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I am submitting herewith a dissertation written by Chad Ryan Sims entitled "An Examination of the Relationship Between Mindfulness and Aspects of Personality Structure." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.

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Leonard Handler, Major Professor

We have read this dissertation
and recommend its acceptance:

John Lounsbury
_____

Robert G. Wahler
_____

F. Stan Lusby
_____

Acceptance for the Council:

_____
Carolyn R. Hodges, Vice Provost
and Dean of the Graduate School

An Examination of the Relationship Between Mindfulness and Aspects of Personality Structure

A Dissertation
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Degree
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Abstract

The purpose of this study was to further the developing understanding of mindfulness and its role in psychological well-being. Although recent studies have examined this construct using various self-report measures, there is a paucity of research concerning the potential impact of mindfulness on unconscious aspects of personality structure as understood in psychodynamic theory. A total of 81 university students were recruited from the University of Tennessee, Knoxville, and administered several cards from the Thematic Apperception Test, along with two validated self-report measures of mindfulness, and a measure of social desirability. The TAT stories were scored for defensive functioning using the Defense Mechanism Manual (Cramer, 2002), and for quality of object relations using the Social Cognition and Object Relations Scale (Westen, 1995). Findings were expected to demonstrate a general maturity of character structure for those participants evidencing greater levels of dispositional mindfulness. The study's hypotheses were not supported. The study's discussion touches on the frequently modest relationship between self-report and projective measures of personality characteristics, the potential use of mindfulness as a coping strategy in some cases, the potential relationship between mindfulness and psychotherapeutic outcome, and the need for further research to clarify the role of mindfulness in change processes.

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CHAPTER I

Introduction

The practice of mindfulness dates back over 2,500 years, developing as a core component of ancient Asian religion and philosophy (Fulton & Siegal, 2005; Germer, 2005; Gunaratana, 2002). Its roots are traced to Buddhism and associated meditative practices designed to cultivate this quality of consciousness, although the practice of mindfulness development has expanded across the globe, and is often divorced from the larger religious concerns and traditions from which it arose. More recently, the practice of mindfulness has begun to be integrated into Western approaches to psychotherapy, based on some overlap in the goals of both psychotherapeutic and meditative traditions, such as the development of insight and the alleviation of suffering consequent to presumed psychological causes (Baer, 2003; Fulton & Siegel, 2005; Kabat-Zinn, 1990; Salmon et al., 2004).

Mindfulness has been defined as "the state of being attentive to and aware of what is taking place in the present" (Brown & Ryan, 2003, p. 822), although the importance of other dimensions in this construct has been suggested, particularly focusing on the individual's relation to moment-to-moment experience. Germer (2005) thus defines mindfulness as "awareness of present experience, with acceptance" (p. 7). Kabat-Zinn (1994) similarly includes a focus on acceptance of present experience in defining this construct as "paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally" (p. 4). This quality of acceptance presumably allows the individual to avoid defensive exclusion of particular aspects of experience. The focus of mindful

attention is broad, and includes aspects of both external and internal reality as they become apparent on a moment-by-moment basis (Baer, 2003).

A number of theoretically and empirically-based assertions about the benefits of developing this quality of consciousness have been proposed. Germer (2005) has suggested that, in decreasing the amount of time individuals spend on "autopilot", mindfulness cultivation may lead to reduced suffering. This reduction is thought to be due to lowered levels of reactivity to the present, along with a relative lack of entanglement in past or potential future experiences, creating a sense of "energy, clearheadedness, and joy" (p. 5). Germer proposes that "everyday mindfulness" (described as the experience of moments of intensified awareness during daily activity or as may occur in psychotherapy) may lead to increased insight concerning psychological functioning and a heightened capacity to respond in a more skilled way to novel situations (p. 9). He also notes that intensive engagement in a practice such as formal mindfulness meditation can allow for an understanding of the impermanence of phenomena, including what is taken to be the self.

Fulton and Siegel (2005) compare insight as described in the mindfulness tradition and in the Western psychotherapeutic tradition, finding common ground in the importance given to developing the capacity to discern how our mental constructions can become mistakenly understood as reflecting inherent qualities of the world around us, at times causing suffering. By allowing one to become better attuned to internal and external experience as it unfolds, mindfulness in general may lead to the development of a certain amount of psychological space within which it becomes possible to observe and come to understand habitual, typically automatic, behaviors, thereby providing a greater

opportunity to choose a new, more adaptive approach to dealing with oneself and the environment.

Focusing on proposed changes associated with the development of mindfulness through meditation, Gunaratana (2002) suggests that such practice leads to nothing short of character change over time, through a process of better acquainting the practitioner with his or her internal life. This is described as a measured development, as "your own subconscious motives and mechanics become clear to you. Your intuition sharpens. The precision of your thought increases, and gradually you come to a direct knowledge of things as they really are, without prejudice and without illusion" (p. 16). Relationships may also change through this process. This may be a result of the development of equanimity and confidence that is thought to appear in the mindful individual, and the postulated reduction in reactivity that might have formerly led one to stubbornly cling to a goal of self-protection and even aggrandizement in the face of difficult interactions. Communication with others may thus improve (Kabat-Zinn, 1990).

Based on empirical research, Brown and Ryan (2003) uncovered support for many of these suppositions. Using a newly developed, self-report measure of mindfulness, the Mindful Attention Awareness Scale (MAAS), these researchers discovered that mindfulness is predictive of lower levels of the Neuroticism trait of the "Big Five", along with lower levels of other self-report measures of anxiety, depression, and poor physical health. Conversely, mindfulness predicts greater levels of self-esteem, positive affect, life satisfaction, autonomy, and relational fulfillment. It was also discovered that individuals who self-report greater levels of mindfulness are more aware of implicit affective experience based on an Implicit Association Test (IAT). This

finding seems to lend tentative support to the notion that this quality of awareness affords some ability to detect experience that tends to otherwise be less than fully conscious.

While the MAAS is comprised of a single factor, another recently developed self-report measure of mindfulness developed by Baer, Smith and Allen (2004), the Kentucky Inventory of Mindfulness Skills (KIMS), evidences four different factors. This measure was developed based on Linehan's (1993) conceptualization of mindfulness skill components within Dialectical Behavior Therapy, and taps dimensions labeled *Observe* (ability to attend to various internal and external stimuli), *Describe* (ability to assign verbal descriptions to experience), *Act With Awareness* (ability to bring full attention to present moment actions), and *Accept Without Judgment* (ability to allow for aspects of experience with a sense of openness, while refraining from avoidance or manipulation of that experience). Three factors (excluding the *Observe* factor) of the KIMS yielded negative correlations with measures of neuroticism and general psychopathology. The *Observe* and *Describe* factors were consistently negatively correlated with a measure of alexithymia, and the *Describe* factor was positively associated with life satisfaction in a sample of college undergraduates. Additionally, Baer et al. (2004) present data demonstrating that patients who were diagnosed with Borderline Personality Disorder scored lower on three factors, with the exception of *Observe*, in comparison to two groups of college undergraduates. These findings lend further support to the importance of mindfulness in well-being, and add evidence that mindfulness is a multifaceted construct with factors that relate differentially to various aspects of psychological health.

Some clinicians (e.g. Martin, 1997; Fulton & Siegel, 2005; Germer, 2005) have suggested that the development of mindfulness may be a common factor across various

approaches to psychotherapy. Martin (1997) has stated that mindfulness can lead to "emancipation from one's own habitual view of self and the world… It provides the capacity to look freshly at one's psychological schemata of self and other" (p. 293). This process might be seen as a key element of various methods for treating psychopathology.

Several models of psychotherapy clearly draw on the concept of mindfulness in conceptualizing and treating patients. Mindfulness-Based Stress Reduction (MBSR) is a group intervention utilizing mindfulness meditation exercises, and is geared toward the improvement of a wide range of symptoms, including chronic pain, anxiety, depression, and general stress (Grossman, Niemann, Schmidt, & Walach, 2004; Kabat-Zinn, 1990). Mindfulness-Based Cognitive Therapy (MBCT) is an adaptation of MBSR that involves educating patients about mindfulness principles in an effort to prevent depressive relapse. This intervention has been found to be most effective, cutting relapse rates in half, with patients who have relapsed at least three times prior to engagement in MBCT (Baer, 2003; Teasdale, Segal, & Williams, 2003).

Dialectical Behavior Therapy (DBT) is a comprehensive treatment protocol originally designed for patients diagnosed with Borderline Personality Disorder. Patients are taught mindfulness skills as an aid to help them learn to tolerate emotional experience and develop an increasing level of self-acceptance (Baer, 2003; Linehan, 1993). Brief Relational Therapy (Safran & Muran, 2000) is a psychodynamically-based model that replaces the content focus of other dynamic approaches (e.g. Luborsky, 1984; Strupp & Binder, 1984) with a process focus that examines intrapsychic and interpersonal phenomena as they occur between the patient and therapist *in the moment*. The explicit goal is to help the patient develop a "generalizable skill of mindfulness, rather than on

gaining insight into and mastering a particular core theme" (p. 179). It is anticipated that patients will develop an ability to observe their behaviors and internal experiences on a moment-to-moment basis in relationships. This seems to have much in common with Binder's (2004) emphasis on helping patients develop the capability for "reflection-in-action", which is described as the use of "self-observation to appraise and modify one's behavior *as it is occurring*, thereby creating enormous flexibility that fosters the capacity to improvise in initiating and responding to interpersonal behavior" (p. 190).

Acceptance and Commitment Therapy (ACT), while not explicitly employing mindfulness practices, operates from the standpoint that patients can benefit by learning to become observers of their experience, and accepting experiences that occur while in pursuit of valued behavioral goals. Attempts to avoid thoughts and feelings are construed as likely to lead to maladaptive behavior, and are labeled "experiential avoidance" (Baer, 2003; Blackledge & Hayes, 2001; Hayes, Strosahl & Wilson, 1999). ACT has been used to treat varied difficulties, including depression, stress, and anxiety. It has even shown promise in reducing rates of rehospitalization among psychotic patients with only a brief intervention (Bach & Hayes, 2002).

These developments in psychotherapeutic intervention point to the increasing acceptance of mindfulness as a key component of psychological well-being, and the empirical basis for this assumption is beginning to build based on outcome research involving several of the therapy models mentioned (Baer, 2003; Grossman, Niemann, Schmidt, Walach, 2004; Lazar, 2005). More rigorous methodology, however, would certainly solidify the basis of current notions about the utility of mindfulness-based treatments. While some of these developments may be considered to have arisen within a

larger cognitive and/or behavioral paradigm (the obvious exception being BRT) with an attendant focus on symptom reduction, theorists and researchers with psychodynamic inclinations have also been active in exploring the usefulness of Buddhist thought, and mindfulness in particular, within their understanding of the therapeutic process and as part of their clinical efforts (Finn, 1992; Kornfield, 1993; Kutz, Borysenko, & Benson, 1985; Safran, 2003).

Personality structure is a commonly assessed aspect of individuals' functioning in psychodynamic approaches as part of case formulation (McWilliams, 1994, 1999), because it provides a guide to issues pertinent to treatment, and suggests how clinicians will work with patients. This structure is considered to fall broadly within three primary levels, which include normal-neurotic, borderline, and psychotic, and severity of pathology is considered to increase along this spectrum, in this order. A few key aspects of enduring personality characteristics assist in making such a diagnosis, and these include level of identity integration (including maturity of self and object representations), and quality of defensive functioning (ranging from primitive to more mature), along with a related adequacy of reality testing (Chatham, 1989; McWilliams, 1994, 1999; Yeomans, Clarkin & Kernberg, 2002).

Engler (1984, 2003) has argued that the possession of a mature, integrated sense of self is a prerequisite for the full spectrum of personal transformation that may develop as a result of intensive mindfulness, or insight, meditation. Such a characteristic would be expected in individuals demonstrating a normal-neurotic level of personality structure. As he puts it, "you have to be somebody before you can be nobody" (2003, p. 35). By "nobody" he is referring to the notion that later stages of insight meditation lead the

practitioner to the realization that there is no consistent, singular self, but rather that even the sense of a self that observes experience is a construction of the mind that is created on a moment-to-moment basis. He reconciles his retention of the importance of a well-developed self from the standpoint of Western psychology, and the ultimate position of "no-self", with the idea that Buddhist meditation practices are not geared toward the transcendence of a "psychological self", but rather an "ontological self", where the latter is "the feeling or belief that there is an inherent, ontological core at the center of our experience that is separate, substantial, enduring, self-identical" (2003, p. 52). Engler (1984) initially posited a developmental model, based on this idea, which assumed the importance of achieving a consolidated "psychological self" before spiritual attainments could be reached. In his more recent work (2003), he acknowledges the potential benefits of insight meditation prior to this achievement. He states that a self marked by greater cohesion and flexibility, along with acceptance of characteristics of self and other that were formerly unacceptable, is possible. The more intensive the practice is, though, the more importance he places on having prior establishment of a mature level of personality structure. This recent position is more consistent with empirical evidence demonstrating the likelihood that mindfulness principles can be of use to a wide range of patients, at least in the early stages of such practice.

Although descriptive diagnoses are not isomorphic with psychodynamic notions of character structure, Borderline Personality Disorder as described in the American Psychiatric Association's Diagnostic and Statistical Manual (2000) is a form of pathology captured by the borderline level of personality in psychodynamic theory (Yeomans, Clarkin & Kernberg, 2002), and mindfulness principles appear to be of great benefit to

such patients (Linehan, 1993; Linehan, Cochran & Kehrer, 2001). There is also mounting evidence that individuals experiencing active psychotic symptoms can benefit from carefully-structured mindfulness training (Chadwick, Taylor, & Abba, 2005), or interventions utilizing mindfulness principles (Bach & Hayes, 2002). Despite this concession, Engler (2003) clearly considers insight meditation to operate in a similar manner to "uncovering" forms of therapy, which are generally reserved for patients evidencing a normal-neurotic personality. He is careful to note, however, that such practice does not necessarily lead to psychodynamic insights or characterological change in every case and, in fact, such spiritual activity may be used defensively by some, particularly those with some deficits in personality structure. Difficulties around issues such as basic trust and the capacity for emotional intimacy are considered by Engler to be particularly out of reach by simply developing mindfulness, and likely necessitate therapeutic intervention. Empirical studies demonstrating a significant association between dispositional mindfulness, or engagement in mindfulness meditation, and quality of relational functioning among both clinical and non-clinical groups provides some evidence that counters this notion (Carson, Carson, Gil & Baucom, 2004; Sims, Handler, Peters, Edlis & Dellinger, 2006).

Kornfield (1993) agrees with the idea of levels of development within the process of mindfulness cultivation through meditation, along with the potential benefits of this practice in earlier stages. He notes that, prior to the more advanced levels discussed by Engler, practitioners realize how little awareness they typically maintain, and they can also achieve insight into behaviors and motivations that are akin to those noted in psychodynamic therapy. He describes this process as a kind of self-therapy, and states

that “these insights and the acceptance that comes with nonjudgmental awareness of our patterns promotes mental balance and understanding, so it can lessen our neurotic identification and suffering” (p. 58-59). Presumably, this development would include a heightened awareness of disavowed affect, intrapsychic mechanisms for handling troubling experiences, and problematic patterns of relating to others. These characteristics are captured by key aspects of personality organization, and are described by maturity of defensive functioning and quality of object relations.

Mindfulness and Defense Mechanisms

Some theoretical views and empirical evidence point to the potential of mindfulness in allowing for greater insight into, and maturity of, defensive functioning. Delmonte (1990) argued that mindfulness meditation is the Eastern equivalent of consciousness-raising practices in psychoanalysis. He considers mindfulness to consequently be a self-generated method for developing insight, and notes that this practice is opposed to behaviors detrimental to well-being, such as the overuse of repressive defenses. Kutz, Borysenko, and Benson (1985) discussed the potential usefulness of integrating mindfulness mediation with dynamic psychotherapy to intensify the process of therapy. They see the former as being capable of leading to a greater capacity to become an observer of psychological processes, bringing forth increasing awareness into mental “habits and distortions” which may then be aborted subsequent to repeated recognition of such patterns. Mindful states, promoted by meditation, are considered to allow for the relaxation of defensive processes, allowing formerly warded-off material to surface and become accepted, along with a corresponding promotion of

self-understanding. The result is that the "meditator is less at the mercy of autonomous mental responses and therefore is less stereotyped in reactions and behavior" (p. 5).

In an empirical analysis of the assumption that mindfulness meditation can lead to improvements relevant to dynamic psychotherapy, Kutz et al. (1985) examined self-reported and clinician-assessed changes in 20 patients actively involved in such therapy subsequent to a 10-week mindfulness meditation group program. Diagnoses ranged from obsessive and anxiety neuroses to borderline and narcissistic personality disorders. Along with significant pre-to-post intervention improvements in the majority of self-report symptom and mood state measures, clinicians' ratings demonstrated significant gains in several characteristics among their patients, including self-identity, anxiety tolerance, and insight, with the greatest improvement found in the latter category. Although defensive functioning per se was not measured in this study, increased psychological insight, and a heightened capacity to cope with anxiety can certainly be construed as key components in allowing for changes in ingrained defensive functioning. Importantly, however, actual changes in levels of mindfulness as a result of the group intervention were not assessed in this study, given the lack of a valid measure of the construct at that time.

Sims et al. (2006), based on a clinical outpatient sample of 19 individuals evidencing a broad range of diagnoses, discovered that self-reported levels of mindfulness were significantly related to maturity of self-reported defensive functioning. Specifically, pre-treatment patients appearing to be more mindful, based on the Mindful Attention Awareness Scale (Brown & Ryan, 2003), were less prone to employing defenses classified as Immature (e.g. Denial, Projection, Splitting) or Neurotic (e.g.

Idealization, Reaction Formation, Undoing) on the Defense Style Questionnaire-40.

Emavardhana and Tori (1997) examined pre-to-post intervention changes in defensive functioning and self-concept for two groups of predominantly Thai teenagers (a total of 438 participants) engaged in an intensive, seven-day mindfulness meditation retreat, as compared to a control group of 281 participants matched for gender, age, education, and other demographics. The meditation groups demonstrated significantly positive pre-to-posttest changes in quality of self-representation, and were found to be significantly different from the control group at posttest, as measured by the indices making up the Tennessee Self-Concept Scale, which include questions tapping such features as identity and satisfaction with the self. Using the Life Style Index as a measure of defensive functioning, significant pre-to-post decreases, and lower posttest levels relative to controls, were found for the defenses of Displacement, Regression, and Projection among the meditation groups. The defenses of Reaction Formation and Denial, on the other hand, were actually found to evidence the opposite pattern, with increased use among the meditation groups. This latter finding conflicts with those of Sims et al. (2006); Denial and Reaction Formation fall within the Immature and Neurotic factors, respectively, of the DSQ-40. Importantly, Emavardhana and Tori's study did not employ an empirically-derived measure of mindfulness, and the assumption that engagement in the retreat would lead to changes in this characteristic was crucial to their findings. Also, these researchers discovered that a significant portion of the variance in some of the defense changes (including Denial) and the majority of self-concept changes could be accounted for by measured increases in Buddhist religiosity. While these factors make the findings difficult to relate to changes in levels of mindfulness, the study

results offer the possibility that defensive functioning can be altered in conjunction with practices geared toward the cultivation of this quality of consciousness. Perhaps by being aware and accepting of underlying affect, along with their manner of dealing with related anxiety, more mindful individuals are capable of choosing to avoid defenses that may lead to problematic reality-distorting and relationship-interfering adaptations.

Some evidence pointing to the potential for dispositional levels of mindfulness to allow for the observation of such processes is reflected in Brown and Ryan's (2003) previously mentioned research using an Implicit Association Test (IAT) procedure. The degree of concordance between their sample members' self-reports of affective state, and an implicit measure of emotion associated with the self, was measured in 90 undergraduate students. Implicit processes, which are phenomena considered to be occurring at an unconscious, pre-reflective level of awareness, are often measured in such procedures by examining the response latency of participants in grouping constructs together. Implicit levels of related psychological states or attitudes are thought to have a notable impact on the fluidity of responses. In this study, the procedure involved having participants group words into one of two categories on a computer screen as quickly as possible as they appeared, thereby avoiding a great deal of conscious cognitive deliberation. Participants tended to self-report a relatively positive affective state, as well as respond more quickly on the IAT when positive affect words (e.g. *happy, pleased*), and words denoting the self (e.g. *I, me, mine*) were to be categorized by pressing the same computer key, versus the trial in which self and negative affect words (e.g. *angry, depressed*) were assigned together. The researchers failed to find a significant correlation between the self-report measure of affective state, and the IAT effect (computed as the

difference between mean response latencies for the self/unpleasant word block and the self/pleasant word block) across all participants. However, mindfulness, as assessed with the MAAS, moderated this relationship. More mindful individuals demonstrated greater concordance between the two types of affective measures, seemingly demonstrating a capacity for greater awareness of their implicit emotional state, which then presumably informed their self-report of the same. Brown and Ryan see this finding as providing support for the notion that mindfulness "facilitates the uncovering of previously inaccessible emotional and other psychological realities" (p. 835).

Mindfulness and Interpersonal Functioning

As with defensive processes, some theoretical developments and empirical evidence point toward the potential impact of mindfulness on quality of relational functioning. As noted previously, Safran and Muran's (2000) Brief Relational Therapy model, and Binder's (2004) theoretical assumptions seem to converge on both the relevance of maladaptive interpersonal functioning in sustaining psychopathology, and the crucial importance of developing an attunement to interactive processes, as they occur, in leading to flexibility and well-being. Wachtel (1993) elaborates on the cyclical nature of interpersonal difficulties by discussing how individuals may inadvertently elicit unwanted, problematic responses from others due to their adaptations to anticipated interactions, thereby recreating relational problems over and over again as they attempt to navigate the interpersonal world. Being mindful may help circumvent such a process by allowing the individual the internal space to observe, and adjust, behaviors based on repetitive anticipations stemming from faulty working models of others that are prone to

straining relationships. Subsequently improved interactions may then become internalized, changing enduring self and object representations to some degree.

A body of research within the social psychology literature has begun to establish empirical support for the role of expectations in leading to corresponding behavior in others and, more specifically, the psychodynamic notion of transference. This phenomenon is cited as leading to the recapitulation of problematic expectations and construals of others' behavior in the present based on working models of self and other formed in the past. The role of expectancies in leading to confirming behavior in others is known as the self-fulfilling prophecy, or behavioral confirmation effect, among social psychologists. It is the most thoroughly researched behavioral consequence of the expectancy concept within that discipline (Merton, 1948; Olson, Roese, & Zanna, 1996). The laboratory procedure that has been used to find evidence for this phenomenon has typically involved the activation of stereotypes in participants (typically termed "perceivers") about future interaction partners (typically termed "targets"). Subsequent to a brief interaction, these targets are rated by observers as acting in accordance with the associated stereotype due to the sometimes subtle behavior of the perceivers (e.g. Rotenberg, Gruman, & Ariganello, 2002; Sibicky & Dovidio, 1986; Snyder, Tanke, & Berscheid, 1977). Chen and Bargh's (1997) research has added support for the idea that such processes may not depend on the conscious activation of expectancies, but can occur nonconsciously through a proposed link between behavioral and perceptual mental representations. In their study, the subliminal activation of the African American stereotype led Caucasian undergraduates to elicit greater levels of hostility among Caucasian targets relative to perceivers who were not primed with the stereotype.

Berk and Anderson (2000) extended this line of research by examining the clinical concept of transference and its potential effect on behavioral confirmation. In their research, individual exemplars, rather than broad stereotypes, were activated in perceivers. Undergraduate student participants in this study were either made to believe that the target they would interact with in an unstructured conversation had idiographic characteristics of a positively or negatively evaluated significant other (based on descriptions the participants provided of an actual significant other in data collection a couple of weeks prior), or characteristics of a yoked participant's significant other (control condition). Independent judges rated the targets' behavior during the later interaction as evidencing more positive affect when they were initially portrayed as having characteristics resembling the perceivers' own "positively toned" versus "negatively toned" significant other. These findings were not found in the control condition. Based on similar yoked-control experiments that involved having perceivers rate targets on a series of descriptive statements, but subsequent to subliminal priming of significant-other descriptions, Andersen, Reznik, and Glassman (2005) discuss evidence for the unconscious activation of such transference-based construals of others, which mirror Chen and Bargh's (1997) findings. Perceivers in the experimental condition of such studies have been found to unconsciously use their significant-other representation to infer characteristics of the targets that were not among the subliminally-presented descriptions that were characteristic of that same significant other. These researchers also discuss evidence suggesting that along with the unconscious activation of significant-other representations can come associated affect and representations of self-in-relation to the primed significant-other representation.

This line of work provides empirical support for the notion that individuals can mindlessly recreate relationships from their past based on subtle, unconscious cues found in others as they interact. To the extent that these past relationships are problematic, such an individual can become stuck in repeated, maladaptive relational patterns. Andersen, Reznick, and Glassman (2005) suggest that the control over such a process would likely depend on awareness of mental activity in the context of interpersonal activity. This is thought to offer the possibility for one to experiment with different ways of interacting. They go on to note that:

> Under conditions of relative mindfulness, moreover, if one is presented with an opportunity to develop a more trusting and positive relationship with another person (relative to one's repertoire of significant-other relationships), one may in fact select this option. In so doing, one may begin to break the cycle of negative relationships by forming a new significant-other representation in the context of a loving, caring, mutually respectful self-other relationship. New relationship templates may thus develop and become the basis for new and positive transference experiences, breaking the self-defeating cycle (p. 459-460).

More mindful individuals, therefore, could be hypothesized to evidence more mature self and object representations.

Suggestive empirical support for this assumption comes from a study by Carson, Carson, Gil, and Baucom (2004). These researchers hypothesized that a Mindfulness-Based Relationship Enhancement program, modeled after MBSR interventions, would allow participants to avoid interacting with romantic partners in automatic, at times maladaptive, ways through the development of insight into relational and intrapersonal

patterns, which can lead to a corresponding improved ability to choose a more skillful approach to relating. Forty-four, relatively nondistressed, predominantly Caucasian, heterosexual couples took part in the study, and were evenly divided into an intervention and wait-list condition. The intervention condition involved eight weekly group mindfulness sessions, along with one full-day mindfulness retreat, and included mindfulness instruction, group interaction, homework assignments, formal meditation, and exercises specifically designed for couples. The wait-list condition involved daily stress tracking at regular intervals in an effort to control for measurement effects. Dependent measures used in the intervention group included numerous self-report measures of relationship satisfaction and individual psychological functioning, in addition to diary entries reflecting both general stress and relationship-specific stress on a daily basis, and efforts made toward adhering to mindfulness practice recommendations. Results indicated greater overall relationship satisfaction (including measures of autonomy, closeness, partner acceptance and general distress), along with well being from the standpoint of individual psychological functioning (including measures of spirituality, relaxation, optimism, and general distress) for the mindfulness group relative to the wait-list condition, based on pre- to post-intervention changes. Furthermore, improvements held up at reassessment three months after the intervention. Post-hoc analyses indicated that, for most of these outcomes, mean levels of mindfulness practice predicted positive changes in the dependent variables. Multilevel analyses utilizing the diary-entry data added unique information to the above findings by demonstrating that the extent of mindfulness practice was associated with relational satisfaction, effectiveness in coping with stress, and overall levels of stress. This was true for the

particular day recorded, and several days thereafter for the former two variables. The researchers acknowledge limitations to their study, however, including the lack of exposure to nonspecific factors for their wait-list condition, and sole reliance on self-report data. Additionally, the use of a mindfulness measure would have added strength to the conclusion that mindfulness development is implicated in the results of the intervention.

The research conducted by Sims et al. (2006), mentioned previously, lends some support for the relationship between levels of mindfulness and relational functioning among an outpatient clinical sample of 19 individuals. Those appearing more mindful on the MAAS prior to treatment tended to have fewer interpersonal difficulties, based on the total raw score of the Inventory of Interpersonal Problems-32.

Overall, current evidence in the literature is suggestive of a relationship between mindfulness and psychodynamic aspects of personality structure, specifically defensive functioning and quality of object relations. Furthermore, there appear to be psychological benefits associated with mindfulness whether this form of awareness is cultivated through formal meditation practice, is developed as part of an approach to psychotherapy, or is associated with natural variance between individuals. Problems in formulating a clearer understanding of this relationship stem from the lack of use of a validated measure of mindfulness, and/or reliance on self-report measures in the available studies. Problems inherent in attempting to assess unconscious aspects of personality structure (e.g. defenses, self and object representations) with self-report measures have been addressed in the literature. Although some (e.g., Andrews, Singh, & Bond, 1993; Erdelyi, 2001) believe, for example, that defense mechanisms, or at least their consequences, can be

reflected upon or even consciously observed at times, others, such as Cramer (2000, 2001), clearly differentiate unconscious defenses from conscious coping strategies. The former, by definition, should typically operate smoothly outside of awareness, rendering them immeasurable by means of self-report instruments. The true status of one's defensive functioning, therefore, may arguably require other evaluation methods, such as projective assessment, which could bypass consciously-held beliefs about the self and its functions. Westen (1998) points out the frequent finding that self-report and projective measures of the same construct do not correlate well with each other, particularly in certain domains, such as that of motivated processes. Using the example of motives assessed via the Thematic Apperception Test (TAT), he discusses support for the notion that self-report measures are predictive of behavior when the related motivation is consciously activated, while projective measures are better predictors of behavior over longer stretches of time, presumably when such factors are operating outside of awareness. He also points out some evidence that narrative-based measures of object relations can be better predictors of actual relationship status than self-report measures of relational characteristics, as the latter may only correlate with other such measures at times.

Goals of the Study

The aim of the present study is to further elaborate on the implications of mindfulness for well-being by assessing the relationship between self-reported levels of dispositional mindfulness via two different measures, the Mindful Attention Awareness Scale and the Kentucky Inventory of Mindfulness Skills, and key aspects of personality structure, among a broad university undergraduate sample. Defensive functioning was

assessed through the use of Cramer's (2002b) Defense Mechanism Manual (DMM), and quality of object relations was measured with Westen's (1995) Social Cognition and Object Relations Scale (SCORS). Both of these measures may be used with projective assessment data gathered with the Thematic Apperception Test, thereby providing an understanding of implicit, dynamic aspects of personality structure. As mindfulness measured with the MAAS and the KIMS has demonstrated a relationship to social desirability in some instances (Baer et al., 2004; Brown & Ryan, 2003), the Social Desirability Scale-17 (SDS-17; Stöber, 2001) was also used in this study to factor out potential impression management effects. This research is the first to provide an empirical analysis of the relationship between mindfulness and psychodynamic aspects of personality structure using validated measures of mindfulness and two widely used projective assessments.

The DMM has been used in multiple studies and has amassed evidence for adequate interrater reliability (Cramer, 1987, 2002a, 2003; Cramer & Block, 1998; Porcerelli, Abramsky, Hibbard, & Kamoo, 2001; Hibbard et al., 1994). It has proven capable of capturing positive changes in defensive functioning over the course of psychotherapy in theoretically predictable ways (Cramer & Blatt, 1990), and Hibbard et al. (1994) provided some support for the expectation that psychiatric inpatients would evidence a significant difference in pattern of defense use on the DMM as compared to a normal college student sample. In the latter study, inpatients were found to use the mature defense of Identification significantly less than the students, as a percentage of total defense use. In the process of developing the DMM, Cramer (1987) discovered support for the presence of a developmental hierarchy of defensive functioning. Three

defenses are captured in the DMM, including Denial, Projection, and Identification, and these are considered to represent increasing complexity and maturity in this order. Individuals ranging in age from early childhood to late adolescence were found to make use of these defenses in the manner predicted by such an hypothesized hierarchy; the most immature defense of Denial appears predominant in the youngest ages, with the other defenses becoming more prominent over the lifespan through adolescence as expected. The use of defenses that are appropriate for earlier life periods can be problematic when relied on at ages in which they are no longer normative.

Longitudinal research by Cramer and Block (1998) provided some evidence that over reliance on defenses appropriate for early childhood, perhaps due to high levels of distress and personal characteristics at an early age, could explain how particular defenses become a key element of a person's repertoire of defensive functioning later in life, when the defense is no longer as adaptive. Cramer (2002a) found that, among young adults, the use of Denial was related to signs of immaturity, such as egotism and behavioral instability, along with the presence of anxiety, based on observer ratings. The most mature defense of Identification was found, among women, to be related to social competence and an absence of depression, though no relationship was found in this sample for men. Projection, evidencing a clear gender effect, was related to social skill, liveliness, and an absence of depression in women, but was related to paranoia, aloofness, antagonism, anxiety, and depression in men. This gender difference is explained by Cramer in her suggestion that some aspects of Projection involve the externalization of anger, which may be potentially adaptive for women, as it is at odds with dominant socialization practices that orient women to withhold such feelings. However, Cramer

had difficulty explaining the lack of relationship between the most mature defense of Identification and adaptive characteristics for men in her study, and she referred, in part, to the small sample size among other possible explanations. The unexpected nature of this finding, and the likelihood that it could indeed reflect sampling issues, is bolstered by other research demonstrating support for the idea that more mature defenses are broadly important to well-being. Vaillant (2002), for example, clarified the importance of such defensive functioning in the process of aging and development, based on three different samples varying in gender and socioeconomic status. The mature-level defenses (e.g. Humor, Altruism, Suppression), assessed in his research through interview and questionnaire-based data, were established as the second most powerful predictor of psychosocial well-being in old age among a group of predictors that included a stable marriage, heavy smoking, and alcohol abuse. Based on such findings it seems that one would expect and find, perhaps with an analysis of data from multiple samples, a notable relationship between DMM-assessed Identification and evidence of adaptive characteristics across gender.

If mindfulness allows one to develop insight into habitual tendencies to handle distress, coupled with acceptance of affective experience, then it might initially seem reasonable to conclude that high levels of dispositional mindfulness would lead to an absence of need for defense mechanisms. This conclusion does not seem tenable, however, based on the notion that under-reliance, as well as over-reliance, on defenses can lead to problematic outcomes in terms of psychological well-being (Cramer, 2003). Vaillant (2002) adds that the smooth operation of defenses is a sign of health. He goes on to state that "such mechanisms are analogous to the involuntary grace by which an oyster,

coping with an irritating grain of sand, creates a pearl. Humans, too, when confronted with irritants, engage in unconscious but often creative behavior" (p. 80). A more reasonable assumption, then, may be that immature defenses leading to problematic intrapersonal and interpersonal outcomes catch the attention of the mindful individual and, due to the hypothesized relationship between such awareness and insight, lead to the chance to alter such tendencies. At more intensive levels of purposeful mindfulness development, the potential relationship between mindfulness and defenses becomes more unclear; insight into the Buddhist concept of no-self is thought to create awareness of the lack of a consistent, singular self, which would seemingly make the need for defensive protection obsolete. Such a state of affairs, however, is not expected in an examination of varying levels of dispositional mindfulness among a college student sample.

Westen's SCORS consists of several subscales that capture quality of object relations at an implicit, rather than conscious, level (Westen, 1991). Though the SCORS has evolved in terms of the number of indices that are included, his measure has generally been shown to predict levels of social adjustment based on various self-report and clinician observations in ways expected based on theory, and has tended to yield high levels of interrater reliability (Ackerman, Clemence, Weatherill, & Hilsenroth, 1999; Fowler et al., 2004; Westen, 1991; Westen, Huebner, Lifton, Silverman, & Boekamp, 1991; Westen, Lohr, Silk, Gold, & Kerber, 1990). For example, both adults and adolescents diagnosed with borderline personality disorder have been shown to provide TAT responses yielding lower (i.e. more pathological) scores than normal and other psychiatric subjects on several subscales of the SCORS, including those that measure emotional investment in, and expected affective quality of, relationships (Westen, 1991;

Westen et al., 1990). Cogan and Porcerelli (1996) found that all four subscales on an original version of the SCORS demonstrated significantly more pathology among a sample of individuals involved in abusive relationships versus a non-clinical sample without any abuse history. Fowler et al. (2004) discuss evidence for the utility of the SCORS in tracking changes in quality of object relations across the course of psychotherapy, and provide data demonstrating significant change in some of the subscales across the course of 16 months of intensive psychodynamic therapy among psychiatric inpatients. Studies using non-clinical samples have demonstrated the ability of the SCORS to discriminate groups based on expected differences in quality of object relations as well. Westen, Huebner, Lifton, Silverman, and Boekamp (1991), for example, found that graduate psychology students scored significantly higher than natural science graduate students on a subscale that assesses the complexity of object representations, and on the Understanding of Social Causality subscale, which is described as "the extent to which attributions are logical, accurate, complex, and psychologically-minded" (p. 449). While these differences may be expected given advanced psychology students' interest in and understanding of psychological functioning, these two groups of students did not differ in terms of the expected affective quality of relationships. Given the broad, positive relational characteristics generally associated with levels of mindfulness, and the lack of previous research in this area, it is assumed that all aspects of the SCORS should yield higher scores in association with greater levels of this quality of consciousness.

It is expected that individuals scoring higher on the MAAS and the four factors of the KIMS, with the SDS-17 as a potential covariate, will evidence a more adaptive,

mature personality structure in general. Given this brief review of research utilizing these two projective instruments, specific hypotheses for the present study include:

1. Higher levels of dispositional mindfulness will be positively and broadly related to more mature levels of object relations, as evidenced by higher scores on Westen's SCORS across all subscales.

2. Higher levels of dispositional mindfulness will be positively related to the proportion of defensive functioning falling within the mature category of Identification on Cramer's DMM.

3. Higher levels of dispositional mindfulness will be negatively related to the proportion of defensive functioning falling within the immature category of Denial on Cramer's DMM.

4. Proportion of defensive functioning captured by the category of Projection will differ by gender as a function of dispositional mindfulness, with females demonstrating a positive relationship, and males a negative relationship.

CHAPTER II

Method

Participants

A total of 81 participants (40 male, 41 female) drawn from a pool of students at the University of Tennessee, Knoxville were recruited for the present study. Given previous findings suggesting a relationship between aspects of character structure and self-selected area of study (Westen et al., 1991), an effort was made to draw students from areas of study outside of psychology in the interest of increasing variance on some of the projective measures. A total of 26 participants were thus recruited through fliers posted in various locations around campus, and these participants were remunerated with 15 dollars in cash for their participation. This subset of participants was comprised of 6 graduate students and 20 undergraduates, with 18 males and 8 females, 20 describing themselves as Caucasian, 4 as African-American, and 2 as "other" in ethnicity. The mean age for this subset was 20.6 years, with a range from 18 to 25 years. The remainder of the sample was drawn from undergraduate psychology courses. These participants were provided with extra credit toward their psychology course grade in return for participation. This subset was comprised of 22 males and 33 females, 46 describing themselves as Caucasian, 6 as African-American, 1 as Asian, 1 as Hispanic, and 1 as "other". The mean age for this group was 19.7, with a range from 18 to 28. The total sample yielded a mean age of 20 years.

Materials

Self-report measures

As noted previously, two measures of mindfulness were chosen for use in the present study: the Mindful Attention Awareness Scale (MAAS) and the Kentucky Inventory of Mindfulness (KIMS). Both were selected because of their potential for tapping different aspects of mindfulness. The MAAS is a single factor measure that employs a six-point Likert scale. Respondents are instructed to rate the frequency with which 15 statements pertain to them, selecting answers that range from *almost always* to *almost never*. Initial research published by Brown and Ryan (2003) demonstrates the internal consistency and test-retest reliability of this measure. Cronbach's alpha for their scale ranged from .80 to .87 across a variety of college undergraduate and general community samples. Among a group of 60 undergraduates, an intraclass correlation between administrations of their measure across a four week period yielded a coefficient of .81, while scale score means did not significantly differ between the first and second administration. This program of studies also demonstrated a variety of expected correlations with measures of well-being, and the ability of the MAAS to discriminate experienced meditators from a general population. The MAAS demonstrated moderate negative correlations with several facets of the NEO Neuroticism scale among college undergraduates, with correlations ranging from -.29 with Impulsiveness to -.53 with Depression. Correlations of -.41 and -.42 were obtained among two undergraduate samples with the Beck Depression Inventory, and a correlation of -.40 with the State Trait Anxiety Inventory was obtained with one of these samples. Findings concerning pleasant emotional experience across several measures indicate that the MAAS is related to a

general sense of well-being; for example, correlations of .26 and .37 with the Temporal Life Satisfaction Scale were obtained among a sample of undergraduates and a community sample, respectively. An examination of mean scale differences among a group of experienced Zen practitioners and a matched community sample demonstrated that the former were significantly more mindful than the latter when assessed with the MAAS, providing further evidence for the validity of the scale.

The KIMS is a 39-item, multi-factor, measure that makes use of a five-point Likert scale. Respondents are asked to select an answer for each question demonstrating how well each statement pertains to their general experience of themselves, with responses ranging from *never or very rarely true* to *very often or always true*. As discussed previously, the KIMS has demonstrated relationships with a variety of measures of well-being, and has discriminated individuals with Borderline Personality Disorder from a normative sample (Baer et al., 2004). Like the MAAS, the KIMS has yielded negative correlations with the NEO Neuroticism scale, as well as with the Global Severity Index of the Brief Symptom Inventory. Correlations were significant for three of the factors (excluding the *Observe* factor) for both of these measures among an undergraduate sample, ranging from -.31 for the *Act With Awareness* factor to -.42 for the *Accept Without Judgment* factor for the former measure, and from -.29 for the *Accept Without Judgment* factor to -.38 for the *Act With Awareness* factor for the latter measure. The *Describe* factor has demonstrated a correlation of .28 among the same sample with a measure of general well-being, the Satisfactions with Life Scale. The KIMS has demonstrated internal consistency for each of its four factors. Alpha coefficients calculated from two undergraduate samples demonstrated a range from .76 for the *Act*

With Awareness factor to .91 for the *Observe* factor. In an analysis of test-retest reliability, a sample of 49 undergraduates was tested with the KIMS twice, separated by a time span ranging from 14 to 17 days. Correlations between the two administrations ranged from .65 for the *Observe* factor to .86 for the *Act With Awareness* factor. Scores between administrations did not differ significantly. The MAAS has demonstrated a relationship with the KIMS in one sample, with a positive correlation in evidence for the *Act With Awareness* factor (r = .57), and a more moderate positive relationship for the *Accept Without Judgment* and *Describe* factors (r = .30 and r = .24, Baer et al., 2004).

As the MAAS and the KIMS have demonstrated varying correlations with measures of impression management in previous studies (Baer et al., 2004; Brown & Ryan, 2003), the Social Desirability Scale-17 (SDS-17; Stöber, 2001) was used in the current study to serve as a potential covariate in subsequent analyses. The SDS-17 was developed in Germany as an updated version of other social desirability measures that have been widely used in research (e.g. Marlowe-Crowne Scale), but which arguably contain content that was more pertinent to earlier generations. The SDS-17 consists of 17 true/false items, although one of the items (“*I have tried illegal drugs”*) has presented poor item-total correlations in a couple of studies, leading to its exclusion from the total score in subsequent studies. This measure has correlated well with other measures of social desirability, such as the Eysenck Personality Questionnaire’s Lie Scale (r = .60) among university samples, and with the Marlow-Crowne Scale (r = .68) among a broader community sample (Stöber, 2001). Stöber (2001) has published findings suggesting that the SDS-17 is appropriately responsive to instructions to engage in impression management. His research has also demonstrated internal consistency, test-retest

reliability and discriminant validity for this measure. Across several studies with university students, Cronbach's alpha ranged from .74 to .75, while an analysis of internal consistency with a broad community sample revealed an overall alpha of .80. Correlations tapping test-retest reliability over a span of time ranging between two and six weeks with varied samples have been greater than .80. Discriminant validity has been demonstrated by the measure's lack of correlation with the Neuroticism, Extraversion, and Openness factors of the NEO Five Factor Inventory. Blake, Valdiserri, Neuendorf, and Nemeth (2006) examined the validity and reliability of the SDS-17 with American samples, and found similar characteristics among several age groups, including responsiveness of scores to "fake good" instructions. Expected correlations with the Marlowe-Crowne were also discovered, with correlations ranging from .72 to .74 for undergraduate samples, and a correlation of .78 for a broader, community-based, sample. Internal consistency, measured by a KR-20 statistic, ranged from .64 to .70 for the undergraduate samples, and was found to be .70 for the community sample, when measured under standard administration conditions.

Defense Mechanism Manual

Cramer's (2002b) Defense Mechanism Manual (DMM) was used in the present study to assess participants' unconscious defensive processes. This scoring system was designed for use with Thematic Apperception Test (TAT) stimuli; cards 1, 2, 3BM, 4 and 13MF from the TAT were employed for each participant. The DMM is capable of assessing the use of three different defense mechanisms, including categories of Denial, Projection, and Identification. Each scale is made up of several subscales, and each

occurrence of each subcategory is scored for each TAT card, excluding direct repetitions, yielding a total score that is summed for each major defense category.

The most developmentally primitive category of Denial includes the following subscales (Cramer, 2002b, p. 4-12): *Omission of Major Characters or Objects* (exclusion of commonly perceived stimuli); *Misperception* (perceptual distortion of some aspect of the card); *Reversal* (changing an aspect of the card/story into its opposite); *Statements of Negation* (disavowing or negating distressing aspects of the story or stimuli); *Denial of Reality* (inclusion of story qualities, such as sleeping or avoiding, that remove distressing components); *Overly Maximizing the Positive or Minimizing the Negative* (absurd embellishment or reduction of qualities in a character); *Unexpected Goodness, Optimism, Positiveness, Gentleness* (evidence for Pollyannaish sentiments, and/or dramatic, unforeseen shifts in the outcome of a story or a character's qualities).

The category of Projection includes the following subscales (Cramer, 2002b, p. 14-22): *Attribution of Aggression or Hostile Feelings, Emotions, or Intentions* (inclusion of hostility, or atypical states, for a given character without sufficient support within the story); *Additions of Ominous People, Ghosts, Animals, Objects, or Qualities* (inclusion of threatening elements); *Magical, Autistic, or Circumstantial Thinking* (appearance of supernatural powers, animistic qualities, idiosyncratic reasoning, and evidence for hypervigilance); *Concern for Protection Against External Threat* (story characteristics indicating a character's or story-teller's wariness); *Apprehensiveness of Death, Injury, or Assault* (inclusion of physical harm in a story); *Themes of Pursuit, Entrapment, and Escape* (themes involving the need to flee from danger, and/or capture); *Bizarre or Very Unusual Story or Theme* (startling, unexpected story characteristics).

The most developmentally mature category of Identification includes the following subscales (Cramer, 2002b, p. 24-31): *Emulation of Skills* (details alluding to a character's effort to develop a skill associated with another); *Emulation of Characteristics* (details alluding to one character's similarity to, or effort to be equal to another); *Regulation of Motives or Behavior* (themes involving one character shaping another's actions and/or insurgence, as well as self-reproach, or punishment by family); *Self-Esteem through Affiliation* (expressed requirements for, or enjoyment of, relationships); *Work or Delay of Gratification* (efforts that bespeak attempts to achieve); *Role Differentiation* (assignment of explicit roles to adult characters); *Moralism* (themes of moral goodness and/or appropriate punishment by an authority).

Social Cognition and Object Relations Scale

The most recent version of Westen's SCORS (1995) was used in the present study. This version consists of eight categories, and is typically used to rate the quality of stories told to TAT stimuli. As with the DMM, the TAT cards used for the SCORS in this study were 1, 2, 3BM, 4, and 13MF. Each of the eight categories is scored on a seven-point scale, with lower scores indicating pathological object relations, and higher scores indicating greater maturity. The mean score for each of the eight categories is calculated across the stories for each participant.

The eight categories included in the SCORS are as follows (Westen, 1995): *Complexity of Representations of People* (COM; assesses the presence of separation of perspectives among characters, and the richness of their personality/internal world); *Affective Quality of Representations* (AFF; gauges expectations of the quality of

emotional response from others and the world, ranging from hostile to enriching); *Emotional Investment in Relationships* (EIR; assesses the extent to which one values relatedness, ranging from extreme self-indulgence and/or isolation to true interdependence); *Emotional Investment in Values and Moral Standards* (EIM; measures adherence to, and maturity of, one's sense of right and wrong); *Understanding of Social Causality* (SOC; assesses the coherence and complexity of one's explanations for people's interpersonal behavior, ranging from sparse, idiosyncratic and difficult to follow, to logical and psychologically-minded); *Experience and Management of Aggressive Impulses* (AGG; rates the extent to which the individual is capable of making adaptive use of anger, ranging from poor control and explosiveness to appropriate assertiveness); *Self-Esteem* (SE; assesses one's self-concept, ranging from hatred of the self to reasonably positive self-regard); *Identity and Coherence of Self* (ICS; rates the extent to which an individual holds a well-integrated sense of self, ranging from fragmentation to an articulated sense of ambitions and direction).

Procedure

All recruited participants were met individually by the author, in a private room free from distractions. Each participant was provided with an informed consent form explaining their rights and obligations related to the study, and basic questions about participation were answered. Only two individuals chose not to participate, this being due to the fact that they had nearly reached the limit of extra credit allowed toward their psychology course grade. Each participant was first administered the TAT, which was audio recorded for later transcription. Participants were told to create a story for each

card, including their sense of what was happening in the picture, what may have led up to the scene depicted, what may happen next, and the thoughts and feelings of the character(s). After the testing had begun, participants' queries were responded to with assurance that there were no right or wrong answers, and that their story was up to them. After administration of the TAT, the participant was instructed to complete the self-report measures, along with a brief demographic questionnaire, while the researcher was out of the room. Upon completion, each participant was encouraged to ask questions related to the study or their participation, and then paid for their time or they received extra credit.

All measures were scored by the author, beginning with the TAT stories. The TATs were scored separately for the DMM and the SCORS to prevent any potential carryover effects. The DMM was used for each participant's data, and when all protocols were scored for defense mechanisms, the SCORS was used by starting over with the first protocol in the data set. This represented a temporal separation of several weeks. All scoring was done blind to the self-report and demographic data, as each protocol was labeled with only a number.

Interrater Reliability

In the effort to establish scoring reliability for the two projective measures, two advanced clinical psychology graduate students trained using practice TAT stories with the author, one training with the DMM, and the other the SCORS. The author of the DMM, Phebe Cramer, provided a set of expert-scored training stories to the author of the present study, allowing for ease of training with the DMM. Weekly meetings over the course of several months with the DMM scoring assistant were used to compare and

revise our respective scores, and a random set of 16 protocols from the present data set was then provided to the assistant for the computation of intra-class correlation coefficients. Two-way mixed intra-class correlation coefficients yielded a rate of .76 for Denial, .72 for Projection, and .81 for Identification, demonstrating good to excellent reliability for the DMM (see Table 1 in the Appendix).

The SCORS scoring assistant and the present author have had previous experience establishing reliability for earlier studies. A set of practice TATs was used to review scoring procedures with this assistant, based on Westen's (1995) manual, and to regain consistency in scoring through resolution of our scoring differences. A random set of 16 protocols from the present study was also provided to this assistant for the assessment of reliability. Two-way mixed intra-class correlation coefficients ranged from .67 for EIM to .86 for AGG (Table 2), demonstrating good to excellent reliability for the SCORS.

CHAPTER III

Results

Initial explorations of the data involved an examination of any potential relationships between demographic variables and the dependent measures, as well as potential differences in the subgroups of participants (those recruited campus-wide, and psychology undergraduates). One male and one female in the sample failed to complete the MAAS, and consequently were excluded from related analyses. The Shapiro-Wilk's test of normality demonstrated that several of the SCORS subscales violated assumptions of normality (p values ranging from < .001 for AGG to .06 for COM), necessitating the use of nonparametric tests for some analyses. All other measures adhered to assumptions of normality. An independent samples t-test was used to examine potential differences between the subgroups of participants in terms of DMM scores. Levene's Test did not demonstrate significant differences in variance between the groups, and no significant differences were found for the DMM scales (see Table 3). Mann-Whitney U tests failed to find a significant difference between participant groups for any of the SCORS variables (Table 4).

Since the DMM is based on a developmental hierarchy of defensive functioning, Pearson correlations were used to rule out an effect for age on defensive functioning scores across the entire sample. Corresponding correlations were weak and non-significant (Table 5). Next, an independent samples t-test was used to examine potential differences between males and females in defense use. With variance equality assumed, no differences were found for any of the three defenses (Table 6). Kendall's tau correlations were used to rule out an effect for age on the SCORS subscales (Table 7).

Lastly, Mann-Whitney U tests were used to examine potential differences by gender for the SCORS subscales (Table 8). As expected, no significant relationships or differences were discovered.

In an analysis of the need to rule out covariance with impression management effects, no significant correlations were found between the SDS-17 and the mindfulness measures, with the greatest Pearson *r* found in relation to the MAAS ($r = .21$, $p = .07$). This obviated the use of the SDS-17 as a covariate in further analyses (Table 9).

Prior to testing the study's major hypotheses, correlations were computed to examine the relationship between the DMM and SCORS. If, as is generally assumed, these measures capture related qualities of participants' relatively stable character structure, then those who tend to rely on more immature defenses should evidence a more immature level of object relations, while those tending to make greater use of the most mature defense of Identification should tend to have a more mature level of object relations on the SCORS. Since Cramer (2002a) has found a gender effect for the defense of Projection in prior research, with this defense being related to well-being for females only, separate tests were conducted by gender for the analysis of that defense. Given the aforementioned violation of normality for the SCORS, Kendall's tau was the statistic chosen for these analyses. Due to the directional nature of these expectations, all tests were one-tailed. Results demonstrated that those participants who used more Denial tended to have significantly lower scores on the COM, EIR, and SOC scales. Greater use of Identification, by contrast, was related to higher scores on the COM, AFF, EIR, SOC, SE, and ICS scales (Table 10). For females, greater use of the defense of Projection was related to lower scores on COM, AGG, and SE, while for males, greater use of this

defense was related to lower scores on AFF and EIM (Table 11). The findings concerning Projection among females conflict with those of Cramer (2002a) in that, across gender, greater use of Projection was associated with lower quality of object relations in certain domains. Overall, however, findings concerning the relationship between these two projective measures support the assumption that they were tapping related aspects of character.

Several one-tailed correlations were computed to test the study's hypotheses. In a test of the first hypothesis, Kendall's tau was used to compute the relationship between the MAAS and the SCORS. Results demonstrated few significant correlations, and those that were discovered were in the opposite direction of that expected. Negative correlations between the MAAS and the EIR and SOC scales of the SCORS were found with a Kendall's tau of -.14 and $p = .05$ for each scale. The four factors of the KIMS were also correlated with the SCORS. Again, few significant correlations were found, and those that were significant were in the opposite direction of that expected. The *Act with Awareness* factor yielded a negative correlation with COM and SOC, Kendall's tau -.16, $p = .02$ and -.17, $p = .02$, respectively (Table 12). These analyses failed to provide support for the hypothesis that those reporting greater levels of mindfulness would evidence more mature levels of object relations.

One-tailed Pearson correlations were computed for the relationship between the MAAS and KIMS and the Identification scale of the DMM as a test of the second hypothesis, which suggested that greater levels of mindfulness would be associated with greater use this defense. No significant correlations were discovered for this analysis concerning either of these mindfulness measures. To test the third hypothesis, the Denial

scale of the DMM was examined next. Only one factor from the KIMS, the *Describe* factor, correlated significantly, and this was in a positive direction, $r = .22$, $p = .03$ (Table 13). This finding is also at odds with expectations, as those using greater levels of Denial were expected to evidence lower levels of mindfulness.

Separate one-tailed Pearson correlations were conducted for the Projection scale by gender given earlier predictions, as a test of the fourth hypothesis. Findings were expected to demonstrate a negative correlation between mindfulness and Projection for men, and a positive correlation for women. For men, only the KIMS *Act with Awareness* factor correlated significantly, with $r = .28$, $p = .04$. For women, only the KIMS *Describe* factor correlated significantly, with $r = -.34$, $p = .02$ (Table 13). These findings, therefore, were also at odds with expectations.

CHAPTER IV

Discussion

The results of the present study failed to support hypotheses concerning the relationship between mindfulness and aspects of character that are central to psychodynamic theory. Contrary to expectations, those reporting greater levels of mindfulness via self-report measures did not appear to have a more mature character structure, as assessed with projective measures. The few significant findings in the study were in the opposite direction of that expected. Across gender, participants reporting greater levels of mindfulness appeared to have greater difficulty with connectedness and mutuality in relationships, as assessed by the EIR scale of the SCORS. Greater levels of mindfulness also appeared to be associated with more idiosyncratic, less coherent, and less logical understandings of interpersonal interaction. Those with greater attention to moment-to-moment experience appeared to have a less complex sense of self and others' personalities and internal states, and also had more difficulty accessing logical attributions for others' behavior. This same aspect of mindfulness was also related to greater use of the potentially problematic defense of Projection among the males in the sample, while the component of mindfulness that involves a capacity for verbalizing aspects of experience (the *Describe* factor of the KIMS) predicted less use of this defense for females. This latter aspect of mindfulness also corresponded to greater use of the immature defense of Denial across gender. The most mature defense assessed in the present study did not evidence any relationship to mindfulness.

Importantly, results from the study did support the notion that the two projective measures used were tapping related constructs. As noted previously, defense

mechanisms and quality of object relations are two major aspects of character structure from the standpoint of psychodynamic theory. Those who tend to use immature defenses, according to theory, should also evidence poorer object relations. The results suggest that the use of Denial, the most immature defense assessed by the DMM, is related to less complex representations of self and others, less investment in interpersonal relationships, and more illogical, idiosyncratic understandings of why people behave as they do. The more mature defense of Identification, in contrast, was associated with more mature object relations, with nearly every subscale of the SCORS yielding significant, positive correlations. Greater use of this defense appears to be associated with greater richness in representations of self and other, more positive expectations of others, greater investment in relationships, greater psychological mindedness (with an attendant ability to generate complex attributions for others' actions), a positive self-concept, and a more integrated identity. The use of Projection was associated with more immature object relations across gender, a finding that conflicts with Cramer's (2002a) suggestion that this defense is associated with mature characteristics and general well-being in females. Females' use of this defense was associated with less complexity of representations, greater difficulty managing aggression adaptively, and reduced self-esteem. Males' use of this defense was associated with malevolent expectations of the interpersonal world, and reduced commitment to actions guided by moral values.

The findings related to the study's hypotheses tended to be clearly at odds with other studies demonstrating a strong, positive relationship between self-reported levels of well-being and mindfulness (Baer, 2004; Brown & Ryan, 2003; Sims et al., 2006). An initial consideration must be taken into account in explaining these discrepant findings.

The few significant correlations found in the study were discovered amidst a total of 60 correlations without the use of a more conservative statistical correction that would account for chance findings. None of the significant correlations concerning mindfulness in the study would have remained so had such a correction been applied. When calculating this number of correlations, the possibility of finding one or more significant relationships by chance alone is approximately 95 percent. Only more robust relationships (i.e. $p < .001$) would have provided greater assurance of truly significant findings, and this fact must be considered in interpreting the results of this study.

The tendency for self-report measures and projective measures of a given construct to yield low to moderate levels of relationship has been well documented in the literature (Meyer et al., 2001; Westen, 1998). The discrepancy between results from prior studies and the findings of the present study may be, in part, explained by this phenomenon. Previous studies assessing relationships with self-reported mindfulness have employed only self-report measures of emotional well being, even when psychodynamic constructs were being evaluated. While self-report measures tap individuals' conscious sense of themselves in terms of particular traits, projective measures are designed to bypass this conscious level and provide an estimate of implicit aspects of functioning. It may be possible that some individuals who perceive themselves as being mindful have a conscious sense of well-being, with less sense of depression, anxiety, and relational difficulty, for example, while maintaining less maturity in character structure at an implicit level. It is interesting to consider that perhaps, as with many other constructs, mindfulness as assessed by conscious self-report would have only a limited correlation with mindfulness assessed by some other means that doesn't rely on

conscious self-appraisal. If it was possible to assess mindfulness without relying solely on individuals' self-report, perhaps this construct would, in fact, relate to unconscious aspects of personality as predicted. It is obviously difficult, however, to consider how such a construct could be measured in this way.

The possibility that high dispositional levels of mindfulness simply do not imply a maturity of character structure, aside from such measurement issues, must be considered more thoroughly however. The potential for an individual with relatively high levels of mindfulness to have little subjective distress, while possessing potentially significant structural-level deficits would seem difficult to explain. One consideration would be that mindfulness could provide a sort of psychological buffer against distress that is perceivable within conscious experience. Shapiro, Carlson, Astin, and Freedman (2006) discuss the role of "reperceiving" in the beneficial effects of mindfulness cultivation. This process involves a perspective change whereby one moves from a position of identification with aspects of consciousness to a position of observer. Such a shift raises the implication that we are not defined by conscious psychological content, generating a sense of expansion and freedom from troubling identifications (e.g. a depressed individual may move from a position of believing that "I am a failure", to an awareness that "I am having the thought that I am a failure"). An individual possessing structural immaturity may theoretically maintain then, for example, unconscious negative expectations of others, a poor self-concept, and a lack of coherent identity, while making use of mindful states to essentially cope with negative conscious content that could otherwise be associated with conscious suffering if it were not related to from such an observational position. This would seem to suggest that mindfulness could possibly be

utilized as a sort of coping mechanism leading to reduced distress. Such an idea might be supported by the postulations of Engler (1984, 2003). He has discussed the attractiveness of practices geared toward the cultivation of mindfulness in individuals possessing structural deficits as a way for them to explain away subjective states of emptiness as due to achieving spiritual enlightenment and a related lack of attachment to the illusion of a self. From this point of view, meditation practices could be used defensively. Perhaps this line of reasoning could extend to a tendency to make use of mindful states of consciousness outside of formal meditation practice. Engler has consistently maintained that mindfulness is not sufficient to correct for difficulties relating to issues of basic trust and the capacity for emotional intimacy, which are obviously related to aspects of character structure such as those assessed in the present study. He notes that even in individuals possessing a fairly mature character structure, mindfulness cultivation does not necessarily lead to psychodynamic insights and characterological change.

Findings from the present study also suggest, by the same token, that it is possible to possess a rather healthy, mature character structure and still self-report rather limited levels of mindfulness. Presumably, maturing in an interpersonal environment that matches one's temperamental traits adequately, with tolerable levels of distress and relationships characterized by appropriate attunement, can allow one's "automatic pilot" to function quite well and appear integrated and healthy.

Assuming that high levels of mindfulness alone do not necessarily imply maturity of character structure, it seems important to account for the increasingly common suggestion that mindfulness development acts as a common factor across various therapeutic interventions, and is associated with shifts in enduring personality

characteristics over the course of therapy (Fulton & Siegel, 2005; Germer, 2005; Kutz et al., 1985; Martin, 1997; Safran & Muran, 2000). Mindfulness development in the context of a therapeutic relationship may lead to different outcomes compared to dispositional levels of mindfulness, or even mindfulness cultivated solely through an individual practice such as meditation. Perhaps patients can only initially become aware of certain aspects of their experience within an exploratory therapeutic relationship, with mindful states then allowing them to detect the presence of newly discovered problematic relational configurations and methods for warding off distress that interfere with adaptation. Such a state of affairs would suggest that mindfulness is a necessary, but not sufficient, condition for movement toward changes in enduring personality characteristics. Also of importance is the fate of what can be discovered through mindfulness cultivation without the benefit of an exploratory therapeutic relationship. Rubin (1999) suggests that, in the context of mindfulness development through meditation, "we feel more when we meditate, but we do not do enough with it" (p. 21). He goes on to note that, in pursuit of the transformation of the self, individuals need to "explore areas in our lives that meditation neglects, such as the shaping role of our past, unconsciousness and character, our views of self and others, our strategies of self-protection, and the nature and quality of our relationships" (p. 21). Mindfulness is about being open to and aware of experience, not necessarily scrutinizing related insights in ways that may lead to change. His suggestions, therefore, seem to provide some support for the idea that insight acquired from mindfulness may be limited in certain ways, and mindful states alone may not lead to actions that would help develop significant characterological changes over time. A therapeutic relationship that involves an

exploration of meaning may be needed to spur actions toward deep-seated change. Also not to be overlooked, of course, is the provision of new relational experiences that may be accessed in a therapeutic relationship, and which play a large part in altering arrested aspects of self development. The present findings obviously also suggest that simply possessing or developing mindfulness, at least as conceptualized by the presently available self-report measures, is not necessarily capable of leading to character maturation.

In order to develop a clarified understanding of the nature and importance of mindfulness development toward the end of a more mature, healthy character structure, future research should employ a longitudinal design that tracks both mindfulness and aspects of character structure over the course of psychotherapy. Projective measures, such as those used in the present study, could be given prior to, during, and subsequent to completion of therapy, in addition to mindfulness measures. This type of study would be costly, but would afford a greater chance to develop an understanding of how this quality of consciousness may change as a result of various interventions, and whether such changes can account for important therapeutic outcomes.

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Appendix

Table 1

Interrater Reliability of the DMM (ICC, 2 raters)

DMM Variable	Reliability Rate	*p*
Denial	.76	.000
Projection	.72	.000
Identification	.81	.000

Table 2

Interrater Reliability of the SCORS (ICC, 2 raters)

SCORS Variable	Reliability Rate	*p*
Complexity of Representations of People	.76	.000
Affective Quality of Representations	.76	.000
Emotional Investment in Relationships	.83	.000
Emotional Investment in Values and Moral Standards	.67	.000
Understanding Social Causality	.77	.000
Experience and Management of Aggressive Impulses	.86	.000
Self-Esteem	.71	.000
Identity and Coherence of Self	.75	.000

Table 3

Independent Samples t-test for DMM Scores by Sample Subgroups

Defense Mechanism	*df*	*t*	*p*
Denial	79	-.345	.731
Projection	79	.750	.455
Identification	79	-.161	.872

Table 4

Mann-Whitney U Test for SCORS Variables by Sample Subgroups

SCORS Variable	Mann-Whitney U	Asymp. Sig. (2-tailed)
Complexity of Representations of People	626.500	.368
Affective Quality of Representations	590.000	.202
Emotional Investment in Relationships	687.000	.775
Emotional Investment in Values and Moral Standards	633.000	.394
Understanding Social Causality	609.500	.284
Experience and Management of Aggressive Impulses	570.500	.134
Self-Esteem	666.500	.615
Identity and Coherence of Self	670.000	.639

Table 5

Pearson Correlations Between DMM Scores and Age

Defense Mechanism	Age	*p*
Denial	.029	.799
Projection	-.024	.828
Identification	-.014	.899

Table 6

Independent Samples t-test for DMM Scores by Gender

Defense Mechanism	*df*	*t*	*p*
Denial	79	.849	.398
Projection	79	-.348	.729
Identification	79	-.557	.579

Table 7

Kendall's Tau Correlations Between the SCORS and Age

SCORS Variable	Age	*p*
Complexity of Representations of People	-.026	.756
Affective Quality of Representations	-.058	.497
Emotional Investment in Relationships	.024	.784
Emotional Investment in Values and Moral Standards	.123	.164
Understanding Social Causality	-.040	.635
Experience and Management of Aggressive Impulses	.145	.104
Self-Esteem	.052	.552
Identity and Coherence of Self	-.047	.596

Table 8

Mann-Whitney U Test for SCORS Variables by Gender

SCORS Variable	Mann-Whitney U	Asymp. Sig. (2-tailed)
Complexity of Representations of People	795.500	.816
Affective Quality of Representations	809.000	.916
Emotional Investment in Relationships	757.000	.548
Emotional Investment in Values and Moral Standards	783.500	.723
Understanding Social Causality	749.500	.503
Experience and Management of Aggressive Impulses	724.500	.355
Self-Esteem	798.000	.831
Identity and Coherence of Self	720.000	.331

Table 9

Pearson Correlations Between the Mindfulness Measures and SDS-17

Mindfulness Measure	SDS-17	*p*
MAAS	.207	.067
KIMS		
Observe	.164	.143
Describe	.157	.162
Act With Awareness	.124	.270
Accept Without Judgment	.131	.245

Table 10

Kendall's Tau Correlations Between Denial, Identification, and the SCORS

SCORS variable	Denial	Identification
Complexity of Representations of People	-.371**	.495**
Affective Quality of Representations	-.047	.185*
Emotional Investment in Relationships	-.179*	.254**
Emotional Investment in Values and Morals Standards	.082	.017
Understanding Social Causality	-.375**	.502**
Experience and Management of Aggressive Impulses	.099	.071
Self-Esteem	-.096	.173*
Identity and Coherence of Self	-.076	.203**

Note. All correlations are one-tailed.

*$p < .05$

**$p < .01$

Table 11

Kendall's Tau Correlations Between Projection and SCORS by Gender

SCORS variable	Projection	
	Males	Females
Complexity of Representations of People	-.099	-.194*
Affective Quality of Representations	-.314**	.015
Emotional Investment in Relationships	-.069	-.087
Emotional Investment in Values and Morals Standards	-.239*	-.164
Understanding Social Causality	-.135	-.131
Experience and Management of Aggressive Impulses	-.150	-.386**
Self-Esteem	-.042	-.210*
Identity and Coherence of Self	-.153	-.172

Note. All correlations are one-tailed.

*$p < .05$

**$p < .01$

Table 12

Kendall's Tau Correlations Between the SCORS and Mindfulness Measures

SCORS Variable	MAAS	KIMS Factors			
		Observe	Describe	Act with Awareness	Accept without Judgment
Complexity of Representations of People	-.094	-.077	-.016	-.162*	-.106
Affective Quality of Representations	-.055	-.006	-.060	-.093	.033
Emotional Investment in Relationships	-.137*	.016	-.039	-.101	-.042
Emotional Investment in Values and Morals Standards	-.026	.084	.054	.003	.002
Understanding Social Causality	-.137*	-.128	-.079	-.172*	-.087
Experience and Management of Aggressive Impulses	-.015	-.031	.040	-.068	-.085
Self-Esteem	.001	.055	.062	-.060	-.010
Identity and Coherence of Self	-.125	.063	-.039	-.129	-.075

Note. All correlations are one-tailed.

*$p < .05$

**$p < .01$

Table 13

Pearson Correlations Between the DMM and Mindfulness Measures

Defense Mechanism	MAAS	KIMS Factors			
		Observe	Describe	Act with Awareness	Accept without Judgment
Denial	.072	.162	.218*	.085	.025
Projection					
Males	.130	.215	.044	.282*	-.028
Females	-.188	-.246	-.341*	-.108	.055
Identification	-.039	-.167	-.117	-.151	-.035

Note. All correlations are one-tailed.

*$p < .05$

**$p < .01$

Vita

Chad Ryan Sims was born in Terre Haute, Indiana on July 7, 1974, and was raised both there and in Florida. He graduated from Florida Atlantic University with a B.A. in anthropology in 1997, and received a second B.A. with a major in psychology at the University of South Florida in 2002. He is currently completing degree requirements for a Ph.D. in clinical psychology at the University of Tennessee, Knoxville, and is continuing his training through a clinical internship at the James H. Quillen VA Medical Center in Mountain Home, Tennessee.