style and showed gains that placed them in the mature category. Almost half of patients (49%) showed some degree of maturation, but it did not prove to be statistically significant. It is suggested, in order to overcome the limitations of the current project, that future research addresses the temporal aspect related to the maturation of defense style. This would include exploring whether there is an optimal number of sessions that can be identified, within which maturation of the different levels of defense takes place.

QOR, Type of Therapy, and Outcome Variables

The DSQ data were analyzed to determine if a patient's QOR and the type of therapy (supportive versus interpretive) interacted, and contributed to changes in defense style. The hypothesis predicted that there would be an interaction between patient's QOR

and form of STI therapy received. Specifically, high QOR patients receiving the interpretive form of therapy were expected to show the greatest maturation of defense style on the DSQ from pretherapy to the 12-month follow-up assessment. The results failed to reveal a significant interaction between QOR and treatment on change in defense style across assessments.

Implications of these results are that there was a lack of evidence to support the hypothesis that specific therapeutic approach (e.g., interpretive, supportive) would be optimal in facilitating a maturation of defense style or that change in defense style was more likely for patients of specific (high) QOR. The results also indicate that there was little maturation in DSQ scores across the board, but specifically even for those patients thought to have been a good match for the interpretive therapy.

In the present study, change in defense style was assessed to determine if a maturation of defense style would be directly associated with change on other indices of therapy outcome. These indices included measures of interpersonal distress, self-esteem, life-satisfaction, and general symptomatic distress. The results revealed that maturation in defense style, at 6-months following therapy, was inversely related to the change in the index of life satisfaction from pre- to posttherapy. There was a direct relationship found between maturation of defense style 12-months following therapy, and change on the indices of life satisfaction from pre- to posttherapy.

The implications of these results are that changes in defense style do not have a significant relationship with change on other dimensions of functioning. Change in defense style may be independent of change in the areas of interpersonal distress, self-esteem, and general symptomatic distress. This may be due in part to the time required

for the defense style to change, relative to the time required for change in these areas of function to occur.

The maturation in defense style (pre- to posttherapy) 6-months following therapy was correlated with a more negative appraisal of life satisfaction at posttreatment. At 12 months following therapy, change in defense style was directly associated with a positive posttreatment appraisal of life satisfaction. This dichotomous shift may be attributed to the dynamics associated with the patient's and significant others response to a newly exhibited defense style. The 6-month period, posttherapy to 6-months follow-up, may be viewed as less satisfying as the changes resulting from therapy consolidate. As change in defense style becomes part of a patient's normal functioning, a higher degree of life satisfaction is rated (i.e., the patient learns the "new" defenses work better).

Change in defense style over one year perhaps followed a sequence of (a) a modification through 20 weeks of therapy, (b) the substantial revision at 6 months follow-up, and (c) re-consolidation and maturation at 12-months follow-up. Change in pre- to post-life satisfaction could reflect a sense that therapy was helpful and facilitated continued growth to occur. As such, the change was inversely related to DSQ at 6 months (no maturation during revision) but directly related at 12 months (re-consolidation).

Another implication of the findings may be that the results represent an artifact. Accounting for patient differences in status at pretherapy by utilizing residual gain scores, thus attenuated for any differences and eliminated findings of a significant association between change in DSQ and change in life satisfaction. But, the findings utilizing raw score difference may be important from a clinical perspective. The patient's

own subjective rating of their situation may be a significant factor that, even if attenuated for by use of residual gain scores, needs to be considered.

The main limitation of this study, directly impacting the results assessing the interaction of QOR and type of therapy and correlation between change in defense style with indices of outcome, was the limited nature of the therapy. As stated previously, 20 sessions may be too short of a time within which to expect defense style to change. Further limitations can also be attributed to the psychometric properties of the instruments used to measure outcome. There was little evidence to suggest that change in defense style was related to any of the outcome indices. Some outcome measures reflected very broad constructs, assessed with just a few questions and may not have been sensitive enough accurately reflect a relationship.

Summary

In the current study, patient's quality of object relations at pretherapy was not found to be significantly associated with pretherapy defense styles. It was postulated that while QOR assessed a trait type patient characteristic, the DSQ measured a state, or defense style elicited in response to a specific stimulus. Pretherapy defense styles were also examined to evaluate the relationship with in-therapy defensive behaviors. It was found that pretherapy defense style was significantly associated with the defensive behaviors used in the late phases of therapy; no significant associations were observed for the early or middle phases of therapy. This suggested that the patient may not accurately appraise their current defense style when in an anxiety-provoking situation. It was hypothesized that once the patient resolved the stressful situations for which they are seeking psychotherapy, pretherapy appraisal of their defense style more closely

approximated their actual defensive behaviors. The amenability of defense style to change in the therapeutic process was also researched. The findings indicated that there was no appreciable increase or decrease in defense style across assessments.

The interaction between quality of object relations and type of therapy (interpretive versus supportive) was analyzed to determine if these variables contributed to change in defense style. No interactive effects were observed between quality of object relations and treatment condition on changes in defense style. Also analyzed was the relationship between the maturation in defense style and other indices of outcome. The results revealed that maturation in defense style at 6-months following therapy was inversely related to the change in the index of life satisfaction, from pre- to posttherapy. There was a direct relationship found between maturation of defense style 12-months following therapy, and change on the indices of life satisfaction from pre- to posttherapy.

Strength of the Study

One of the main strengths of this study lies in the statistical power of the findings. The large number of patients (n = 144) and complete data set (no significant amount of missing data) contributed to the utility, strength, and certainty with which the results can be interpreted. Equally important was the experience of the therapists and their ability to deliver an interpretive or supportive form of psychotherapy that consistently adhered to a manual. This allowed the researcher to draw conclusions based on the certainty that significant results, or a lack thereof, were not due to a diversity in therapeutic approaches by the therapist cohort. The independent raters, assessing in-therapy defensive behaviors, demonstrated a very high degree of reliability, contributing to the overall strengths of the study.

Another strength of the study can be attributed to the normal distribution of the data. Scatter plots and histograms were generated and no evidence of outliers was apparent. As such it can be stated that the data behaved normally. This allowed the data to be subjected to analysis in accordance with conventional and generally accepted statistical theories and principles.

The representative patient population, as reported in the comparative study (Piper et al.), was stratified in terms of their characteristics, including; age, education, gender, occupation, use of medication, and DSM-IV diagnosis. This provided the researchers with the opportunity to generalize the study's findings to a wider population with a greater degree of certainty than in previous studies where the number of patients was small and homogeneous.

Limitations of the Study

The results of the current study provided reliable and valid information into patient characteristics, defense styles, and outcome associated with specific types of therapy, but the study did have limitations.

First, a lack of a control group with which to compare QOR and defense style limited the ability of the current study to assess whether pretherapy defense styles were influenced by the nature of the anxiety-provoking stimulus for which the patient sought therapy.

The second limitation was the absence of a baseline or assessment to establish the pretherapy habitual level of defense style for the patient. This limited the researcher's ability to determine whether the pretherapy score actually reflects a situational response (state-like), or their true defense style (trait-like).

Another limitation of the study was the circumscribed number of psychotherapy sessions. It is suggested that 20 sessions may not be enough time in which change in defense style can occur. The limited number of sessions is implicated in the relatively small number of patients who demonstrated a significant degree of maturation in defense style and defensive behavior

Future Research

Based on the finding of this study, its strengths, as well as its limitations, directions for future research can be suggested. First, future research into the constructs tested in this study would benefit from the assessment of defense style by way of multiple measures. Specifically, ratings should address defenses and their association with a specific stimulus or stressor. It is suggested that this would ensure that what is reflected in the measures is clearly a trait or state defense style.

Another important aspect to address in future research is to determine the relationship between the amount and nature of psychological distress and effects on normal defense style. Equally important is to be able to establish a baseline (trait) defense style measure that accounts for the impact of the psychological distress on the patient's defensive behaviors (state). Finally, it would be helpful to define relationships between specific distress and their effects on patient's defense style, or the trait defense style. This would provide a useful predictor to be used to determine if over the course of psychotherapy, patients return to their normal defense style or mature beyond.

Assessing the optimal number of psychotherapy sessions required to elicit a significant amount of change in defense style would be another area of research that would contribute to understanding in the field. A comparative study assessing the

interaction between QOR level, type of STI therapy, and number of optimal number of sessions until significant changes in defense style or behaviors are elicited would also be useful.

Table 1

Chi-Square Analysis of Pretherapy DSQ and Late Session DMRS Profiles

		DSQ Profile (M = 1.84, SD = 0.59)			
		Immature	Intermediate	Mature	Total
	Immature	11	12	1	24
DMRS Profile	Intermediate	9	31	5	45
(M = 1.84, SD = 0.65)	Mature	1	8	2	11
	Total	21	51	8	80

Note. X^2 (80, df = 4) = 8.06, p<.09

Table 2

Simultaneous Regression Analysis for Changes in DMRS-Rated Defenses Predicting Changes on DSQ Scores

	t	B	SE B	β
DSQ change from pre-posttherapy				
DMRS change: early-late sessions	-.10	-.04	.06	-.01
DMRS change: early-middle sessions	-.01	-.08	.24	-.01
DMRS change: middle-late sessions	-.07	-.04	.22	-.07
DSQ change from pre – 6 - month follow up				
DMRS change: early-late sessions	-.09	.08	.08	.27
DMRS change: early-middle sessions	.08	.08	.08	.27
DMRS change: middle-late sessions	-.31	.08	.08	.27
DSQ change from pre – 12-month follow up				
DMRS change: early-late sessions	.98	.08	.08	.27
DMRS change: early-middle sessions	-.96	-.47	.29	-.93
DMRS change: middle-late sessions	2.17	.60	.28	1.12*

Note. $R^2 = .19$ for DSQ change from pre-12-month follow up, $F(3,28) = 2.15$, $p = .12$

*p<.05.

Table 3

Change in DSQ Residual Gain by Pre-treatment DSQ

	Residual gain scores		
Pretherapy DSQ	M	SD	N
Immature			
pretherapy – posttherapy	0.02	1.38	42
pretherapy – 6 month follow-up	0.30	1.32	17
pretherapy – 12 month follow-up	-1.51	0.79	17
Intermediate			
pretherapy – posttherapy	-0.07	1.54	94
pretherapy – 6 month follow-up	-0.16	1.73	38
pretherapy – 12 month follow-up	0.50	1.03	38
Mature			
pretherapy – posttherapy	0.35	1.49	16
pretherapy – 6 month follow-up	0.29	2.79	3
pretherapy – 12 month follow-up	2.17	1.48	3

Table 4

Correlations Between Changes in DSQ Profiles and Indices of Therapy Outcome

	Change in DSQ Profile		
Outcome Variable	pre - posttherapy	pre - 6-month follow up	pre - 12-month follow up
Interpersonal distress	.11	.10	.07
Self Esteem	.06	.12	.09
Life Satisfaction	-.12	-.22*	.35**
General Symptomatic Distress	.03	.09	.08

Note. Outcome variable represents raw score change between pre- and post therapy.

*p< .05, **p<.01

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Appendix A

Definition of Defense Mechanisms

Immature Defenses

Projection / Projective Identification.

Falsely attributes their own unacknowledged feelings, impulses, or thoughts to others. An affect or impulse which is unacceptable and projects onto someone else, as if it was really that other person who originated the affect or impulse.

Example: "My father hates me."

Fantasy.

Excessive daydreaming as a substitute for human relationships, or more direct and effective action, or problem solving.

Example: " I daydream of killing giants."

Hypochondriasis.

Repetitious use of a complaint or series of complaints in which the subject ostensibly asks for help. Covert feelings of hostility or resentment towards other are expressed simultaneously by the subject's rejection of the suggestions or advice or whatever other offer. Complaints may be somatic or concern life problems.

Example: When taking about the relationship the patient has with his father he suddenly complains of severe nausea.

Passive Aggression.

Indirect and unassertive expression aggression toward others. There is a façade of compliance masking covert resistance toward others.

Example: " I hate myself (suicide attempt)."

Acting Out.

Acting without reflection or apparent regard for negative consequences

Example: "Without reflection, I hit 12 policemen."

Dissociation / Neurotic Denial / Rationalization.

Refusing to acknowledge some aspect of external reality of their experience that would be apparent to others. Actively denial that a feeling, behavior response, or intention was or is not present, even though its presence is considered more than likely by the observer. Devising reassuring or self-serving but incorrect explanations for their own or other's behavior.

Examples: *"I tell my father jokes."*
"What do you mean, there are no problems between my father and I?"
"I am justified in hating my father because of the emotional toll that he has...."

Intermediate Defenses

Displacement.

Generalization or redirecting a feeling about or a response to an object onto another, usually less threatening, object.

Example: "I hate my father's dog."

Isolation of Affect / Intellectualization / Undoing,

Being unable to experience simultaneously the cognitive and affective components of an experience, because the affect is kept from consciousness. The use of excessive abstract thinking to avoid disturbing feelings. Behaviors are designed to symbolically make amends for or negate previous thoughts, feelings, or actions. Involves expressing a wish, then denying it

Examples: "I disapprove of my father's behavior."
"My music is much like my life, it is dark and foreboding."
"I wish my father could be different, but really he's not so bad once you get used to him."

Repression.

Being unable to remember or be cognitively aware of disturbing wishes, feelings, thoughts, or experiences.

Example: "I don't know why I feel so hot and bothered."

Reaction Formation.

Substituting behaviors, thoughts, or feelings that are diametrically opposed to their unacceptable thoughts or feelings.

Examples: "I love my father."
"I hate my fathers enemies."

Mature Defenses

Altruism.

Dedication to fulfilling the needs of others, in part as a way of fulfilling the needs of others, in part as a way of fulfilling his or her own needs. To be rated, there needs to be a clear, demonstrable, functional relationship between the individuals feelings and the altruistic response.

Example: "I comfort father haters."

Sublimation.

Channeling rather than inhibiting potentially maladaptive feelings or impulses into socially acceptable behaviors. This defense is to be rated only when a strong functional relationship can be demonstrated between the feelings and response pattern.

Example: "I beat my father at tennis."

Suppression.

Voluntary avoiding thinking about disturbing problems, wishes, feelings, or experiences temporarily.

Example: " I am cross at my father but will not tell him."

Anticipation.

Considering realistic, alternative solutions and anticipating emotional reactions to future problems, but actually experiencing the future distress, and mentally bringing the distressing ideas and affects together.

Example: "I know that when I see my father at Christmas that the anger is going to come out."

Humor.

Emphasizing the amusing or ironic aspects or the conflict or stressor. Humor allows pleasure to both the observer and the user.

Example: "When I see 'Seinfeld' I can't help but to think that it was written about my family. Only it seems funnier on TV."