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Everyday Mindfulness and Mindfulness Meditation: Overlapping Constructs or Not?

by

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Presented in partial fulfillment of the requirements

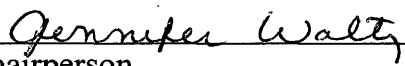
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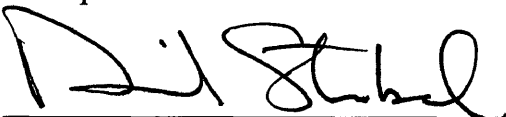
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Everyday Mindfulness and Mindfulness Meditation: Overlapping Constructs or Not?

Chairperson: Jennifer Waltz, Ph.D. 

Mindfulness, loosely defined, involves the directing of attention to the present moment, adopting an attitude of non-judgment towards one's immediate experience. Mindfulness research arose from the study of Buddhist meditation, and much of the current research on mindfulness stems from Kabat-Zinn's (1990) Mindfulness-Based Stress Reduction (MBSR) program and Linehan's (1993) Dialectical Behavior Therapy (DBT). More recently, researchers have begun to develop instruments to measure mindfulness.

This study examined the relationships between measures of everyday mindfulness, mindfulness meditation, self-esteem, self-acceptance, and the five-factor model personality domains. It also looked at the effect of sitting meditation on mood. Participants were 167 university students (119 females and 49 males). Participants completed two everyday mindfulness scales, a measure of mindfulness during meditation, and scales tapping self-esteem and self-acceptance, as well as an abbreviated version of the five-factor model personality domains. No relationship was found between everyday mindfulness and mindfulness during meditation, but everyday mindfulness correlated positively with self-esteem, self-acceptance, agreeableness, and conscientiousness, and correlated negatively with neuroticism. Both positive and negative affect were reduced pre and post-meditation. Implications of the results are discussed.

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Everyday Mindfulness and Mindfulness: Meditation: Overlapping Constructs?

Background

In the early 20th century, following a lecture on Buddhist doctrine, William James said to his class, “This is the psychology everybody will be studying twenty-five years from now” (Fields, 1992, p. 135). However, the study of Buddhism remained a largely academic endeavor in the U.S. until Buddhist teachers began immigrating and instructing Western students in meditative practices in the early 20th to mid 20th century (See Fields, 1992, for a more in-depth history). In addition to a highly developed system of ethics and philosophy, Buddhist scripture contains extensive psychological thought in the *Abhidamma* (Pali) or *Abhidharma* (Sanskrit), which was completed in 250 B.C. (de Silva, 1993). Tibetan teacher Chögyam Trungpa Rinpoche even used western psychological language as a vehicle for translating Buddhist teachings and meditation into something western audiences could understand (Midal, 2001/2004). By 1977, the American Psychiatric Association (1977) made a formal recommendation that meditation be critically examined through controlled experiments in order to explore clinical usefulness and possible adverse effects of practice.

Researchers have distinguished between two types of meditation practices: concentration and mindfulness or insight (e.g., Brown & Ryan, 2004; Easterlin & Cardeña, 1998-1999; Goleman, 1978), although Brown and Ryan and Goleman have pointed out that Buddhist meditation integrates the two. In concentration meditation, practitioners typically meditate upon an object such as the breath or a mantra (a repeated word or phrase, often Sanskrit) to the exclusion of other stimuli. By contrast, in mindfulness meditation, practitioners focus more on expanding their awareness to include

all experience. Within the psychological literature, researchers generally equate concentration meditation with the Buddhist practice of *samatha* (Pali) or *shamatha* (Sanskrit), which may be translated as “calm-abiding” or with the practice of Transcendental Meditation. The term mindfulness meditation is often used to describe the Buddhist practice of *vipassana* (Pali) or *vipashyana* (Sanskrit), which is often translated as “insight” (Germer, 2005).

However, these pairings are not entirely agreed upon, even among Buddhists. Tibetan teachers Trungpa (1995) and Tsoknyi (1998) consider *shamatha* a mindfulness practice. According to Trungpa, “Tibetan texts say that *concentration* is a dangerous word to use in connection with the practice of meditation” (pp. 71-72). Theravadin monk Gunaratana (2002) considers *both* mindfulness and concentration integral in practicing *vipassana*.

From the perspective of anyone who has actually practiced Buddhist meditation, one cannot practice mindfulness until some degree of concentration is cultivated. Whether this is developed through the practice of *samatha* or *shamatha* (calm-abiding), or whether it is built into *vipassana* or *vipashyana* (insight), appears to be a matter of opinion. Goleman (1978) was more accurate in referring to Buddhist meditation as “integrated,” meaning that it contained elements of both concentration and mindfulness meditation. As Western researchers become more sophisticated in their knowledge of meditation, there should be a consistent, agreed upon definition of concentration and mindfulness meditation. Perhaps the Pali or Sanskrit names may be used for greater specificity.

Even a standard definition of “mindfulness,” extracted from the context of formal meditation practice, has not yet been agreed upon by researchers. Kabat-Zinn (1990) has defined mindfulness as “moment-to-moment awareness” (p. 2), and more recently (2003) as “the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmental to the unfolding of experience moment by moment” (p. 145). Martin (1997) defined mindfulness as “a state of *psychological freedom* that occurs when attention remains quiet and limber, *without attachment* to any particular point of view” [italics are theirs] (pp. 291-292). Most recently, Bishop, Lau et al. (2004) divided the concept of mindfulness into two components. The first component “involves the self-regulation of attention so that it is maintained on immediate experience, thereby allowing for increased recognition of mental events in the present moment” and the second component “involves adopting a particular orientation toward one’s experience in the present moment, an orientation that is characterized by curiosity, openness, and acceptance” (p. 232). This definition has had its supporters (Hayes & Feldman, 2004) and critics (Brown & Ryan; 2004; Hayes & Shenk, 2004), but has been acknowledged by both as the most well developed conceptualization so far.

As has been noted elsewhere (e.g., Brown & Ryan, 2003), the conceptualization of mindfulness derived from mindfulness meditation has much in common with Linehan’s (1993) description of mindfulness in Dialectical Behavior Therapy (DBT), but is different than Langer’s use of mindfulness, which focuses on the process of “drawing novel distinctions” in the external environment (Langer & Moldoveanu, 2000, p. 1). Although mindfulness is not restricted to meditation practice—particularly as it is used in DBT—the initial interest in mindfulness arose from meditation research.

Early Meditation Research

Much of the early research on meditation by western psychologists focused on the medical and physiological effects of meditation, as well as on basic psychological effects such as anxiety (see Rao, 1989, for a review of the literature). Results were mixed and the methodology often flawed. In early reviews of the literature, researchers found that there was little clear evidence that the effects of meditation differ physiologically from those of other relaxation techniques (Delmonte, 1984; Shapiro, 1982), but in a recent review of the research, Lazar (2005) found that EEG patterns suggest that meditation is a different state than rest, and that different regions of the brain are affected by different meditative practices (see also Dunn, Hartigan, & Mikulas, 1999). Interestingly, Shapiro found that participants who practiced meditation *perceived* more positive changes than those who practiced relaxation techniques, even if there was no physiological evidence or concomitants of these changes.

It appears that meditation influences how an individual experiences or approaches physiological sensation, even if there is not necessarily any physiological change. This notion has been borne out by Kabat-Zinn's (1990) work with chronic pain patients. Following participation in Kabat-Zinn's mindfulness-based stress reduction program (MBSR), some participants reported that although their pain did not diminish, they found it more manageable.

Recent Adaptations of Mindfulness in the Health Sciences

Mindfulness-Based Stress Reduction

MBSR is a stress reduction program based on the Buddhist notion that suffering is caused when individuals struggle against their pain, and it emphasizes remaining in the

present moment and adopting an attitude of non-judgment to one's experience (Kabat-Zinn, 1990). It is usually presented in 8-10 weekly group sessions with daily homework assignments between meetings. Participants are taught a technique called body-scan, yoga, and formal meditation that they are encouraged to integrate in some form in their everyday lives. With the body-scan, participants lie on their back and, beginning with their toes, gradually shift their attention through different parts of the body. Hatha yoga is taught to encourage participants to become more in touch with their body through slow, deliberate stretching exercises. The practice of formal sitting meditation allows participants to create greater awareness around their thoughts and emotions. Through use of these techniques, which help to cultivate varying degrees of mindfulness, participants are taught to objectively observe thoughts, feelings, and bodily sensations without trying to cling to or push away from their experience.

Early studies found that gains among chronic pain participants (Kabat-Zinn, Lipworth, & Burney, 1985) were maintained at a four-year follow-up (Kabat-Zinn, Lipworth, Burney, & Sellers, 1986). MBSR also demonstrated success in treating anxiety disorders (Kabat-Zinn et al., 1992), maintained after a three-year follow-up (Miller, Fletcher, & Kabat-Zinn, 1995). It has since been adapted for and shown success in reduction of binge-eating in eating disorders (Kristeller & Hallett, 1999), reduction of stress among cancer patients (Carlson, Speca, Patel, & Goodey, 2003; Speca, Carlson, Goodey, & Angen, 2000; Tacón, Caldera, & Ronaghan, 2004), and greater quality of life among those with traumatic brain injuries (Bédard et al., 2005). It has also been shown to increase gains among individuals concomitantly involved in individual outpatient psychotherapy (Kutz et al., 1985; Weiss, Nordlie, & Siegel, 2005). A recent study did not

find it successful with substance abuse patients compared with standard treatment (Alterman, Koppenhaver, Mulholland, Ladden, & Baime, 2004), but, overall, evidence suggests that MBSR may be adapted to benefit a wide variety of people (Baer, 2003; Grossman, Niemann, Schmidt, & Walach, 2004). Despite being a demanding program, the overall completion rate for the 8-week program was 76% when examined over a two-year period (Kabat-Zinn & Chapman-Waldrop, 1988).

Mindfulness-Based Cognitive Therapy for Depression

Encouraged by Kabat-Zinn's work, Segal, Williams, and Teasdale (2002) combined MBSR with cognitive therapy, creating a mindfulness-based cognitive therapy (MBCT) program for the prevention of relapse in previously depressed people who are not currently in a depressive episode when they enter the program. MBCT consists of 8 weekly group sessions that, like MBSR, teach body-scan, yoga, and formal meditation to participants who are required to complete daily homework assignments between sessions. Initial studies have suggested that MBCT is an effective prophylactic against depressive relapse for individuals with three or more previous episodes of depression; for these individuals, relapse rates were cut in half at a one-year follow-up (Teasdale, Segal, Williams, Ridgeway, Soulsby, & Lau, 2000; Ma & Teasdale, 2004). Although it is not derived from Kabat-Zinn's work, Linehan's (1993) Dialectical Behavior Therapy (DBT) emphasizes mindfulness as well.

Dialectical Behavior Therapy

In Dialectical Behavior Therapy (DBT), Linehan (1993) developed a treatment that employs mindfulness practice without traditional sitting meditation, although DBT providers are encouraged to practice meditation. It was developed for individuals who

may be too emotionally dysregulated and chaotic to maintain formal practice. Having taken a year's sabbatical to train in Zen monasteries in California and Germany (Butler, 2001), Linehan incorporated skills in DBT that emphasize remaining attentive to the present moment but which do not necessarily involve formal meditation. For example, DBT participants practice observing their thoughts and emotions, observing a specific aspect of their external world, and other related skills. DBT has been demonstrated to be effective in clients with borderline personality disorder, particularly in reducing parasuicidal behaviors and keeping clients in treatment (Linehan, Cochran, & Kehrer, 2001).

Limitations of Available Research on Mindfulness Meditation

Although the DBT and MBCT studies have exhibited good scientific rigor, many of the MBSR studies have serious methodological limitations (Bishop, 2002). As Bishop notes, the Kabat-Zinn studies have largely been uncontrolled, lacking randomly assigned comparison groups. Moreover, as Segal et al. (2002) concede, it is not entirely clear which components of these programs account for their efficacy. Given that it takes perseverance to maintain a regular meditation practice, one cannot rule out that reported gains are simply the result of greater *motivation* on the part of the participant, or to any non-specific factors associated with the programs.

Although many Buddhist teachers have stressed the importance of maintaining a regular meditation practice, not everyone can (or will) find the time and discipline for that commitment. A recent survey of meditation research noted a high level of participant attrition, which limits results to those willing to maintain the practice (Shapiro & Walsh, 2003), although Baer (2003) found a mean completion rate of 85% across 13 studies. In

MBSR and MBCT participants are required to complete daily hour-long homework assignments that involve body scans, yoga, and meditation. If they cannot make that commitment, they are dissuaded from participating. In a recent study of an 8-week MBSR course, participants exhibited very low averages of weekly meditation practice--about 1.5 hours per week--but experienced a decrease in ruminative thinking compared to a waitlist group. (Ramel, Goldin, Carmona, & McQuaid, 2004). Consequently, it is not clear the degree to which the positive changes associated with MBSR are due to formal meditation practice.

What is Mindfulness in Everyday Life?

Linehan is not the first person to emphasize mindfulness outside of a formal meditation practice. Buddhist teachings have always stressed that mindfulness should neither begin nor end on the meditation cushion but should extend into everyday life. Thich Nhat Hanh (1996, 2002) in particular, emphasizes the practice of mindfulness in day-to-day living and de-emphasizes formal meditation practice. Meditation is the training ground on which individuals learn to be more mindful in their lives. As Buddhist traditions stress, mindfulness expands from the meditation cushion into one's everyday life and activities.

Mindfulness, Self-esteem, and Self-acceptance

Mindfulness may offer an alternative perspective from which individuals can learn to become less judgmental of and more accepting of their experience. Although western researchers have largely lauded the benefits of high self-esteem over low levels of self-esteem (Heatherton & Wyland, 2003), others believe that both high and low self-esteem are problematic (Neff, 2003; Ryan & Brown, 2003). Because mindfulness

emphasizes acceptance over evaluation, it represents an attitude towards the self that is less contingent on value judgment (Ryan & Brown, 2003). Moreover, Buddhist teachings emphasize acceptance of the self as the first step in developing compassion towards others (Trungpa, 1976). The Buddhist concept of *metta* (Pali) or *maitri* (Sanskrit), often translated as loving-kindness, refers to the idea that when individuals can accept who they are, they will naturally extend that acceptance towards others (Trungpa, 1992).

Kabat-Zinn (1990) found loving-kindness practice important enough to include in MBSR. Loving-kindness is introduced during an all-day meditation session, in order to “give people a taste of the power a concentrated and calm mind can generate when evoking feelings of kindness, generosity, goodwill, love, and forgiveness” (p. 182). Kabat-Zinn, further, writes that “healing is a transformation of view rather than a cure” (p. 184).

The attitude of acceptance that mindfulness encourages offers a potentially important paradigm shift in the way that western thought conceptualizes health. Through mindfulness, individuals learn to accept their thoughts, feelings, and situations, rather than struggling against what they cannot change and measuring their worth by other’s standards. As self-acceptance grows, they may be less likely to inflict their own standards on those around them. This appears to represent a different construct than self-esteem, one which individuals may base their self-evaluation on how they appear to compare with others.

Measures of mindfulness

As mindfulness research has snowballed, researchers have acknowledged a need for a valid measurement of mindfulness (Bishop, Lau et al., 2004; Dimidjian & Linehan,

2003). Brown and Ryan's (2003) Mindful Attention Awareness Scale (MAAS) assesses the degree to which individuals consistently engage their daily experience mindfully.

Similar to the MAAS, Feldman's, Hayes', Kumar's, and Greeson's (2003) Cognitive and Affective Mindfulness Scale – Revised (CAMS-R) examines everyday mindfulness but focuses on acceptance, a concept intentionally excluded from the MAAS. Most recently, Bishop, Segal et al. (2004) created the Toronto Mindfulness Scale (TMS), a post-meditation measure of mindfulness.

Hypothesis/ Research Questions

The overarching aim of this study is the examination of the relation between mindfulness during everyday life and mindfulness during formal sitting meditation. The main question addressed in this study is whether everyday mindfulness is related to the ability to be mindful during sitting practice, even in those who have had minimal to no previous experience with sitting practice.

The first hypothesis is that there will be a significant correlation between degree of mindfulness in everyday life and the ability to be mindful during sitting practice. This study will also explore how these aspects of mindfulness relate to attitudes towards the self, specifically self-esteem and self-acceptance. The second hypothesis is that there will be a positive correlation between mindfulness and self-esteem and self-acceptance, but particularly with self-acceptance. These are the primary questions that will be addressed. Exploratory analyses will also be conducted regarding the relationship between mindfulness and personality characteristics, and the impact of sitting mediation on mood.

Method

Participants

A total of 171 Introductory Psychology students participated, all 18 years and older. Participants received experimental credit in their Psychology 100 course for participating. Four participants were excluded from analysis for the following reasons: one participant appeared to rush through her questionnaire, and the experimenter was concerned that she did not answer very carefully; another participant frequently consulted an electronic dictionary, and the experimenter felt that her grasp of English may not have been sufficient to comprehend all of the measures; the last two were excluded because they had already participated.

Consequently, 167 participants were included in the analyses. Of these there were 118 females and 49 males. Ages ranged from 18 – 52, with 19 being the modal age, making up 28.3% of the sample. Due to a clerical error, ages were not recorded for 22 of the 167 participants, but their data were included. There were 22 participants who reported previous experience with sitting meditation and 36 who reported previous experience with yoga. (See Table 1.)

Table 1

Demographic Information for Participants

	Total Sample		Group A*		Group B*	
	<i>N</i> = 167		<i>n</i> = 86		<i>n</i> = 81	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Female	118	70.7%	62	72.1%	56	69.1%
Meditation Experience	22	13.3	13	15.1%	9	11.1%
Yoga Experience	36	21.7	20	23.3%	16	19.8%

* Group A completed the majority of the measures before meditation, and Group B completed measures after the meditation. (Order of the instruments was varied for counterbalancing purposes. See below)

Materials

Mindful Attention Awareness Scale (MAAS; Ryan & Brown, 2003). The 15-item MAAS (see Appendix A) measures daily mindfulness; items are rated on a 6-point Likert scale from 1 (almost always) to 6 (almost never). The total mean rating is computed. Higher scores reflect greater mindfulness. The authors consciously excluded items that reflect attitudinal components (e.g., acceptance), possible benefits of mindfulness (e.g., well being and calmness), and refined levels of consciousness. Internal consistency with a student population is good ($\alpha = .82$). The MAAS has exhibited acceptable convergent and discriminant validity with other measures.

Cognitive and Affective Mindfulness Scale – Revised (CAMS-R; Feldman et al., 2003). The 12-item scale CAMS-R (see Appendix B) measures everyday mindfulness and focuses on the degree to which examinees experience their thoughts and feelings. Items are rated on a 4-point Likert scale from 1 (rarely/not at all) to 4 (almost always). Scores on the scale are summed. Higher scores reflect greater mindfulness. Internal consistency across the 12 items is acceptable for two student samples ($\alpha = .74 - .80$). The CAMS-R has exhibited acceptable convergent and discriminant validity with other measures.

The Toronto Mindfulness Scale (TMS; Bishop, Segal et al, 2004.). The 10-item TMS (see Appendix C) measures the extent to which participants report having been mindful during a period of sitting meditation. Immediately following meditation, examinees are asked to rate items in relation to how they were feeling during the period of meditation. Items are rated on a 5-point Likert scale from 0 (not at all) to 4 (very much). Scores on the scale are summed. Internal consistency for participants with and without previous meditation experience is acceptable ($\alpha = .76$). Unlike the MAAS and CAMS-R, the TMS assesses

mindfulness at one point in time—during meditation—and does not account for a participant's average engagement of mindfulness across situations. The TMS has exhibited acceptable convergent and discriminant validity with other measures.

Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965). The 10-items making up the RSE (see Appendix D) are rated on a 4-point Guttman scale from 3 (strongly agree) to 0 (strongly disagree). Scores on the scale are summed. It has high internal consistency ($\alpha = .92$) and is the most widely used assessment of self-esteem in research, although there has been concern that it loads on two different factors of self-esteem, positive and negative (Heatherton & Wyland, 2003). The RSE has been found to be positively correlated with the MAAS (Brown & Ryan, 2003).

Unconditional Self-Acceptance Questionnaire (USAQ; Chamberlain & Haaga, 2001a). Based on the notion derived from rational-emotive behavior therapy that the construct of self-esteem reflects attitudes that are unhealthy, the 20-item USAQ (see Appendix E) measures the extent to which individuals accepts themselves in a way that is not contingent upon self-evaluation. Items are rated on a 7-point Likert scale from 1 (almost always untrue) to 7 (almost always true). Scores on the scale are summed. Internal consistency is acceptable ($\alpha = .72$). The USAQ has been shown to correlate with the RSE, $r(103) = .56, p < .001$, suggesting some overlap in constructs; however, although high self-esteem correlates with narcissism, high self-acceptance does not (Chamberlain & Haaga, 2001a). Convergent and discriminant validity appear to be acceptable. A revised version with different wording of three questions was used in this study (Chamberlain & Haaga, 2001b).

International Personality Item Pool (IPIP; 2001). The IPIP is public domain set of personality items that offers scales that measure constructs similar to other personality inventories using the five-factor model. The five-factor model is a collection of five domains—neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness—that describe personality functioning on a spectrum from normal to abnormal. The five-factor model was operationalized in the Revised NEO-Personality Inventory (NEO-PI) (Costa & McCrae, 1995). The IPIP offers free scales that correlate with the NEO-PI. A series of self-descriptive statements are rated on a scale from 1 (very inaccurate) to 5 (very accurate). Scores on the scale are summed. The 50-item questionnaire (see Appendix F) has acceptable internal consistency for each of the NEO domains: neuroticism ($\alpha = .86$), extraversion ($\alpha = .86$), openness to experience ($\alpha = .82$), agreeableness ($\alpha = .77$), and conscientiousness ($\alpha = .81$).

Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). The PANAS is a 20-item scale (see Appendix G) that measures positive affect (PA) and negative affect (NA). PA refers to “the extent to which a person feels enthusiastic, active, and alert” and NA refers to “subjective distress and unpleasurable engagement that subsumes a variety of aversive mood states, including anger, contempt, disgust, guilt, fear, and nervousness” (p. 1063). Items such as *excited*, *hostile*, and *attentive* are self-rated on a 5-point Likert scale from 1 (very slightly or not at all) to 5 (extremely). Scores on the scale for PA and NA are summed. Internal reliability alphas range from .86 to .90 for PA and from .84 to .87 for NA, and it appears to be a valid measure of mood. The PANAS is also sensitive enough to capture shifts in mood. The MAAS has been positively correlated with PA and negatively correlated with NA (Brown & Ryan, 2003).

Procedure

Participants were run in groups of up to 15 at a time. They completed the measures and engaged in a 15-minute meditation, introduced simply as a “15-minute exercise”—the word *meditation* was not used during the study. For the meditation, participants were asked to shift their chairs to face a blank wall behind them. Meditation instructions were as follows:

I will be asking you to pay attention to the flow of your breath for the next fifteen minutes. Please sit up in your chair: your feet planted comfortably on the floor, your back straight and resting comfortably. Try to tilt your head slightly forward and relax your jaw. Now try to direct your eyes towards the floor a few feet in front of you at a place that your gaze can rest comfortably. You may rest your hands on your thighs comfortably, allowing your shoulders to feel relaxed. When I say, ‘Begin,’ I want you to pay attention to the feel of your breath flowing in and out of your body. Try to breathe naturally. If you become distracted by your thoughts or something else in the room, simply notice your distraction and direct your attention back towards your breath. Many people have difficulty remaining focused on their breath--that is perfectly natural, simply redirect your attention back to your breath each time you are distracted. Try to continue to pay attention to your breath for the next fifteen minutes until I say, ‘Stop.’ Do you have any questions? Begin.

After 15 minutes, participants were asked to turn their chairs back around and complete the remaining measures. The order of administration of the measures was counter-balanced to account for any influence the period of meditation might have on ratings for

the MAAS and the CAMS-R. Group A ($n = 86$) completed all measures except the TMS and post-meditation PANAS before the 15-minute meditation. Group B ($n = 81$) completed the pre-meditation PANAS, meditated for 15-minutes, and then completed the remaining measures. Directly following the study, participants completed a check asking them the degree to which they engaged in the meditation (see Appendix H). At the end of the study, all participants completed a demographics questionnaire that included questions about any previous mindfulness experience (see Appendix I). (See Table 2.)

Table 2

Administration Order of the Measures for Groups A and B¹

Group A	Group B
PANAS	MAAS
(meditation)	CAMS-R
check	RSE
PANAS	USAQ
TMS	IPIP
MAAS	PANAS
CAMS-R	(meditation)
RSE	check
USAQ	PANAS
IPIP	TMS
demographics	demographics

Results

Internal Consistency of Measures

In order to establish the reliability of the measures, a reliability analysis was conducted on all participants' completed responses. In all measures, Cronbach's alpha was above .70: MAAS ($\alpha = .84$), CAMS-R ($\alpha = .79$), TMS ($\alpha = .77$), PANAS (pre-

¹ (MAAS = Mindfulness Attention Awareness Scale; CAMS-R = Cognitive and Affective Awareness Scale – Revised; TMS = Toronto Mindfulness Scale; RSE = Rosenberg Self-Esteem Scale; USAQ = Unconditional Self-Acceptance Questionnaire; IPIP = International Personality Item Pool; PANAS = Positive and Negative Affect Scale)

meditation PA, $\alpha = .87$; post-meditation PA, $\alpha = .90$; pre-meditation NA, $\alpha = .85$; post-meditation NA, $\alpha = .83$), RSE ($\alpha = .87$), USAQ ($\alpha = .79$), neuroticism ($\alpha = .87$), extraversion ($\alpha = .83$), openness to experience ($\alpha = .79$), agreeableness ($\alpha = .73$), and conscientiousness ($\alpha = .80$).

Order Effect

An independent samples *t*-test was conducted on the differences in scores between participants who completed the measures before the meditation (Group A), and those who completed the measures after the meditation (Group B). The only statistically significant difference was for the MAAS [$t(163) = 2.97, p = .003$]. Group A scored higher in everyday mindfulness than Group B. (See Table 3.)

Table 3

Scores on the Mindfulness Attention Awareness Scale for Group A and Group B

	<i>n</i>	Mean	SD
Group A	86	3.89	.63
Group B	79	3.57	.74

Because of this difference in scores between groups, the investigator computed correlations between the MAAS with the other measures separately for Group A and B. (See Table 4.) The pattern of significant and non-significant correlations was the same for each group. Consequently, subsequent analyses were conducted on both groups together.

Table 4

Pearson Correlation Coefficient Between the MAAS, the CAMS-R, the TMS, the RSE, and the USAQ According to Groups²

Group A	CAMS-R	TMS	RSE	USAQ
MAAS	.65**	-.21	.27*	.25*
Group B				
MAAS	.55**	-.09	.53**	.36**

* significant at $p < 0.05$

** significant at $p < 0.01$

Hypothesis 1

The first hypothesis was that there would be a statistically significant relationship between everyday mindfulness and mindfulness during sitting meditation. Everyday mindfulness was measured using the MAAS and CAMS-R, and mindfulness during sitting meditation was measured using the TMS. Pearson product-moment correlation coefficients were computed between the MAAS, the CAMS-R and the TMS. A significant relationship was found between the MAAS and the CAMS-R [$r = .60, p = .000$], but no statistically significant relationship was found between the TMS and the MAAS [$r = -.14, p = .08$] or between the TMS and the CAMS-R [$r = -.11, p = .18$]. Therefore, the first hypothesis was not supported. (See Table 5.)

Table 5

Pearson Correlation Coefficient Between the MAAS, CAMS-R, and the TMS³

	CAMS-R	TMS
MAAS	.60*	-.14
CAMS-R		-.11

* significant at $p < 0.01$

² (MAAS = Mindfulness Attention Awareness Scale; CAMS-R = Cognitive and Affective Awareness Scale – Revised; TMS = Toronto Mindfulness Scale; RSE = Rosenberg Self-Esteem Scale; USAQ = Unconditional Self-Acceptance Questionnaire)

³ MAAS = Mindfulness Attention Awareness Scale (everyday mindfulness); CAMS-R = Cognitive and Affective Awareness Scale – Revised (everyday mindfulness); TMS = Toronto Mindfulness Scale (mindfulness during meditation)

Hypothesis 2

The second hypothesis was that there would be a statistically significant relationship between everyday mindfulness, mindfulness during sitting meditation, self-esteem, and self-acceptance, but that there would be a greater correlation between mindfulness and self-acceptance than between mindfulness and self-esteem. Everyday mindfulness was measured using the MAAS and the CAMS-R; mindfulness during sitting meditation was measured using the TMS; self-esteem was measured using the RSE, and self-acceptance was measured using the USAQ. Pearson product-moment correlation coefficients were computed between the MAAS, CAMS-R, TMS, RSE, and USAQ. Significant relationships were found between the RSE and the MAAS [$r = .39, p = .000$], and between the RSE and the CAMS-R, [$r = .50, p = .000$], but not between the RSE and the TMS [$r = -.09, p = .24$].

There was a significant relationship between the USAQ and the MAAS [$r = .31, p = .000$], between the USAQ and the CAMS-R [$r = .45, p = .000$], but not between the USAQ and the TMS [$r = -.03, p = .69$]. There was, also, a significant relationship between the RSE and USAQ [$r = .51, p = .000$]. (See Table 6.) Therefore, the second hypothesis was partially supported: self-esteem and self-acceptance correlated with everyday mindfulness, but self-esteem and self-acceptance did not correlate with mindfulness during sitting meditation. The correlation between everyday mindfulness and self-acceptance was not higher than the correlation between everyday mindfulness and self-esteem.

Table 6

Pearson Correlation Coefficient Values Between Mindfulness Scales, Self-Acceptance, and Self-Esteem⁴

	MAAS	CAMS-R	TMS	RSE	USAQ
MAAS		.60*	-.14	.39*	.31*
CAMS-R			-.11	.50*	.45*
TMS				-.09	-.03
RSE					.51*

* significant at $p < .01$

Mindfulness and Personality Characteristics

Pearson product-moment correlation coefficients were computed between the mindfulness scales and the measure of the personality domains. (See Table 7.)

Neuroticism was negatively correlated with the MAAS [$r = -.41, p = .000$] and with the CAMS-R [$r = -.58, p = .000$], but there was not a statistically significant relationship between neuroticism and the TMS [$r = .13, p = .11$]. The relationship between extraversion and the MAAS [$r = -.05, p = .56$] was not statistically significant, nor were correlations with the CAMS-R [$r = -0.01, p = 0.92$] or the TMS [$r = .06, p = .43$].

Openness to experience was correlated with the TMS [$r = .23, p = .003$], but not with the MAAS [$r = .04, p = .59$] or the CAMS-R [$r = .04, p = .58$]. Agreeableness was correlated with the MAAS [$r = .29, p = .000$] and with the CAMS-R [$r = .43, p = .000$]; there was not a statistically significant relationship between the TMS and agreeableness [$r = -.07, p$

⁴ MAAS = Mindfulness Attention Awareness Scale (everyday mindfulness); CAMS-R = Cognitive and Affective Awareness Scale – Revised (everyday mindfulness); TMS = Toronto Mindfulness Scale (mindfulness during meditation); RSE = Rosenberg Self-Esteem Scale (self-esteem); USAQ = Unconditional Self-Acceptance Questionnaire (self-acceptance)

= .36]. Conscientiousness was correlated with the MAAS [$r = .28, p = .000$], and with the CAMS-R [$r = 0.27, p = .000$], but not with the TMS [$r = .02, p = .83$].

Table 7

Pearson Correlation Coefficients Between Mindfulness and Personality Characteristics⁵

	Neuroticism	Extraversion	Openness to Experience	Agreeableness	Conscientiousness
MAAS	-.41*	-.05	.04	.29*	.28*
CAMS-R	-.58*	-.01	.04	.43*	.27*
TMS	.13	.06	.23*	-.07	.02

* significant at $p < .01$

When participants with previous experience with mindfulness were examined separately, TMS scores for participants with previous experience with sitting meditation and/or yoga correlated with openness to experience [$r = .32, p = .03$], whereas the TMS scores of naïve participants did not correlate with openness to experience [$r = .14, p = .16$]. In addition, the TMS was negatively correlated with agreeableness for participants with previous experience with sitting meditation and/or yoga [$r = -.35, p = .02$], but there was not a statistically significant relationship for naïve participants [$r = .04, p = .71$].

The personality domains were not completely orthogonal. Neuroticism was negatively correlated with extraversion [$r = -.18, p = .03$] and with agreeableness [$r = -.49, p = .000$]. Neuroticism was negatively correlated with conscientiousness [$r = -.21, p = .01$] when all participants were pooled together. When participants with mindfulness experience were looked at separately, neuroticism was negatively correlated with conscientiousness for participants with previous experience with sitting meditation and/or yoga [$r = -.37, p = .01$], but not for naïve participants [$r = -.13, p = .18$]. Agreeableness correlated with conscientiousness [$r = .25, p = .002$].

⁵ MAAS = Mindfulness Attention Awareness Scale; CAMS-R = Cognitive and Affective Awareness Scale – Revised; TMS = Toronto Mindfulness Scale

Mindfulness and Mood

A paired samples *t*-test was computed to test for differences in mood pre and post-meditation. The difference between scores of positive affect pre ($M = 25.75$, $SD = 7.69$) and post-meditation ($M = 22.25$, $SD = 8.28$) was statistically significant [$t(165) = -6.88$, $p = .000$]. The difference between scores on negative affect pre ($M = 15.52$, $SD = 5.68$) and post-meditation ($M = 14.17$, $SD = 5.01$) was statistically significant [$t(165) = -4.60$, $p = .000$]. (See Table 8.)

Table 8

Pre and Post-Meditation Positive and Negative Affect

	pre-meditation			post-meditation		
	<i>N</i>	Mean	SD	<i>N</i>	Mean	SD
positive affect	166	25.75	7.69	166	22.25	8.28
negative affect	166	15.52	5.68	166	14.17	5.01

An ANCOVA was computed between differences in pre and post-meditation positive and negative affect for participants with previous meditation experience ($n = 22$) and participants without previous meditation experience ($n = 143$). The difference in positive affect for participants with previous meditation experience ($M = 1.63$, $SD = 5.19$) and participants without previous meditation experience ($M = 3.15$, $SD = 5.48$) was not statistically significant [$F(1, 164) = 2.33$, $p = .13$]. The difference in negative affect for participants with previous meditation experience ($M = 1.81$, $SD = 3.92$) and participants without previous meditation experience ($M = 1.16$, $SD = 3.44$) was not statistically significant [$F(1, 164) = .98$, $p = .33$].

Pearson product-moment correlation coefficients were computed for the relationship between mood and mindfulness during formal sitting meditation and

everyday mindfulness. There was a significant correlation between the TMS and pre-meditation PA ($r = .20, p = .01$) and NA ($r = .20, p = .01$), and between the TMS and post-meditation PA ($r = .24, p = .002$) and NA ($r = .25, p = .001$). The MAAS was positively correlated with post-meditation PA ($r = .18, p = .01$), but not with pre-meditation PA ($r = .14, p = .07$) and negatively correlated with pre-meditation NA ($r = -.28, p = .00$) and post-meditation NA ($r = -.20, p = .01$). The CAMS-R was positively correlated with pre-meditation PA ($r = .21, p = .007$) and post-meditation PA ($r = .19, p = .02$), and it was negatively correlated with pre-meditation NA ($r = -.39, p = .00$) and post-meditation NA ($r = -.35, p = .00$).

Gender Differences

Independent samples t -tests were computed for all measures comparing males and females. Females scored significantly higher than males on the USAQ [$M = 5.71, SE = 2.49, t(156) = 2.29, p = .02$], extraversion [$M = 2.75, SE = 1.18, t(148) = 2.34, p = .02$], openness to experience [$M = 2.66, SE = 1.18, t(149) = 2.25, p = .03$] agreeableness [$M = 2.72, SE = .90, t(151) = 3.03, p = .003$], and conscientiousness [$M = 2.89, SE = 1.13, t(152) = 2.56, p = .01$]. There were no differences on any of the mindfulness-related measures.

Differences in Scores for Participants with Mindfulness Experience and Participants without Mindfulness Experience

Independent samples t -tests were conducted comparing participants with previous experience with formal sitting meditation ($n = 22$) and those without. (The latter category included participants with yoga experience but no sitting meditation experience.) No statistically significant difference between groups was found. Independent samples t -tests were conducted comparing participants with previous yoga experience ($n = 36$) and those

without. (The latter category included participants with previous meditation experience but no yoga experience.) Participants with previous yoga experience scored significantly higher on the TMS [$M = 2.63$, $SE = 1.17$, $t(164) = 2.24$, $p = .03$], the RSE [$M = 2.57$, $SE = 0.92$, $t(163) = 2.79$, $p = .006$], the USAQ [$M = 6.02$, $SE = 2.72$, $t(162) = 2.21$, $p = .03$], and openness to experience [$M = 4.57$, $SE = 1.26$, $t(165) = 3.64$, $p = .000$].

Discussion

First Hypothesis

The results of the current study do not support the notion that daily mindfulness is related to the ability to be mindful during formal sitting meditation, at least as measured by these instruments. The results may suggest that everyday mindfulness is a different construct from mindfulness meditation, that individuals who are mindful during everyday life may not be more mindful during sitting meditation than individuals who are less mindful during everyday life. However, the majority of participants in this study had no previous meditation experience and, as meditation experience was loosely defined in this study, even the sample with previous meditation experience may not have been particularly experienced. A sample of experienced meditators may have yielded different results, and there are alternative explanations for why no relationship was found between everyday mindfulness and mindfulness during meditation in a naïve sample.

First, the TMS may not be a sensitive enough instrument. Bishop, Segal et al. (2004) note that, although the TMS discriminated between individuals with no meditation experience and individuals with 8 weeks of experience with mindfulness meditation, it did not discriminate between individuals with 8 weeks of experience with mindfulness meditation from those with 2 or more years of meditation experience. The authors

suggest that this may reflect a lack of sensitivity in the measure, or that “it is possible that relatively little training or experience is needed to evoke a state of mindfulness” (p. 28).

Another possibility the authors do not address is that scores on the TMS may be contingent upon one’s familiarity with mindfulness meditation *instructions*. As the specific items of the TMS are phrased in a way that reflects basic meditation instructions (see Appendix C), it is unlikely that individuals without previous meditation experience would have known a priori how to mindfully relate to thoughts, feelings, and experiences during their first experience of meditation in a way that corresponds to the questions on the TMS.

It is also possible that naïve participants’ first experience of meditation may be influenced more by other factors than those with previous exposure to formal sitting practice. For example, natural differences in attentional control may make a naïve pool appear more heterogeneous in their abilities to cultivate mindfulness. Because it is an unfamiliar practice, the ability to be mindful during their first attempt at meditation may not be reflective of how mindful they are in everyday life. By contrast, as an individual learns and practices mindfulness meditation, this intentional shaping of attentional control during meditation may naturally extend into everyday life.

Differences in effort or motivation may have influenced the results as well. As the participants enlisted in the study to earn experimental credit, they may not have put in as much effort or have been as motivated to cultivate mindfulness as a group of participants who have actively chosen to learn meditation because they believe they may benefit from the practice. MBSR and MBCT programs, for example, are very careful to select only individuals who express a willingness to put forth a serious and concentrated effort.

Moreover, as this was their first exposure to formal sitting practice for many of the participants, they may not have completely understood the meditation instructions. For example, although the instructions stated that eyes should remain open, many participants were observed to have had their eyes closed during the meditation. Although participants were allowed to ask questions directly following the instructions (which no one did), the investigator did not attempt to determine the degree to which participants understood and/or were correctly following the instructions for practicing mindfulness.

Finally, individual mood states may have influenced naïve participants' cultivation of mindfulness. A small relationship was found between mood and the ability to cultivate mindfulness during meditation. Greater positive affect and greater negative affect were associated with greater mindfulness during meditation. Everyday mindfulness, by contrast, was positively correlated with positive affect, but negatively correlated with negative affect. As positive affect is associated with alertness and concentration (Watson & Clark, 1988), it is reasonable that greater mindfulness would correlate with greater positive affect. It is not clear why individuals experiencing greater mindfulness during meditation would also be experiencing greater negative affect. It may be reflective of how difficult it is for an individual to engage in meditation for the first time. Individuals who put forth the most effort may have been the most frustrated by the experience, as it is very difficult for a beginner to maintain concentration on the breath for any length of time. One Introductory Psychology instructor told the investigator that she overheard a group of her best students, who had participated in the study, discussing how infuriatingly difficult it was to keep their attention focused on their breath. Perhaps those who tried the hardest found the experience both positive and aversive. The

instructions may not have adequately stressed the gentleness with which one should approach one's experience of meditation, and some participants may have tried to focus on their breath too aggressively. Admittedly, this explanation does not account for why scores on mindfulness during meditation are related to negative affect *pre*-meditation, as well as post. At this time, the investigator is unable to explain that relationship.

Interestingly, both positive and negative affect declined overall for participants following the meditation. These results may represent a combination of individual reactions to meditation: changes in a positive direction, changes in a negative direction, and neutral reactions. If these findings are assumed to be a common experience of the participants, however, then one might conclude that meditation reduces the intensity of feelings, both positive and negative. These findings are consistent with the traditional goal of meditation as a method of achieving a state of equanimity, where the passions are not excited. The meditative practice of *samatha* or *shamatha* is often translated as "calm abiding" or "tranquility," and is used to calm the mind. From a Buddhist perspective, both joy and dismay can be problematic; consequently, these results offer evidence that meditation is a method of establishing an emotional equilibrium.

Second Hypothesis

The results of the current study support the idea that everyday mindfulness is related to self-acceptance and self-esteem, but do not support the idea that self-esteem and self-acceptance are related to mindfulness during sitting meditation. This suggests that individuals who are more mindful have greater self-esteem and are more accepting of themselves. The results do not suggest, however, that individuals high in self-acceptance are any more mindful than those high in self-esteem. The correlations between the

MAAS and the RSE were similar to the findings of Brown and Ryan (2003), and the correlation between the RSE and USAQ were similar to those found by Chamberlain and Haaga (2001a).

Exploratory Results

In examining the relationship between mindfulness and personality traits, it appears that individuals higher in everyday mindfulness are more agreeable and conscientious. Results also support similar conclusions by Brown and Ryan (2003) that everyday mindfulness is negatively correlated with neuroticism, the “chronic tendency to feel tense, worried, and irritable” (Costa & McCrae, 1995, p. 24). As Brown and Ryan suggest, being mindful may lower neurotic tendencies, or neuroticism may interfere with mindfulness. Contrary to Brown and Ryan’s findings, everyday mindfulness was not correlated with openness to experience, which consists of “intellectual curiosity, need for variety, and aesthetic sensitivity” (Costa & McCrae, 1995, p. 23). However, Brown and Ryan used the full NEO-PI, whereas this study used Goldberg’s IPIP to approximate the domains of the NEO-PI. Perhaps the specific traits captured by the NEO-PI are not as well represented in the IPIP.

Although no relationship was found between everyday mindfulness and openness to experience, a relationship was found between mindfulness during sitting meditation and openness to experience, supporting Bishop, Segal et al.’s (2004) findings; however, this relationship was only significant for participants with previous mindfulness experience. As individuals who are high in openness to experience may be more likely to engage in mindfulness practices, the relationship between the TMS and openness to experience may be related more to the types of individuals who are likely to practice

mindfulness than to a specific relationship between the meditative mindfulness and openness to experience.

Limitations

One major limitation of this study is that it involves a convenience sample of college students. The investigator did not expect to find many participants with previous mindfulness experience—particularly in sitting meditation. Also, sitting meditation was not well defined for participants (see Appendix I). For example, two participants considered prayer a form of sitting meditation. Although their data were not included in the analyses of participants with previous meditation experience, this suggests that participants' definitions of sitting meditation may be very different from the investigator's definition.

Participants without previous meditation experience may not have been sufficiently prepared by the investigator to practice meditation. Although the investigator expanded Bishop, Segal et al.'s (2004) meditation instructions to make them clearer, the instructions may still have been insufficient. For example, as was already noted, although the instructions ask participants to direct their eyes to “a place that your gaze can rest comfortably,” many participants closed their eyes. Eyes-closed is a legitimate form of meditation, but this may be indicative of other ways in which participants were unclear about the instructions. In addition, it is not certain that 15 minutes are enough time for everyone to evoke mindfulness, particularly those who are meditating for the first time.

Future Directions

Subsequent research should address whether the lack of evidence supporting a relationship between everyday mindfulness and mindfulness during meditation is more

indicative of a naïve sample than of those experienced in meditation. As meditation is said to help cultivate everyday mindfulness, it may be interesting to examine whether there is a stronger relationship depending on previous meditation experience. Does someone with 2 or more years of practice exhibit a greater relationship than someone who has recently completed an 8-week MBSR or MBCT course? In addition, researchers may also examine whether positive and negative mood both decrease for those experienced in meditation.

It is not clear why scores were significantly higher for participants who completed the MAAS before the 15-minute meditation than those who completed it afterwards. By contrast, scores on the CAMS-R, as well as the other measures used, remained comparable for both groups. Subsequent studies on the MAAS should assess whether this is a consistent finding.

Lastly, the relationship between mindfulness and personality traits in this study only reflects a snapshot in time. It may be interesting to longitudinally examine whether personality traits change as an individual becomes more mindful. Regular mindfulness practice may alter existing personality traits, or existing personality traits may interfere with the regular practice of mindfulness. Does neuroticism decrease as one practices mindfulness? Do agreeableness and conscientiousness increase? The implications of these results may expand conceptions of mindfulness into personality research.

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Appendix A

Mindful Attention Awareness Scale

INSTRUCTIONS: 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 the experience should be.

Almost Always	Very Frequently	Somewhat Frequently	Somewhat Infrequently	Very Infrequently	Almost Always
--------------------------	----------------------------	--------------------------------	----------------------------------	------------------------------	--------------------------

- | | | | | | |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
-
- | | |
|-------|--|
| _____ | 1. I could be experiencing some emotion and not be conscious of it until some time 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 my 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 task 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. |
| _____ | 14. I find myself doing things without paying attention. |
| _____ | 15. I snack without being aware that I'm eating. |

Appendix B

CAMS-R

People have a variety of ways of relating to their thoughts and feelings. For each of the items below, rate how much each of these ways applies to you.

1 Rarely/Not at all	2 Sometimes	3 Often	4 Almost Always
------------------------	----------------	------------	--------------------

- _____ 1. It is easy for me to concentrate on what I am doing.
- _____ 2. I am preoccupied by the future.
- _____ 3. I can tolerate emotional pain.
- _____ 4. I can accept things I cannot change.
- _____ 5. I can usually describe how I feel at the moment in considerable detail.
- _____ 6. I am easily distracted.
- _____ 7. I am preoccupied by the past.
- _____ 8. It's easy for me to keep track of my thoughts and feelings.
- _____ 9. I try to notice my thoughts without judging them.
- _____ 10. I am able to accept the thoughts and feelings I have.
- _____ 11. I am able to focus on the present moment.
- _____ 12. I am able to pay close attention to one thing for a long period of time.

Appendix E

UNCONDITIONAL SELF-ACCEPTANCE QUESTIONNAIRE

INSTRUCTIONS: Please indicate how often you feel each statement below is true or untrue *of you*. For each item, write the appropriate number (1 to 7) on the line to the left of the statement, using the following key:

	More Often Untrue	Equally Often True	More Often True		More Often Untrue	Usually True	Almost Always True
Almost Always Untrue	Usually Untrue	Than True	And Untrue	Than Untrue	Usually True	Usually True	Almost Always True

-
- | | | | | | | |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
- ___ 1. When someone compliments me for something, I care more about how it makes me feel about myself than about what it tells me about my strength and abilities.
 - ___ 2. I feel worthwhile even if I am not successful in meeting certain goals that are important to me.
 - ___ 3. When I receive negative feedback, I take it as an opportunity to improve my behavior or performance.
 - ___ 4. I feel that some people have more value than others.
 - ___ 5. Making a big mistake may be disappointing, but it doesn't change how I feel about myself overall.
 - ___ 6. Sometimes I find myself thinking about whether I am a good or bad person.
 - ___ 7. To feel like a worthwhile person, I must be loved by the people who are important to me.
 - ___ 8. When I am deciding on goals for myself, trying to gain happiness is more important than trying to prove myself.
 - ___ 9. I think that being good at many things makes someone a good person overall.
 - ___ 10. My sense of self-worth depends a lot on how I compare with other people.
 - ___ 11. I believe that I am worthwhile simply because I am a human being.
 - ___ 12. When I receive negative feedback, I often find it hard to be open to what the person is saying about me.
 - ___ 13. I set goals for myself that I hope will prove my worth.
 - ___ 14. Being bad at certain things makes me value myself less.
 - ___ 15. I think that people who are successful in what they do are especially worthwhile people.
 - ___ 16. To me, praise is more important for pointing out to me what I'm good at than for making me feel valuable as a person.
 - ___ 17. I feel I am a valuable person even when other people disapprove of me.
 - ___ 18. I avoid comparing myself to others to decide if I am a worthwhile person.
 - ___ 19. When I am criticized or when I fail at something, I feel worse about myself as a person.
 - ___ 20. I don't think it's a good idea to judge my worth as a person.

Appendix F

On the following page, there are phrases describing people's behaviors. Please use the rating scale below to describe how accurately each statement describes *you*. Mark the response that best shows how you really feel or see yourself, not responses that you think might be desirable or ideal. Please read each statement carefully, and then fill in the bubble that corresponds to the number on the scale. In order to score this test accurately, it is very important that you answer *every* item without skipping any.

	inaccurate	moderately inaccurate	neither	moderately accurate	accurate	
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	1
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	2
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	3
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	4
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	5
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	6
7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	7
8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	8
9	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	9
10	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	10
11	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	11
12	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	12
13	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	13
14	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	14
15	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	15
16	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	16
17	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	17
18	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	18
19	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	19
20	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	20
21	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	21
22	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	22
23	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	23
24	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	24
25	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	25
26	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	26
27	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	27
28	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	28
28	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	29
30	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	30
31	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	31
32	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	32
33	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	33
34	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	34
35	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	35
36	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	36
37	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	37

38	Shirk my duties.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	38
39	Have frequent mood swings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	39
40	Do not enjoy going to art museums.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	40
41	Know how to captivate people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	41
42	Have a sharp tongue.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	42
43	Make plans and stick to them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	43
44	Rarely get irritated.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	44
45	Believe in the importance of art.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	45
46	Would describe my experiences as somewhat dull.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	46
47	Make people feel at ease.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	47
48	Don't see things through.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	48
49	Often feel blue.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	49
50	Tend to vote for conservative political candidates.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	50

Appendix G

Positive and Negative Affect Schedule

INSTRUCTIONS: This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate number in the space next to that word. Indicate to what extent you feel this way *right now*. Use the following scale to record your answers.

Not at all Or Very Slightly	A Little	Moderately	Quite a Bit	Extremely
1	2	3	4	5
___ 1. Interested			___ 11. Irritable	
___ 2. Distressed			___ 12. Alert	
___ 3. Excited			___ 13. Ashamed	
___ 4. Upset			___ 14. Inspired	
___ 5. Strong			___ 15. Nervous	
___ 6. Guilty			___ 16. Determined	
___ 7. Scared			___ 17. Attentive	
___ 8. Hostile			___ 18. Jittery	
___ 9. Enthusiastic			___ 19. Active	
___ 10. Proud			___ 20. Afraid	

Appendix H

1. How much effort did you put into the exercise just conducted?

none at all not a lot somewhat a significant amount as much as I could

2. Did you at any point decide not to do the exercise?

yes no

3. At any point did you give up *trying* to pay attention to do the exercise?

yes no

Appendix I

This study is largely concerned with looking at individuals' levels of *mindfulness*.

Mindfulness is defined as maintaining one's attention and awareness in the present moment.

1. If you have direct involvement with a form of mindfulness, what is your involvement?
(Choose as many as are applicable)

__ sitting meditation. If yes, for how long have you practiced and how many hours per week do you practice? _____

__ yoga. If yes, for how long have you practiced and how many hours per week do you practice? _____

__ tai chi. If yes, for how long have you practiced and how many hours per week do you practice? _____

__ qi-gong. If yes, for how long have you practiced and how many hours per week do you practice? _____

__ martial arts. If yes, please specify what; for how long have you practice, and how many hours per week do you practice? _____

__ other. For how long have you practiced and how many hours per week do you practice? _____

2. What is your current involvement with mindfulness?

Appendix J

EXPLANATION OF RESEARCH STUDY

The purpose of this study is to examine whether there is a shift in everyday mindfulness, mood, and cognition during the eight-week course. *Mindfulness* is defined as the act of directing attention to the present moment in an attitude of acceptance. We are also interested in whether there is a relationship between mindfulness, mood, and cognitive styles.