Mindfulness and self-absorption: Examining the relationship between non-elaborative attention and shifts in rigidity of self-consciousness

Michael Sasiain
Pacific University

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Mindfulness and self-absorption: Examining the relationship between non-elaborative attention and shifts in rigidity of self-consciousness

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MINDFULNESS AND SELF-ABSORPTION:
EXAMINING THE RELATIONSHIP BETWEEN NON-ELABORATIVE ATTENTION AND
SHIFTS IN RIGIDITY OF SELF-CONSCIOUSNESS

A THESIS
SUBMITTED TO THE FACULTY
OF
SCHOOL OF PROFESSIONAL PSYCHOLOGY
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BY
MICHAEL SASIAIN
IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE
OF
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APPROVED:
James B. Lane, PhD
Abstract

While researchers have explored the relationship between mindfulness and self-consciousness, none have investigated the relationship between mindfulness and self-absorption. This study examined the relationship between mindfulness and private and public self-absorption. The sample consisted of 224 individuals anonymously recruited from various locations. We found a negative relationship between mindfulness and both private and public self-absorption. We did not find any significant differences between the number of years that participants had been practicing mindfulness on the one hand and the relation of mindfulness to self-absorption on the other. Implications for psychopathology, attentional flexibility, and the processing of information with reference to the self are discussed.

Keywords: mindfulness, self, self-consciousness, self-absorption, information processing
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# Table of Contents

ABSTRACT.................................................................................................................................. ii  
ACKNOWLEDGEMENTS.......................................................................................................... iii  
LIST OF TABLES.......................................................................................................................... v  
INTRODUCTION.......................................................................................................................... 1  
MINDFULNESS............................................................................................................................ 1  
  Definitions of Mindfulness......................................................................................................... 2  
  Emotional, Psychological, and Physiological Benefits of Mindfulness................................. 4  
  Emotional Benefits.................................................................................................................. 4  
  Psychological Benefits.......................................................................................................... 5  
  Physiological Benefits......................................................................................................... 6  
SELF-CONSCIOUSNESS............................................................................................................. 6  
  Private Self-Consciousness...................................................................................................... 7  
  Public Self-Consciousness...................................................................................................... 7  
  Mechanisms of Self-Consciousness........................................................................................ 8  
    Schemas and Self-Focused Attention.................................................................................... 9  
    Self-Consciousness as Self-Reference............................................................................. 9  
SELF-ABSORPTION..................................................................................................................... 12  
PURPOSE AND HYPOTHESES OF STUDY.................................................................................. 13  
METHOD..................................................................................................................................... 15  
RESULTS...................................................................................................................................... 17  
DISCUSSION............................................................................................................................... 21  
REFERENCES............................................................................................................................. 25  
APPENDICES.............................................................................................................................. 31
List of Tables

TABLE 1: Descriptive Statistics for the MAAS and the Private and Public subscales of the Self-Absorption Scale.................................................................19
TABLE 2: Frequencies, Pearson Correlations, and Values of Statistical Significance for Participants Categorized by Years of Mindfulness Practice.................................20
TABLE 3: Z-scores for the Correlations Between Groups.................................................................21
Introduction

In the present study I investigated the relationship between mindfulness and self-absorption. Mindfulness refers to a deliberate process in which individuals are open to and focus on their moment-to-moment experience without imposing preconceptions, judgments, or conceptual elaboration on their experience (Grossman, 2011; Brown & Ryan, 2003). Self-absorption refers to a maladaptive self-focus that is excessive, sustained, and inflexible in its operation and is highly correlated with psychopathology (Ingram, 1990). Self-consciousness, of which self-absorption is a subset, is characterized by the consistent tendency of a person to direct his or her attention inwardly or outwardly with reference to the self (Trapnell & Campbell, 1999; Fenigstein, 2009).

While a number of researchers have examined the relationship between mindfulness and self-consciousness (Creswell, Way, Eisenberger, & Lieberman, 2007; Brown & Ryan, 2003; Teasdale & Green, 2004; Walach et al., 2006; Evans, Baer, & Segerstrom, 2009) none have yet explored the link between mindfulness and self-absorption. In the sections below I present and review the literature on each construct and provide a justification for the possible relationship between mindfulness and self-absorption.

Mindfulness

Mindfulness originated as a contemplative technique within Buddhism and has recently gained acceptance within the field of clinical psychology as both an intervention and a domain of research. Since its debut into western psychology, results of a vast number of studies have demonstrated an association between mindfulness and positive outcomes, such as decreased rumination on negative thoughts (Ma & Teasdale, 2004; Teasdale et al., 2000), decreased
reactivity to negative emotions (Hill & Updegraff, 2012), an increased ability to tolerate physical pain (Perlman, Salomons, Davidson, & Lutz, 2010; Wong et al., 2011), and a reduction of daily stress (Shapiro, Astin, Bishop, & Cordova, 2005).

Despite these associations a clear-cut definition of mindfulness remains elusive within western psychology. In the following section I will therefore review three operational definitions that are currently being employed in the scientific exploration of mindfulness.

**Definitions of Mindfulness**

Bishop et al. (2004) theorize that mindfulness emerges from a reciprocal interplay between the (1) self-regulation of attention and a (2) particular attitude towards one's experience. To be more precise, the self-regulation of attention, also known as *decentering*, consists of three sub-components: (a) a sustained attention to, and thereby awareness of, one's moment-to-moment internal and external experience, (b) the ability to intentionally switch one's attention from one object to another in a flexible manner, and (c) an inhibition of elaborative processing that naturally emerges from the focus of attention on the process of sensations, thoughts, and feelings rather than their content.

*Orientation* refers to an attitudinal stance towards in which individuals relate to their subjective experiences, and the objects found therein, with curiosity, acceptance, and openness. A mindful attitude is characterized by motivation to reflect upon or comprehend the meanings that underlie one's psychological processes or external behavior (Lau et al., 2006). In addition, mindfulness is regarded as being a mode of awareness that can be generated and sustained through the regulation of one's attention. Thus, mindfulness is a dispositional skill that can be exercised and strengthened and is not exclusive to a particular form of contemplative practice.
In a second conceptualization, Brown and Ryan (2003) suggest that mindfulness may be operationalized by differentiating it from mindlessness. In this case the core feature of mindfulness is an awareness that (a) is open and receptive to experience, (b) is undivided while attending to internal and external stimuli, and (c) emphasizes the quality of consciousness over the content of thoughts, feelings, and sensations. Furthermore, mindful awareness is related to emotional intelligence, the personality trait of 'Openness to Experience,' and to a pre-reflexive consciousness that does not conceptualize itself. In contrast, mindlessness may be construed as a “consciousness that is blunted or restricted in various ways.” Acts of mindlessness include compulsive or automatic behaviors that occur in the absence of full awareness and the unwillingness to attend to a thought, emotion, intent, or object of perception in association with an unpleasant experience.

A third perspective has been proposed by Baer, Smith, Hopkins, Krietemeyer, and Toney (2006) who view mindfulness as being composed of five facets: (a) observing, (b) describing, (c) acting with awareness, (d) accepting without judgment, and (e) non-reactivity to inner experiences. To elaborate, observing refers to an individual's careful attending to internal and external phenomena, such as bodily sensations, sights, and sounds. The second skill of describing refers to an individual’s recognition and labeling of emotions, thoughts, and bodily sensations. The third skill, acting with awareness, arises when a person allocates his or her full attention to an activity which may be contrasted with being distracted while engaging in a task. The fourth skill, accepting without judgment, refers to an individual’s attitude in which he or she does not evaluate thoughts or feelings as being either good or bad. And last, non-reactivity to inner experiences refers to individuals allowing thoughts and feelings to be fully experienced without 'getting caught up' in them.
Emotional, Psychological, and Physiological Benefits of Mindfulness

A multitude of benefits have been associated with mindfulness such as enhanced emotional regulation, increased ability to respond instead of react to emotionally-valenced situations, and improved health.

Emotional Benefits

Higher levels of mindfulness have been linked with an increased ability to label and differentiate among emotions without judgment (Creswell, Baldwin, Way, Eisenberger, & Lieberman, 2007; van den Hurk et al., 2011; Hill & Updegraff, 2012), decrease in emotional reactivity (Hill & Updegraff, 2012), and an increase psychological well-being and adjustment (Josefsson, Larsman, Broberg, & Lundh, 2011). With regard to depression, mindfulness practice has also been shown to significantly decrease maladaptive rumination in individuals with a history of major depression (Teasdale et al., 2000; Ma & Teasdale, 2004) while likewise decreasing the chronic retrieval of episodic (Alberts & Thewissen, 2011) and autobiographical memories (Williams, Teasdale, Segal, & Soulsby, 2000) associated with negative emotions.

Mindfulness can boost emotional resiliency and working memory capacity in socially and physically demanding environments. For instance, after recruiting a sample of U.S. Marine Corp Reservists and civilians contracted with the U.S. military, Jha, Stanley, Kiyonaga, Wong, and Gelfand (2010) assigned participants to one of three groups: the military control group (MC), the civilian control group (CC), and the military training group (MT). Members of the MT group underwent 24-hrs of formal instruction in mindfulness over an 8-week period and were asked to log the number of hours spent meditating outside of mindfulness training sessions. Conversely,
participants in the MC and CC groups were not provided with any training or interventions.

In order to assess the efficacy of mindfulness training, the investigators compared the working memory capacity (WMC) of participants before and after predeployment – a period of intense, specialized combat training preceding military deployment. The results show that (a) the WMC of the CC group remained unchanged, (b) the WMC of the MC group decreased, (c) the WMC of participants in the MT group with low practice hours decreased, and (d) the WMC of participants in the MT group with high practice hours increased. Furthermore, the number of hours spent practicing mindfulness was negatively correlated with reports of negative emotions. The authors concluded that by increasing the working memory capacity of individuals, mindfulness training may be effective in protecting people from the impact of negative affect while simultaneously helping them maintain a healthy emotional state.

**Psychological Benefits**

Higher levels of mindfulness have also been linked with reduced frequencies of and internal reactions to repetitive thoughts (Feldman, Greeson, & Senville, 2010) and distressing emotions (Josefsson, Larsman, Broberg, & Lundh, 2011), an increased ability to cognitively reappraise situations in order to reduce catastrophization (Garland, Gaylord, & Fredrickson, 2011), and a decreased experience of analgesic pain via the skills of observation and non-reactance (Grant & Rainville, 2009). Neuropsychological researchers of mindfulness have likewise correlated greater degrees of mindfulness with decreased resting activity in both the amygdala and areas that process information with reference to the self (Way, Creswell, Eisenberger, & Lieberman, 2010), increased cortical activity in the prefrontal cortex (Creswell, Baldwin, Way, Eisenberger, & Lieberman, 2007; Chiesa, Brambilla, & Setterri, 2010), and
increased activity in the anterior cingulate cortex and neural areas related to attention (Chiesa, Brambilla, & Setterri, 2010).

**Physiological Benefits**

And last, with regard to health higher levels of mindfulness have been associated with decreased heart rates and blood pressure (Chiesa, Brambilla, & Setterri, 2010), reduced negative emotions, depressive symptoms, and smoking behaviors in individuals with nicotine dependence (Rogojanski, Vettese, & Antony, 2011), decreased frequency of substance abuse in prison inmates (Bowen et al., 2006), and increased self-efficacy and engagement with health-oriented behaviors, such as a physical activity and the consumption of fruits and vegetables (Gilbert & Waltz, 2010).

**Self-Consciousness**

Self-consciousness is the consistent tendency of a person to direct his or her attention either toward thoughts, feelings, and sensations that reference the intrapersonal aspects of the self, “I'm aware of the way my mind works when I work through a problem,” or the interpersonal aspects of the self, “I usually worry about making a good impression.” It is a construct for assessing motivational differences between individuals (Fenigstein, Scheier, & Bus, 1975; Fenigstein, 2009). Originally conceived as a unitary construct, factor analysis has instead shown that self-consciousness is comprised of two orthogonal dimensions, namely private self-consciousness and public self-consciousness (Fenigstein et al., 1975), the operations of which correspond to differential constellations of behavior and information processing.
Private Self-Consciousness

Private self-consciousness is characterized by a chronic attention on thoughts, feelings, and cognitions that are oriented towards the self. In addition, the authors theorize that individuals who are oriented towards private self-consciousness are motivated by an intrinsic need to understand themselves (Fenigstein et al., 1975) and tend to attribute the cause of their behavior to internal factors over external conditions (Fenigstein, 2009). Other researchers have found that such individuals exhibit a greater congruence between implicit and explicit social attitudes than peers with a considerably lower degree of private self-consciousness (Gschwendner, Hofmann, & Schmitt, 2006c).

The literature on self-consciousness also suggests that individuals who score high (versus low) in the domain of private self-consciousness are more reliable in providing self-reports across an extended period of time (Nasby, 1989b), are less likely to exaggerate positive traits when describing themselves to others with the aim of appearing confident or self-reliant (Lalwani, Shrum, & Chiu, 2009), and may rely on social norms to guide the appropriateness of self-disclosures when meeting a person for the first time (Shaffer & Tomareli, 1989). It is also interesting to note that sorority members who present with an elevated private self-consciousness exhibit a higher probability of abusing alcohol when compared to their peers while, conversely, the likelihood of a fraternity member abusing alcohol decreases as their private self-consciousness increases (Park, Sher, & Krull, 2006).

Public Self-Consciousness

Public self-consciousness is the habitual focus on the self as a social object and corresponding 'outward' aspects of the self that are directly accessible to others. Put differently,
phenomena that present within a social context such as one's physical appearance, spoken and written words, gestures, and actions assume the central focus within this type of self-consciousness. Thus, Fenigstein (2009) theorized that individuals with a dispositional public self-consciousness monitor the reactions of others to themselves, are keenly aware of the impressions that they convey to others, and are invested in gaining and maintaining interpersonal relationships.

The literature on self-consciousness suggests that individuals who are oriented towards a high (versus low) public self-consciousness tend to be sensitive to rejection by peers and are less likely to affiliate with said group following social rejection (Fenigstein et al., 1975), may describe their actions in an inflated, positive light in order to minimize or avoid negative judgments by others (Lalwani et al., 2009), and reciprocate self-disclosures when meeting a person for the first time with the aim of fostering a positive social image (Shaffer & Tomareli, 1989). Furthermore, research has demonstrated that public self-consciousness is positively correlated with a self-referential cognitive bias in which individuals assume that the perspective of others mirror their own (Fenigstein & Abrams, 1993) and/or tend to perceive themselves as a central influence on the behaviors of others in social situations (Fenigstein, 1984).

**Mechanisms of Self-Consciousness**

Several theories accounting for the individual differences in cognition and behavior between private and public self-consciousness have been proposed. In the section below I briefly review two theories, namely self-consciousness as (a) self-focused attention and as (b) an epistemic point of self-reference.
Schemas and Self-Focused Attention

Schemas are cognitive frameworks that encode, represent, and retrieve information with reference to superordinate categories of classification. When an individual directs attention toward stimuli, schemas associated with the stimulus become primed which then, in turn, facilitate the assimilation of information (e.g., sensations, thoughts, emotions, memories, etc.) with similar information derived from the past. Furthermore, once a schema activates, relevant information is recognized faster while discrepant information is processed at a slower rate or even ignored within an individual's conscious experience. For example, reading in one's native language requires considerably less effort than reading in a language that one has recently begun to acquire.

In the case of self-consciousness, when individuals direct attention toward themselves a network of schematic associations become activated which facilitate the encoding and retrieval of germane information (Carver, 1979). Once semantically primed, individuals arrive at decisions for specific behaviors by comparing the incoming information with internal models of action. Carver (1979) suggests that the varying models of actions and their associated content may account for the differential behaviors associated with private and public self-consciousness. As such, individuals with high self-consciousness are characterized by a high focus of attention on themselves while individuals with low self-consciousness focus a low degree of attention on themselves (Carver & Scheier, 1978). Researchers have likewise suggested that individuals with high private self-consciousness can be distinguished from individuals with high public self-consciousness by the aspects of themselves that they have articulated and represented schematically (Nasby, 1989a).

Support for the hypothesis of self-focused attention has been generated by researchers
examining the relationship between information processing and self-consciousness (Nasby, 1989b; Sneed & Whitbourne, 2003; Teasdale & Green, 2004; Silvia, Eichstaedt, & Phillips, 2005; Gendolla, Abele, Andrei, Spurk, & Richter, 2005). For instance, Nasby (1989a) utilized a recognition task to determine whether self-schemas would interfere with the ability to accurately recollect information. The investigators presented two lists to participants: List A contained adjectives relating to personal traits while List B contained a mixture of words that were identical to and different from those found in the first list. After participants read List A the investigators asked participants to survey List B and identify whether words were 'new' or 'old.' The results indicate that individuals high (versus low) in private or public self-consciousness engage in significantly more false alarms by mistakenly identifying new words as old. Moreover, the traits associated with the false alarms corresponded with the type of self-consciousness of the participant. Therefore, the investigators concluded that private and public self-consciousness correspond with schemas that articulate and represent different aspects of the self.

**Self-Consciousness as Self-Reference**

In opposition to the hypothesis of self-focused attention researchers have theorized that self-consciousness is an epistemic point of reference by which information is encoded with relevance to the self (Hull & Levy, 1979; Hull, Slone, Meteyer, & Matthews, 2002). Put differently, self-consciousness is nothing less than the total organization and encoding of information that is referenced to the self. Thus, the information that is selected, encoded, and retrieved is not only obtained from explicit contexts, such as thoughts, feelings, sensations, and interpersonal situations, but may likewise be derived from implicit environmental cues whose
recognition operate below the threshold of consciousness (Fejfar & Hoyle, 2000; Hull et al., 2002; Wheeler, Morrison, DeMarree, & Petty, 2007).

For example, in a series of experiments Hull et al. (2002) investigated whether subliminal visual cues could influence the performance of individuals high in private self-consciousness. In the first and second study, participants completed a scrambled sentence task containing words associated with old age such as “Florida”, “bingo”, “retired”, “wrinkle”, and so on. Participants who scored high in private self-consciousness walked significantly slower than their peers following the task.

In the third experiment participants were randomly assigned to either a 'success' or 'failure' group and asked to complete 100 trials of a lexical decision task in which strings of letters were judged as being either words or non-words. In addition, the word “success” was flashed to success group while “failure” was flashed to the failure group 17ms before every trial. The results indicate that participants high in private self-consciousness in the success group completed the task the fastest while those in the failure group were the slowest. The speed of participants with low private self-consciousness, regardless of the direction in which they were primed, was in the middle. In a final set of experiments participants completed a lexical decision task similar to the one described above but instead utilizing the priming words of “angry” and “relax.” Furthermore, the heart rates of participants were then measured after completing the task. The results indicate that participants high in private self-consciousness in the angry group exhibited the fastest heart rate while those in the relax group presented with the lowest. In contrast, the heart rates of participants with low private self-consciousness, regardless of the direction in which they were primed, were in the middle. The authors concluded that self-consciousness does not require conscious processes, such as attention, to activate associated
schemata. Moreover, because the schemata that were elicited appeared to be incongruent with the appearance of participants, such as being of a relatively young age yet walking slower because an 'elder' schema was activated, it was also concluded that self-consciousness is not self-representation as much as it is self-relevance (Hull et al., 2002).

**Self-Absorption**

In a seminal meta-analysis, Ingram (1990) found a significant positive relationship between self-focused attention, private self-consciousness, and the likelihood of individuals being diagnosed with a wide spectrum of disorders, namely depression, social and generalized anxiety, schizophrenia or alcohol abuse along with the probability of presenting with test anxiety, intensified negative affect, vulnerability to environmental stressors, and psychopathy. To account for this finding Ingram (1990) developed a theory of attention and information processing which is as follows.

Attention is constituted by three parameters: direction, duration, and flexibility. The first parameter, *direction*, is characterized by whether attention is focused internally towards thoughts, emotions, or bodily sensations or outwardly towards the environment. In this case an adaptive awareness consists of a fluid, alternating balance between the internal and external domains. The second parameter, *duration*, corresponds with the length of time that attention is sustained in an internal or external direction. And third, the authors hypothesized that humans have a limited reserve of cognitive resources that we can allocate to tasks but can overcome this restriction in our ability to switch attention between stimuli. Thus, *flexibility* refers to the degree to which an individual can switch the direction of his or her attention in response to a stimulus or psychological intention.
Self-absorption, then, refers to a maladaptive self-focus in which attention is excessive in direction, sustained in duration, and inflexible in its alternation between internal and external foci. Hence, Ingram (1990) theorized that self-absorption may lead to maladjustment in individuals predisposed to psychopathology because semantic and behavioral schemas associated with dysfunctional content are elicited when attention is excessively focused on the self. Once elicited, the dysfunctional schemas of individuals remain primed for an extended period of time thereby facilitating the articulation of these maladaptive schemas through the automatic selection of relevant information. And last, because individuals are unable to switch their attention from their sense of self and associated schemas the process of self-absorption becomes locked into a self-sustained feedback loop.

**Purpose and Hypotheses of Study**

In this study I investigated whether or not a significant relationship exists between mindfulness and self-absorption. With regard to mindfulness I utilized the operational definition associated with the mindfulness awareness attention scale (MAAS; Brown & Ryan, 2003), namely that mindful awareness (a) is open and receptive to experience, (b) is undivided while attending to internal and external stimuli, and (c) emphasizes the quality of consciousness over the content of thoughts, feelings, and sensations. Self-absorption, on the other hand, refers to a maladaptive self-focus that is excessive, sustained, and inflexible in its operation. Moreover, it should be noted that the self-absorption scale (SAS; McKenzie & Hoyle, 2008), a measure that I used in this study, separates self-absorption into a private and public domain analogous to the constructs of private and public self-consciousness.

Previous researchers have not provided direct evidence for or against the link between
mindfulness and self-absorption. However, theoretically speaking it appears that the constructs of mindfulness and self-absorption can be bridged through their mutual emphasis on (a) the role of attention in the processing of information and (b) the role, or lack thereof, of the self as a point of reference for incoming information. Furthermore, in considering the literature of private self-consciousness the constructs of internal state awareness (ISA) and self-reflectiveness (SR) seem to parallel the constructs of mindfulness and self-absorption, respectively.

ISA refers to an individual's non-conceptual awareness of internal phenomena (e.g., thoughts, emotions, and physical sensations) while conversely SR refers to an individual's motivation to understand his or her self through conceptual elaboration. Research has demonstrated positive associations of ISA with an adaptive attention on the self and SR with a maladaptive attention on the self (Burnkrant & Page, 1984; Watson, Morris, Ramsey, Hickman, & Waddell, 1996). For instance, Watson et al. (1996) found ISA to be negatively, and SR positively, correlated with shame, guilt, social anxiety, private and public self-consciousness, and a preoccupation with the thoughts of others regarding oneself. Furthermore, in developing the MAAS Brown and Ryan (2003) found mindfulness to be positively correlated with ISA and negatively with SR. In contrast, in developing the SAS McKenzie and Hoyle (2008) found private and public self-absorption to be positively correlated with SR and negatively with ISA. As a final consideration, research indicates that individuals with a high ISA are resistant to behavioral priming effects while individuals with a high SR are more likely to enact particular behaviors when relevant schemas are environmentally primed (Wheeler et al., 2008).

With these considerations in mind I proposed two hypotheses for the present study. First, mindfulness will negatively correlate with both public and private self-absorption. And second, as the number of years that individuals have been practicing mindfulness increases, mindfulness
will also increase while private and public self-absorption will decrease. Should I obtain a significant statistical relationship between mindfulness and self-absorption then the results may create a nomological link between the literatures of mindfulness and self-absorption.

**Method**

**Participants**

Participants were 277 individuals who anonymously responded to an online invitation to participate in the study. Additional details are provided in the Procedures section below.

**Measures**

**The Mindfulness Awareness Attention Scale**

The Mindfulness Awareness Attention Scale (MAAS; Brown & Ryan, 2003) is a 15-item questionnaire that measures mindfulness associated with everyday life. Responses are scored on a 6-point Likert scale ranging from “almost always” to “almost never.” Items tap into mindlessness, for instance “It seems I'm “running on automatic” without much awareness of what I'm doing,” and therefore, higher scores on the MAAS reflect a greater degree of mindfulness. The MAAS has good psychometric properties with an alpha coefficient of .81 and excellent test-retest reliability ranging between .80 and .87 with a month delay between administrations. The MAAS also has adequate discriminant and convergent validity and correlates positively with measures of positive mood and other mindfulness measures and negatively with measures of anxiety, neuroticism, and negative affect (Appendix B).
The Self-Absorption Scale

The Self-Absorption Scale (SAS; McKenzie & Hoyle, 2008) is a 17-item questionnaire that measures the degree to which individuals are self-absorbed in the domains of public and private self-consciousness. Responses are scored on a 5-point Likert scale ranging from “not at all like me” to “very much like me.” Higher scores on the SAS indicate higher degrees of self-absorption. For example, sample items include “Sometimes I am so deep in thought about my life I am not aware of my surroundings” and “It upsets me when people I meet don’t like me.”

The SAS has good psychometric properties with an alpha coefficient of .81 and .89 for private and public self-absorption, respectively, and test-retest of .60 for private and .73 for public self-absorption with a 7 week delay between administrations. Internal consistency estimates were equivalent for men and women.

A full set of loadings for confirmatory factor analysis were found to be significant ($p < .001$) with an average loading of .58 for items measuring private self-absorption and .66 for items measuring public self-absorption. The inter-factor correlation was .67. The SAS has good discriminant and convergent validity with private self-absorption correlating positively with measures of rumination and depressive symptoms and negatively with measures of self-esteem and self-efficacy and public self-absorption correlating positively with measures of social anxiety and negatively with measures of extraversion and social desirability (McKenzie & Hoyle, 2008).

It should likewise be noted that McKenzie and Hoyle (2008) found that women ($M = 1.74$) on average presented with significantly higher scores than men ($M = 1.66$) on private self-absorption. However, the difference between men and women was small (effect size $r = .07$). No significant difference between men and women was found in the domain of public self-absorption (Appendix C).
Procedures

A web-based internet survey, hosted on surveygizmo.com, was used to collect the data. Approval from Pacific University's Institutional Review Board approved the research prior to data collection. No IP addresses or identifying information associated with participants were collected. An invitation for participation was electronically sent to the Laughing Buddha Sangha, the University Buddhist Association of UCLA, the mindfulness-based stress reduction program associated with Yoga Hillsboro, and various online locations (e.g., Facebook, Reddit, etc.) (Appendix D). Participants read and agreed to an informed consent before completing the demographics (Appendix A) and aforementioned measures. Individuals had to be 18 years of age or older to participate. Experience with mindfulness was not a requisite for participation.

Results

Characteristics of the Sample

Of the 277 who responded to my invitation for participation, 226 completed the full battery of measures. In addition, the data associated with 2 participants were identified as outliers and were consequently omitted from the final analysis (refer to the Preliminary Analysis section for additional details). Thus, the data used in this study was comprised by a sample of 224 participants. Of this sample, 82 (36.6%) self-identified as male, 141 (63%) as female, and 1 (0.4%) as other. The age of participants ranged from 18 to 69 years, with a mean age of 41.4 years (SD = 12.3 years). The distribution of self-reported racial identity was 84.4% Caucasian, 4% Asian, 1.3% American Indian/Alaskan Native, 0.5% as Hawaiian Native/Pacific Islander, and 12.1% as other. In addition, 4.9% of the sample self-identified as Hispanic/Latino. Level of education completed was 0.5% some high school, 4% high school diploma, 21.9% some college
or technical school, 8.9% 2-year degree, 19.2% 4-year degree, 10.7% some graduate school, 28.1% master's degree, and 6.7% doctoral degree. The participants had the following self-reported length of mindfulness practice: 6.6% had never meditated or practiced mindfulness, 27% had been practicing for less than one year, 20.4% had one to two years of experience, 12% had two to four years of experience, 11.5% had four to six years’ experience, and 22.6% had seven or more years of experience in mindfulness.

**Preliminary Analysis**

Prior to analyzing the data, I examined each variable’s compliance with assumptions of parametric statistical analysis. Each measure was inspected with reference to mean, standard deviation, distribution of scores, skewness, and kurtosis. Upon inspection of the skewness and kurtosis of private self-absorption both variables were found to exceed the absolute value of 1. The data of two participants, in relation to private self-absorption, were found to exceed the z-score of 3.29 and were therefore removed from the total data set.

Mindfulness scores, $D(224) = 0.05$, $p = .20$, were normal. Private self-absorption, $D(224) = 0.12$, $p < .05$, and public self-absorption, $D(224) = 0.11$, $p < .05$, scores were both significantly non-normal. Given the large sample size employed in this study violations of normality are to be expected and should therefore not adversely impact the results. Table 1 provides an overview of the descriptive statistics for the MAAS and the SAS as divided into the domains of private and public self-absorption.
Table 1
Descriptive Statistics for the MAAS and the Private and Public subscales of the Self-Absorption Scale

<table>
<thead>
<tr>
<th>Measures</th>
<th>M</th>
<th>SD</th>
<th>Skewness (SE)</th>
<th>Kurtosis (SE)</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAAS</td>
<td>61.32</td>
<td>12.36</td>
<td>-.38 (.16)</td>
<td>.21 (.32)</td>
<td>59.69</td>
<td>62.95</td>
</tr>
<tr>
<td>Private Self-Absorption</td>
<td>16.09</td>
<td>4.40</td>
<td>.61 (.16)</td>
<td>-.01 (16)</td>
<td>15.51</td>
<td>16.67</td>
</tr>
<tr>
<td>Public Self-Absorption</td>
<td>19.84</td>
<td>7.88</td>
<td>.58 (.16)</td>
<td>-.53 (.32)</td>
<td>18.81</td>
<td>20.88</td>
</tr>
</tbody>
</table>

Note. MAAS = Mindfulness Awareness Attention Scale

Main Analysis

A Pearson product-moment correlation coefficient was computed to assess the relationship between mindfulness, on the one hand, and private and public self-absorption on the other. In line with the first hypothesis moderate, negative correlations were obtained between mindfulness and private self-absorption, $r = -.33$, $p < .01$, and public self-absorption, $r = -.39$, $p < .01$. Thus, higher levels of mindfulness corresponded with lower levels of both private and public self-absorption.

I also assessed the relationship between mindfulness scores, self-absorption scores, and the number of years that participants had been practicing mindfulness. Based on participants' self-reports of the number of years that they had been practicing mindfulness I assigned participants to one of five groups: (a) no experience with mindfulness practice, (b) 2 years or less of mindfulness practice, (c) 2 to 4 years of mindfulness practice, (d) 4 to 6 years of mindfulness practice, or (e) 7 or more years of mindfulness practice. Correlations between MAAS scores and SAS scores were then generated for each group; private and public self-absorption scores, on this note, were combined into a composite score in order for independent sample correlations to be
obtained for each group. And last, I tested the correlations to determine whether a significant difference existed between the groups. No significant differences were found thereby providing support against my second hypothesis. The frequencies, Pearson correlations, and values of significance for each independent group are presented in Table 2. The z-scores and values of significance for the differences between each group are presented in Table 3.

Table 2

<table>
<thead>
<tr>
<th>Number of Years Practicing Mindfulness</th>
<th>$n$</th>
<th>$r$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Experience</td>
<td>15</td>
<td>-.30</td>
<td>.28</td>
</tr>
<tr>
<td>2 years or less</td>
<td>107</td>
<td>-.39</td>
<td>.00*</td>
</tr>
<tr>
<td>2 to 4 years</td>
<td>26</td>
<td>-.08</td>
<td>.71</td>
</tr>
<tr>
<td>4 to 6 years</td>
<td>26</td>
<td>-.52</td>
<td>.01*</td>
</tr>
<tr>
<td>7 or more years</td>
<td>50</td>
<td>-.42</td>
<td>.00*</td>
</tr>
</tbody>
</table>

*Note. *$p < .01$ (2-tailed), $n =$ Number of participants in each group, $r =$ Pearson correlation coefficient.
Table 3
Z-scores for the Correlations Between Groups (with Values of Statistical Significance in Parentheses)

<table>
<thead>
<tr>
<th>Years Practicing Mindfulness</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No Experience</td>
<td>---</td>
<td>.324 (.75)</td>
<td>-.649 (.52)</td>
<td>.760 (.45)</td>
<td>.434 (.66)</td>
</tr>
<tr>
<td>2. 2 Years or Less</td>
<td>---</td>
<td>-1.432 (.15)</td>
<td>.746 (.46)</td>
<td>.238 (.81)</td>
<td></td>
</tr>
<tr>
<td>3. 2 to 4 Years</td>
<td>---</td>
<td>1.702 (.09)</td>
<td>1.461 (.14)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. 4 to 6 Years</td>
<td>---</td>
<td>-.512 (.61)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. 7 or More Years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Discussion

The purpose of this thesis was two-fold: (a) to determine whether a relationship exists between mindfulness and self-absorption and (b) to determine the number of years that individuals have been practicing mindfulness influences the relationship between mindfulness and self-absorption. Commensurate with the aims of this study I formulated two hypotheses: First, that mindfulness would be negatively correlated with both public and private self-absorption. And second, that the negative correlation between mindfulness and self-absorption would become stronger as the number of years that individuals had been practicing mindfulness increased.

With regard to the first hypothesis, a significant negative relationship between mindfulness and private and public self-absorption was obtained. This finding suggests that higher levels of mindfulness correspond with an increased ability for individuals to voluntarily switch their attention between internal thoughts, feelings, and bodily sensations increases as well.
Conversely, lower levels of mindfulness correspond with a lower degree of cognitive flexibility. With consideration to Ingram's (1990) theory of self-absorption this finding suggests that given their strong attentional flexibility, individuals who are high in mindfulness are more resistant to certain psychological disorders, namely depression, social and generalized anxiety, schizophrenia, and alcohol abuse, than their peers with a lower level of mindfulness. Indeed, research on mindfulness has demonstrated a positive relationship between mindfulness and psychological robustness (Goldin & Gross, 2010; Jha et al., 2010; Greco, Baer, & Smith, 2011). Thus, the hypothesis that increases in mindfulness may lead to increases in cognitive flexibility and decreases in psychological vulnerability may be directly assessed by pre-post testing individuals undergoing a mindfulness intervention.

In addition, the confirmation of the first hypothesis likewise suggests that people with high (versus low) levels of mindfulness are less likely to employ their self as a schematic point of reference when processing information. This notion is congruous with previous findings that greater degrees of mindfulness correspond with decreases in the encoding and retrieval of autobiographical memories (Williams et al., 2000) and resting activity in neurological areas that process information with reference to the self (Way et al., 2010). Moreover, in considering the literature of self-consciousness and linking the relationship of mindfulness to the aforementioned field, it is plausible that individuals with higher levels of mindfulness may present with lower levels of private and public self-consciousness and consequently exhibit a greater ability for assuming another person's perspective, be less socially motivated by impression management or social desirability, and be more resilient to implicit environmental primes that are associated with self-schemas.

With regard to the second hypothesis, the lack of a significant difference between the
groups was surprising. To elaborate, research has demonstrated a positive relationship between mindfulness and the amount of time that individuals invest into practicing mindfulness (Jha et al., 2010; Josefsson et al., 2011). In addition, given the evidence supporting the first hypothesis it still appears logical that as mindfulness increased with the years that individuals spent practicing mindfulness, the levels of self-absorption would decrease in a commensurate manner. However, several methodological limitations, which will be discussed below, may have contributed to this result. Therefore, while the time spent practicing mindfulness may truly bear no relation to the relationship between mindfulness and self-absorption this interpretation should be accepted with caution.

The first limitation of this study is that self-absorption is a construct that corresponds with abnormalities of attentional focus and psychopathological disorders. Thus, given that the sample was not drawn from a clinical population the range of scores on private and public self-absorption may not represent the full possible range of self-absorption. A second limitation is that although participants were asked for the number of years that they had been practicing mindfulness, I failed to inquire into (a) the average time of formal mindfulness practice spent per day and (b) whether the number of years reported were contiguous, on the one hand, or separated by gaps of non-practice on the other.

In conclusion, this is the first study to explore the relationship between mindfulness and self-absorption and provide a nomological network that can bridge these two distinct constructs. Future research can investigate the efficacy of mindfulness to reduce psychological disorders associated with self-absorption. Furthermore, the theoretical link between mindfulness and self-absorption, and self-consciousness by extension, provides evidence for the role that the self as an epistemic point of reference may play in the effectiveness of mindfulness and the susceptibility
of individuals to certain psychological disorders.
References


Appendix A

Demographics Questionnaire

What is your age? ____

What is your gender?
- Female
- Male
- __________

What is your racial identity? (Check all that apply)
- American Indian / Alaska Native
- Asian
- Black or African American
- Hawaiian Native / Pacific Islander
- Caucasian
- Other

What is your ethnicity?
- Hispanic or Latino
- Not Hispanic or Latino

What country do you live in? (Drop box of all countries)

What state do you live in? (Drop box list of all US states)

What is your level of education?
- Some high school
- Completed high school
- Some college or technical school?
- 2 year degree
- 4 year degree
- Some graduate school
- Masters degree
- Doctoral degree

I am currently:
- Employed
- Unemployed and not a student
- An undergraduate student
- A graduate student
I am:

- Married or Partnered
- In a relationship
- Single

I have had an ongoing meditation/mindfulness practice for:

- I have never meditated
- Less than one year
- One to two years
- Two to four years
- Four to six years
- Seven years or more
Appendix B

Mindful Attention and Awareness Scale (MAAS)

Below is a collection of statements about your everyday experience. Using the 1–6 scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be.

1 = almost always, 2 = very frequently, 3 = somewhat frequently, 4 = somewhat infrequently, 5 = very infrequently, and 6 = almost never.

_____ 1. I could be experiencing some emotion and not be conscious of it until sometime later.
_____ 2. I break or spill things because of carelessness, not paying attention, or thinking of something else.
_____ 3. I find it difficult to stay focused on what’s happening in the present.
_____ 4. I tend to walk quickly to get where I’m going without paying attention to what I experience along the way.
_____ 5. I tend not to notice feelings of physical tension or discomfort until they really grab my attention.
_____ 6. I forget a person’s name almost as soon as I’ve been told it for the first time.
_____ 7. It seems I am “running on automatic” without much awareness of what I’m doing.
_____ 8. I rush through activities without being really attentive to them.
_____ 9. I get so focused on the goal I want to achieve that I lose touch with what I am doing right now to get there.
_____ 10. I do jobs or tasks automatically, without being aware of what I’m doing.
_____ 11. I find myself listening to someone with one ear, doing something else at the same time.
_____ 12. I drive places on “automatic pilot” and then wonder why I went there.
_____ 13. I find myself preoccupied with the future or the past.
15. I snack without being aware that I’m eating.
Appendix C
Self-Absorption Scale

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

<table>
<thead>
<tr>
<th>Almost never</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Almost always</th>
<th>5</th>
</tr>
</thead>
</table>

1. I find myself wondering what others think of me even when I don’t want to.
2. I have difficulty focusing on what others are talking about because I wonder what they’re thinking of me.
3. I feel like others are constantly evaluating me when I’m with them.
4. I think about myself more than anything else.
5. When I try to think of something other than myself, I cannot.
6. When I have to perform a task, I do not do it as well as I should because my concentration is interrupted with thoughts of myself instead of the task.
7. I wish others weren’t as critical of me as they are.
8. I am very aware of what others think of me, and it bothers me.
9. My mind never focuses on things other than myself for very long.
10. When I start thinking about how others view me, I get all worked up.
11. I cannot stop my head from thinking thoughts about myself.
12. Sometimes I am so deep in thought about my life I am not aware of my surroundings.
13. It upsets me when people I meet don’t like me.
14. I do not spend long amounts of time thinking about myself.
15. When I think about my life, I keep thinking about it so long I cannot turn my attention to tasks that need to be done.

16. When I’m about to meet someone for the first time, I worry about whether they’ll like me.

17. After being around other people, I think about what I should have done differently when I was with them.
Appendix D

Email Invitation

Subject Heading: Request for participation in research study

Hello,

My name is Michael Sasiain. I am a Master’s candidate in the professional psychology department of Pacific University in Hillsboro, Oregon. I would like to invite you to participate in a study I am conducting in which I am investigating the relationship between mindfulness and rigidity in self-consciousness. Mindfulness involves maintaining one’s attention to the present moment in a nonjudgmental manner while rigidity in self-consciousness refers to the extent to which an individual focuses on him or herself within everyday life. The results of this study may help to clarify the relationship between these two dimensions of human experience.

Participation in the study involves filling out three questionnaires (a total of 42 items). You must be 18 years old or older to participate. Your participation should take no longer than 10 minutes.

If you would like to participate in this study, please click the following link to begin:

http://edu.surveygizmo.com/s3/1146592

Thank you for your consideration,

Michael Sasiain
M.S. Candidate
Pacific University
School of Professional Psychology