8-2007

Impediments to Presence: Oblivious and Reactive Mindlessness

Noah L. Roost
University of Tennessee - Knoxville

To the Graduate Council:

I am submitting herewith a dissertation written by Noah L. Roost entitled "Impediments to Presence: Oblivious and Reactive Mindlessness." 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.

Robert Wahler, Major Professor

We have read this dissertation and recommend its acceptance:

Allen Dunn, Kristina Gordon, Michael Olson

Accepted for the Council:
Dixie L. Thompson

Vice Provost and Dean of the Graduate School

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

To the Graduate Council:

I am submitting herewith a dissertation written by Noah L. Roost entitled “Impediments to Presence: Oblivious and Reactive Mindlessness.” 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.

Robert Wahler, Major Professor

We have read this dissertation
and recommend its acceptance:

Allen Dunn

Kristina Gordon

Michael Olson

Accepted for the Council:

Carolyn Hodges
Vice Provost and Dean of the
Graduate School

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

Impediments to Presence: Oblivious and Reactive Mindlessness

A Dissertation Presented for the

Doctor of Philosophy Degree

The University of Tennessee, Knoxville

Noah L. Roost, M.A.

August, 2007

Acknowledgements

I wish to thank all those who helped me complete my Doctor of Philosophy Degree in Clinical Psychology. I would like to thank Dr. Wahler for inspiring me to research mindfulness and for his eloquent thinking and writing on autobiographical narrative. I would like to thank Dr. Gordon for her guidance and careful editing. I would like to thank Dr. Olson for his advice and encouragement. I would like to thank Caroline Mann for her help throughout this long process. Last of all, I would like to thank the friends and family whose encouragement and suggestion made this possible.

Abstract

Mindfulness and mindlessness are often theoretically and psychometrically treated as opposing poles of a single dimension (e.g. Langer, 1989; Kabat-Zinn, 1990; Brown & Ryan, 2003). The present study examines the possibility of two differing styles of mindlessness, an oblivious form based upon defensive avoidance of experience and a reactive form based upon ruminative reaction to experience. These differing styles of mindless are theoretically similar to adult attachment status. The avoidant attachment style is conceptually related to an oblivious style of mindlessness in that both involve a defensive denial of certain aspects of experience, particularly those aspects that evoke feelings of vulnerability or emotional distress. The preoccupied adult attachment style is similar to the reactive style of mindlessness in that both involve a hyper-focus on emotionally distressing experiences and a subsequent affective destabilization. Given these similarities, the present study explored reactive and oblivious mindlessness by examining the interaction of mindfulness and adult attachment status. Adult attachment status is profoundly related to autobiographical narrative (e.g. Main, 1996; Mikulincer & Orbach, 1995). Accordingly, narrative measures were used to explore the relationship of attachment status and mindfulness.

Among participants with a preoccupied attachment status, mindfulness predicted decreased emotional articulacy. Among avoidant participants mindfulness predicted decreased emotional articulacy and increased complexity of representations of self and others. In contrast, among secure participants mindfulness had no relationship to narrative measures. These results suggest that mindfulness functions as a protective factor against the distressing rumination associated with emotional articulacy among

those with an insecure attachment status. They also provide preliminary support for a theory of reactive and oblivious mindlessness and highlight the value of further research examining the interaction of mindfulness and attachment status.

TABLE OF CONTENTS

LIST OF TABLES

TABLE PAGE

Chapter I
Introduction

Mindfulness based interventions have been effectively incorporated into an increasing number of psychological interventions for a diversity of physical and psychological disorders, and yet little is known about mindfulness itself, the construct at the heart of these interventions. In contrast to this overall state of ambiguity, Williams, Teasdale, Segal, & Soulsby, (2000) have demonstrated that mindfulness is associated with increased specificity of autobiographical memory. In order to provide greater conceptual clarity into mindfulness, this study aims to further explore the relationship between mindfulness and other aspects of autobiographical memory, specifically qualities of autobiographical narrative.

Clinical Applications of Mindfulness Based Interventions

The first therapeutic application of mindfulness to receive rigorous empirical examination was Mindfulness Based Stress Reduction (MBSR; Kabat-Zinn, 1990), a secularized and manualized application of Buddhist meditation techniques applied first to the treatment of chronic pain (Kabat-Zinn, 1982). MBSR was originally focused on the psychological problems that co-occur with physical illness and has successfully alleviated symptoms of pain, stress, and depression associated with a number of medical problems including heterogonous types of cancer (Speca, Carlson, Goodey, & Angen, 2000), breast cancer (Tacón, Caldera, & Ronaghan, 2004), traumatic brain injury (Bedard, et al., 2005), and fibromyalgia (Weissbecker, et al., 2002). Since then it has been applied to a wide range of psychological problems. Patients with life long affective disorders reported decreases in state anxiety, depression, and ruminative thought after completing an MBSR

program (Ramel, Goldin, Carmona, & McQuaid, 2004). Unlike many treatments, the effects of MBSR are not short lived. For example, three years subsequent to the completion of a MBSR program, medical patients previously diagnosed with anxiety disorders continue to show significantly reduced levels of anxiety (Miller, Fletcher, & Kabat-Zinn, 1995).

The benefits of MBSR are not limited to clinical populations. MBSR has also been proven to lead to decreases in levels of pain and stress and increases in positive states of mind in a sample of the general population (Chang, et al., 2004). It has reduced feelings of stress and other symptoms of burn-out among healthcare professionals (Shapiro, Astin, Bishop, & Cordova, 2005). Several studies have documented the benefits of MBSR for medical students including decreased psychological distress (Rosenwieg, Reibel, Greeson, Brainard, & Hojat, 2003) and increased empathy (Shapiro, Shwartz, & Bonner, 1998). A recent meta-analysis found an effect size of .5 for the mental and physical benefits of MBSR across both clinical and non-clinical samples, providing further validation of MBSR's efficacy (Grossman, Niemann, Schmidt, & Walach, 2004).

Mindfulness techniques are also being integrated into treatment programs for a number of other difficult-to-treat psychological disorders. Mindfulness Based Cognitive Therapy (Segal, Williams, & Teasdale, 2002) applies a combination of MBSR techniques with more traditional cognitive techniques to treat recurrent major depression. It repeatedly has proven to significantly reduce the rate of depression relapse above and beyond cognitive therapy alone (Segal, Teasdale, & Williams, 2004; Ma & Teasdale, 2004). Dialectical Behavioral Therapy (DBT; Linehan, 1993) is a promising treatment

for borderline personality disorder that has been demonstrated to lead to decreased anger, depression, hopelessness, suicidal behavior, and days in the hospital (Smith & Peck, 2004). DBT incorporates mindfulness training in order to promote affect regulation and to facilitate the development of "wise mind" which is an intuitive synthesis of "emotional mind" and "rational mind".

Acceptance and Commitment Therapy incorporates aspects of mindfulness training to facilitate clients' accurate perception and acceptance of their own life and experience and has been successfully used to treat a broad range of psychological disorders (Hayes, Luoma, Bond, Masuda, & Lillis, in press). Currently several researchers are including mindfulness techniques in the treatment of generalized anxiety disorder because they argue it will alleviate anxiety related to future worry and deepen interpersonal and emotional contact with events (Roemer & Orsillo, 2002; Borkovec & Sharpless, 2004). Mindfulness techniques have been used to facilitate affect management in post traumatic stress disorder (Wolfsdorf & Zlotnick, 2001). Mindfulness meditation has also been used to significantly decrease binge eating among adult females with binge eating disorder (Kristeller & Hallett, 1999).

Going beyond the evidence of psychological and behavioral benefit, there is increasing documentation of the physiological changes caused by regular mindfulness practice. Recent research on the effect of mindfulness meditation indicates that daily practice of such meditation leads to increased immune functioning and increased brain activity in the left prefrontal cortex, a brain area related to the experience of positive moods (Davidson, et al., 2003). This finding held true even when the participants were not actively meditating during the brain imaging process and were no longer involved in

meditation training. Meanwhile, recent research on the brainwaves associated with mindfulness has identified an increase in fast theta power in the frontal area as indicative of mindfulness, as opposed to concentrative meditation. This pattern of brain activity is correlated with increased internal awareness and decreased reward seeking and punishment avoiding behavior (Takahashi, et al., 2005). This study provides evidence that mindfulness is a distinct and observable state of consciousness with identifiable physiological correlates separate form other meditative states (e.g. concentrative forms like transcendental meditation).

Despite the wealth of evidence, reviewed above, of the psychological and physical benefits of mindfulness meditation, the field is only beginning to develop an empirically based understanding of what mindfulness itself is and how it is related to other psychological constructs (Bishop, 2002; Roemer & Orsillo, 2003; Grossman, et al., 2004). Specifically, little is known about the mechanisms responsible the clinical gains associated with increased mindfulness. An exception to this is Williams, et al., (2000) study, pointing to increased specificity of autobiographical memories as a potential mechanism behind Mindfulness Based Cognitive Therapy's proven effects on depression. The authors review evidence that patients suffering from depression, suicidal ideation, and posttraumatic stress disorder all have greater average percentages of over-general autobiographical memory. Among a depressed population, greater percentages of over-general memory predicted increased number of both past depressive episodes and prior suicide attempts (Kuyken & Brewin, 1995). Furthermore, increased percentage of over-general autobiographical memory predicts longer duration of psychological illness (Brittlebank, Scott, Williams, & Ferrier, 1993). Williams (1996) theorized that reliance

on over-general autobiographical memories reflects an attempt to avoid painful or traumatic specific memories by remaining at the more general and less emotionally charged, categorical level of memory. This avoidance however ultimately may serve as a vulnerability to further depression as it associated with deficits in social problem solving, difficulty imagining specific future scenarios, and also hopelessness (Williams, et al., 2000). Williams (1996) describes this propensity for over-general memory as a trait like disposition, present early in life and serving as a psychological vulnerability to mental illness. Williams, et al., (2000) demonstrated that Mindfulness Based Cognitive Therapy reduces rates of relapse among patients in remission from major depression and reduces the proportion of generic autobiographical memories, and increases the proportion of specific autobiographical memories. They predicted this effect because the mindfulness homework required in MBCT requires patients to notice specific aspects of their environment, which would seem likely to reduce overly generic encoding. Furthermore MBCT specifically teaches patients to allow mental events without judging or trying to change them, which would seem likely to mitigate depressed patients' typical active avoidance of specific memories. They posit that this change in specificity of autobiographical memory may be a potential mechanism by which mindfulness protects against depression relapse.

Autobiographical Memory and Narrative

This study intends to further the basic understanding of mindfulness itself by extending the investigation of the relationship between mindfulness and specificity of autobiographical memory to the relationship of mindfulness and other qualities of autobiographical narrative. Although Williams, et al. (2000) focused on autobiographical

memory, this study will focus more specifically on autobiographical narrative. Autobiographical memory and narrative are very closely related constructs. Both terms have been used in diverse and often times synonymous ways, and there is no clear distinction between their operationalizations within the literature. For example, Williams, et al. (2000) measured autobiographical memory by providing participants with positively and negatively valenced cue words and then asking them to provide a description of a specific event from their past of which the cue word reminded them. Baerger and McAdams (1999) measured life narrative in an extremely similar manner. They described eight universal critical life events (e.g. a high point, a low point, a turning point, etc,) and asked participants to describe a specific event from their past that fit the description of the critical event.

Orienting autobiographical memory and narrative within the greater context of Conway and Pleydell-Pearce's (2000) Self Memory System (SMS) model clarifies their relationship. The SMS model posits that autobiographical memories are actively constructed out of three specific types of autobiographical knowledge: life time periods, general events, and event specific knowledge (ESK). ESK are often visual imagery and consist of the direct sensory memories from the experience as opposed to the cognitively and linguistically based representations of the experience. Within this model autobiographical memory is an active cognitive synthesis of various specific ESKs within the greater context of life time periods and general events. Similar to Singer and Salovey's (1993) self defining memories, autobiographical narrative is a subset of autobiographical memories that have specific relevance to the sense of self (Robinson & Taylor, 1988). Other types of autobiographical knowledge, like the life story schema

(Bluck & Habermas, 2000), seem to play an important role in defining which autobiographical memories are included in the autobiographical narrative. Autobiographical narrative is also distinguished from simple autobiographical memory by its story like quality, which is related to the idea of coherence, an important aspect of narrative that will be addressed in a later section. This study will draw on literature about both autobiographical memory and autobiographical narrative; however, it will focus primarily on narrative due to the wealth of techniques for quantifying different qualities of autobiographical narrative and due to the empirically demonstrated relationship between narrative and essential psychological functions, like maintaining emotional well being and establishing interpersonal relationships.

In contrast to autobiographical memory, autobiographical narrative also is by definition a social behavior: a story telling behavior affected by the social context, specifically the relationship to and qualities of the listener and the narrator's implicit culturally bound story telling traditions. Alea and Bluck (2003) demonstrate that a narrator will tell a different narrative depending on the qualities of the listener (e.g. a child vs. an adult) and his or her relationship to the listener (an intimate friend vs. an unknown researcher). Narrative also is structured according to certain culturally defined traditions of what a good story is, and would likely be structured differently in another culture (Murray, 2003). For example adults from independent (e.g. North American) cultures told earlier, lengthier, and more elaborated autobiographical narratives than adults from interdependent cultures, such as China, Korea, and India (Leichtman, Wang, & Pillemer, 2003).

Therefore the subject of interest in this study, autobiographical narrative, is recognized to be a complex construct; a given autobiographical narrative is an active cognitive synthesis of ESKs contextualized according to overarching forms of autobiographical knowledge, such as the life story schema, all of which is woven together into a culturally bound story structure appropriate to the specific social context. Mindfulness could affect narrative in a number of ways, including the encoding of ESKs, the construction of life story schemata, the retrieval of ESKs from long term memory for use in a specific narrative, and the interpersonal story telling process. In order to make more specific predictions about the relationship of mindfulness and narrative, examination of the relevant literature on the constructs of mindfulness and autobiographical narrative will be necessary.

Development of Mindfulness Theory

Returning first to mindfulness, a theoretical understanding of mindfulness will allow for specifying its expected relationships with narrative. The concept of mindfulness has its roots in ancient Buddhist teachings. The first known historical reference to mindfulness provides only an indirect definition of mindfulness itself. Several early Buddhist documents state simply that mindfulness (*smriti)* should be cultivated by awareness of four basic aspects of experience: body (*kaya),* feelings (*vedana*), thoughts (*citta*), and the basic elements of the world (*dharma*) (Kalupahana, 1987). Thus early Buddhist writings imply that mindfulness is a state of intentional awareness of one's physical sensations, emotions, thoughts, and environment. Over a thousand years later, mindfulness meditation techniques have been further refined, but are still at the heart of many Buddhist traditions. Typically, they entail sitting in an

upright posture and focusing the attention on the physical sensation of the breath. As thoughts and feelings distract the attention, they are accepted and observed before being released to return the attention to the breath (Tich Nhat Hanh, 1976). This acceptance and observation of all aspects of experience defines mindfulness meditation in contrast to concentrative meditation, which simply focuses on ignoring and ultimately reducing distracting thoughts and feelings so that greater and greater single pointed concentration can develop (Martin, 1997). Modern Buddhist definitions of mindfulness have remained quite similar but now include a more explicit temporal focus. For example Tich Nhat Hanh (1976) defines mindfulness as, "Keeping one's consciousness alive to the present reality" (p. 11), and Nyanoponika Thera (1972) defines it as, "The clear and single-minded awareness of what actually happens to us and in us at the successive moments of perception" (p. 5).

Scientific psychology first began to investigate mindfulness because of increasing awareness of its opposite: mindlessness. Social scientists have gathered a large body of evidence chronicling the variety of human behavior that occurs automatically and without conscious awareness. Reviewing this literature, Bargh and Ferguson (2000) cite numerous studies in which environmental cues, of which participants are unaware, strongly influence participants' information processing, judgment, and behavior. Ellen Langer, one of the early researchers of automatic or mindless processing conducted a number of experiments illustrating the mindlessness of myriad human processes, including complex social behavior (Langer, Blank, & Chanowitz, 1978) and social perceptions and judgments (Langer, 1980). Her research on mindlessness encouraged her to begin theorizing about it's opposite: mindfulness. Langer (1989) defined the three key

qualities of a mindful state as the creation of new categories, the openness to new information, and the awareness of more than one perspective.

Scientific psychology began to incorporate mindfulness related concepts and techniques from the Buddhist tradition when Kabat-Zinn (e.g. 1982, 1990, 2003) provided repeated empirical evidence of the psychological benefits of a secularized form of mindfulness meditation. As Western psychologists have assimilated the Buddhist practices and ideas, the mainstream definition of mindfulness has departed from Langer's conceptualization in several ways (Brown & Ryan, 2003; Bishop, et al., 2004). Current conceptualizations more explicitly include awareness of the individual's own internal world (i.e. body, feelings, and thoughts), whereas Langer focused more on the external world. Langer emphasizes creative information processing and inductive reasoning; however, more recent conceptualizations of mindfulness state that it explicitly involves the *inhibition* of "secondary elaborative processing of thoughts, feelings, and sensations arising in the stream of consciousness" (Bishop. et al., 2004, p. 233).

Chang, et al. (2004) state that mindfulness is currently commonly defined within psychology according to Brown and Ryan's (2003) definition as, "the state of being attentive to and aware of what is taking place at the present moment." This definition is clear and succinct yet incomplete because it leaves out an essential aspect of the construct: an accepting attitude of non-judgment and non-reactance toward experience. Safran and Muran (2000) explicitly acknowledge the value of this attitude. They state, "The component of nonjudgmental awareness plays a critical role in helping people to observe whatever emerges without pushing it out of awareness and without losing the stance of mindfulness, by getting caught up in an infinite spiral of self-judgment" (p. 58).

Accordingly, this study will utilize Bishop, et al.'s (2004) two-component model of mindfulness because it explicitly incorporates the attitude of acceptance within the definition. They propose that mindfulness is a mode[1] of experience characterized by (1.) purposeful attention to immediate experience of the present moment including sensations, thoughts, and feelings (2.) and complete acceptance of that experience without "over-identifying with them and reacting to them in an automatic, habitual pattern of reactivity" (p. 232).

Two States of Mindlessness: Oblivious and Reactive

The two component model of mindfulness implies that mindlessness could result from a lack of either component. A lack of the first component, awareness, would result in an oblivious type of mindlessness that is superficially emotionally stable but quite unconscious of many aspects of experience, particularly that are emotionally challenging. Oblivious mindlessness is based upon the maintenance of emotional stability by avoiding uncomfortable aspects of experience. Oblivious mindlessness can also be maintained by distortion of experience such that it is no longer challenging. We would expect oblivious mindlessness to be associated with encoding simpler, less contradictory autobiographical memories. The resultant autobiographical memory will thus have fewer complications, contradictions, and overall complexity. Some types of experiences will be more likely to be ignored or dismissed than others, specifically those experiences that are associated with negative affective states like depression, anxiety, guilt, and shame. Therefore the

[1]Mindfulness is regularly described as something in between a state and trait. For example, Brown and Ryan describe it as a state of consciousness that varies both within and between individuals, Sternberg (2000) as a cognitive style, Bishop, et al. (2004) as a mode of experience.

autobiographical narratives associated with oblivious mindlessness are predicted to be generally less complex and specifically to contain less articulation of emotional experience.

Quite differently, another type of mindlessness results from a lack of the second component of mindfulness, the ability to accept experience without reacting to it and then to let it go. Without this ability, recognition of uncomfortable of aspects experience can lead to both intensified emotional reaction and ruminative cognitive activity.

An attitude of acceptance changes the semantic context of the experience of negative emotions. Acceptance can reduce the intensity of the emotional reaction by making it feel more subjectively tolerable, as opposed to urgent and entrapping, and by reducing secondary emotional reactions, like fear, to the initial negative emotion. An attitude of acceptance also implies not holding onto or identifying with the experience. Thus mindfulness is associated with non-identification with thoughts and feelings, which means that one's current experience is perceived as simply a temporally limited state as, opposed to a defining feature of the self or of existence. Thus an experience of dysphoria will be registered as local and impersonal (e.g. "at this moment I am experiencing a bad mood") as opposed to personal and global (e.g. "I am depressed as always because that is my curse in life.") Basically non-identification reduces the subjective intensity of emotional experience by decreasing the threat to self and future.

Acceptance can also lead to reduced rumination, a form of self focused cognitive processing that is associated with neuroticism (Trapnell & Campbell, 1999). When an experience contains a negative affective component, and the mind responds to that affect with further affectively charged thought, compulsive rumination often ensues. Teasdale,

Segal, Williams, and Mark (1995) contrast this mindless state, in which attention is mired in ruminative thought processes *about* a mental event, its historical antecedents, and future implications, with mindfulness, in which a direct *experience* of the mental event is followed by freely letting that experience go and making room for another. Teasdale and Bernard (1993) assert that rumination can actually intensify the negative affective state that triggered it. Teasdale, Segal and Williams (1994) describe self-sustaining cognitive and sensory loops triggered by activation of emotionally charged core schemas (e.g. hopelessness about self and future) which then lead to sensory experiences and cognitive attributions that further reinforce the schema (e.g. somatic feelings of fatigue and appraisal of social interactions as failures) leading to an "interlock configuration" , basically a self sustaining negative feedback loop. Mindfulness breaks the cycle of rumination through inhibition of the secondary evaluative processing of experience that further strengthens the core schema and affective state. Teasdale, et al., (2000) theorize that reduction in ruminative thought is one of the key mechanisms by which mindfulness meditation leads to reduced depression. Ramel, Goldin, Carmona, and McQuaid (2004) provide preliminary support for this claim by demonstrating that reductions in ruminative thought, subsequent to completion of an eight week MBSR intervention, remain significant after controlling for changes in affective symptoms and dysfunctional beliefs. However, rumination, in turn, precludes mindfulness by fostering ongoing emotional reaction and myopic focus on a single mood congruent topic, which precludes a return of awareness to the experience of the present moment.

In summary, a lack of acceptance can lead to intensified negative emotional experience and a subsequent ruminative cycle. The intensified negative feelings, like

depression and anxiety, will in turn lead to biases in attention, reduced cognitive resources, and reduced encoding of experience into memory. Anxiety has been shown to lead to disproportionate attention to threatening stimuli (Fox, Russo, Bowles, & Dutton, 2001). Likewise, depression leads to selective attention for negatively valenced stimuli (Mineka & Nugent, 1995). Anxiety elicits task-irrelevant cognitive activity, like worrying, that consumes psychological resources in working memory (Baddeley, 1986). Depression has also been widely associated with reduced speed of automotive cognitive processing (e.g. den Hartog, Derix, van Bemmel, Kremer, & Jolles, 2003). Finally in a recent review of the effects of anxiety on memory, Macleod and Mathews (2004) provide compelling evidence that anxiety impedes performance on a number of cognitive tasks, especially memory tasks and is associated with memory deficits. Research on the effects of depression and anxiety demonstrate the manner that affective arousal can lead to biased, selective attention and reduced cognitive resources both of which will impede mindfulness.

It is important to distinguish these two differing states of mindlessness because they will lead to very different impairments of autobiographical narrative, which will be clarified after examination of the relevant literature on autobiographical narrative and memory.

Functions of Autobiographical Narrative

Beyond providing further understanding into mindfulness itself, the relationship between mindfulness and autobiographical narrative is also of interest because autobiographical narrative predicts a wide variety of fundamental psychological functions. Bluck, Alea, Habermas, and Rubin (2005) recently reviewed literature on the

function of autobiographical memory, which they define very similarly to autobiographical narrative, and suggested three overarching functions: directive, self, and social. They empirically tested and confirmed their model, with the exception of the social function, which actually appeared to be composed of two factors. They describe the directive function as "using the past to guide present and future behavior" (p. 93). Much of the theory on the function of autobiographical narrative falls into the directive category. By condensing myriad individual experiences into prototypical patterns, narratives provide a map or template that provides cognitive organization and interpretation of the environment, explanation of the past, and prediction of the future. As Russell & van de Broek (1992) explain, "Narrative schemas provide means to recognize, organize, remember, and anticipate experience; they structure the world in which behavioral choices arise" (p. 347).

Both attachment theorists and social learning theorists predict that autobiographical narrative profoundly affects social relationships and general well being. According to attachment theory, early attachment experiences serve as a primary, central narrative or internal working model through which all other later relationships are viewed (Bowlby, 1982). This template often works as a self-fulfilling prophecy, creating expectations and interpersonal patterns that recreate the original attachment relationship in other important later relationships. In contrast social learning theorists focus on the narrative representations of the recent past and present, examining how these narratives reflect underlying social contingency patterns. Wahler and Castlebury (2002) state, "Present day experiences acquire salience when the narrator can trace their historical roots to highlight the contingency patterns that account for these experiences" (p. 301).

Autobiographical narratives that incorporate more experiences and that adequately synthesize those experiences create more useful models of contingency patterns. Bruner (1992) has even suggested that narrative understanding is one of the basic modes of thought for structuring human experience. He argues that there are two fundamental ways of constructing reality, logical-scientific and narrative, and that the cultural and individual influences on narrative style and ability shape the very way that an individual construes reality, specifically reality within the domain of human interaction.

Bluck, et al.'s (2005) self function of autobiographical memory is primarily focused on self continuity, specifically the development and maintenance of a biographical identity and coherent self concept across the lifespan. McAdams (1993) identity theory of life narrative is a classic example of a self function. He suggests an essential function of autobiographical narrative is providing meaning and a coherent center to organize the many disparate roles of a modern life. Conway and Tachi (1996) even suggest that autobiographical memory is an intrinsic part of the self.

Bluck, et al.'s (2005) final functional category is social, which according to their factor analysis is actually composed of two complementary social functions: developing new relationships and maintaining existing relationships. Autobiographical narratives foster the development of new relationships by fostering cognitive and emotional intimacy with an other person. Once a relationship has been established, sharing life stories is a common bonding activity, and actually the most frequently reported function of sharing autobiographical memories. Reminiscing about shared experiences seems to be a particularity important aspect of the social maintenance function of autobiographical memory.

Recently many of these theoretical claims about the importance of narrative have received significant empirical support. A large body of research substantiates attachment theory's premise that attachment related narratives strongly relate to quality of interpersonal relationships. The Adult Attachment Interview (AAI) provides a powerful method of quantifying the coherence of an adult's attachment related narratives (Main, 1996). The AAI requires adults to provide narratives about attachment related experiences, which are then classified as coherent or incoherent. A meta-analysis of studies examining the relationship between AAI status (coherent vs. incoherent) of adults and their children's attachment status (secure vs. insecure) as assessed by the strange situation yielded a very large effect size of 1.06 (van IJzendoorn, 1995), indicating that parents with coherent narratives were likely to have securely attached children. This effect size remained equally strong when based solely upon prospective studies, in which the AAI was given to parents before the birth of their child. Parental responsiveness is a potential mediating mechanism that partially accounts for the relationship between the coherence of adults' attachment related narrative and children's attachment status. Van IJzendoorn (1995) found an effect size of .72 for the relationship between AAI status and parental responsiveness and parents AAI status accounted for 12% of the variation in responsiveness. Finally, in yet another meta-analysis van IJzendoorn & Bakermans-Kranenburg, (1996) found a modest correlation (.28) between the AAI status of fathers and mothers, indicating that women with coherent attachment related narratives were likely to be married to men with similarly coherent narratives. Thus in sum, the research on the AAI indicates that better quality attachment related narratives are associated with

responsive parenting, a greater likelihood of marrying a spouse with a similarly coherent attachment narrative, and a greater likelihood of raising a securely attached child.

Studies independent of AAI methodology also find a relationship between narrative quality and interpersonal relationships. For example, Shields, Ryan, and Cicchetti, (2001) found that maltreated children had less coherent narrative representations of their parents than well treated children. Coherent narrative representation was related to peer preference and prosocial behavior and negatively related to aggression and peer rejection. Narrative coherence mediated the effect of maltreatment on peer rejection in part by mitigating emotional regulation problems. This study indicates that emotion regulation is one of the important functions of autobiographical narrative.

In addition to the associations with enhanced interpersonal relationships, better quality narratives are also associated with greater well being. Oppenheim, Nir, Warren, and Emde (1997) found that children with more coherent narratives were more likely to be rated by their mothers as having fewer behavior problems and better emotional regulation than children with poor narratives. In another meta-analysis of studies of the relationship between AAI status and various psychological disorders, van IJzendoorn and Bakermans-Kranenburg, (1996) found a strong relationship (d=1.03) between the quality of the adult attachment narrative and clinical status. Baerger and McAdams (1999) found positive correlations between narrative coherence and both happiness and life satisfaction and a negative correlation with depression in adults. Expanding the relationship between narrative and well-being, Pennebaker and Seagal (1999) found a positive correlation between use of cognitive words in narrative and physical health.

Analyzing Narrative: Dimensions of Individual Difference

Frequent states of mindfulness could have a number of complex effects on the encoding of autobiographical memory, the internal structuring of those memories into a life schema, and the process of expressing that schema in narrative form to another person. The only way to clarify the relationship between mindfulness and narrative is to empirically observe. Unfortunately we are not aware of an existing measure of autobiographical narrative explicitly developed for sensitivity to the effects of mindfulness. Thus it will be necessary to understand the different ways that autobiographical narrative has been analyzed, described, and measured, in order to identify those relevant to mindfulness. Narrative has been a theoretical and empirical subject of study in a number of academic traditions including literary criticism, anthropology, sociology, and psychology (Cortazzi, 1993). Considering the great quantity of literature that has been devoted to understanding and analyzing narrative, any global overview of narrative theory will be insufficient. Nevertheless, this study will focus on the study of narrative within psychology and will utilize organizational dimensions provided by Lieblich, Tuval-Mashiach, and Zilber (1998), who suggest that systems of narrative analysis can be categorized according to two dimensions: holistic versus categorical systems and content versus formal systems.

The holistic-categorical dimension refers to the unit of analysis. Holistic analytical systems examine narratives as a whole, while categorical systems break narratives into smaller units, typically clauses (Labov, & Waletsky, 1967; Foa, Molnar, & Cashman, 1995) or units of complete thought (Labouvie-Vief, Chiodo, Goguen, Diehl, & Orwoll, 1995). Holistic coding systems typically quantify the relative presence or

absence of some quality like coherence (Baerger & McAdams, 1999), integration (Segal, Wood, DeMeis, & Smith, 2003), or linguistic complexity (Gray & Lombardo, 2001). In contrast categorical systems label each clause or thought unit according to a predetermined number of mutually exclusive categories. For example Foa, et al. (1995) categorized each clause according to a number of descriptive categories like organized thought, disorganized thought, supporting detail, and repetition. Narratives are then analyzed according to relative proportion of different types of clause or thought units. Analyses at the categorical level tend to be highly reliable but are extremely time intensive for longer narratives and can miss the greater context that allows for subtler understanding of the meaning of a given clauses. As will be explained later, our study is focused on longer, more extensive narratives and, therefore, it is much more feasible to code at the holistic level. Relevant categorical level coding systems will be reviewed but will require adaptation to a holistic level of analysis for utilization in this study.

The content-formal dimension refers to the focus of analysis. Content focused systems concentrate on what is communicated while formal systems focus on how it is communicated. Content based analyses involve the documentation of the presence or absence of specific themes within the narrative. Examples include justice (Pratt & Arnold, 1995), resolution of conflict (Segal, Wood, DeMeis, & Smith, 2002), defensive processes (Androutsopoulo, Thanopolou, Econmou, & Bafiti, 2004), and specific plot type (Thorne & McLean, 2003). Formal systems examine the manner in which the narrative is told. Formal analysis has tended to focus primarily on narrative complexity and narrative coherence. Examples of analyses of complexity include multiplicity (Goncalves, Henriques, Alves, & Soares, 2002), complexity of self representation

(Labouvie-Vief, et al., 1995), cognitive/linguistic complexity (Russell & van den Brock, 1992), psychological complexity (Segal, et al., 2002), and life role complexity (Segal, et al., 2002). It is important to note, however, that content versus form is a spectrum and thus some constructs (e.g. complexity of self representation, Labouvie-Vief, et al., 1995; psychological complexity, Segal, et al., 2002) fall in the middle and are actually mergers of form and content, as they entail an increasingly complex form that also contain increasing amounts of specific types of content.

Much of the narrative research within psychology has focused solely on narrative coherence, a type of formal analysis. In order to effectively convey a life story in a way that is understandable, believable, and engaging, a narrative must cohere to certain story telling principles, known collectively as coherence. As Mandler (1984) explains, "stories have an underlying, or base, structure that remains relatively invariant in spite of gross difference in content from story to story" (p. 22). Coherence has been theorized to contain a great diversity of sub-factors. Adapting psycholinguistic research on text comprehension to their review of the various components of narrative coherence, Habermas and Bluck (2000) argue that overall coherence can be fully accounted for by four sub-factors: temporal, biographical, causal, and thematic coherence. They suggested that individual events in a narrative must be connected chronologically and by cause and effect, thus creating temporal and causal coherence. A narrative has biographical coherence when it contains the essential components of a life story (e.g. leaving home, first job, important romantic relationships, etc.). Thematic coherence involves establishing thematic similarities between the various elements of a life and acknowledging some sense of meaning or purpose in life. They suggest that temporal

and biographical coherence are fundamental necessities of narrative, providing the basic skeleton of a narrative and allowing for comprehensibility. These are the fundamental aspects of coherence that make a narrative a narrative. Not surprisingly, these two aspects of coherence are heavily featured in coding systems meant to asses the coherence of people with debilitating psychological disorders, like schizophrenia (Lysacker, Clements, Plascak-Hallberg, Knipscheer, & Wright, 2002) and Alzheimer's disease (Usita, Hyman, & Herman, 1998). Habermas and Bluck state that causal and thematic coherence "express the unique interpretative stance of the individual" (p. 750). These are the more sophisticated aspects of coherence that distinguish between better and worse narratives. Accordingly this study will focus on these latter two aspects of coherence, which Habermas and Bluck describe as most important in establishing the overall global coherence of the life story.

Further examination of the different dimensions of analysis suggest expanding Lieblich, et al.'s (1998) two-dimension system to include a third dimension: narrative quality versus interpersonal behavior. All of the coding systems reviewed so far have focused on the qualities of the narrative but some theorists have suggested examining the relational behavior of the narrator with the listener or co-narrator. Strickland (1994) recommended examining the difference between the voice of the protagonist of the narrative and the narrator of the story. He specifically advocated an examination of the characteristics of the narrator in the context of their relationship to the interviewer (e.g. soliciting help, challenging, etc.). Androutsopoulo, et al., (2004) suggest examining "acknowledging/ responding to the needs of the audience." Fiese and Spagnola (2005) review a number of coding systems that quantify the relative ability of a family or couple

to cooperate and support each other in the construction of a narrative. The Adult Attachment Interview (Main, 1996) includes an assessment of collaborative behaviors on the part of the narrator, like recognizing and excusing slips in coherence (i.e. licensing) and collaborative discourse in which the narrator inquires about the interests of the interviewer and tailors the narrative to them. However, because our interviewers will follow a carefully structured script in order to reduce interviewer based variance, the interviewers have little opportunity to freely interact with the narrators. This will greatly reduce variance in interpersonal behavior; hence, this dimension will be excluded from the current study.

Hypothetical Qualities of a Mindful Narrative

Applying to narrative the idea that mindlessness can result from defensive avoidance of experience or emotional rumination about experience, several theoretical predictions become apparent. Oblivious mindlessness theoretically involves ignoring or distorting entire categories of experience, thus leading to the development of overly simplified autobiographical knowledge. We predict that the resulting autobiographical narrative would be less complex, specifically with regards to description of emotional experience. Accordingly general methods of coding narrative complexity and specific methods of coding emotional articulacy will be reviewed. In contrast reactive mindlessness involves the inability to let go of emotionally challenging mental events. Reactive mindlessness implies that once such a mental event is experienced, a negative feedback loop can ensue, in which ruminative thought and negative affect mutually strengthen each other. This in turn leads to emotional destabilization and impairment of cognitive abilities. We expect this to impact the story telling behavior itself. Story

telling is a complex and cognitively challenging task, which when successful leads to coherence. Therefore we predict that reactive mindlessness will be associated with impaired coherence scores subsequent to contemplating an emotionally challenging life event.

Mindfulness and narrative complexity.

The open-minded, nonjudgmental attitude with which experience is mindfully approached entails a purposeful setting aside of preconceived notion or schemas as one encounters new material. In traditional Buddhist writing this has been described as "Beginner's Mind" and entails the purposeful engagement in each action or experience as if it was occurring for the first time. This aspect of mindfulness concords quite well with Langer's (1989) original definition of mindfulness as openness to new information and creation of new categories. In contrast to "beginner's mind", approaching new information with a specific schema in mind is likely to lead to either a failure to encode schema discordant information or a biased encoding of that information so that it concords with prior schemas. In the words of a Tibetan Lama, Chogyam Trungpa (1991), "The clarity of our consciousness is veiled by prefabricated concepts and whatever we see we try to fit into some pigeonhole or in some way make it fit in with our preconceived ideas" (p. 103). Cognitive research on the effects of schemas on information processing support these ideas. Schematic processing has been shown to be associated both with distortions (Bartlett, 1932; Duncan, 1976) and reduced perceptual encoding (von Hippel, Jonides, Hilton, & Narayan, 1993).

Returning to the two types of mindlessness, it is specifically oblivious mindfulness that would seem likely to impair the development of complex

autobiographical narrative. Oblivious mindlessness explicitly entails schematic processing, as certain beliefs and assumptions about the world are both constantly used to interpret and understand experience and rigidly defended from new schema-discordant information. The long term effects of continual schematic information processing, as opposed to the more unbiased processing involved with mindfulness, will be that simple schemas rarely need to be accommodated to new information and thus fail to develop more complexity. Consequently the narratives of mindful participants are expected to contain more complex schemas and resulting narrative plots, more limiting caveats on generalizations and theories, and more complex descriptions of self and others. They are also more likely to express recognition of the subjectivity of the narrator's perspective and to include other perspectives.

Quantifying complexity.

Several different aspects of narrative complexity have been quantitatively analyzed including multiplicity, linguistic complexity, and psychological complexity. Goncalves, et al.'s (2002) narrative multiplicity evaluation method provides a way to quantify general narrative complexity. They recommend counting the number of themes, events, settings, and characters. Narratives with a greater number of each of these elements are described as having greater multiplicity and thus reflecting greater differentiation of experience. Similarly, Russell & van de Broek (1992) recommend assessing relative degree of narrative elaboration by assessing the number of plots a narrative contains. We would expect more mindful narratives to demonstrate greater narrative multiplicity; however, multiplicity seems to be an inadequate operationalization of narrative complexity because it does not explicitly differentiate between multiplicity

arising from incoherence and inclusion of irrelevant material, and multiplicity arising from complexity of thinking and storytelling.

Russell & van de Broek (1992) also propose that a core quality of autobiographical narrative is "linguistic complexity" which they recommend assessing through calculating a ratio based upon the average number of clauses per main clause. In a later article they utilize a slightly different operationalization of linguistic complexity, based upon counting the average number of words per segment, which they define as an independent clause and its accompanying dependent clauses (Russell, van de Broek, Rosenberger, & Essig 1993). Similarly Gray and Lombardo (2001) assessed linguistic complexity through total narrative word count and the computerized Flesch Reading Ease Index but found that both of these measures are highly confounded with linguistic skill and general cognitive ability. Because mindfulness theoretically should impact the complexity of content, as opposed to the specific verbal expression of that content, and because linguistic complexity is often confounded with general cognitive ability, this study will not rely on measures of linguistic complexity.

The aspect of narrative complexity to receive the greatest empirical attention within psychological literature, not surprisingly, is psychological complexity, which has been quantified in a number of differing ways. Segal, et al. (2002) provide two narrative coding indices designed to analyze autobiographical narratives provided as imaginary descriptions of one's own future. "Psychological Complexity" assesses the degree to which the subject understands him or herself and others, including tolerance of both negative and positive qualities, and the acknowledgement that self-awareness and psychological functioning improve over time. "Life Role Complexity" assesses the

degree to which the subject understands that any given developmental stage requires multiples social roles, and that adjustment to these roles will take time and effort to find a compromise between the demands of self and others. We would expect mindfulness to correlate with both of these indexes; however, due to practical limitations this study will focus on a single measure of complexity, and neither of these indices taps the aspect of narrative complexity most theoretically relevant to mindfulness.

The complexity of representation of self and others seems especially likely to be sensitive to the effects of mindfulness. People are the principle subjects of narratives, and as such are often described with more detail and complexity than other narrative topics. Some of the most emotionally threatening information is data about the self or important others. For example people tend to selectively attend to self enhancing autobiographical memories (Walker, et al., 2003). Furthermore, as psychology well knows, descriptions of self and others are much more subjective than many phenomena, making it easy to ignore or distort such information. Thus, information regarding self and others seems particularly vulnerable to dismissal or distortion in a state of oblivious mindlessness. Representations of people are also of interest because they are directly related to one of the core functions of narrative, providing understanding of self and others.

Labouvie-Vief, et al. (1995) propose a system of coding complexity of self representations based on research examining dialectical thinking and wisdom related cognitions. The system is based upon a developmental model whereby representations of self that are based on individuality, context, and process are coded as more complex than representations revealing fusion of the self with others or with social conventions. Their

system is especially relevant to the study of mindfulness and narrative considering that Bishop, et al. (2003) specifically predicted scores on it would co-vary with mindfulness. They base this claim on the assumption that because mindfulness practice leads to increased understanding of the subjectivity and limitations of one's own cognitive processes, mindfulness should be associated with "complexity of cognitive representations in self narratives" (p. 234). Unfortunately, however, the Labouvie-Vief, et al. (1995) system is not suited to the specific methodological demands of this study. It is a categorical as opposed to a global system, and requires categorization of each unit of complete thought (typically a sentence) according to its complexity of self representation. Although pragmatic when applied to the relatively short self descriptions utilized in the validation study, the coding system will be extremely time demanding when applied to longer narratives. When the authors attempted to adapt their coding system to the holistic level, they found the resulting system had no "single criterion by which overall scores are assigned making such assignment quite intuitive" (p. 407), and hence lead to difficultly establishing inter-rater reliability.

Accordingly this study will rely on a related yet more feasible system. Leigh, Westen, Barends, Mendel, and Byer (1992) designed a coding system for the assessment of the complexity of representations of people in oral narratives. Low scores on the scale reflect an inability to clearly differentiate self from others or to describe people in concrete and undifferentiated terms. High scores reflect a portrayal of self and others as having stable and yet multi-dimensional dispositions and as psychological beings with complex motives and subjective experience. Unlike Labouvie-Vief, et al.'s (1995) system, the measure is global in scope and will fit the needs of the study quite well.

Mindfulness and emotional articulacy.

Systematic avoidance of emotionally challenging mental events (e.g. perceptual, cognitive, or emotional experience) will have profound effects on the autobiographical narrative as whole categories of experience are systematically ignored and thus never synthesized into the narrative. One particular vulnerability of such narratives is a lack of information about emotional experience, particularly the experience of negative affect. This avoidance impacts autobiographical narrative in a number of ways. First of all, an oblivious narrator is likely to select less emotionally intense topics to talk about. When he or she does talk about a difficult life experience, he is likely to provide a less articulate and detailed description of his or her emotional reaction, or to even include any emotional reaction to that event whatsoever. In contrast, a mindful person should theoretically have a wider array of detailed emotional experiences within their autobiographical memories. Thus, Bishop, et al. (2004) theorized that mindfulness entails the, "ability to generate differentiated and integrated representations of … affective experience" (p. 234). Accordingly we would expect a relatively mindful person's narrative to not only include articulate descriptions of emotional experience, but also to include certain descriptive content about emotions that result from the systematic observation of emotions, such as ambivalence.

Establishing the relationship between mindfulness and emotional articulacy will be more difficult because of the expected effect of reactive mindlessness. In contrast to oblivious mindlessness, reactive mindlessness entails a hyper-focus on emotional experience and secondary elaborative processing of that experience. Such processing could ultimately lead to very complex and articulate descriptions of and theories about

emotional experience (e.g. metaphorical description, theories about the meaning of emotion, and theories about multiple secondary causes of emotion). Thus it is possible that mindful narrators may evidence greater emotional articulacy than oblivious narrators but less articulacy than reactive narrators, assuming a measure of emotional articulacy includes complex descriptions of and concepts about emotion. Thus our study will require a measure of emotional articulacy able to differentiate these types of emotional description.

Quantifying emotional articulation.

Although a number of coding systems have items relevant to quantitative analysis of emotional articulacy, no system fully operationalizes the construct. Baerger and McAdam's (1999) affect index is less relevant than name would indicate. The index assesses the degree to which the narrator includes the current emotional significance of the historical experience described in the narrative. Basically it is an assessment of the skillful use of emotion to express the present day significance of the past episode by creating an affective tone or signifying emotional meaning[2]. It is not explicitly concerned with the articulacy or complexity of the narrator's description of his emotional experience in the past.

Goncalves, Henriques, Alves, and Rocha (2001) provide an index of the degree of emotional subjectification. Their index gives low scores to undifferentiated affective experience and higher scores to multiple differentiated emotional experiences. Unfortunately their coding manual does not provide specific instructions in further differentiation of low and high scores. While their index points to the importance of both

[2] It thus is related to Labov's (1972) evaluation, or why the story is being told.

differentiation and ambivalence, it does not have specific enough description of the multiple levels of emotional articulacy to be reliably used in this study.

Androutsopoulo, et al. (2004) compared the therapy transcripts of patients beginning therapy with the narratives of patients who graduated from therapy. One of their distinguishing criteria, "being in touch with emotions" is quite relevant to the construct of emotional articulacy. The authors describe it as providing a story that feels warm without feeling melodramatic and reveals the ability to acknowledge emotion with out simply ventilating or ignoring it. Despite the relevance of their theoretical description, their method is qualitative. Quantitative use of their item would require significant interpretation and inference to operationalize their intuitively based descriptions[3].

Lane, Quinlan, Schwartz, Walker, and Zeitlan's (1990) Levels of Emotional Awareness Scale is the most relevant existing scale. It is based upon a cognitive-developmental model of emotional experience. It poses twenty evocative interpersonal situations and asks the participants for hypothetical emotional responses of self and other. Low scores on the scale reflect a description of emotion as thought or as simple physiological response. Middle scores reflect increasing use of emotion specific language. High score reflect descriptions of ambivalence. The highest possible score requires the description of distinct emotional states in self and other. The developmental model behind this scale has much to offer our study, but the specific methodology of this

[3] They expand on this construct by providing a detailed description of two categories of defensive processes that lead one to be out of touch with emotions: avoiding emotions and regulating emotions. These behaviors are a result of difficultly tolerating affect and hence are hypothesized to be negatively correlated with mindfulness. Due to pragmatic limitations, however, this hypothesis will not be tested in the current study.

scale has several drawbacks. It requires specifically asking for the participants' emotional response, whereas the present study will inquire about emotionally evocative experiences and leave the participant free to include or exclude their own emotional reaction. Thus the lowest scores on the scale would not be relevant to the narratives collected in this study. The highest score, distinct emotional states of self and other, will be highly correlated with measures of complexity of representation of self and other, thus confounding two key variables of the study. The most relevant aspects of the scale are the three midpoints: undifferentiated emotional description, differentiated emotional description, and ambivalence (i.e. the experience of two or more distinct emotions at the same time).

Because none of the existing measures of emotional articulacy satisfactorily address the aspects of emotional articulacy most theoretically related to mindfulness, adequate quantification of emotional articulacy will require the development of a new measure. Such a measure will need to distinguish between a complete lack of emotional experiences, undifferentiated descriptions, distinct descriptions, elaborated or complex descriptions, and ambivalence. Furthermore, in order to avoid making assumptions about the relations of these different forms of description with each other (e.g. one is superior to another, or that high frequency in one implies low frequency of another), an ideal coding system will independently assess the narratives in the separate categories of emotional description.

Mindfulness and coherence.

Not all mindless states are a result of defensive avoidance of experience. As discussed above mindlessness can also result from secondary emotional reaction and

evaluative processing of experience. When an experience contains a negative affective component, a mindful attitude of acceptance leads to a lessened sense of distress, less secondary emotional reaction, and decreased chance of a subsequent ruminative cycle. A mindless approach to the experience intensifies emotions like depression and anxiety is likely to lead to biased, selective attention, impaired cognitive capacities, and decreased encoding of experience into memory.

Telling a coherent narrative is a challenging task requiring temporally and causally connecting autobiographical memories according to a recognizable story structure that conveys some sense of significance or meaning about the narrator's life as a whole. The narration of an emotionally disturbing event typically leads to re-experiencing a substantial proportion of the negative affect of the original experience (Pasupathi, 2003). If a narrator experiences intense states of negative emotional arousal, their ability to tell a coherent story will often be compromised. However, a more mindful narrator should theoretically experience less subjective distress and thus their ability to coherently tell a story should be less impaired. Thus we predict mindfulness will be associated with greater narrative coherence when narrating stories about emotionally disturbing life events.

Quantifying coherence.

As discussed above, this study will focus on causal and thematic coherence because these are two of the most challenging forms of narrative coherence to achieve and hence the most likely to be sensitive to affective interference (Habermas & Bluck, 2000). Accordingly, we searched for adequate operationalizations of thematic and causal coherence amongst the existing literature (Labov & Waletsky, 1967, Stein & Glenn,

1979; Peterson & McCabe, 1983; Strickland, 1994: Main, 1996; Segal, et al., 2003; Thorne & McLean, 2003). We ultimately selected Baerger and McAdams' (1999) Life Story Coherence measure as it allowed for assessing both thematic and causal coherence using a single authors' measure. The life Story Coherence measure is composed of four subscales. Due the high number of variables coders were required to assess, the present study utilized only the two subscales deemed most relevant to thematic and causal coherence.

The first of the subscales used was the Structural Coherence Index (Baerger & McAdams, 1999), chosen to tap the construct of causal coherence. Establishing causal coherence entails illustrating the causal connection between the individual events in a narrative. The index assesses the extent that a given narrative includes all of the events of a good story or "episode system (Stein & Glenn, 1979)" and the extent to which these events are temporally and causally connected.

Thematic coherence is created by establishing thematic similarity between various elements of a life. Baerger and McAdams' (1999) Integrative Coherence measure assesses thematic coherence by measuring the extent to which the narrator "expresses the meaning of the experiences described within the context of the larger life story (p. 81). " Unfortunately, it also appears to assess a related but separate construct involving integration of the various parts of the narrative into a coherent whole; the authors specify that high scores on this index also entail that "discrepancies, contradiction, and inconsistencies are eventually resolved, and the various narrative elements are synthesized. (p.81)" We interpreted this to mean the Integrative Coherence index involves two constructs: integration of various narrative components into a unified

narrative, a concept we deemed "cohesion," and integration of the main narrative event into the narrator's life story as a whole, a concept we deemed "evaluation." In order to avoid the ambiguity associated with condensing two or more constructs into a single scale, we chose to split integration into two subcomponents: Cohesion and Evaluation.

In summary, this study operationalized coherence with three scales, Structure, Evaluation, and Cohesion, all of which were based upon Baerger and McAdams (1999) Integrative and Structural Coherence Indices. As the present study is focused on coherence in general as opposed to components or subfactors of coherence, the three scales will be aggregated for a total Coherence score.

Attachment Style and Mindfulness

Lacking primary measures of oblivious and reactive mindlessness, this study will indirectly assess these constructs by examining the interaction between attachment style and mindfulness. The avoidant attachment style is conceptually related to an oblivious style of mindlessness in that both involve a defensive denial of certain aspects of experience, particularly those aspects that evoke feelings of vulnerability or emotional distress. Recently Tacón (2006) has reviewed literature linking avoidant attachment style with mindlessness through the common use of repression and denial. Avoidant individuals demonstrate significantly higher levels of psychological defensiveness, significantly less accessibility to memories associated with negative emotions, and significantly less intensity of experience of negative emotions than any other attachment group (Mikulincer & Orbach, 1995). Participants reporting both low levels of mindfulness and an avoidant attachment style should theoretically exemplify oblivious mindlessness.

The preoccupied adult attachment style is similar to the reactive style of mindlessness in that both involve a hyper-focus on emotionally distressing experiences and a subsequent affective destabilization. For example, preoccupied individuals demonstrate low levels of psychological defensiveness, high accessibility to negatively emotionally charged emotions, high intensity of negative emotions, and a tendency for experience of one negative emotion to activate other negative emotions (Mikulincer & Orbach, 1995). Preoccupied participants reporting low levels of mindfulness should theoretically exemplify reactive mindlessness.

Objective of the Study

Mindfulness based interventions are an increasingly popular form of treatment for a diversity of physical and psychological disorders, and yet little is known about mindfulness itself, the construct at the heart of these interventions. Williams, et al. (2000) presented evidence that mindfulness is associated with increased specificity of autobiographical memory. In order to provide greater conceptual clarity about mindfulness, this study aims to further explore the relationship between mindfulness and other aspects of autobiographical memory, specifically qualities of autobiographical narrative.

Integrating Bishop, et al.'s (2003) two component model of mindfulness with empirical findings about rumination and information processing, we propose that there are two differing states of mindlessness: oblivious mindlessness and reactive mindlessness, which we predict will have differing effects on autobiographical narrative. Because mindfulness theoretically precludes defensive avoidance of affective experience and schematic information processing, we predict that it will be associated with (1)

complexity of representations of people and (2) narrative measures of emotional articulacy. These effects are predicted to be most evident in people with an avoidant style of mindlessness.

Considering its proven effects on stress and affect regulation, mindfulness is also predicted to lead to decreased subjective distress and rumination when discussing emotionally challenging life events. Providing a coherent narrative is a cognitively challenging activity with which emotional dysregulation will likely interfere. Therefore, we hypothesize that (3) mindfulness will predict increased narrative coherence of negatively valenced life events in comparison to the coherence of positive life events. This effect will likely be most evident for those with a preoccupied style of mindlessness.

Additionally, a number of measures related to both psychopathology and verbal ability will be included to assess the validity of the mindfulness and narrative measures. The existing literature (e.g. Brown & Ryan, 2003; Baer, Smith, & Allen, 2004) contains both proven and theorized relationships with these measures. Replication of these relationships will affirm the construct validity of the mindfulness and narrative measures. Specifically we aim to replicate negative relationships between mindfulness and depression, alexithymia, and brooding. Also given that Emotional Articulacy is a new scale, these other measures will help clarify its meaning. We expected it to predict verbal ability and reflection and to negatively predict alexithymia.

Chapter II

Method

Participants

This study utilized participants drawn from a subject pool of undergraduate students enrolled in psychology classes at a large Southeastern public university. Participants will were recruited through announcements posted on their class website and signed up for the project through a research website. They received two hours of extra credit for their time.

Procedure

Participants were greeted and introduced to the study by a research assistant. They then completed the informed consent and a short paper and pencil measure (the RQ). In a separate room will they completed all other self report measures using a computerized graphical interface for SPSS. Research assistants then administered a standardized interview to collect autobiographical narratives. Finally participants completed the vocabulary subtest of the Wechsler Adult Intelligence Scale – Third Edition. After this, the research assistant debriefed participants about the purpose and hypotheses of the study and provided an opportunity for participants to ask questions.

Research assistants were trained in a standardized interview (See appendix A) adapted from McAdam's (1996) Life Story Interview and Leigh, et al.'s (1992). interview procedure. The interview consisted of 6 questions or chapters. In order to reduce interviewer-based variance, the assistants were trained to make standardized introductory conversation, ask the same questions, and provide the same responses to participants' narratives. Oral narratives were selected over written narratives for two

reasons. Affective interference with coherent story telling is a crucial variable in the study. Because writing allows for revision, it is likely to be less susceptible to affective interference than speaking. Also because speaking requires less effort than writing, oral interviews typically yield longer and richer narratives than written interviews. The narratives were taped on a cassette recorder and than transcribed into a written format using voice recognition software.

Measures

Complexity of Representations of Self and Other.

Leigh, et al.'s (1992) system for coding complexity of representations of people is based upon object relations theory and social cognition literature. The lowest score on the scale reflects an inability to clearly differentiate self from others. The next lowest score reflects description of self and others in concrete and undifferentiated terms. Middle scores reflect increasingly complex descriptions of both the enduring traits and the fleeting subjective states of self and other. High scores reflect an ability to integrate traits with states and use both to understand social behavior. The scale employs a single seven point scale to assign an over-all complexity value. The authors obtained strong inter-rater reliability (above .80). Complexity scores were moderately consistent when describing different interpersonal episodes (alpha = .69). High complexity scores predicted a lack of difficulty in intimate relationships. High complexity scores for the interpersonal difficulty narrative were also associated with comfort with openness with others and lower social isolation scores.

Emotional Articulacy Index.

Whenever possible this study utilized existing measures; however, as discussed in the introduction, in the case of emotional articulacy this was not possible. Instead this study utilizes a novel index, known as the Emotional Articulacy Index (EAI; see appendix B). The index simply measures the frequency of the following types of emotional descriptions: Basic, Distinct, Elaborated, and Ambivalent. All categories except Elaborated were based upon the developmental model provided by Lane, et al., (1990). During pilot research, a number of other categories (e.g. metaphor and unconscious experience) were experimented with and eventually subsumed into the four existing categories. Basic Emotional Articulacy refers to examples of undifferentiated emotional language (e.g. "cool" or "bad"), description of the physiological response of emotion (e.g. "butterflies in my stomach," or undifferentiated relational language (e.g. "we grew closer"). Distinct Emotional Articulacy reflects specifying a distinct emotion like joy or guilt. Ambivalent Emotional Articulacy entails explicit description of simultaneous experience of two emotions. Elaborated Emotional Articulacy involves providing thoughts, emotions, or contextual explanation that provides a more specific understanding of the speaker's subjective emotional experience. The following is an example of elaboration upon the emotion of betrayed:

> Um, he felt betrayed, he felt, he felt like I was giving up…on what we had. He felt like, like I was taking the easy way out, that…because I'm dating someone here, he felt like it was all the distance and that I wasn't willing to work through the distance and I wasn't willing to work through the problems that we had experienced and that, and that as bad as it was, it would always get better.

By providing separate measure of the frequency of each category, the EAI allows for a more complex assessment of emotional articulacy than would a single scale measures.

For example, a given narrative may contain high frequencies of both low level descriptions (e.g. Basic) and high level descriptions (Ambivalent) which would be impossible to capture with a single score. Thus each narrator's emotional articulacy will be described as a profile of their overall use of different forms of emotional description. Thus EAI makes no assumptions about the relations of these different forms of emotional description with each other, but allows these relationship both to vary from individual to individual and ultimately to be empirically described.

Coherence index.

The present study measured coherence with an aggregate of three scales: Structure, Evaluation, and Cohesion. These three scales are based upon Baerger and McAdams (1999) Structural and Integrative Coherence Indices. The authors defined structure as "displaying the structural element of an episode system (i.e. an initiating event, an internal responses, an attempts, and a consequence.)" However, during reliability training several problems occurred in directly adapting this scale. Longer stories demonstrated multiple episodes, some scoring higher than others on the scale, presenting a dilemma of whether to arbitrarily measure only one of the episodes or attempt to average the episodes. When a story contained multiple episodes, raters could not reliably agree where to divide the narrative into episodes. Raters also had difficulty reliably identifying some structural elements, particularly attempts and initiating events. In order to resolve these issues, the present study redefined the structure scale as a story containing a beginning, middle, and end, all of which are causally connected to each other (See Appendix C).

As discussed in the introduction, we divided Baerger and McAdams' (1999) Integrative Index into two separate indices: Cohesion and Evaluation (see Appendix C). The four-point measure of Cohesion quantifies the extent that the individual components of the narrative hang together as a meaningful whole. Redundancy, lack of a main point, tangents, and unresolved contradiction will all contribute to lower scores. The three-point measure of Evaluation assesses the extent that the individual narrative event is meaningfully related to the rest of the narrator's life.

Evaluation at lower levels involved comparing a specific life event to other life events or making a summary statement about the overall quality of the specific life experience, implying comparison to other life events (e.g. "It was a really hard time in my life"). At higher levels, it involved defining the meaning of the life event, for example discussing the lesson learned from the event or the permanent effects of the event on the narrator.

Hypothesis three is based upon the possibility that affective interference will impair coherence during the discussion of negatively valenced life events. Thus, the actual construct of interest in this study is the relative coherence of the positively valenced narratives in comparison to the negatively valenced narratives. Accordingly, one variable-- "Difference in Coherence"-- was created. First different scores for each of the three types of coherence were calculated by subtracting the Coherence scores of the negatively valenced chapters from the Coherence scores of the positively valenced chapters. Thus positive difference scores indicate greater coherence in the positively valenced chapters and negative difference scores indicated greater coherence in the negatively valenced chapter. Because the three Coherence indices utilize different Likert

scales, scores were standardized by dividing the raw difference score of each index of Coherence by the range of each Likert scale. The three standardized difference scores were then summed providing a single, standardized summation of "Difference of Coherence."

Mindfulness Attention Awareness Scale.

This study will measure mindfulness with the Mindfulness Attention Awareness Scale or MAAS (Brown & Ryan 2003). The scale requires respondents to rate according to a six point likert scale how frequently or infrequently the respondent has each of fifteen experiences. Each experience describes a different aspect of mindlessness. Examples include statements such as "I could be experiencing some emotion and not be conscious of it until some time later," and "I find myself listening to someone with one ear, doing something else at the same time." Higher scores on the MAAS are associated with reporting less frequent experiences of mindlessness. The MAAS has been demonstrated to be a reliable measure of mindfulness. Internal consistency ranged from alpha coefficients of .80 to .87 in different samples and test and retest scores were highly correlated (r=.81). The MAAS also has strong documented validity. For example, Zen practitioners, who theoretically should be mindfulness exemplars, had significantly higher scores on the MAAS than a control group. Furthermore the authors also found positive correlations between MAAS scores and self report measures of well-being and self awareness and negative correlations with measures of psychological distress.

Kentucky Inventory of Mindfulness.

Because the MAAS focuses solely on awareness, as opposed to acceptance, an additional measure of mindfulness, the Kentucky Inventory of Mindfulness (KIMS; Baer,

Smith, & Allen, 2004), will also be included in the study. The KIMS include four sub-factors or mindfulness skills. 'Observing' refers to the tendency to be aware of a variety of stimuli in the present moment, including somatic and sensory sensations and emotional experience. 'Describing' involves the capacity to verbally express one's experience. 'Acting with Awareness' is a measure of the tendency to fully engage in one's current activity with undivided attention. This construct is theoretically quite similar to mindfulness as defined in the MAAS and not surprisingly the two scale are strongly related (r=.57,p <.0001). 'Accepting/ allowing without judgment' refers to full acceptance of the experience in the present without judging or evaluating it. It is quite related to Bishop, et al.'s (2003) second component of mindfulness and as such is the most important complement to the MAAS.

The subscales of the KIMS measure are internally consistent. In two separate samples alpha correlations ranged from .76-.83. The four sub-factor model fit that example much better than a one factor model in a confirmatory factor analysis. KIMS correlations with predicted criterion factors provide evidence of its validity. For example, high KIMS scores predicted high levels of agreeableness, oneness of experience, and emotional intelligence, and low levels of neuroticism, alexithymia, and experiential avoidance.

Center for Epidemiologic Studies Depression Measure (CES-D).

Mindfulness practice leads to decreased depression and decreased subjective distress (Segal, Teasdale, & Williams, 2004; Ma & Teasdale, 2004; Rosenwieg, Reibel, Greeson, Brainard, & Hojat, 2003). Accordingly, this study will include the CES-D, a self-report measure of common subclinical symptoms of depression. The scale is

composed of twenty short descriptions of typical depressive symptoms like, “I did not feel like eating; my appetite was poor” and “I thought my life had been a failure.” Participants indicate on a 4-point Likert scale the relative frequency or validity of each item in regards to the past week. The scale has performed equally (Lubin & Van Whitlock, 1995) or better (Baker, Velli, Friedman, & Wiley, 1995; Santor Zuroff, Ramsay, & Cervantes, 1995) to other self report measures of depression like the Beck Depression Inventory. It was selected for this study because of its subclinical focus, which will allow for greater variance in a non-clinical population.

Ruminative Response Questionnaire (RRQ).

Reflection is a form of introspection characterized by intellectual self-attention related to openness to new experience (Trapnell & Campbell, 1999). Theoretically, it would seem likely to enhance complexity and emotional articulacy in autobiographical narratives because it involves observation and analysis of internal reactions. Rumination or brooding is closely related to reflection but is distinguished by its association with depression and neuroticism (Trapnell & Campbell, 1999). Several authors (Ramel, Goldin, Carmona, & McQuaid, 2004; Brown & Ryan, 2003; Baer, Smith, & Allen, 2004) have demonstrated that mindfulness predicts decreased rumination, likely due to purposeful releasing of attention from the object of rumination and returning attention to the experience of the present moment.

As such, this study will include measures of both, taken from Treynor, Gonzales, and Nolen-Hoeksema’s (2003) revision of the Ruminative Response Questionnaire. They altered the questionnaire to eliminate items that also were descriptive of depression. They then factor analyzed the resulting items and came up with two five-item factors:

reflection and brooding. This study will utilize their revised scales as a measure of both ruminative brooding and of reflection. The authors describe all items in the reflection factor as neutrally valenced, descriptive of contemplation, and coping focused. Examples are "Analyze recent events to try to determine why you are depressed" and "Go someplace alone to think about your feelings." They describe all of the items in the brooding facer as negatively valenced and indicative of moody pondering. Examples are, "Think: Why can't I handle things better" and "Think: What am I doing to deserve this." Participants rate each item on a scale from 1 (almost never) to 4 (almost always).

Toronto Alexithymia Scale (TAS).

Alexithymia is pervasive difficulty recognizing, describing, and responding to one's own feelings. Theoretically, alexithymia is nearly antithetical to emotional articulacy. Mindfulness has also been shown to predict decreased alexithymia (Baer, Smith, & Allen, 2004). Given this information, this study included a measure of alexithymia take from Bagby, Parker, and Taylor's (1993a) 20-item Toronto Alexithymia Scale. Example items are, "I am often confused about what emotion I am feeling" and "People tell me to describe my feelings more." Respondents indicate on a scale of 1 to 5 how accurately each item describes them. The authors include three key factors in the scale: Difficulty identifying feelings, difficulty describing feelings, and externally oriented feelings; however, all three items are quite interrelated. This study will simply focus on global alexithymia scores as opposed to sub-factor scores. In a subsequent study, Bagby, Parker, and Taylor (1993b) demonstrate that the TAS has convergent, discriminant, and concurrent validity.

Defensive Style Questionnaire (DSQ).

Oblivious mindlessness theoretically relies on immature defenses like denial, repression, and projection to block emotionally challenging material from consciousness. Andrews, Singh, and Bond (1993) provide a self- report measure of just such types of defenses. Respondents use a 9-point Likert scale to indicate relative agreement or disagreement with 40 items descriptive of the self. Twenty different "defenses" are each represented by two items. Unfortunately, alpha coefficients for individual defenses were mostly weak- to- moderate and thus did not meet psychometric requirements for inclusion in this study. The authors also aggregated individual defenses into 3 factors: mature, neurotic, and immature defenses. Only the immature defense factor had strong internal reliability (Alpha = .89). Immature defenses positively predicted clinical status among a normal sample and clinical samples with panic, social phobia, obsessive compulsive disorders, and child abuse. Therefore, this factor was the only one included in the current study's analysis.

Relational Style Questionnaire.

This study will use a measure of adult attachment status or relational style provided by Bartholomew and Horowitz (1991). Relying on Bowlby's theory that individuals have an internal working model of both self and other, the authors create four relational styles. They argue that the working model of self can reflect the belief that the self is either worthy or unworthy of love and support. Likewise the model of others can reflect a belief that others are either basically trustworthy or unreliable and rejecting. They classify individuals with a positive self and other working model as secure and describe them as "comfortable with intimacy and autonomy". They describe those with a

positive model of self and negative model of other as avoidant and describe them as "dismissing of intimacy, counter dependent." Those with a positive model of other and negative model of self are preoccupied and conform to Main, et al.'s (1996) preoccupied or enmeshed group. The "fearful" category entails both a negative model of self and other and is "fearful of intimacy, socially avoidant." The fearful attachment style does not have a clear theoretical or empirical foundation in the existing attachment literature. It's theoretical relationship to oblivious and reactive mindlessness is also unclear. Therefore, it will not be included in analyses. The relational questionnaire is composed of four short paragraphs describing each of the four adult attachment styles. For example, the avoidant paragraph reads, "I am comfortable without close emotional relationships. It is very important to me to feel independent and self sufficient, and I prefer not to depend on others or have others depend on me." Participants simply read the four paragraphs and check the paragraph that they feel best describes themself.

Vocabulary Subscale -Wechsler Adult Intelligence Scale – Third Edition.

Verbal ability will likely affect some measures of narrative quality such as Complexity. To account for this possibility, this study assessed verbal ability with the Vocabulary Subscale from the Wechsler Adult Intelligence Scale – Third Edition. This subtest entails defining 33 words of increasing difficulty. Sattler and Ryan (1998) found that it was the most highly correlated subtest with general intelligence (r=.83). Kaufman and Kaufman (1999) consider it to be a good measure of both verbal comprehension and verbal expression. This study relied on the vocabulary subtest as a brief measure of overall verbal ability.

Chapter III

Results

Demographics

The sample consisted of 89 undergraduate participants who took part in the study in exchange for extra credit or research requirements in a psychology class. Demographic information was missing for two participants. The average age was 19.9 years old. 34% of the participants were male and 66% were female. The sample was 79% Caucasian, 16% African American, and 4% Asian American.

Reliability

Each participant's narratives were randomly assigned to two of the six coders. Interrater reliability was calculated for each chapter between rater one and rater two for all narratives, allowing for a true coefficient of interrater reliability rather than reliance on an initial estimate of reliability. Reliability was calculated using a one random effect intraclass correlation coefficient, which is the most stringent relevant measure of interrater agreement. Global reliability was calculated by averaging chapter level intraclass correlation coefficients as this is a more stringent measure of reliability (See Table 1). Global level reliability was strong, ranging from .806 to .943. Ambivalent Emotional Articulacy was excluded from analyses due to insufficient variance in the sample. Coefficient alphas were calculated to assess participants' consistency across narratives chapters for each narrative measure. Coefficient alphas ranged from .683 to .806, which are relatively strong for five-item measures. It should be noted that

Complexity scores were only calculated for two of the five narratives[4]. Thus the .683 alpha coefficient for Complexity is quite robust for a two-item measure. Measures of internal consistency were also calculated for all self report measures (See Table 2). Coefficient alphas were moderate to strong ranging from .701 to .908. All other self-report measures also had alpha coefficients relatively consistent with those reported in the sample reported by the authors of the measures.

Descriptive Statistics

The means of all measures were compiled (see table 3). The means of narrative measures represent the average chapter score as opposed to average overall score. The mean MAAS in this sample was extremely close to the mean MAAS score reported in the normative community sample (Brown and Ryan, 2003). The mean score for the KIMS scales were also very similar to the mean scores reported in Baer, Smith, and Allen's (2004) student samples. The greatest difference was for the KIMS ACT with Awareness scale in which this study's samples mean score of 27.29 was .33 of a standard deviation lower than the two reported students samples. This study's mean scores for all four KIMS mindfulness scales were substantially higher than the mean scores for a sample with borderline personality disorder (Baer, Smith, & Allen, 2004). The largest difference between this study's samples and that of three samples reported on in the original paper is that this study's sample had substantially greater variance on all 4 KIMS measures than each of the three original samples (see table 4 for a full comparison of means and standard deviations). This sample was 3.56 points higher (.34 Standard

[4] Calculating complexity requires assessing the complexity of representations of both the self and other. Only narratives one and four entailed social interaction and thus consistently contained a representation of an other.

Deviations higher) on the Toronto Scale of Alexithymia than the normative sample reported on by Bagby, Parker, & Taylor (1993a) which was also composed of undergraduate students. This sample had higher Reflection scores of 1.28 points (.41 standard deviations) and higher Brooding scores of 2.51 points (.85 Standard Deviations) than the normative sample reported on by Treynor, Gonzales, and Nolen-Hoeksema. This difference may be attributable to age or occupation as our sample was composed of undergraduates and the normative sample was composed of an adult community sample. This sample reported higher Immature Defense on the DSQ than the normative sample reported by Andrews, Singh, and Bond (1993). This is in accordance with the authors' findings that younger participants report higher levels of Immature Defense. The mean WAIS-III Vocabulary Subtest score of 47.7 translates into a scaled score of 13, which indicates that the participants as a group showed higher than average verbal ability in comparison to others their age.

In addition to demographics some other background information was also gathered on the participants. As measured by the Relationship Questionnaire 43 percent of this sample endorsed a secure adult attachment style (n=33), 24 percent endorsed an fearful style (n=18), 13 percent a preoccupied style (n=10), and 20 percent an avoidant style (n=15). Thirteen participants did not complete the RQ. These percentages are quite similar to the distribution reported by Bartholomew and Horowitz (1991). 17% of the sample had engaged in psychotherapy, 12% had tried meditation, and 38% had kept a journal, which are all variables thought to be relevant to mindfulness and autobiographical narrative. 60% of the sample reported growing up in a suburban area, 20% in an urban area, and 20% in a rural area. SES was roughly assessed through

tracking parents' highest level of education. 1 % of parents had dropped out of high school, 15% held only a high school diploma, 5% held a technical degree, 19% of fathers and 23% of mothers had some college, 32% of mothers and 40% of fathers held a bachelors' level degree, and 25% of fathers and 16% of mothers held a graduate degree.

Hypotheses

All three primary hypotheses were tested both for main effects and for interactions between attachment styles and measures of mindfulness. In order to reduce the total number of analyses, simultaneous regressions were calculated testing a general model that simultaneously assessed potential interactions between adult attachment styles and each measure of mindfulness (See Appendices E1-I5). Specifically simultaneous regression included only participants with a secure, avoidant and or preoccupied attachment style. Attachment status was dummy-coded such that only interactions between mindfulness preoccupied or avoidant attachment adult attachment styles were assessed. When significant interactions were detected in the general model, individual regressions were calculated to provide information about the unique relationship of mindfulness and narrative measures specific to each attachment style. In summary, although all statistics reported in the text are based upon individual regression equations, such equations were only calculated when a simultaneous regression detected significant interactions in the general model.

Hypothesis one states that mindfulness will predict narrative measures of emotional articulacy, specifically for participants with an avoidant attachment style. According to Pearson correlations, the MAAS and all four KIMS subscales showed no main effects with Basic, Distinct, or Elaborated Emotional Articulacy (see Table 4).

However, simultaneous regression models detected a number of significant interactions (see Appendices F1-H5. Both avoidant and preoccupied groups demonstrated significant relationships between mindfulness and emotional articulacy (See tables 7-9). Contrary to the hypothesis, among participants reporting an avoidant attachment style, mindfulness scales predicted decreased emotional articulacy. Specifically, high scores on the MAAS predicted low Basic Emotional Articulacy (r^2=.552, p= .004) and Elaborated Emotional Articulacy (r^2=.410, p= .018). KIMS Act with Awareness also inversely predicted Basic Emotional Articulacy (r^2=.597, p= .002), Distinct Emotional Articulacy (r^2=.350, p= .033), and Elaborated Emotional Articulacy (r^2=.431, p= .015).

Mindfulness also predicted decreased emotional articulacy for participants reporting a preoccupied attachment style. KIMS Acceptance predicted decreased Basic (r^2=.573, p= .018), Distinct (r^2=.552, p= .015), and Elaborated Emotional Articulacy (r^2=.651, p< .001). KIMS Act with Awareness trended towards predicting Basic Emotional Articulacy (r^2=.359, p= .088) and significantly predicted Elaborated Emotional Articulacy (r^2=.458, p= .045).

Hypotheses two states that mindfulness will predict complexity of representations of people. Correlations indicated that the MAAS and all four KIMS sub-scales had no significant relationship with Complexity (See Table 4). There was a trend in the predicted direction with KIMS Observe (r=.211, p=.059) and KIMS describe (r=.190, p=.090) and in the reverse direction with KIMS Acceptance (r=.199, p=.079). This predicted relationship was hypothesized to be true specifically for those with an avoidant style of mindfulness. A simultaneous regression detected a significant interaction between KIMS acceptance and adult attachment style (See Appendices E1-E5). An

examination of individual regression equations revealed that avoidant participants demonstrate the expected relationship with Complexity, such that high KIMS Acceptance scores predict high Complexity scores (r^2=.465, p= .010), providing support for hypothesis two (See Table 10).

Hypothesis three states that mindfulness will predict increased narrative coherence in negatively valenced chapters in comparison to positively valenced chapters, as measured through Difference in Coherence Scores. In order to decrease the total number of analyses, a global measure of Coherence was calculated. All three measures of Coherence (Cohesion, Evaluation, and Structure) showed a high degree of interrelationship (Cronbach's alpha =.704) supporting their aggregation into a single measure of coherence. Correlations revealed no significant main effects for mindfulness and Difference Scores in Coherence (See Table 4). General regression model analyses revealed no significant interactions between mindfulness measures and adult attachment styles in predicting Difference in Coherence (See Appendices I1-I5).

C*orrelations between Mindfulness and Predicted Criterion*

Mindfulness Attention Awareness Scale (MAAS).

The MAAS predicted decreased Depression, (r=-.398, p <.001*),* Brooding (r=.-460, p <.001*),* and Alexithymia (r=-.327, p =.002). The MAAS showed significant positive relationships with all KIMS mindfulness scales. The MAAS showed no significant relationship with Reflection, Defense Style, WAIS Vocabulary scores, or any global narrative measures (See Table 5).

Kentucky Inventory of Mindfulness Skills (KIMS).

KIMS Observe predicted increased scores on the MAAS (*r*=.234, *p* =.030*),* KIMS Describe (*r*=.438, *p* <.001), and Reflection (*r*=.426, *p* <.001). KIMS Observe also negatively predicted KIMS Acceptance (*r*=-.299, *p* =.005), a relationship previously documented by Baer, Smith, and Allen (2004). KIMS Describe was positively correlated with all mindfulness scales except for KIMS Acceptance. KIMS Describe also predicts low alexithymia, a relationship also documented by Baer, Smith, and Allen (2004). KIMS Act with Awareness showed the strongest relationship with the MAAS (*r*=.547, *p* <.001) of all of the KIMS scales and positively correlated with all mindfulness scales except KIMS Observe. Not surprisingly the KIMS Act with Awareness subscale showed very similar relationships to the MAAS with a number of other measures; it predicted decreased score for Depression, (*r*=-.360, *p* =.001*),* scores (*r*=-.522, *p* <.001*),* and Alexithymia (*r*=-.348, *p* =.002). In addition it predicted low Reflections scores (*r*=-.296, *p* =.006). KIMS Acceptance had the strongest relationships of all mindfulness measures with a number of self report criterion including Depression (*r*=-.531, *p* <.001*),* Reflection (*r*=-.420, *p*<.001*),* Brooding (*r*=-.701, *p* <.001*),* and Alexithymia (*r*=-.609, *p* <.001.) In addition it was the only mindfulness scale to show a significant relationship with DSQ Immature Defenses (*r*=-.567, *p* <.001*),* although both the MAAS (*r*=-.224, *p* =.091*),* and KIMS Describe (*r*=-.222, *p* =.094) demonstrated trends in a similar direction (See Table 5).

Correlations of Narrative Measures and Predicted Criterion

Narrative measures demonstrated a number of meaningful relationships with other variables despite their lack of relationship with mindfulness scales (See Table 6). Both Reflection scores (r=.228, p=.041) and WAIS vocabulary scores (r=.282, p=.018) predicted high Complexity scores. Neither Coherence or Difference in Coherence showed significant relationships with any self report measures.

Emotional Articulacy demonstrated the greatest number of significant relationships with self report measures. WAIS vocabulary scores predicted all forms of emotional articulacy. Depression as assessed by the CESD was associated with high scores for Distinct (r=.286, p=.014) and Elaborated Emotional Articulacy (r=.236, p=.043) and with a trend towards high scores on Basic Emotional Articulacy (r=.223, p=.056.) Distinct Emotional Articulacy also predicted Reflection (r=.255, p=.021) and Brooding (r=.276, p=.014). Finally, Immature Defense predicted Distinct (r=.328, p=.017) and Elaborated Emotional Articulacy (r=.347, p=.011).

Group Differences in Attachment Style

Adult attachment styles significantly differed on both self report and narrative measures (see Table 11). One way ANOVA's detected significant differences for Complexity ($F_{2,54}$=4.62, p=.014), Basic EA ($F_{2,54}$=4.99, p=.010), Distinct EA ($F_{2,54}$=3.69, p=.032), Depression ($F_{2,53}$=5.02, p=.010), Immature Defense ($F_{2,39}$=5.25, p=.010), and Alexithymia ($F_{2,54}$=4.70, p=.013). A MANOVA detected significant differences between relational styles for KIMS Describe ($F_{2,53}$=4.56, p=.015) and KIMS Acceptance ($F_{2,54}$=3.81, p=.028). Post Hoc analyses (see Table 12) revealed several patterns. Preoccupied participants demonstrated the highest means on all narrative measures. They

also reported the highest depression scores and the lowest KIMS Acceptance Scores. Avoidant participants had the lowest mean KIMS describe scores, the highest Alexithymia score, and the highest Immature Defenses score. The secure group demonstrated low scores on narrative measures and psychopathology and high mindfulness scores.

The relationship between Emotional Articulacy and Depression and Brooding was also assessed for each attachment style (see Table 12). For avoidant participants, Basic Emotional Articulacy predicted Depression (r=.573, p=.041) and Brooding (r=.694, p=.009), and Distinct Emotional Articulacy predicted Brooding (r=.663, p=.026). For preoccupied participants, Basic Emotional Articulacy also predicted Brooding (r=.729, p=.040).

Chapter IV

Discussion

It seems fitting to begin this discussion of mindfulness and narrative with an autobiographical story about mindfulness. The theory of oblivious and reactive mindlessness has its origin in a meditation hall. Rays of late afternoon sun gently filtered through a stained glass window, as I listened to my meditation teacher's description of different motivations behind meditation. He explained that two types of people are drawn to meditation, "those whose hearts are closed in the front and can feel nothing; and those whose hearts are open in the front but closed in the back, so they feel everything but can let go of nothing." This observation seemed to fit surprisingly well with attachment theory. The emotional numbness of some meditators reminded me of the cold emptiness described by a client of mine with an avoidant attachment style. Other meditators' inability to let go of experiences reminded me of the rumination and emotional distress felt by those with a preoccupied attachment style. Extending the analogy, mindfulness parallels secure attachment in that both involve open awareness without over- reaction. Those parallels suggested to me that there could be two primary styles of mindlessness, or distraction from full experience of the present moment, an oblivious form based upon defensive avoidance of experience and a reactive form based upon ruminative reaction to experience.

This present study was intended as the first step in assessing these ideas. An overview of the reliability and validity of the study's measures will allow for a better understanding of the meaning and significance of the measures. The subsequent

interpretation of the study's results provides tentative support for the theory of oblivious and reactive mindlessness. It also suggests that among individuals with an insecure attachment style, mindfulness serves a protective factor against pathogenic rumination. Finally, it highlights the importance of acceptance in understanding the benefits of mindfulness.

Reliability and Validity

An assessment of the strengths and weaknesses of this study's methods and results will assist the subsequent interpretation of the results. Psychometrically, this study is very strong. Internal reliability on all measures was similar and often superior to reliability coefficients reported by measure's authors, indicating that participants responded to self report measures in a consistent manner. This is significant considering that the self report measures were administered via computer even though they were published as paper and pencil measures. The interrater reliability for most narrative measures was quite high, and it was acceptable for all narrative measures. This indicates that coders reliably measured the same construct. It does not, however, guarantee construct validity, meaning that the construct measured may differ from the construct studied in previous literature.

The current study replicated all previously documented relationships between measures of mindfulness and other related criterion, which attests to the validity of mindfulness measures as applied in this study. For example, both the KIMS and the MAAS negatively predicted measures of depression, brooding, and alexithymia as previously reported by Brown and Ryan (2003) and Baer, Smith, and Allen (2004). In addition, both Reflection and WAIS vocabulary scores predicted high scores on Narrative

Complexity. Furthermore, this study confirmed the hypothesized interaction between mindfulness and avoidant attachment style in predicting complexity scores. These findings suggest that the Complexity coding measure was applied in a manner consistent the with underlying construct and previous research.

In contrast both Emotional Articulacy and Coherence appear to have more limited construct validity. Emotional Articulacy appears to be a different construct than was initially considered. As expected the index was positively correlated with both Reflection and verbal ability, as measured by WAIS vocabulary scores. Surprisingly, however, Emotional Articulacy also showed positive relationships with all measures of psychopathology: Depression, Brooding, and Immature defenses. Furthermore, although prior experience in psychotherapy predicted psychopathology (r=.301, p=.007) it did not significantly predict any type of Emotional Articulacy, which rules out past therapy experience as a potential confound explaining the relationship between EA and psychopathology.

Several finding suggest that this relationship is due to Emotional Articulacy serving as a marker of emotional rumination. The preoccupied adult attachment style is known to predict increased accessibility to negative emotions and increased intensity of affect associated with recall of negative emotional memories (Mikulincer & Orbach, 1995). In the present study, participants with a preoccupied adult attachment style demonstrated the highest mean emotional articulacy. EA serving as a marker of emotional rumination would also explain its relationships with depression and brooding. As such emotional articulacy would be more aptly conceived as a risk rather than a resiliency factor.

Of all the narrative coding measures included in this study, the Emotional Articulacy scale showed the greatest predictive power for all self report scales, including Depression, Rumination, Reflection, Immature Defense, and WAIS Vocabulary scores. As such, it appear to be an important complement to existing narrative measures. However, before it can be fully utilized, further research is required to clarify the underlying construct. It demonstrates seemingly paradoxical relationships with other criteria, predicting both psychological risk factors and psychological resiliency factors. One possibility that explains these apparently contradictory findings is that the function or significance of Emotional Articulacy differs across types of participants. Specifically, examining the differing significance of Emotional Articulacy as a function of adult attachment status potentially clarifies these findings (see table 14). For participants reporting an avoidant adult attachment style, measures of Emotional Articulacy predicted Depression and Rumination, and for participants reporting a preoccupied adult attachment status they also predicted Brooding. In contrast, the secure groups show no significant relationships between Emotional Articulacy and self report measures of Depression and Brooding. Given that these findings are based upon post hoc analyses conducted with very sample sizes, their significance is quite tentative. That caveat aside, they suggest that Emotional Articulacy has a different function for different attachment groups. It appears to be a risk factor for pathogenic rumination only for participants with an insecure attachment style. These findings are especially significant because, as will be discussed in the hypotheses section, they also help potentially clarify why the different adult attachment groups show disparate relationships between mindfulness and Emotional Articulacy.

The Emotional Articulacy measure could prove useful as a new construct with which to describe narrative, and as such it adds to the existing array of narrative coding measures. It would be useful, for example, in studies of attachment related narratives or in longitudinal research examining risk factors of pathology.

If replicated, the results regarding the differing function of emotional articulacy for different attachment groups would also have important implications for clinical practice. Many types of therapy, particularly exploratory and insight oriented, focus on the facilitation of patients' development of emotional articulacy, based on the idea that such capacity to observe, describe, and reflect on emotional experience will lead to better emotional regulation and ultimately more adaptive behavior. For example, Linehan's (1993) Dialectal Behavior Therapy emphasizes learning to identify emotional states as a part of the development of emotion regulation skills. However, the current findings suggest that emotional articulacy has different value for different types of participants, and is likely to serve as a resiliency factor for some and a risk factor others. For example, increasing the already excessive emotional articulacy of a patient with a preoccupied adult attachment style could perhaps be iatrogenic. Ultimately, it is possible that a better understanding of the interaction between emotional articulacy and attachment status could assist in the selection of the best type of therapy for specific types of patients.

Contrary to expectations, narrative coherence had no predictive power. Narrative coherence is typically associated with a secure attachment style (Main, 1996; Bartholomew & Horowitz, 1991) and psychological well being (e.g. Oppenheim, Nir, Warren, & Emde, 1997; van IJzendoorn & Bakermans-Kranenburg, 1996). The present study detected no significant differences between attachment groups for Coherence. The

narrative coherence measures in the present study were directly adapted from Baerger and McAdams (1999) Structural and Integrative coherence indices, both of which predicted decreased Depression scores as assessed with the CESD. The present study also failed to replicate these relationships with the CESD. Thus, it is reasonable to wonder if this study failed to operationalize narrative coherence according to its conventional meaning and in a manner consistent with existing literature. Two likely explanations of this are a halo effect among coders and inclusion of only select subfactors of coherence.

There is some evidence of a potential halo effect among narrative raters. First explicated by Thorndike (1920), a halo effect entails allowing judgment of one key category to affect judgment of other unrelated categories. The high degree of correlation between all narrative measures indicates that raters may have used some key measures to identify narratives as strong and poor and rated all other narrative measures accordingly (see table 7). Complexity and Emotional Articulacy show unique patterns of relationships with multiple criteria, suggesting little if any potential halo effect. In contrast, Coherence shows none of the expected relationships with other criteria. An examination of the narrative properties of each attachment group specifically suggest that Coherence scores may have been affected by Complexity and EA scores. Bartholomew and Horowitz (1991) reported that the narratives of preoccupied participants demonstrated significantly higher "Elaboration" and significantly lower "Coherence" than did those of other attachment groups. Complexity and Emotional Articulacy are closely related constructs to Elaboration. In accordance with prior findings, preoccupied participants in the present study showed the highest mean Complexity and Emotional Articulacy. Contradicting prior findings, however, preoccupied participants also had the

highest mean Coherence scores, a difference that was marginally statistically significant (see table 13). One likely explanation of this discrepancy is a halo effect: Participants' scores on Complexity and Emotional Articulacy affected their scores on Coherence, thus compromising the validity of the Coherence measure.

Another potential detriment to the construct validity of coherence is the exclusion of several sub-factors of coherence. Habermas and Bluck's (2000) theory of four types of narrative coherence provided the theoretical rationale for this study's operationalization of coherence. In a review article, Habermas and Bluck theorize that coherence of adolescents' narratives can be fully assessed with four sub-factors: temporal, biographical, causal, and thematic. All fundamentally adequate narratives will demonstrate chronological organization (temporal coherence) and will include the basic and essential elements of a life story (biographical coherence). These two fundamental types of coherence define a narrative; they are the basic requirements of an adequate autobiographical narrative. In contrast, the authors argue, it is causally linking life events (causal coherence) and extracting common themes that provide continuity and identity (thematic coherence) that differentiate better and worse quality narratives. We assumed that a sample of college undergraduates would have at least average narrative abilities, and hence should also demonstrate adequate temporal and biographical coherence. Furthermore, the primary focus of the study was affective interference with coherence. We theorized that the more advanced components, causal and thematic coherence, would be the most likely to show impairment due to affective interference.

Thus we focused on causal and thematic coherence, which we operationalized with Baerger and McAdam's (1999) Structural and Integrative Indices, two of four

indices that compose the Life Story Coherence Measure. During the training process, we broke the Integrative index into two subfactors: cohesion and evaluation. Given the large number of variables, coders already had to assess for each narrative we did not code for Affective or Orientative Coherence, the other two indices that composed the Life Story Coherence Measure. Thus in both its theoretical foundation (e.g. Habermas & Bluck, 2000) and its actual operationalization (Baerger & McAdam's, 1999) this study selectively focused on only half of the subcomponents of coherence. Although there were clear rationales behind this decision, in retrospect it appears that focusing selectively on some subcomponents while ignoring others may have lead to a failure to adequately measure coherence as a whole.

Speculations

The prior clarification of the study's methods, specifically the reliability and validity of its measures, provides a more accurate interpretative context in which to make sense of its results. The key findings in this study hinge upon the interaction of mindfulness and attachment style in predicting narrative measures. It should be noted that insufficient sample sizes among the avoidant and preoccupied attachment groups leave these findings quite speculative due to vulnerability to Type 1 Error. That caveat aside, these findings provide tentative support for underlying theory of avoidant and reactive mindlessness.

To review, the theoretical rationale for this study is based upon the theory that there are two different form of mindlessness. Oblivious mindlessness entails the active use of avoidant defenses to keep threatening information outside of consciousness. Reactive mindlessness, on the other hand, results when such information is admitted to

consciousness and emotional reaction results. It entails an inability to accept such information and "let go of it," and instead rumination and emotional dysregulation ensue. As discussed above, avoidant and preoccupied attachment styles have clear parallels to oblivious and reactive mindlessness respectively, but they are not synonymous constructs. For example, we would expect most participants with an avoidant attachment style to show relatively high levels of oblivious mindlessness. However, it would be possible for an avoidant individual to be relatively mindful of his avoidant relational pattern and his associated emotional reactions. Likewise, an avoidant individual will likely fall into a state of reactive mindlessness if avoidant defenses fail and threatening information becomes conscious.

Avoidant participants demonstrated many of the qualities associated with oblivious mindlessness. As theorized, avoidant participants showed the highest levels of Immature Defenses. Their narratives had low levels of Complexity and Emotional Articulacy. They also reported significantly higher levels of mindlessness, as measured by KIMS Describe, and higher levels of Alexithymia than any other attachment group. This attests to their avoidance of recognizing and verbalizing many aspects of their experience. Together these findings paint a picture of avoidant defenses blocking threatening information about emotions, the self, and others from consciousness and from inclusion in an autobiographical narrative.

Avoidant participants who are also low in mindfulness were thought to exemplify oblivious mindlessness. We predicted that these participants would show the lowest levels of complexity due to continual schematic processing, in which certain beliefs and assumptions about the world are constantly used to interpret and understand experience

and also rigidly defended from new, schema-discordant information. Although the data supported this hypothesis, it also suggested a revision to theory of oblivious mindlessness. Based on Bishop's two-factor theory of mindfulness, we had theorized that a lack of awareness causes oblivious mindlessness. However, KIMS Acceptance, as opposed to other scales more directly related to awareness (such as the MAAS or KIMS Observe), was the mindfulness subfactor that predicted increased complexity for avoidant participants. This indicates that a lack of acceptance for avoidant individuals is a driving factor behind their overly simplistic narratives, and more generally that a lack of acceptance may be a key factor behind oblivious mindlessness, rather than the awareness construct originally thought to play a crucial role

One factor that may explain this is the active use of immature defenses like projection and denial, which block emotionally threatening or schema discordant material from consciousness. Immature defenses were significantly higher for avoidant participants and for participants with low levels of KIMS Acceptance. These defenses are theorized to be the mechanism through which oblivious mindlessness is maintained. This suggests that the less able someone is to accept experiences or facts, the more likely they are to use avoidant defenses to maintain a lack of awareness of that material. In contrast, those individuals with greater acceptance are likely to be less emotionally threatened by material and therefore likely to admit a greater variety of information into consciousness, ultimately resulting in more complex representations of self and other.

We also predicted that mindfulness would increase emotional articulacy for avoidant participants. The data contradicted this hypothesis; mindfulness was associated with decreased emotional articulacy for avoidant participants. This finding, however,

makes sense in light of our revised understanding of Emotional Articulacy, specifically that EA predicts Depression and Brooding amongst avoidant participants.

A speculative synthesis of these findings casts EA in the role of an indicator of the breakdown of typical avoidant defenses. Avoidant participants are theorized to have a high frequency of oblivious mindlessness, in which avoidant defenses preclude full consciousness and experience of negative emotions. However, it is possible for these defenses to fail and for emotionally challenging material to surface into consciousness. Perhaps EA is a sign of this state[5], which would explain why it predicts both Depression and Brooding.

One specific component of mindfulness appears to protect avoidant participants from entering into this distressing, ruminative state. The MAAS and KIMS, the two mindfulness measures that predict decreased Emotional Articulacy for avoidant participants, are conceptually and empirically quite similar. They show the highest correlation of all mindfulness subscales. Both involve a focus on maintaining awareness of one's actions in the present moment. Similar to Csikszentmihalyi's (1988) concept of "flow," both scales entail a single- minded absorption in the activity of the moment. Such absorption in the present moment clearly will preclude rumination. Thus, avoidant participants appear to use a focus on the events of the present moment in order to maintain their avoidance of emotional difficulties and thus protect themselves from depression and associated brooding. In other words, the present moment focused aspect of mindfulness may actually serve a defensive function against brooding on events of the

[5] This state actually would be best characterized as reactive mindlessness. Avoidant participants demonstrating reactive mindlessness illustrates that attachment style and oblivious and reactive mindlessness are separate constructs.

past or future. For example, while driving to work a hypothetical avoidant individual could simply focus on driving and listening to the radio, thus shutting out thoughts and feelings about a recent death in the family. If this were the case, such absorption in the present moment simultaneously serves a protective function against painful rumination but also bolsters defensive avoidance.

The case for reactive mindlessness is simpler and more straightforward. Reactive mindlessness is theoretically driven by a difficulty in accepting life events, which leads to subsequent emotional reaction and rumination. As expected, the preoccupied group, who are theoretically the most vulnerable to reactive mindlessness, fit this description in many ways. Lack of acceptance was theorized to cause reactive mindlessness, and preoccupied participants demonstrated the lowest KIMS Acceptance scores of all attachment groups. They experience the highest mean levels of Depression, demonstrating their vulnerability to distress. Their narratives also demonstrate the highest levels of Complexity and Emotional Articulacy, likely because of their ruminative preoccupation with relationships and emotions.

Although reactive mindlessness and preoccupied attachment style show several similarities they are not synonymous, which is illustrated by the interaction of mindfulness and preoccupied attachment style. For preoccupied participants, Emotional Articulacy is an indicator of Rumination. Preoccupied participants with higher levels of Acceptance demonstrate decreases in their otherwise excessive emotional articulacy. Thus mindfulness, and particularly the acceptance aspect of mindfulness, functions as a protective factor against preoccupied individuals' natural tendency to ruminate on emotionally challenging material.

Implications for Future Research

Though the evidence is quite tentative due to small sample size, this study provides some support for the reactive and oblivious conceptualization of mindlessness. The development of direct measures of these types of mindlessness will be the next step in their exploration and will also allow for clarification of their relationship with attachment style. Given the several significant interactions between mindfulness and attachment style in the present study, future studies of mindfulness may consider inclusion of attachment measures. Outcome studies on mindfulness based interventions could potentially find different outcomes for preoccupied and avoidant participants. For example, this study suggests that increasing avoidant participants' capacity for absorption in the present moment may actually be a mixed blessing: strengthening their avoidant style while simultaneously reducing rumination and subjective experiences of distress. The findings also highlight the crucial role of acceptance in mindfulness. Acceptance appears to have beneficial effects for both avoidant and preoccupied participants. It also appears to play a more important role in oblivious mindlessness than we initially theorized. Furthermore, the KIMS Acceptance measure was the strongest predictor of low levels of all measures of pathology included in this study. Acceptance is clearly a potent aspect of quantifying mindfulness in a self- report format, as would be predicted based upon Bishop et al's (2004) two factor model of mindfulness. This implies that other studies relying solely on the MAAS should also consider including the KIMS Acceptance scale.

REFERENCES

Alea, N., & Bluck, S., (2003). Why are you telling me that? A conceptual model of the social function of autobiographical memory. *Memory, 11,* 165-178.

Andrews, G., Singh, M., & Bond, M. (1993). The Defense Style Questionnaire. *The Journal of Nervous and Mental Disease, 181,* 246-256.

Androutsopoulo, A., Thanopolou, K., Econmou, E., & Bafiti, T. (2004). Forming Criteria for assessing the coherence of clients' life stories: A narrative study. *Journal of Family Therapy, 26,* 384-406.

Baddeley, A. D. (1986). *Working Memory.* Oxford: Oxford University Press.

Baer, R. A., Smith, G. T., & Allen, K. B. (2004). Assessment of mindfulness by self-report: The Kentucky Inventory of Mindfulness Skills. *Assessment, 11,* 191-206.

Baerger, D. R. & McAdams, D. P. (1999). Life story coherence and its relation to psychological well being. *Narrative inquiry, 9 (1),* 69-96.

Bagby, R. M., Parker, J.D., & Taylor G. J. (1993a) The twenty item Toronto Alexithymia Scale – I. Item selection and cross validation of the factor structure. *Journal of Psychosomatic Research, 38,* 23-32.

Bagby, R. M., Parker, J.D., & Taylor G. J. (1993b). The twenty item Toronto Alexithymia Scale – II. Convergent, discriminant, and concurrent validity. *Journal of Psychosomatic Research, 38,* 33-40.

Baker, F. M., Velli, S.A., Friedman, J., & Wiley, C.(1995). Screening tests for depression in older Black vs. White patients. *American Journal of Geriatric Psychiatry, 3,* 43-51.

Bargh, J. A., & Ferguson, M. J. (2000). Beyond Behaviorism: On the automaticity of higher mental processes. *Psychological Bulletin, 126,* 925-945.

Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four category model. *Journal of Personality and Social Psychology, 61,* 226-244.

Bartlett, F. C. (1932). *Remembering: A study in experimental and social psychology.* Cambridge, England: Cambridge University Press.

Bedard, M., Felteau, M., Gibbons, C., Klein, R., Mazmanian, D., Fedyk, K., & Mack, G. (2005). Mindfulness-Based Intervention to Improve Quality of Life Among Individuals Who Sustained Traumatic Brain Injuries: One-Year Follow-Up. *The Journal of Cognitive Rehabilitation, 23,* 8 -23.

Bishop, S. R. (2002). What do we really know about mindfulness-based stress reduction? *Psychosomatic Medicine, 64,* 71-84.

Bishop, S., Lau, M., Shapiro, S., Carlson, L., Anderson, N. Carmody, J., Segal, Z., Abbey, S., Speca, M., Velting, D., & Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice, 11,* 230-241.

Bluck, S., Alea, N., Habermas, T., Rubin, D. C. (2005). A tale of three functions: The self reported uses of autobiographical memory. *Social Cognition, 23,* 91-117.

Bluck, S., & Habermas, T., (2000). The life story schema. *Motivation and Emotion, 24,* 121-147.

Borkovec, T. D. & Sharpless, B. (2004). Generalized anxiety disorder: Bringing cognitive-behavioral therapy into the valued present. In S. C. Hayes, V. M. Follette, & M. Linehan (Eds.), *Mindfulness and acceptance: Expanding the cognitive-behavioral tradition.* (pp. 45-65). New York: Guilford Press.

Bowlby, J. (1982). *Attachment and Loss.* New York: Basic Books.

Brittlebank, A. D., Scott, J., Williams, J. M. G., & Ferrier, I. N. (1993). Autobiographical memory and depression: State or trait marker? *British Journal of Psychiatry, 162, 118-121.*

Brown, M. R., & Ryan, K. W. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology, 84,* 822-848.

Bruner, J. (1992). The narrative construction of reality. In P. B. Bufall (Ed.), *Piaget's theory: Prospects and possibilities.* (pp. 229-248). Hillsdale, NJ: Lawrence Erlbaum Associates.

Chang, V. Y., Palesh, O., Caldwell, R., Glasgow, N., Aramson, M., Luskin, F., Gill, M., Burke, A., & Koopman, C. (2004). The effects of a Mindfulness Based Stress Reduction program on stress, mindfulness, self-efficacy, and positive states of mind. *Stress and Health, 20,* 141-147.

Conway, M. A., & Pleydell-Pearce, C. W., (2000). The construction of autobiographical memories in the self-memory system. *Psychological Review, 107,* 261-288.

Conway, M. A., & Tachi, P. C. (1996). Motivated Confabulation. *Neurocase, 2, 325 -339.*

Cortazzi, M. (1993). *Narrative analysis.* London: Falmer Press.

Csikszentmihalyi, M., & Csikszenthihalyi, I. (1988). *Optimal experience: Psychological studies of flow in consciousness.* New York: Cambridge University Press.

Davidson, R. J., Kabat-Zinn, J., Schumacher, J., Rosenkrantz, M., Muller, D., Santorelli, S. F., Urbanowski, F., Harrington, A., Bonus, K., & Sheridan, J. F. (2003). Alterations in brain and immune function produced by mindfulness meditation. *Psychosomatic Medicine, 65,* 564-570

den Hartog, H. M., Derix, M. M. A., van Bemmel, A. L., Kremer, B., & Jolles, J. (2003). Cognitive functioning in young and middle-aged unmedicated out-patients with major depression: Testing the effort and cognitive speed hypotheses. *Psychological Medicine, 33,* 1443-1451.

Dimidjian, S., & Linehan, M. M. (2003). Defining an agenda for future research on the clinical application of mindfulness practice. *Clinical Psychology: Science and Practice, 10,* 166 –171.

Duncan, B. L. (1976). Differential social perception and attribution of intergroup violence: Testing the lower limits of stereotyping blacks. *Journal of Personality and Social Psychology, 34,* 590-598.

Fiese, H. F., & Spagnola, M., (2005). Narratives in and about families: An examination of coding schemes and a guide for family researchers. *Journal of Family Psychology, 19,* 51-61.

Foa, E. B. Molnar, C., & Cashman, L. (1995). Change in rape narratives during exposure therapy for post-traumatic stress disorder. *Journal of Traumatic Stress, 8,* 675-690.

Fox, E., Russo, R., Bowles, R., & Dutton, K. (2001). Do threatening stimuli draw or hold visual attention in subclinical anxiety? *Journal of Experimental Psychology: General, 130,* 681-700.

Goncalves, O, F., Henriques, M. R., Alves, A., & Rocha, C. (2001). *Narrative Process and Complexity Evaluation Model.* Braga: Departmento de Psicologia, Universidade do Minho.

Goncalves, O, F., Henriques, M. R., Alves, A., & Soares, L. (2002). Analyzing structure, process, and content in narratives of patients diagnosed with agoraphobia. *International Journal of Clinical and Health Psychology, 2,* 389-406.

Gray, M. J., & Lombardo, T. W., (2001). Complexity of trauma narratives as an index of fragmented memory in PTSD: A critical analysis. *Applied Cognitive Psychology, 15,* 171-186.

Grice, H. P. (1975). Logic and conversation. In D. Davidson & G. Harman (Eds.), *The logic of grammar* (pp. 64-153). Encino, CA: Dickinson.

Grossman, P., Niemann, L., Schmidt, S., & Walach, H. (2004). Mindfulness Based Stress Reduction and health benefits: A meta-analysis. *Journal of Psychosomatic Research, 57,* 35-43.

Habermas, B., & Bluck, S. (2000). Getting a life: The emergence of the life story in adolescence. *The Psychological Bulletin, 126,* 748-769.

Hanh, T. N. (1976). *Miracle of mindfulness.* Boston: Beacon.

Hayes, S. C., Luoma, J., Bond, F., Masuda, A., & Lillis, J. (2006). Acceptance and Commitment Therapy: Model, processes, and outcomes. *Behavior Research and Therapy,44,* 1-25.

Kabat-Zinn, J. (1982). An outpatient program in behavioral medicine for chronic pain patients based on the practice of mindfulness meditation: Theoretical considerations and preliminary results. *General Hospital Psychiatry, 4,* 33-47.

Kabat-Zinn, J. (1990). Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness. New York: Delacorte.

Kabat-Zinn, J. (2003a). Mindfulness Based Stress Reduction (MBSR). *Constructivism in the human sciences, 8,* 73-107.

Kabat-Zinn, J. (2003b). Mindfulness based interventions in context: Past, present, and future. *Clinical Psychology: Science and Practice, 10,* 144-156.

Kabat-Zinn, J., Massio, A. O., Kristeller, J., Peterson, L. G., Fletcher, K. E., Pbert, L., Lenderking, W. R., & Santorelli, S. F. (1992). Effectiveness of a meditation-based stress reduction program in the treatment of anxiety disorders. *American Journal of Psychiatry, 149,* 936-943.

Kalupahana, D.J. (1987). *The principles of Buddhist psychology.* State University of New York Press: Albany.

Kaufman, A. S. & Kaufman, N. L. (1999). *Essentials of WAIS-III assessment*. Jon Wiley, & Sons: New York.

Kuyken, W., & Brewin, C. R. (1995). Autobiographical memory functioning in depression and reports of early abuse. *Journal of Abnormal Psychology, 104,* 585-591.

Kristeller, J. L., & Hallett, C. B. (1999). An exploratory study of a meditation-based intervention for binge eating disorder. *Journal of Health Psychology, 4,* 357-363.

Labouvie-Vief, G., Chiodo, L. M., Goguen, L. A., Diehl, M., & Orwoll, L. (1995). Representations of the self across the life span. *Psychology and Aging, 10,* 404-415.

Labov, W. (1972). *Language in the inner city.* Philadelphia: University of Pennsylvania Press.

Labov, W. (1997). Some further steps in narrative analysis. *Journal of Narrative and Life History, 7,* 395-415.

Labov, W., & Waletsky, J. (1967). Narrative analysis: Oral versions of personal experience. In J. Helm (Ed.), *Essays on the verbal and visual arts.* Seattle: University of Washington Press.

Lane, R. D., Quinlan, D. M., Schwartz, G. E., Walker, P. A., & Zeitlan, S. B. (1990). The Levels of Emotional Awareness Scale: A cognitive-developmental measure of emotion. *Journal of Personality Assessment, 55,* 124-134.

Langer, E. J. (1980). Role of mindlessness in the perception of deviance. *Journal of Personality and Social Psychology, 39,* 360-367.

Langer, E. J. (1989). *Mindfulness.* Addison-Wesley Publishing: New York.

Langer, E. J., Blank, A., & Chanowitz, B. (1978). The mindlessness of ostensibly thoughtful action: The role of "placebic" information in interpersonal interaction. *Journal of Personality and Social Psychology, 36,* 635-642.

Leichtman, M. D., Wang, Q., & Pillemer, D. B. (2003). Cultural variations in interdependence and autobiographical memory: Lessons from Korea, China, India, and the United States. In R. Fivush & C. A. Haden (Eds.) *Autobiographical memory and the construction of a narrative self:*

Developmental and cultural perspectives. Mahwah, NJ: Lawrence Erlbaum Associates.

Leigh, J., Westen, D., Barends, A., Mendel, M. J., & Byers, S. (1992). The assessment of complexity of representations of people using TAT and interview data. *Journal of Personality, 60,* 809-837.

Lieblich, A., Tuval-Mashiach, R., & Zilber, T. (1998). *Narrative research. Reading, analysis, and interpretation.* Sage: Thousand Oaks.

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

Lubin B., & Van Whitlock R., (1995). The levels of depression on the ST-depression Adjective Check List as measured by the MMPI-D scale, the Beck Depression Inventory, and the Center for Epidemiologic Studies Depression Scale. *Journal of Clinical Psychology, 51,* 826-831.

Lysacker, P. H., Clements, C. A., Plascak-Hallberg, C. D., Knipscheer, S. J., & Wright, D. E. (2002). Insight and personal narratives of illness in schizophrenia. *Psychiatry, 65,* 197-206.

Ma, H. S., & Teasdale, J. D. (2004). Mindfulness Based Cognitive Therapy for depression: Replication and exploration of differential relapse prevention effects. *Journal of Clinical and Consulting Psychology, 72,* 31-40.

Macleod, C. & Mathews, A. (2004). Selective memory effects in anxiety disorders: An overview of research findings and their implications. In D. Reisberg, & P. Hertel (Eds.), *Memory and Emotion.* Oxford: Oxford University Press.

Main, M. (1996). Introduction to the special section on attachment and psychopathology: Overview of the field of attachment. *Journal of Consulting and Clinical Psychology, 64,* 237-243.

Mandler, J. (1984). *Stories, scripts, and scenes: Aspects of schema theory.* Hillsdale, NJ: Lawrence Erlbaum Associates.

Martin, J. R. (1997). Mindfulness: A proposed common factor. *Journal of Psychotherapy Integration, 7,* 291-312.

McAdams, D. P. (1993). *The stories we live by: Personal myths and the making of the self.* New York: William Morrow and Company.

McAdams, D. P. (1996). Personality, modernity, and the storied self: A contemporary framework for studying person. *Psychological Inquiry, 7,* 295-321.

McAdams, D. P. (2003). The Psychology of Life Stories. *Review of General psychology, 5,* 100-122.

Miller, J. J., Fletcher, K., & Kabat-Zinn, J. (1995). Three year follow up and clinical implications of a Mindfulness Based Stress Reduction intervention in the treatment of anxiety disorders. *General Hospital Psychiatry, 17,* 192-200.

Mineka, S. & Nugent, K. (1995). Mood Congruent biases in anxiety and depression. In D. L. Schacter (Ed.), *Memory distortions: How minds, brains, and societies reconstruct the past.* (pp. 173-193). Cambridge, MA: Harvard University Press.

Murray, M. (2003). Narrative psychology and narrative analysis. In P. M. Camic, J. E. Rhodes, & L. Yardley. (Eds.), *Qualitative research in psychology: Expanding perspectives in methodology and design.* Washington DC: American Psychological Association.

Oppenheim, D., Nir, A., Warren, S., & Emde, R.M. (1997). Emotion regulation in mother-child narrative co-construction: Associations with children's narrative and adaptation. *Developmental Psychology, 33,* 206-217.

Pasupathi, M., (2003). Emotion regulation during social remembering: Difference between emotions elicited during an event and emotions elicited when talking about it. *Memory, 11,* 151-163.

Pennebaker, J. W. & Seagal, J. D. (1999). Forming a story: The health benefits of narrative. *Journal of Clinical Psychology, 55,* 1243-1254.

Peterson, C., & McCabe, A. (1983). *Developmental psycholinguistics: Three ways of Looking at a child's narrative.* New York: Plenum Press.

Pratt, M. W., & Arnold, M. L., (1995). Narrative approaches to moral socialization across the lifespan. *Moral Education Forum, 20,* 13-22.

Ramel, W., Goldin, P. R., Carmona, P. E., & McQuaid, J. R. (2004). The effects of mindfulness meditation on cognitive processes and affect in patients with past depression. *Cognitive Therapy and Research, 28,* 433-455.

Robinson, J. A., & Taylor L. R. (1988). Autobiographical memory and self narratives: A tale of two stories. In Thompson, C. P. Bruce, D. Read, J. D. Payne D. G., & Toglia M. P. (Eds.), *Autobiographical memory: Theoretical and applied perspectives* (pp.125-143). Mahwah, NJ: Lawrence Erlbaum Associates.

Roemer, L,. & Orsillo, S. M., (2003). Mindfulness: A promising intervention strategy in need of further study. *Clinical Psychology: Science and Practice, 10,* 172-178.

Roemer, L., & Orsillo, S. M., (2002). Expanding our conceptualization of and treatment for generalized anxiety disorder: Integrating mindfulness/acceptance-based approaches with existing cognitive-behavioral models. *Clinical psychology, 9,* 54-68.

Rosenwieg, S., Reibel, D. K., Greeson, J. M., Brainard, G. C. & Hojat, M. (2003). Mindfulness Based Stress Reduction lowers psychological distress in medical students. *Teaching and Learning in Medicine, 15,* 88-92.

Russel, R. L., & Van den Broek, P. (1992). Changing narrative schemas in psychotherapy. *Psychotherapy, 29,* 344-355.

Russell, R. L., Van den Broek, P., Adams, S., Rosenberger, K., & Essig, T. (1993). Analyzing narratives in psychotherapy: A formal framework and empirical analyses. *Journal of Narrative and Life History, 3,* 337-360.

Safran, J. D., & Muran, J. C. (2000) *Negotiating the therapeutic alliance.* New York: Guilford Press.

Santor, D. A., Zuroff, D.C., Ramsay, J. O., & Cervantes, P. (1995). Examining scale discriminablity in the BDI and CES-D as a function of depressive severity. *Psychological Assessment, 7,* 131-139.

Sattler, J. M. & Ryan, J. J. (1998). *Assessment of children: Revised and updated third edition WAIS-III supplements.* San Diego, CA: Author.

Segal, H. G., Wood, G. H., DeMeis, D. K., & Smith, H. L. (2003). Future events, early experience, and mental health: Clinical assessment using the anticipated life history measure. *Assessment, 10,* 29 - 40.

Segal, H. G., Wood, G. H., DeMeis, D. K., & Smith, H. L. (2002). Assessing future possible selves by gender and socioeconomic status using the anticipated life history measure. *Journal of personality, 69*, 57-87

Segal, Z., V., Williams, J. M. G., & Teasdale, J, D. (2002). *Mindfulness-based cognitive therapy for depression: A new approach for preventing relapse.* New York, NY, US: Guilford Press.

Segal, Z., V., Teasdale, J., D., & Williams, J. M. G. (2004). Mindfulness-Based Cognitive Therapy: Theoretical rationale and empirical status. In S. C. Hayes, V. M. Follette, & M. Linehan, (Eds.), *Mindfulness and acceptance: Expanding the cognitive-behavioral tradition.* (pp. 45-65). New York, NY, US: Guilford Press.

Shapiro, S. L., Astin, J. A., Bishop, S. R., & Cordova, M. (2005). Mindfulness Based Stress Reduction for health care professionals: Results from a randomized trial. *International Journal of Stress Management, 12,* 164-176.

Shapiro S. L. Schwartz, G. E., & Bonner, G. (1998). Effects of Mindful Based Stress Reduction on medical and pre-medical students. *Journal of Behavioral Medicine, 21*, 581-599.

Shields, A., Ryan, R., & Cicchetti, D. (2001). Narrative representation of caregivers and emotion dysregulation as predictors of maltreated children's rejection by peers. *Developmental Psychology, 37*, 321-337.

Singer, J. A., & Salovey, P. (1993). *The remembered self.* New York: Free Press.

Smith, L. D., & Peck, P. L. (2004). Dialectical Behavior Therapy: A review and call to research. *Journal of Mental Health Counseling, 26*, 1040-2861.

Speca, M., Carlson, L. E., Goodey, E., & Angen, M, (2000). A randomized wait-list controlled trial: The effect of Mindfulness Based Stress Reduction program on moods and symptoms of stress in cancer outpatients. *Psychosomatic Medicine, 62,* 613-622.

Stein, N. & Glenn, C., (1979). An analysis of story comprehension in elementary school children. In R. Freedle (Ed.), *New Directions in Discourse Processing.* (Vol. 2). Hillsdale, NJ: Ablex.

Sternberg, R. J., (2000). Images of Mindfulness. *Journal of Social Issues, 56,* 11-26.

Strickland, L. (1994). Autobiographical interviewing and narrative analysis: An approach to psychosocial assessment. *Clinical Social Work Journal, 22,* 27-40.

Tacón, A.M., Caldera, Y.M., & Ronaghan, C. (2004). Mindfulness Based Stress Reduction in women with breast cancer. *Family Systems and Health, 22,* 193-203.

Takahashi, T., Murata, T., Hamada, T., Omori, M., Kosaka, H., Kikushi, M., Yoshida, H., & Wada, Y. (2005). Changes in EEG and autonomic nervous activity during meditation and their association with personality traits. *International Journal of Psychophysiology, 55,* 199-207.

Teasdale, J. D., & Bernard, P. J. (1993). *Affect, cognition, and change: Re-Modeling depressive thought.* Hillsdale, NJ: Lawrence Earlbaum.

Teasdale, J. D., Segal, Z., & Williams, J. M. G. (1995). How does cognitive therapy prevent depressive relapse and why should attentional control (mindfulness) training help? *Behavioral Research and Theory, 33,* 25-39.

Teasdale , J. D., Segal, Z. V., Williams, J. M. G., Ridgeway, V. A., Soulsby, J. M., & Lau, M. A., (2000) Prevention of relapse / recurrence in major depression by mindfulness based cognitive therapy. *Journal of Consulting and Clinical Psychology, 68, 615-623.*

Thera, N. (1972). *The power of mindfulness.* San Francisco, CA: Unity Press.

Thorndike, E. L. (1920). A constant error on psychological rating. *Journal of Applied Psychology*, 4, 25-29

Thorne, A., & McLean, K. C., (2003). Telling traumatic events in adolescence: A study of master narrative positioning. In R. Fivush & C. A. Haden (Eds.) *Autobiographical memory and the construction of the on a narrative self: Developmental and cultural perspectives.* (pp. 169 – 185). Mahwah, NJ: Lawrence Erlbaum Associates.

Trapnell, P. D., & Campbell, J. D., (1999). Private self-consciousness and the five factor model of personality: Distinguishing rumination from reflection. *Journal of Personality and Social Psychology, 76,* 284-304.

Treynor, W, Gonzales, R, & Nolen-Hoeksema, S. (2003). Rumination reconsidered: A psychometric analysis. *Cognitive Therapy and Research, 27*, 247-259.

Trungpa, C. (1991). *Meditation in action.* Boston: Shambhala.

Usita, P. M., Hyman, I. E., & Herman, K. C. (1998). Narrative intentions: Listening to life stories in Alzheimer's disease. *Journal of Aging Studies, 12,* 185-197.

van IJzendoorn, M. H. (1995). Adult attachment representations, parent responsiveness, and infant attachment: A meta-analysis on the predictive validity of the adult attachment interview. *Psychological Bulletin, 117,* 387-403.

van IJzendoorn , M. H., & Bakermans-Kranenberg, M. J. (1996). Adult Attachment Interview classifications in mothers, fathers, adolescents, and clinical groups: a meta-analytic search for normative data. *Journal of Consulting and Clinical Psychology, 64, 8-21*.

von Hippel, W., Jonides, J., Hilton, J. L., & Narayan, S. (1993). Inhibitory effect of schematic processing on perceptual encoding. *Journal of Personality and Social Psychology, 64,* 921-935.

Wahler, R. G., & Castlebury, F.D. (2001). Personal narratives as maps of the social ecosystem. *Clinical Psychology Review, 22,* 297-314.

Walker, W. R., Skrowoski, J. J., & Thompson, C. P. (2003). Life is pleasant – and memory helps keep it that way! *Review of General Psychology, 81,* 1103-1118.

Weissbecker, I., Salmon, P., Studts, J. L., Floyd A. R., Dedert, E. A., & Sephton, S. E. (2002). Mindfulness-Based Stress Reduction and sense of coherence among women with fibromyalgia. *Journal of clinical psychology in medical*, 9, 297-307.

Williams, J. M. G., (1996). Depression and the specificity of autobiographical memory. In D. C. Rubin. (Ed.), *Remembering our past : Studies in autobiographical memory*. Cambridge ; New York, NY, USA : Cambridge University Press p 244-267.

Williams, J. M. G., Teasdale, J. D., Segal, Z.V., & Soulsby, J. (2000). Mindfulness -based cognitive therapy reduces over-general autobiographical memory in formerly depressed patients. *Journal of Abnormal Psychology, 109*, 150-155.

Wolfsdorf, B. A., & Zlotnick, C. (2001). Affect management in group therapy for women with posttraumatic stress disorder and histories of childhood sexual abuse. *Journal of Clinical Psychology, 57, 169-181.*

APPENDICES AND TABLES

TABLES

Table 1

Reliability Statistics for Narrative Measures

	Intraclass Correlation Coefficients	Cronbach's Alpha
Complexity	.892	.683
Coherence	.806	.806
Basic EA	.943	.720
Distinct EA	.919	.683
Elaborated EA	.783	.705

Table 2

Internal Cohesion for Self Report Measures

	Alpha Coefficients
MAAS	.879
KIMS Observe	.867
KIMS Describe	.899
KIMS Awareness	.701
KIMS Accept	.887
CES-D	.908
TAS	.839
RRQ Reflection	.822
RRQ Rumination	.810
DSQ Immature	.866

Table 3

Descriptive Statistics

	Study's Sample		Reported Normative Sample	
	Mean	Standard Deviation	Mean	Standard Deviation
MAAS	3.96	.86	3.97	.64
KIMS Observe	38.18	9.37	37.62	7.55
KIMS Describe	27.09	7.29	27.91	5.94
KIMS Act with Awareness	27.29	5.73	29.05	5.41
KIMS Acceptance	29.69	7.60	29.86	6.67
CESD	35.18	10.51	*	*
Reflection	11.11	4.07	9.83	3.11
Brooding	11.91	3.74	9.40	2.96
Alexithymia	50.95	11.50	47.39	10.37
DSQ Immature	3.95	1.19	3.54	.95
WAIS Verbal	47.68	8.23	36	*
Complexity	2.86	.97	*	*
Basic EA	4.56	1.52	*	*
Distinct EA	2.24	1.52	*	*
Elaborated EA	.19	.32	*	*
Coherence	12.41	3.71	*	*
Difference in Coherence	-.319	1.07	*	*

* indicates not available

Table 4

Correlations between Mindfulness Scales and Narrative Measures

		MAAS	KIMS Observe	KIMS Describe	KIMS Act with Awareness	KIMS Acceptance
Complexity	Pearson *r*	-.120	.211	.190	-.061	-.199
	Sig. (2 tailed)	.288	.059	.090	.595	.079
Basic EA	Pearson *r*	-.010	.083	.130	-.072	-.082
	Sig. (2 tailed)	.930	.464	.248	.528	.470
Distinct EA	Pearson *r*	-.086	.147	.104	-.124	-.184
	Sig. (2 tailed)	.450	.192	.355	.277	.104
Elaborated	Pearson *r*	-.112	.100	.165	-.185	-.181
EA	Sig. (2 tailed)	.321	.375	.140	.102	.111
Coherence	Pearson *r*	-.054	.122	.090	-.092	-.097
	Sig. (2 tailed)	.635	.279	.422	.418	.393
Difference in	Pearson *r*	.089	-.008	-.002	.141	-.010
Coherence	Sig. (2 tailed)	.433	.941	.986	.215	.932

Table 5

Correlation of Mindfulness Scales with Other Self Report Measures

		MAAS	KIMS Observe	KIMS Describe	KIMS Act with Awareness	KIMS Acceptance
CESD	Pearson *r*	**-.398**	.130	-.199	**-.360**	**-.531**
	Sig. (2 tailed)	**.000**	.249	.079	**.001**	**.000**
Reflection	Pearson *r*	-.086	**.426**	.099	**-.296**	**-.420**
	Sig. (2 tailed)	.430	**.000**	.365	**.006**	**.000**
Brooding	Pearson *r*	**-.460**	.146	-.191	**-.522**	**-.701**
	Sig. (2 tailed)	**.000**	.183	.082	**.000**	**.000**
Alexithymia	Pearson *r*	**-.327**	.110	**-.308**	**-.348**	**-.609**
	Sig. (2 tailed)	**.002**	.315	**.004**	**.001**	**.000**
DSQ Immature	Pearson *r*	-.224	.178	-.222	-.181	**-.567**
	Sig. (2 tailed)	.091	.181	.094	.174	**.000**
WAIS Verbal	Pearson *r*	-.047	.020	.204	-.093	.078
	Sig. (2 tailed)	.798	.865	.083	.429	.513
MAAS	Pearson *r*	1	**.234**	**.378**	**.547**	**.312**
	Sig. (2 tailed)		**.030**	**.000**	**.000**	**.004**
KIMS Observe	Pearson *r*		1	**.438**	.096	**-.299**
	Sig. (2 tailed)			**.000**	.380	**.005**
KIMS Describe	Pearson *r*			1	**237**	.161
	Sig. (2 tailed)				**.030**	.145
KIMS Act with	Pearson *r*				1	**.364**
Awareness	Sig. (2 tailed)					**.001**
KIMS	Pearson *r*					1
Acceptance	Sig. (2 tailed)					

Table 6

Narrative Measures Correlations

		Complexity	Basic EA	Distinct EA	Elaborated EA	Coherence	Difference in Coherence
CESD	Pearson *r*	.169	**.223**	**.286**	**.236**	.204	-.164
	Sig. (2 tailed)	.149	**.056**	**.014**	**.043**	.281	.161
Reflection	Pearson *r*	**.228**	.128	**.255**	.109	.156	-.072
	Sig. (2 tailed)	**.041**	.254	**.021**	.334	.165	.522
Brooding	Pearson *r*	.136	.132	**.276**	.190	.097	-.174
	Sig. (2 tailed)	.232	.246	**.014**	.093	.396	.126
Alexithymia	Pearson *r*	.036	.062	.187	.095	-.018	-.077
	Sig. (2 tailed)	.750	.592	.097	.400	.876	.500
DSQ Immature	Pearson *r*	.213	.202	**.328**	**.347**	.245	.234
	Sig. (2 tailed)	.125	.146	**.017**	**.011**	.077	.091
WAIS Vocabulary	Pearson *r*	**.282**	**.302**	**.273**	**.280**	.200	.057
	Sig. (2 tailed)	**.018**	**.011**	**.022**	**.019**	.098	.636
Complexity	Pearson *r*	**1**	**.586**	**.688**	**.621**	**.686**	-.168
	Sig. (2 tailed)		**.000**	**.000**	**.000**	**.000**	.130
Basic EA	Pearson *r*		**1**	**.798**	**.724**	**.683**	**-.231**
	Sig. (2 tailed)			**.000**	**.000**	**.000**	**.036**
Distinct EA	Pearson *r*			**1**	**.780**	**.586**	**-.221**
	Sig. (2 tailed)				**.000**	**.000**	**.045**
Elaborated EA	Pearson *r*				**1**	**.613**	-.111
	Sig. (2 tailed)					**.000**	.318
Coherence	Pearson *r*					**1**	-.116
	Sig. (2 tailed)						.297
Difference in Coherence	Pearson *r*						**1**
	Sig. (2 tailed)						

Table 7

Mindfulness by relational style as a predictor of Basic Emotional Articulacy

	Relational Style	*r*	*R* squared	Beta	Significance
MAAS	Secure	.188	.035	.258	.304
	Preoccupied	-.379	.144	-1.373	.314
	Avoidant	**-.743**	**.552**	**-1.298**	**.004**
KIMS Observe	Non-Significant General Model				
KIMS Describe	Non-Significant General Model				
KIMS Act with Awareness	Secure	.184	.034	-.535	.305
	Preoccupied	-.599	.359	-3.731	.088
	Avoidant	**-.772**	**.597**	**-3.177**	**.002**
KIMS Acceptance	Secure	.122	.015	.274	.507
	Preoccupied	**-.757**	**.573**	**-4.279**	**.018**
	Avoidant	-.233	.054	-1.118	.443

Table 8

Mindfulness by Relational Style as a Predictor of Distinct Emotional Articulacy

	Relational Style	*r*	*R* squared	Beta	Significance
MAAS	Secure	.066	.004	.075	.720
	Preoccupied	-.555	.308	-.307	.121*
	Avoidant	-.466	.218	-.518	.108
KIMS Observe	Non-Significant General Model				
KIMS Describe	Non-Significant General Model				
KIMS Act with Awareness	Secure	-.028	.001	-.015	.879
	Preoccupied	-.526	.277	-.169	.146
	Avoidant	**-.592**	**.350**	**-.279**	**.033**
KIMS Acceptance	Secure	-.002	.000	-.001	.991
	Preoccupied	**-.771**	**.594**	**-.273**	**.015**
	Avoidant	-.087	.008	-.035	.778

*relationship significant in general model but not in individual regression

Table 9

Mindfulness by Relational Style as a Predictor of Elaborated Emotional Articulacy

	Relational Style	*r*	*R* squared	Beta	Significance
MAAS	Secure	.074	.005	.413	.688
	Preoccupied	-.541	.292	-1.358	.133
	Avoidant	**-.640**	**.410**	**-2.753**	**.018**
KIMS Observe		Non-Significant General Model			
KIMS Describe	Secure	.310	.096	.310	.079
	Preoccupied	-.008	.000	.008	.984
	Avoidant	.449	.201	-.449	.124
KIMS Act with Awareness	Secure	-.104	.011	-.269	.563
	Preoccupied	**-.677**	**.458**	**-.988**	**.045**
	Avoidant	**-.657**	**.431**	**-1.199**	**.015**
KIMS Acceptance	Secure	-.030	.001	-.117	.869
	Preoccupied	**-.807**	**.651**	**-1.298**	**.009**
	Avoidant	-.117	.014	-.184	.703

Table 10

Mindfulness by Relational Style as a Predictor of Complexity

	Relational Style	*r*	*R* squared	Beta	Significance
MAAS		Non-Significant General Model			
KIMS Observe		Non-Significant General Model			
KIMS Describe		Non-Significant General Model			
KIMS Act with Awareness		Non-Significant General Model			
KIMS Acceptance	Secure	-.252	.064	-.107	.164
	Preoccupied	-.494	.244	-.382	.176
	Avoidant	**.682**	**.465**	**.421**	**.010**

Table 11

Group Differences in Narrative and Self Report Means by Adult Attachment Status

	Secure Mean	Preoccupied Mean	Avoidant Mean	F	*p*
Basic EA	38.42_b	62.71_a	32.77_b	**4.99**	**.010**
Distinct EA	18.76_b	31.11_a	18.46	**3.69**	**.032**
Elaborated EA	1.27	3.72	1.54	2.73	.074
Complexity	10.67_b	14.44_a	10.38_b	**4.62**	**.014**
Coherence	11.69	14.36	11.63	2.47	.094
Difference in Coherence	-0.20	-0.61	-0.71	.41	.748
CESD Total	30.10_a	40.30_b	36.33	**5.24**	**.003**
Reflection	10.03	12.20	11.47	1.36	.265
Brooding	10.81	13.00	12.80	2.34	.106
DSQ Immature	83.55_a	84.33	105.33_b	**5.25**	**.010**
Alexithymia	46.63_a	50.60	55.33_b	**4.70**	**.013**
MAAS	61.19	59.90	53.00	2.52	.090
KIMS Observe	37.06	38.40	37.47	.114	.892
KIMS Describe	29.52_a	30.40_a	24.00_b	**4.56**	**.015**
KIMS Act with Awareness	27.39	28.80	27.47	.324	.725
KIMS Acceptance	33.03_a	27.80_b	29.47	3.81	.028

Note. Means with different subscripts differ significantly at $p<.05$ according to Tukey HSD pairwise comparisons.

Table 12

Correlations of Emotional Articulacy with Measures of Psychopathology

Adult Attachment Status			Depression	Brooding
Secure	Pearson *r*	Basic_EA	-.066	.156
	Significance		.723	.394
	Pearson *r*	Distinct_EA	.069	.266
	Significance		.711	.141
	Pearson *r*	Elaborated_EA	.184	.037
	Significance		.322	.839
Preoccupied	Pearson *r*	Basic_EA	.054	.**729**
	Significance		.890	.040
	Pearson *r*	Distinct_EA	.139	.608
	Significance		.721	.110
	Pearson *r*	Elaborated_EA	.858	.603
	Significance		.070	.113
Avoidant	Pearson *r*	Basic_EA	.**573**	.**694**
	Significance		.041	.009
	Pearson *r*	Distinct_EA	.293	.**599**
	Significance		.331	.030
	Pearson *r*	Elaborated_EA	.363	.512
	Significance		.222	.073

Appendix A

Interview Template

Let me explain what is going on with this study. We are looking at how people think about and tell their life story. We are not studying pathology or trying to label anything as crazy, but rather just studying the different ways that people make sense of and talk about their own lives. Towards that end I will be asking you six question about your own life. Most people take some time after they hear the question to reflect and gather their thoughts before they begin to answer. The focus is on the most meaningful or important experiences you've had, rather than just the most recent, so feel free to take as long as you want to think before you answer.

Some of the questions I will be asking are about pretty tough stuff. I'd like to encourage you to be open and share as much as you can, as we are most interested in how people make sense of some of the difficult and painful parts of their own life history; however, you are free to stop answering a question anytime you like. Everything you say is confidential, in other words is secret and will not be revealed to anyone not working on the experiment. Your tape will not leave the lab and will not have your name on it. This is not therapy, rather we just want to hear about how you make sense of your life. This should take at least twenty to thirty minutes. Do you have any questions before we start?

1. We'll start with an easy question: What has been the high point of your year?

2. Tell me about a pleasant interaction you have had with a close friend. Please include what led up to the event, what happened as a result, and what you and the other person were thinking and feeling.
(That really sounds great/fun)

3. Please describe for me a peak experience. By that I mean one of the moments that you felt that happiest, that felt the most pivotal in defining who you are, or reminding yourself of what it is that you live for.
(That must have been really special)

4. Please describe for me the opposite of a peak experience: the lowest point in your life, when things were the most miserable or difficult.
(I can see why that would be so hard)

5. Tell me about a time that you felt betrayed by someone. Please choose a different topic than the last narrative. Please include what led up to the event, what happened as a result, and what you and the other person were thinking and feeling.
(Wow that is really hurtful/ pretty horrible!)

6. Tell me about an experience you have had in nature, in other words outdoors.

Appendix B

Emotional Articulacy Index

I. Basic:

a. **Undifferentiated Description**: The narrator uses affectively charged words (e.g. bad, good, sucks) that convey global affect without differentiation of a particular type of affect.
b. **Physiology of Emotion**: Narrator describes a physical reaction to the situation. (e.g. "It made me feel sick to my stomach").
c. **Relational**: words that describe increasing or decreasing feelings of intimacy or closeness: (e.g. bonding, grew apart, trust, I like Joan, etc.)

II. Distinct: The narrator uses a single emotional word to describe his or her emotional reaction. Now includes implied emotional description if distinct.

III. Elaborated: **thoughts, emotions, or contextual explanation that provides a more distinct feeling or understanding of the speaker's subjective experience.** Elaboration means narrowing down from general categories of emotional experience to a subcategory. It is going beyond the barebones required contextualization and making the extra effort to make the emotional state come alive. Elaboration may make you feel empathy for the narrator. It can be a list of differing emotional states. It can be the thoughts or associated cognitive meanings of the event but it must also contain the emotional experience It can be background contextual information (i.e. History or life patterns) that provide insight into the specific meaning of that experience.

IIII. Ambivalence:

Ambivalence is defined as two or more emotional reactions to the same phenomena or experience. They need be connected – so the narrator is clearly showing they recognize two emotions at the same time. Although they do not have to be complete distinct emotional states they cannot be to undifferentiated. ("I was upset" could be marginally OK if other emotional state is distinct. In contrast "it was also good" without further clarification or explanation is too indistinct no matter how distinct the other emotional state) Frequently connection phrase will be used like "at the same time I also felt", or "I was conflicted…", or "I felt more than one thing…" An example of ambivalence is, "I was really sad when he left. And at the same time I have this strange feeling of peace and freedom – like I could do whatever I wanted with my life.")

Appendix C

Revised Structure Guidelines

The focus here is to what extent does the narrative contain the traditional elements of a story and to what extent are those elements causally and temporally connected to create a sense of "story-ness." High scoring narratives should "feel" like a good narrative.

Beginning: The introduction. This provides some background information about what led up the event. Score 2 for excellent, 1 for weak or iffy, and 0 for absent.

Middle: The meat of the story. The primary actions and events. Score 2 for excellent, 1 for weak or iffy, and 0 for absent.

End: The Consequence. What happened because of the middle of the story. Score 2 for excellent, 1 for weak or iffy, and 0 for absent.

Causation: Do the events in the beginning cause the middle, and do the middle events cause the end. Use your judgment because this can be implicit. Score 1 for strong and o for weak.

The ratings should be wholistic. Rate the narrative as a whole. For example, if it has a large amount of material that does not fit into any category that should weaken scores of adjacent parts of the narrative. Or if there are multiple middles of the narrative, they all need to be strong in order to score a 2.

Appendix D

Integration Guidelines: Evaluation and Cohesion

Evaluation: Does the narrator explain the overall significance or meaning of the event in the context of their life as a whole.

3. **Complex Integration**: Multiple events tied together to illustrate the self-defining integration

2. **Self-Defining Integration**: What the narrator learned form the experience, the moral of the story, or a statement about the permanent effect of the event on the narrator

1. **Integration by Comparison**: Narrator compares event to the rest of life. An example is, "This was a real low point for me because…" or "This was one of the only times that I felt …."

0. **No integration**: The coder is left wondering why the narrator even discussed the topic.

Cohesion: Do all the components of the narrative fit together into a cohesive whole?

4. **Excellent Structure**: **Narrative excels in the following ways**
   a. **Main Point:** Narrator has clearly stated or implied topic.
   b. **Repetition:** less than 1 in 5 sentences are redundant and add no information
   c. **Unresolved Contradictions:** Contradictions are absent or recognized
   d. **Tangents:** Material is unrelated to the main point of the narrative.

3. **Good Structure**: Minor problems are present.

2. **Moderate Structure**: Major problems but narrative is still an intelligible whole. (e.g. a serious problem in 1 category)

1. **Poor Structure**: Either it is unclear what the main point of the narrative is, or the narrative shows severe problems with contradictions, tangents, or repetition. (e.g. serious problems in multiple categories)

Appendix E1

General Regression Model for MAAS and Adult Attachment Style as Predictors of Complexity

	B	Std. Error	*t*	Sig.
(Constant)	16.668	3.537	4.712	.000
MAAS	-.097	.057	-1.699	.096
Preoccupied Status	-3.374	7.177	-.470	.640
Avoidant Status	-3.959	5.545	-.714	.479
Preoccupied Interaction	.116	.118	.987	.329
Avoidant Interaction	.051	.100	.504	.616

Appendix E2

General Regression Model for KIMS Observe and Adult Attachment Style as Predictors of Complexity

	B	Std. Error	*t*	Sig.
(Constant)	8.899	2.431	3.661	.001
KIMS Observe	.048	.063	.752	.456
Preoccupied Status	.271	7.223	.037	.970
Avoidant Status	.310	5.110	.061	.952
Preoccupied Interaction	.084	.179	.469	.641
Avoidant Interaction	-.017	.130	-.131	.896

Appendix E3

General Regression Model for KIMS Describe and Adult Attachment Style as Predictors of Complexity

	B	Std. Error	*t*	Sig.
(Constant)	8.447	2.956	2.858	.006
KIMS Describe	.075	.098	.766	.447
Preoccupied Status	-8.992	7.165	-1.255	.215
Avoidant Status	.114	4.797	.024	.981
Preoccupied Interaction	.407	.229	1.777	.082
Avoidant Interaction	.002	.183	.008	.993

Appendix E4

General Regression Model for KIMS Act with Awareness and Adult Attachment Style as Predictors of Complexity

	B	Std. Error	*t*	Sig.
(Constant)	11.042	3.313	3.332	.002
KIMS Act with Awareness	-.014	.119	-.115	.909
Preoccupied Status	12.502	5.926	2.110	.040
Avoidant Status	.164	6.121	.027	.979
Preoccupied Interaction	-.321	.212	-1.513	.137
Avoidant Interaction	-.018	.226	-.078	.938

Appendix E5

General Regression Model for KIMS Acceptance and Adult Attachment Style as Predictors of Complexity

	B	Std. Error	*t*	Sig.
(Constant)	14.26	2.904	4.913	.000
KIMS Acceptance	-.107	.086	-1.246	.219
Preoccupied Status	10.45	5.057	2.068	.044
Avoidant Status	-15.96	6.740	-2.368	.022
Preoccupied Interaction	-.275	.172	-1.600	.116
Avoidant Interaction	**.528**	**.227**	**2.331**	**.024**

Appendix F1

General Regression Model for MAAS and Adult Attachment Style as Predictors of Basic Emotional Articulacy

	B	Std. Error	*t*	Sig.
(Constant)	22.453	21.806	1.030	.308
MAAS	.258	.351	.734	.466
Preoccupied Status	122.187	44.245	2.762	.008
Avoidant Status	75.694	34.184	2.214	.032
Preoccupied Interaction	**-1.631**	**.725**	**-2.251**	**.029**
Avoidant Interaction	**-1.555**	**.618**	**-2.516**	**.015**

Appendix F2

General Regression Model for KIMS Observe and Adult Attachment Style as Predictors of Basic Emotional Articulacy

	B	Std. Error	*t*	Sig.
(Constant)	33.178	15.804	2.099	.041
KIMS Observe	.142	.412	.343	.733
Preoccupied Status	-.411	46.956	-.009	.993
Avoidant Status	45.314	33.221	1.364	.179
Preoccupied Interaction	.605	1.161	.521	.605
Avoidant Interaction	-1.330	.848	-1.568	.123

Appendix F3

General Regression Model for KIMS Describe and Adult Attachment Style as Predictors of Basic Emotional Articulacy

	B	Std. Error	*t*	Sig.
(Constant)	17.808	19.375	.919	.363
KIMS Describe	.699	.643	1.086	.283
Preoccupied Status	-42.90	46.966	-.913	.365
Avoidant Status	48.124	31.445	1.530	.132
Preoccupied Interaction	2.124	1.499	1.416	.163
Avoidant Interaction	-2.094	1.197	-1.749	.086

Appendix F4

General Regression Model for KIMS Act with Awareness and Adult Attachment Style as Predictors of Basic Emotional Articulacy

	B	Std. Error	*t*	Sig.
(Constant)	53.072	18.732	2.833	.007
KIMS Act with Awarenss	-.535	.672	-.795	.430
Preoccupied Status	111.21	33.503	3.320	.002
Avoidant Status	63.031	34.605	1.821	.075
Preoccupied Interaction	**-3.197**	**1.198**	**-2.668**	**.010**
Avoidant Interaction	**-2.642**	**1.280**	**-2.064**	**.044**

Appendix F5

General Regression Model for KIMS Acceptance and Adult Attachment Style as Predictors of Basic Emotional Articulacy

	B	Std. Error	*t*	Sig.
(Constant)	29.441	17.707	1.663	.103
KIMS Acceptance	.274	.526	.522	.604
Preoccupied Status	148.318	30.840	4.809	.000
Avoidant Status	35.403	41.099	.861	.393
Preoccupied Interaction	**-4.553**	**1.048**	**-4.345**	**.000**
Avoidant Interaction	-1.392	1.382	-1.007	.319

Appendix G1

General Regression Model for MAAS and Adult Attachment Style as Predictors of Distinct Emotional Articulacy

	B	Std. Error	*t*	Sig.
(Constant)	15.041	11.931	1.261	.214
MAAS	.058	.192	.302	.764
Preoccupied Status	76.029	24.207	3.141	.003
Avoidant Status	24.569	18.703	1.314	.195
Preoccupied Interaction	**-1.063**	**.396**	**-2.682**	**.010**
Avoidant Interaction	-.478	.338	-1.413	.164

Appendix G2

General Regression Model for KIMS Observe and Adult Attachment Style as Predictors of Distinct Emotional Articulacy

	B	Std. Error	*t*	Sig.
(Constant)	11.819	8.599	1.374	.176
KIMS Observe	.187	.224	.834	.408
Preoccupied Status	33.030	25.549	1.293	.202
Avoidant Status	28.295	18.075	1.565	.124
Preoccupied Interaction	-.530	.632	-.838	.406
Avoidant Interaction	-.750	.462	-1.625	.110

Appendix G3

General Regression Model for KIMS Describe and Adult Attachment Style as Predictors of Distinct Emotional Articulacy

	B	Std. Error	*t*	Sig.
(Constant)	7.837	11.130	.704	.485
KIMS Describe	.370	.370	1.001	.322
Preoccupied Status	23.981	26.981	.889	.378
Avoidant Status	19.783	18.064	1.095	.279
Preoccupied Interaction	-.393	.861	-.456	.650
Avoidant Interaction	-.755	.688	-1.099	.277

Appendix G4

General Regression Model for KIMS Act with Awareness and Adult Attachment Style as Predictors of Distinct Emotional Articulacy

	B	Std. Error	*t*	Sig.
(Constant)	20.168	11.121	1.813	.076
KIMS Act with Awareness	-.051	.399	-.129	.898
Preoccupied Status	55.523	19.890	2.791	.007
Avoidant Status	31.163	20.544	1.517	.136
Preoccupied Interaction	**-1.586**	**.711**	**-2.230**	**.030**
Avoidant Interaction	-1.202	.760	-1.581	.120

Appendix G5

General Regression Model for KIMS Acceptance and Adult Attachment Style as Predictors of Distinct Emotional Articulacy

	B	Std. Error	*t*	Sig.
(Constant)	19.094	9.924	1.924	.060
KIMS Acceptance	-.003	.295	-.010	.992
Preoccupied Status	70.614	17.284	4.086	.000
Avoidant Status	5.515	23.034	.239	.812
Preoccupied Interaction	**-2.176**	**.587**	**-3.706**	**.001**
Avoidant Interaction	-.211	.775	-.273	.786

Appendix H1

General Regression Model for MAAS and Adult Attachment Style as Predictors of Elaborated Emotional Articulacy

	B	Std. Error	*t*	Sig.
(Constant)	.380	2.559	.148	.883
KIMS Acceptance	.013	.041	.321	.750
Preoccupied Status	16.189	5.191	3.119	.003
Avoidant Status	8.664	4.011	2.160	.036
Preoccupied Interaction	**-.229**	**.085**	**-2.688**	**.010**
Avoidant Interaction	**-.162**	**.073**	**-2.236**	**.030**

Appendix H2

General Regression Model for KIMS Observe and Adult Attachment Style as Predictors of Elaborated Emotional Articulacy Coefficients

	B	Std. Error	*t*	Sig.
(Constant)	.641	1.919	.334	.740
KIMS Observe	.017	.050	.340	.735
Preoccupied Status	6.909	5.701	1.212	.231
Avoidant Status	6.252	4.033	1.550	.128
Preoccupied Interaction	-.112	.141	-.798	.429
Avoidant Interaction	-.156	.103	-1.517	.136

Appendix H3

General Regression Model for KIMS Describe and Adult Attachment Style as Predictors of Elaborated Emotional Articulacy

	B	Std. Error	*t*	Sig.
(Constant)	-1.732	2.421	-.715	.478
KIMS Describe	.102	.080	1.267	.211
Preoccupied Status	5.248	5.869	.894	.376
Avoidant Status	8.050	3.929	2.049	.046
Preoccupied Interaction	-.095	.187	-.508	.614
Avoidant Interaction	**-.303**	**.150**	**-2.025**	**.048**

Appendix H4

General Regression Model for KIMS Act with Awareness and Adult Attachment Style as Predictors of Elaborated Emotional Articulacy

	B	Std. Error	*t*	Sig.
(Constant)	2.384	2.290	1.041	.303
KIMS Act with Awareness	-.041	.082	-.493	.624
Preoccupied Status	13.953	4.095	3.407	.001
Avoidant Status	8.587	4.230	2.030	.048
Preoccupied Interaction	**-.423**	**.146**	**-2.887**	**.006**
Avoidant Interaction	**-.319**	**.157**	**-2.038**	**.047**

Appendix H5

General Regression Model for KIMS Acceptance and Adult Attachment Style as Predictors of Elaborated Emotional Articulacy

	B	Std. Error	*t*	Sig.
(Constant)	1.353	2.064	.656	.515
KIMS Acceptance	-.008	.061	-.128	.899
Preoccupied Status	15.861	3.595	4.412	.000
Avoidant Status	2.330	4.791	.486	.629
Preoccupied Interaction	**-.494**	**.122**	**-4.044**	**.000**
Avoidant Interaction	-.067	.161	-.415	.680

Appendix I1

General Regression Model for MAAS and Adult Attachment Style as Predictors of Predictors of Difference in Coherence

	B	Std. Error	*t*	Sig.
(Constant)	.655	1.105	.593	.556
MAAS	-.014	.018	-.769	.446
Preoccupied Status	-1.693	2.241	-.755	.454
Avoidant Status	-2.637	1.732	-1.523	.134
Preoccupied Interaction	.021	.037	.567	.573
Avoidant Interaction	.046	.031	1.459	.151

Appendix I2

General Regression Model for KIMS Observe and Adult Attachment Style as Predictors of Predictors of Difference in Coherence

	B	Std. Error	*t*	Sig.
(Constant)	.667	.731	.913	.366
KIMS Observe	-.023	.019	-1.228	.225
Preoccupied Status	-3.556	2.171	-1.638	.108
Avoidant Status	-2.411	1.536	-1.570	.123
Preoccupied Interaction	.080	.054	1.494	.142
Avoidant Interaction	.059	.039	1.509	.138

Appendix I3

General Regression Model for KIMS Describe and Adult Attachment Style as Predictors of Predictors of Difference in Coherence

	B	Std. Error	*t*	Sig.
(Constant)	1.729	.888	1.946	.057
KIMS Describe	-.065	.029	-2.216	.031
Preoccupied Status	1.569	2.153	.729	.470
Avoidant Status	-2.561	1.442	-1.777	.082
Preoccupied Interaction	-.060	.069	-.877	.385
Avoidant Interaction	.085	.055	1.547	.128

Appendix I4

General Regression Model for KIMS Act with Awareness and Adult Attachment Style as Predictors of Predictors of Difference in Coherence

	B	Std. Error	*t*	Sig.
(Constant)	-.248	1.049	-.237	.814
KIMS Act with Awareness	.002	.038	.047	.963
Preoccupied Status	-1.225	1.876	-.653	.517
Avoidant Status	-1.385	1.938	-.715	.478
Preoccupied Interaction	.030	.067	.446	.658
Avoidant Interaction	.046	.072	.648	.520

Appendix I5

General Regression Model for KIMS Acceptance and Adult Attachment Style as Predictors of Predictors of Difference in Coherence

	B	Std. Error	*t*	Sig.
(Constant)	.456	.989	.461	.647
KIMS Acceptance	-.020	.029	-.670	.506
Preoccupied Status	-1.833	1.723	-1.064	.293
Avoidant Status	.924	2.296	.402	.689
Preoccupied Interaction	.048	.059	.823	.415
Avoidant Interaction	-.041	.077	-.534	.596

Vita

Noah Roost was born in San Francisco, CA on January 29, 1976. He attended primary and secondary school in Eugene, OR. From there he attended Columbia College and graduated *magna cum laude* in 1997. He then worked as teacher and tutor in Atlanta, GA for four years. He attended a doctoral program in clinical psychology at the University of Tennessee at Knoxville. He received his mater's degree in 2005, and obtained licensure as a psychological examiner. His pre-doctoral internship was at Bellevue Hospital in New York City.