Summer 8-2020

Mindfulness and Its Impact on Adaptive Coping and Psychological Well-Being: An Intervention for Undergraduate Students

Charles Bradley Freligh
Old Dominion University, cfreligh@gmail.com

Recommended Citation

MINDFULNESS AND ITS IMPACT ON ADAPTIVE COPING AND PSYCHOLOGICAL

WELL-BEING: AN INTERVENTION FOR UNDERGRADUATE STUDENTS

by

Charles Bradley Freligh
M.A. December 2012, New York University
B.S. May 2008, James Madison University

A Dissertation Submitted to the Graduate Faculties of
Eastern Virginia Medical School
Norfolk State University
Old Dominion University
in Partial Fulfillment of the Requirement for the Degree of

DOCTOR OF PHILOSOPHY

CLINICAL PSYCHOLOGY

VIRGINIA CONSORTIUM PROGRAM IN CLINICAL PSYCHOLOGY
August 2020

Approved by:

Robin J. Lewis (Director)

Scott M. Debb (Chair)

Barbara A. Winstead (Member)

Paul Harrell (Member)

Steven Emmanuel (Member)

ABSTRACT

MINDFULNESS AND ITS IMPACT ON ADAPTIVE COPING AND PSYCHOLOGICAL
WELL-BEING: AN INTERVENTION FOR UNDERGRADUATE STUDENTS

Charles Bradley Freligh
Virginia Consortium Program in Clinical Psychology, 2020
Director: Dr. Robin J. Lewis

The concept of mindfulness has been shown to positively impact psychological well-being, and one application of mindfulness-based interventions has been the development and implementation of courses specifically for college students, a population that has been shown to be particularly vulnerable to the negative impacts of stress. While these interventions have displayed beneficial outcomes, the mechanisms of how mindfulness exerts its impact remain unclear. One potential mechanism of mindfulness' enhancement of well-being may be through its cultivation of an adaptive coping style in which an individual becomes more likely to approach and investigate stressors rather than avoid them. In this study, an online mindfulness-based intervention for college students was developed and implemented. Course participants were assessed before and after the course to investigate the course's impact on mindfulness, psychological well-being, and adaptive coping (defined as higher approach coping and lower avoidant coping scores), and to assess the potentially mediating role of adaptive coping in the relationship between mindfulness and psychological well-being. Results revealed significant increases in mindfulness and in one domain of psychological well-being (environmental mastery) following the course but did not reveal significant improvements in other well-being domains nor significant changes in adaptive coping. Therefore, the planned mediation analysis was not conducted. A post-hoc hierarchical regression analysis revealed significant relationships between mindfulness and adaptive coping in the hypothesized directions while controlling for participants' scores before the course. This may indicate that participants who developed significantly in their capacity for mindfulness practice may indeed have demonstrated the impact upon adaptive coping hypothesized in this study. Future research should continue to investigate these potential changes and their impact on the often-stressful lives of college students.

This dissertation is dedicated to my parents Deborah and Steve Freligh for always supporting me, to my wife Lindsay for being my perfect puzzle piece, and to my brother Jojo for being my best friend.

ACKNOWLEDGEMENTS

There are many who have contributed to the completion of this dissertation. First, I would like to thank my dissertation chair and research mentor Dr. Scott M. Debb. Thank you for your support and willingness to let me explore the path I am most interested in, and for giving me encouragement when I needed it. I would also like to thank my committee members Drs. Barbara A. Winstead, Steven Emmanuel, and Paul Harrel for serving on my committee and helping me with valuable feedback and being generous with their personal time, and kindness, throughout the dissertation process.

TABLE OF CONTENTS

Page

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

The concept of *mindfulness* has received increasing interest in Western society as a way of understanding how to improve the well-being of human life. It is becoming better understood and accepted as an effective instrument of distress relief and quality-of-life enhancement. Mindfulness can be defined as "awareness of present experience with acceptance" (Germer, Siegel, & Fulton, 2013, p. 7), and has been associated with reduced stress, negative affect, rumination, and anxiety, as well as increased positive affect, self-compassion, and psychological well-being (Shapiro, Brown, & Biegel, 2007). An individual's experience and cultivation of mindfulness appears to be a potent means for the relief of acute and chronic stressors and the enhancement of well-being.

The underlying mechanisms through which mindfulness benefits well-being remain less clear than the positive outcomes that research has demonstrated (e.g, Bishop, 2002; Lee & Orsillo, 2014). Researchers have speculated that one such mechanism may be mindfulness' facilitation of adaptive coping strategies for managing stress (Weinstein, Brown, & Ryan, 2009; Womack & Sloan, 2017). One's level of mindfulness can be conceptualized as a way to promote coping with distressing experiences by approaching them versus avoiding them, thus allowing for the opportunity to investigate the experience in the present more closely for the purpose of relieving it of some or all of its initially distressing qualities.

This study examined the impact of an online mindfulness intervention aimed at increasing engagement-based adaptive coping and its impact on subsequent psychological well-being. This study was done using an undergraduate college student population, who are generally at a potentially heightened vulnerability to the negative impacts of stress (Stallman, 2010). The study also focused on the effect of enhanced nonreactivity (the tendency to pause before acting

in response to stimuli) as a result of an intervention targeting the relationship between mindfulness and adaptive coping. These investigative aims fulfill the purpose of contributing to the empirical understanding of the mechanisms of mindfulness' impact on psychological well-being as well as creating an efficient and effective intervention to improve the lives of college students.

Mindfulness

"The faculty of voluntarily bringing back a wandering attention over and over again is the very root of judgment, character, and will. […] An education which should improve this faculty would be the education par excellence" (James, 1890, p. 463).

Mindfulness is characterized by paying close attention to the present moment in a non-self-referential and nonjudgmental way (Brown, Creswell, & Ryan, 2016). It is a way of being in life marked by connection with one's raw living experience that is happening right now, as opposed to one's narrative and judgmental thought stream that is often caught dwelling on the past or forecasting into the future. The literature has shown that this latter way of being (habitual mind-wandering or distractibility) often dominates waking consciousness and is actually associated with subjective unhappiness and poorer well-being (Killingsworth & Gilbert, 2010).

The mental faculty that James described in *Principles of Psychology* (1890) seemed to be the optimal method for nurturing all aspects of well-being; however, he also added that it is easier to define this ideal than to practically give directions for developing it. Less than a century later, the Eastern concept of mindfulness (a translation of the Pali word *Sati*) and its training ground of meditative practice began gradually appearing in the Western zeitgeist, and with it carried the potential to fill the void of providing a practical means to tame the wandering mind.

Mindfulness is essentially the inverse of mind-wandering, and, while we all naturally experience this from time to time (i.e., feeling fully present and engaged), the purposeful engagement of maintaining mindfulness has been shown to be a trainable skill (Baer, 2003). This would provide the very *education par excellence* to which James presciently referred. In fact, studies have shown just this: specific mindfulness practices directly reduce activity in the network of brain regions called the default mode network, which is essentially the brain circuitry involved in self-related narrative thinking and mind wandering (Garrison, Zeffiro, Scheinost, Constable, & Brewer, 2015). If mindfulness reduces mind-wandering, and reduced mind-wandering is associated with increased subjective happiness and well-being, then the understanding of how this process occurs is an important investigation.

Well-being has been defined as a person's cognitive and affective evaluations of their happiness and life satisfaction (Diener, Oishi, & Lucas, 2002). Research indicates that levels of mindfulness are strongly associated with a variety of positive outcomes including reduced stress and anxiety, and increased subjective well-being (Kong, Wang, & Zhao, 2014; Wenzel, von Versen, Hirschmüller, & Kubiak, 2015). These beneficial associations have been displayed both in studies examining individuals' existing levels of mindfulness and when focusing on analyzing the impact of specific mindfulness training interventions (Kiken, Garland, Bluth, Palsson, & Gaylord, 2015).

Western adaptation. The concept of mindfulness as a trainable capacity is historically rooted in the practice of meditation and ultimately stems from thousands of years of Buddhist and other spiritual traditions in which mindfulness has been used as a means of truly experiencing the present moment. Although many were involved in communicating this concept to the Western world (e.g., Boss, 1965; Hanh, 2009; Suzuki, 1970; Watts, 1957), Jon Kabat-Zinn

(1982) is credited with its conceptualization and integration into the realm of Western medical and mental healthcare via the development of the Mindfulness-Based Stress Reduction program (MBSR; Kabat-Zinn, 1990). MBSR is a structured eight-week course that has been studied widely and has displayed correlations between mindfulness practice and reductions in the distress related to a variety of physical and psychological illnesses. For a comprehensive review of MBSR applications, the interested reader should refer to Hölzel et al. (2011). Additionally, Mindfulness-Based Cognitive Therapy (MBCT; Segal, Williams, & Teasdale, 2002) was developed initially as an intervention for treating individuals at risk for depressive relapse. MBCT is essentially a combination of mindfulness techniques with traditional cognitive therapy. A recent meta-analysis found that both MBSR and MBCT were effective approaches for improving a variety of mental health outcomes, such as anxiety, depressive symptoms, stress, and negative affect (Gu, Strauss, Bond, & Cavanagh, 2015). This review also indicated that increased levels of mindfulness significantly mediated the beneficial outcomes of training.

Mindfulness also has been shown to predict reduced emotional reactivity to threatening stimuli via enhanced prefrontal cortical regulation of affect (Creswell, Way, Eisenberger, & Lieberman, 2007) and faster recovery from unpleasant emotional states relative to techniques such as distraction (Broderick, 2005). In the latter study, dysphoric mood was induced in participants who subsequently experienced conditions of either rumination, distraction, or mindfulness meditation. Those in the mindfulness condition experienced significantly lower levels of negative mood than the other two. This research shows that mindfulness may enable individuals to be able to increase their awareness of their present moment experiences their tendencies to react to their experiences, and then through that awareness not have to react in the ways they habitually tend to (Kabat-Zinn, 1990). This mindfulness capacity, therefore, may

allow for decreased tendency extrapolate in any narrative thought-based way on top of the original basic experience of a stressor. Research has shown that individuals relatively higher in mindfulness do not necessarily experience fewer negative thoughts, but they appear to be less negatively impacted by them following their initial occurrence (Frewen, Evans, Moraj, Dozois, & Partridge, 2008).

While the empirical benefits of mindfulness are encouraging, the research investigating the processes through which they occur remains in its infancy (Tang, Hölzel, & Posner, 2015). It is important to develop an understanding of the factors that mediate the relationship between mindfulness and well-being in order for there to be precision and specificity in studying the mindfulness construct and to articulate best practices for implementing purposeful mindfulness interventions. Research has found a strong relationship between one's level of mindfulness and their typical style of coping with stress, indicating that mindfulness is associated with a unique style of relating to one's experience (e.g., Weinstein, Brown, & Ryan, 2009; Womack & Sloan, 2017). It is possible that specific aspects of mindfulness may produce salutary effects in large part via cultivating an underlying capacity and tendency to cope with situations perceived as challenging, threatening, or generally stressful, by approaching them with curiosity rather than reacting defensively and avoiding them.

Conceptualizing mindfulness. Several attempts have been made at presenting a concise yet comprehensive conceptualization of mindfulness. Segal, Williams, and Teasdale (2012) conceptualized mindfulness as a shift from the *doing* mode of life into the *being* mode. In this model, the *doing* mode is habitual and reactive and can be thought of as living in a manner reliant on mental schemas for how things should be, whereas the *being* mode is flexible, intentional, and immersed in the present moment.

Bishop and colleagues (2004) proposed a two-component model of mindfulness consisting of self-regulation of attention so that it is maintained on present experience, and an orientation to experience characterized by openness, and acceptance. The latter component is particularly evocative of an approach style of coping with stress that may underlie many of the ways in which the practice of mindfulness actually positively impacts one's life. The ability to turn toward and move into experience, not from a defensive posture but from one of interest and unknowing, may be a crucial mechanism of mindfulness' impact on well-being, allowing for greater flexibility in the behavioral options one has available in life and less defensive, constricting, and habitual rigidity.

Bishop's model has been utilized to inform the development of measures aimed at assessing the mindfulness construct. The Five Facet Mindfulness Questionnaire (FFMQ; Baer et al., 2006), operationalizes mindfulness via a singular overall construct and additionally breaks down Bishop's proposed two-component model even further into five components consisting of: *observing*, *describing*, *acting with awareness*, *nonjudging* of inner experience, and *nonreactivity* to inner experience. These individual facets of the FFMQ, while often associated with one another, have been shown to represent unique capacities (Baer et al., 2008).

The *observing* facet refers to the ability to break down experiences and to notice them consciously in more nuanced and discretely identifiable ways. These experiences may consist of physical sensations as well as sensations considered mental, such as emotions, thoughts, and other subtle feelings. The *describing* facet refers to the ability to take account of different elements of one's experience and then verbally symbolize them through descriptive words. The facet of *acting with awareness* refers to the ability to focus on and fully engage with activities

and tasks in one's life and is operationally defined through an inverse relation to the tendency to be distracted and to act in a habitual disengaged manner.

Additionally, the *nonjudging* and *nonreactivity* facets pertain to reactions to inner experiences. The *nonjudging* facet corresponds to the ability to refrain from taking an evaluative stance, be it negative or positive, in relation to one's inner experiences. Examples of these inner experiences include thoughts, emotions, sensations, or anything that one may become aware of. *Nonreactivity* refers to the ability to perceive one's inner experiences without having to immediately react to them. The perceived experience can be referred to as the stimulus which is then followed by the individual's reaction. The facet of *nonreactivity* may be uniquely important within the process of mindfulness at large (Freligh & Debb, 2019) by impacting the amount of space that can exist between stimulus and response, allowing one to be less glued to habitual reaction.

Nonreactivity. The capacity for *nonreactivity* enables the expansion of the space between stimulus (what happens) and response (one's behavior after what happens). It is activated by pausing or stepping back within this space, before acting. Purposeful pausing makes it easier for a person to let go of negative stressors and recover to a state of calm and equanimity following difficult experiences. This reduction of emotional reactivity interrupts the momentum of the stimulus-reaction chain by slowing it down. Research has shown that this also extends to physiological changes, such as reduced resting respiration rate, reduced relative activity in the amygdala related to emotional response, and quicker return to physiological baseline via parasympathetic nervous system reactivation following a spike in activity of the sympathetic nervous system (Wielgosz, Schuyler, Lutz, & Davidson, 2016).

It is theorized that the *nonreactivity* facet plays a primary role in the process of mindfulness, which is illustrated via the dynamic between *doing* and *being* in Figure 1. The theoretical process presented in Figure 1 demonstrates the potential influence of *nonreactivity* as a unique antecedent to the remaining mindfulness facets identified by Baer et al., (2006). If, at the moment just after the point of stimulus perception, an individual is able to pause before reacting, it allows for a completely different downstream experience of the initial stimulus. In theory, this may enable the remainder of the mindfulness process to unfold. It is possible that the mindful capacity to not immediately react (*nonreactivity*) may act as an initial domino in the mindfulness chain reaction by allowing for the space to pause and ultimately respond effectively to stressors over time.
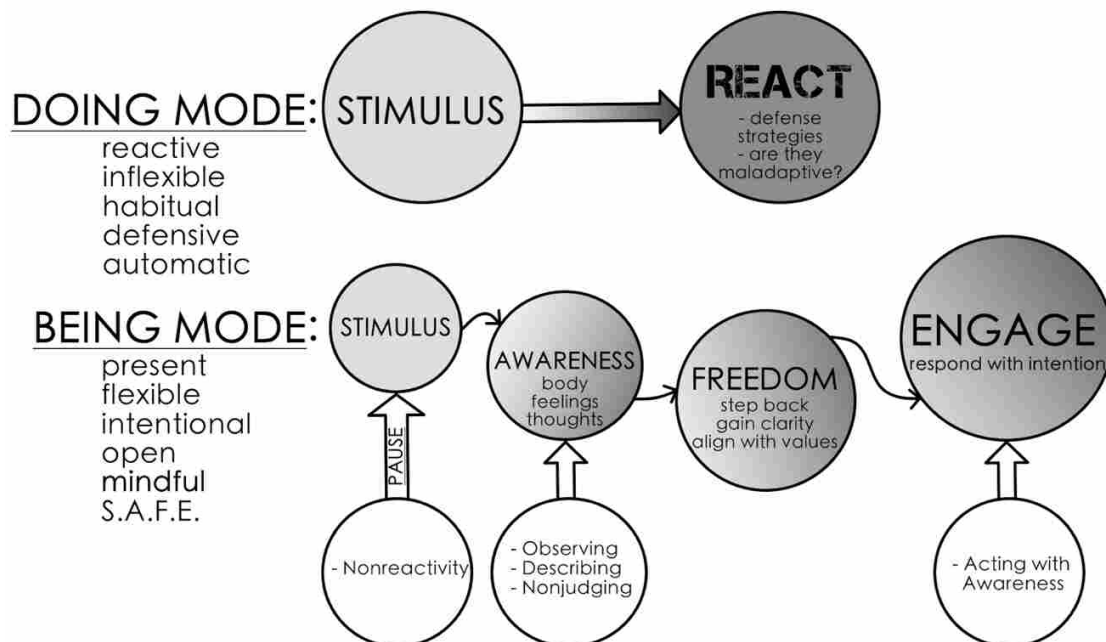
Figure 1. Theorized role of FFMQ mindfulness facets in the functioning of modes of experience.

Life inevitably includes pain and discomfort, but one's relationship with their pain (i.e., their level of reactivity) is what will inform the amount that they mentally suffer because of it. The metaphor of *the second arrow* (Bhikku, 1997) can be helpful in articulating this point: the first arrow you are hit with is whatever has objectively happened in the moment, and the second arrow is your reaction to what has happened. An example would be getting cut off in traffic (first arrow), becoming angry (second arrow), and then displacing your anger on to an unsuspecting loved one (second arrow continued), who may have their own second arrow response to your displaced anger (which has become their first arrow), resulting in a continued stream of emotional reactivity. Mindfulness allows for a greater awareness of the second arrow, as well as a more neutral awareness of the first arrow via not reacting based on conditioned habit. In relation to the *doing* and *being* model shown in Figure 1, the first arrow is the same within both modes, but the second arrow is drastically changed within the shift from *doing* into *being*.

Referring back to James' comments on the training of a wandering attention as the education *par excellence,* and his lament over the apparent lack of the realistic possibility of such a training, seem to be met squarely by the capacity of mindful awareness and the existing means of training this ability via mindfulness interventions. An important question then is why this is such an important "education," the answer to which ultimately is founded in its impact on one's ability to live a good life. So, what does it mean to live well?

Psychological Well-Being

Researchers have found that socioeconomic and demographic factors such as age, sex, income, race, education, and marital status, account for less than 20% of the variance in individuals' reported levels of well-being (Campbell, Converse, & Rodgers, 1976; Kahneman, Krueger, 2006), some as low as 8% (Andrews & Withey, 1976). Accordingly, of prime

importance is the internal dynamic between psychological factors and the environment (Diener, Suh, Lucas, & Smith, 1999). People have unique reactions to ostensibly the same external conditions, which is where the subjective component of well-being is derived. The field of study investigating subjective psychological well-being developed out of a response to the focus on negative psychological and emotional states. One review showed that psychological research focused on negative mental states outweighed those focused on positive states by a ratio of 17:1 at the time of the study (Myers & Diener, 1995). One implication of this trend in the literature is that there may be more to well-being than simply the avoidance of misery and dissatisfaction. That being said, psychological well-being can be understood both via the lens of the *absence of distress* as well as the *presence of wellness.*

The absence of distress. Research has revealed three particular components of psychological distress, consisting of sets of symptoms categorized as depressive, anxious, and stressful (Lovibond & Lovibond, 1995). It has been suggested that self-report scales for anxiety and depression, instead of identifying two unique domains, predominantly examine the overarching common factor referred to as negative affect (NA; Watson & Clark, 1984). High NA reflects the experience of subjective distress and low NA reflects its absence. For example, the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) was developed to assess the range of emotional experience, with low positive affect (PA) reflecting *sadness* and *lethargy* and high PA reflecting *high energy* and *pleasurable engagement*, as well as low NA reflecting a *state of calmness* and high NA reflecting *subjective distress* and *unpleasurable engagement*. While the anxious and depressive symptoms may share a common nonspecific component of NA, they can also be distinguished via particular unique characteristics.

Lovibond and Lovibond (1995) developed the Depression Anxiety Stress Scales (DASS) with nonpatient general population samples in order to measure the component characteristics of psychological distress – depression, anxiety, and stress. Depression was characterized by low positive affect, loss of self-esteem, and hopelessness. Anxiety was characterized by physiological hyperarousal associated with worry and fearfulness. Stress was characterized by chronic tension, irritability, and quickness to become frustrated. Measures such as the DASS address the negative end of psychological functioning, defining well-being in terms of the absence of distressing symptoms in one's life; however, the focus on negative experience neglects the human capacity for flourishing as well as any protective factors associated with positive psychological functioning. In addition to the mere absence of distress, researchers have identified the importance of articulating what the presence of wellness looks like (Ryff, 1989), particularly to inform interventions aimed at boosting human flourishing and enjoyment of life.

The presence of wellness. In an effort to develop a comprehensive framework for measuring the underlying components that manifest with the presence of well-being in one's life, the Ryff Scales of Psychological Well-Being (PWB; Ryff & Keyes, 1995) were created by drawing upon prevailing psychological theories of positive functioning, including individuation (Jung, 1933), human development (Erikson, 1959), maturity (Allport, 1961), the fully functioning person (Rogers, 1961), and self-actualization (Maslow, 1968). The points of convergence amongst these assorted theories inform the six core domains of Ryff's conceptual model and measure: 1) Self-Acceptance; 2) Personal Growth; 3) Purpose in Life; 4) Positive Relations with Others; 5) Environmental Mastery; and 6) Autonomy. These six domains gauge psychological well-being by measuring the extent to which a) one has positive evaluations of oneself and of the life one has led (Self-Acceptance), b) experiences a sense of continued growth

and development as a person (Personal Growth), c) believes that one's life is purposeful and meaningful (Purpose in Life), d) maintains warm and trusting interpersonal relations (Positive Relations with Others), e) effectively manages one's life and participates in creative activities (Environmental Mastery), and f) feels a sense of self-determination and personal freedom (Autonomy).

The Ryff inventory has been utilized to measure well-being both in cross-sectional research as well as programs designed specifically to increase psychological well-being (Weiss, Gerben, & Bohlmeijer, 2016). Weiss and colleagues (2016) conducted a review of intervention studies utilizing the Ryff Scales and found a moderate effect size (d = .44) of behavioral interventions improving psychological well-being as a primary or secondary outcome measure. Longitudinal studies have shown that high levels of psychological well-being on the Ryff Scales are a protective factor against mental illness and psychopathology (Wood & Joseph, 2010). Utilizing a large cohort of participants at two time points, the researchers in this study also found that the absence of positive well-being creates a substantial risk factor for the onset of negative mental states such as depression; this was found independent of the presence of negative functioning and impaired physical health. It is important to develop effective interventions aimed at *both* the reduction of distressing symptoms as well as the cultivation of psychological well-being for the general population as well as for particular populations of interest that may be able to benefit especially from such interventions.

Adaptive Coping

Coping can be described in terms of the behaviors one utilizes to engage or disengage with experiences perceived as threatening or distressing and can be conceptualized as existing on a continuum between *avoidant* and *approach* orientations (Roth & Lawrence, 1986). One can

utilize coping strategies in which they either avoid or approach the perceived source of their stresses, one or the other leading to different downstream implications for the impact of that initial stressor on one's life. For example, social stress, which is an experience reportedly felt by the vast majority of the population to at least some extent (Purdon, Antony, Monteiro, & Swinson, 2001), has been examined to demonstrate the differences between avoidant and approach coping styles (Dickerson & Kemeny, 2004). An experience of social stress, such as giving a presentation or performing in front of others (see Cheng, 2003), can be coped with in a manner falling somewhere on this continuum between avoidant and approach, impacting the ultimate effect of the initial stressor on one's well-being. Cheng found that individuals who were less anxious in stressful situations were more able to identify various characteristics of the situations and were more motivated to seek alternatives in coping with situational demands – qualities of a more flexible approach orientation in contrast to a more restricted avoidant one.

Avoidant coping. Avoidant coping is a defensive strategy that involves cognitively distorting a threatening stimulus, which may include either ignoring or attempting to escape it. While avoidant coping may be effective in reducing distress in the immediate situation, it ultimately is an ineffective means of sustaining well-being (Davies & Clark, 1998). With regard to the example of social stress, an individual utilizing avoidant strategies may experience an initial bodily sense of anxiety and then opt to disengage with, or move away from the stressor, and/or to distract oneself with some other stimuli (e.g., using one's smartphone). These strategies are akin to the process of negative reinforcement (Brewer, Elwafi, & Davis, 2013) in that the avoidance or distraction behavior is reinforced because it quickly removes the distressing stimulus (e.g., a social situation in which one may feel evaluated or judged by others). The immediate payoff of avoidant coping is what serves to reinforce the strategy, but it disallows for

the chance to challenge the source of threat, and thus the threat remains and grows larger and more habitually threatening over time. Researchers have operationalized avoidant coping in terms of strategies such as behavioral disengagement, mental disengagement, and denial (Stowell, Kiecolt-Glaser, & Glaser, 2001). One potential avenue towards removing the power of the distressing stimuli is developing a quality of attention that is less prone to avoidant strategies aimed at moving one away from the present.

Approach coping. Approach coping is basically the inverse of avoidant coping; it is a strategy of orienting (cognitively, emotionally, and/or behaviorally) toward and into situations deemed stressful or threatening. Approach coping has been articulated in the literature in three main ways: 1) active coping – taking action), 2) acceptance – acknowledging the reality and inevitability of stress), and 3) cognitive reinterpretation – observing and finding the positive in a stressful scenario (Fortune, Richards, Main, & Griffiths, 2002). Approach coping is considered to be adaptive via its method of actually addressing and developing a more nuanced understanding of stressful situations instead of avoiding them, which may be more of a challenge in the immediate moment but potentially lead to ultimate transcendence of stress and consequent boosting of well-being (Shontz, 1975; Herman-Stabl, Stemmler, & Petersen, 1995).

Building upon the example of experiencing social stress, the individual utilizing an approach coping orientation may experience the same initial distressing stimulus, but instead of opting to immediately remove the discomfort via distraction and avoidance, they could allow the discomfort to arise, encounter it with openness and/or curiosity, and in doing so remove some of its threatening power and allow for the possibility to engage with it versus retreat from it. These strategies are akin to processes of behavioral exposure (i.e., gradually exposing and desensitizing

oneself to feared stimuli) utilized in therapeutic treatments for anxiety (Treanor, 2011) and run counter to the negative reinforcement cycle.

Exposing oneself to initial distress is the only effective means of actually transcending that distress and gaining more flexibility and freedom in terms of behavioral options (e.g., talking to a stranger versus having to retreat to the use of one's smartphone). While approach strategies may actually increase distress in the very short-term, due to the discomfort often associated with moving into distressing experiences and the relative comfort associated with avoidance strategies that take one away from those experiences in the short-term, they are the means of increasing long-term well-being (Brake, Sauer-Zavala, Boswell, Gallagher, Farchione, & Barlow, 2015). The difficulty (the initial increase in distress in the moment) associated with selecting the ultimately more effective approach strategy supports the importance of cultivating complementary psychological factors that make it easier to make this selection in the moment.

Coping and mindfulness. It is possible that mindfulness itself simply reduces experiences of distress and improves well-being, but it may also be that more mindful individuals have certain attributes that allow them to more adaptively encounter distressing situations, such as a coping style characterized by reduced avoidance and increased approach orientation. One of the main beneficial mechanisms of mindfulness on an individual's life may be that it promotes a broad openness to, and curiosity about, present-moment experience (i.e., approach). More mindful individuals may be able to observe events, and the impact they have on one's thoughts and emotions, objectively as they occur in the here-and-now as opposed to allowing the events to automatically activate past or future-oriented thinking and subsequent behavioral patterns, thus enabling them to cope in more adaptive ways rather than perpetuate the stress cycle via avoidant coping (McCullough, Orsulak, Brandon, & Akers, 2007). Mindfulness

has been shown to be associated with reduced rumination, thought suppression, and negative thinking styles (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006), as well as reduced affective responding during stressful experiences (Larsen, 2000), all of which are components of an avoidance orientation.

Research has shown that avoidance coping strategies may result in emotional numbing and actually exacerbate the initial stressor (Roth & Lawrence, 1986; Herman-Stabl, Stemmler, & Petersen, 1995) and that those who adopt approach strategies tend to experience fewer negative psychological symptoms (Litman, 2006). Approach-oriented coping strategies may enable individuals to investigate and potentially challenge the validity of stimuli experienced as negative and thus change their consequent experience of the stressor, particularly with regard to reducing negative feelings toward oneself (Pascoe & Richman, 2009). The challenging of the validity of one's negative experiences is evocative of the conceptual component of mindfulness identified by Bishop and colleagues (2004) of a tendency toward openness to and curiosity about one's experience versus a tendency for less conscious reaction.

An approach-oriented strategy allows for deeper investigation of negative events based on their particular context, while an avoidance-oriented approach would rely on vigilance for the occurrence of these events and minimal investigation of their context in favor of immediate habitual reaction (Womack & Sloan, 2017). Research has found that mindfulness is in fact positively associated with approach-oriented coping strategies in college students (Womack & Sloan, 2017), for example, demonstrating that mindfulness may act as a buffer against the negative effects of the stressors experienced by this population by promoting an orientation of approach.

One study (Weinstein, Brown, & Ryan, 2009) investigated whether the use of more adaptive coping strategies would mediate the relationship between mindfulness levels and well-being outcomes for undergraduate students. Weinstein and colleagues utilized the *COPE inventory* (Carver, Scheier, & Weintraub, 1989), which includes the subscales of denial, behavioral disengagement, and mental disengagement as markers of avoidant coping, and the subscales of active coping, acceptance, and positive reinterpretation and growth as markers of approach. The researchers found that more mindful individuals reported less use of avoidant coping and higher use of approach coping in response to a stressful social situation. In their series of studies, more adaptive coping either partially or fully mediated the association between mindfulness and well-being, as measured by lower perceived stress and anxiety, and higher optimism. More mindful individuals were more likely to cope adaptively with stress, particularly via the reduced likelihood of avoidant coping. Additionally, Palmer and Roger (2009) found that avoidant coping and perceived stress predicted over 38% of the variance of mindfulness scores in a study examining ways to enhance college transition programming. If the benefits of mindfulness are exerted through its association with an adaptive coping orientation, it is important to understand if mindfulness training can specifically cultivate this coping style.

Mindfulness Training

"Mindfulness occurs naturally in everyday life, but requires practice to be maintained" (Germer, Siegel, & Fulton, 2016, p. 15). Continuity of mindfulness requires a persistent kind of effort, and particularly so in distressing situations that tend to trigger habitual avoidance reactions. Mindfulness is a counterforce to these habitual reactions and may allow for an approach orientation in the face of such situations. Mindfulness as an ability can be trained both formally or informally. Formal mindfulness practice typically refers to meditation, which can be

seen as a concentrated period of orienting one's attention in a particular way. Meditation practice is like going to the gym, or doing musical repetitions; it is the training ground for strengthening the mindfulness ability to be used and embodied in everyday life. In the West, three particular types of meditation practice are typically taught within mindfulness training programs: 1) focused attention, 2) open monitoring, and 3) loving-kindness and compassion (Salzberg, 2011). Each of these techniques represent distinct yet related components of mindful living, and each may uniquely facilitate a coping style of reduced avoidance and enhanced approach.

Focused attention. Focused attention meditation, also referred to simply as *concentration*, is characterized by directing one's attention to a specific and clearly defined object and sustaining that attention for a period of time (Lutz, Slagter, Dunne, & Davidson, 2008). The instruction is to simply attend to one's present experience without attending to narrative commentary about what the experience is like, as if one was shining a narrow and clear flashlight on one component of experience and leaving it there. It is a practice of directly experiencing as opposed to thinking about experiencing. A common object of attention is the breath, as it is always available and always moving and thus can be focused on in each moment. Thoughts and sensations inevitably arise while attending to the breath, and so the practitioner simply notices those phenomena, observes them as passing mental occurrences (e.g., thoughts, images, sounds, sensations, etc.), and then returns to the anchor of the breath that always remains in the present moment.

A common additional anchoring component of focused attention practice is the use of silent counting from one to ten, counting on each exhale, and starting back over at one (Hagen, 2012). Counting also helps the individual notice if they have become distracted if they lose count or if they find themselves counting beyond ten. When one does inevitably become distracted, it

is paramount to not judge oneself negatively (Frewen et al., 2007), but rather to simply notice this judgment as just another passing mental occurrence and start back over at one on the next exhale. It can be tempting to judge oneself, and it may be useful to recall the conceptual doing and being modes in this instance.

In the doing mode, there is some optimal way that you want things to be, something to compare your current experience to (e.g., "I'm not relaxed enough" or "I'm not focused enough"). In the being mode, there is only the way things are and an ever-deepening curiosity about how things are. The practice of mindfulness is a cultivation of this being mode and the critical judgment within this mode can simply be acknowledged without the need for further narration, allowing for a return to present experience of the sensations of breath.

A helpful way of understanding the utility of focused attention practice is to imagine a glass of water with sand in it. Conditioning in life and habitual daily activities continually shake up the sand, which makes it difficult to see clearly. Focused attention practice is a means of holding the glass still in order to allow the sand to fall to the bottom of the glass gradually, which is the only way to step back and see the situation with clarity, as opposed to attempting to make the water clear by shaking it up repeatedly. In this way, avoidant coping strategies can be seen as shaking the glass and approach strategies as allowing the sediment to settle to the bottom. An avoidant strategy (as articulated in the COPE inventory) could mean experiencing a distressing situation and then utilizing some form of distraction to reduce negative feelings or giving up in one's initial efforts, whereas an approach strategy would manifest out of pausing and noticing one's tendency to react with an avoidant strategy – pausing long enough to not do so, and then continuing to persevere with a refreshed present-focused perspective.

From an historical Buddhist standpoint, "mindfulness," or *sati* in the original Pali language of the Buddha, refers specifically to the practice of *open monitoring*, described below, whereas focused attention is seen as a separate method (*samadhi*). In the West, these practices have come to be viewed as existing together within the overarching umbrella of mindfulness practice, though there is some controversy in the field with regard to this distinction (Siegel, personal communication, June 6, 2018). In the current study, each of these meditative techniques are considered conceptually within the realm of mindfulness at large, with the understanding that traditional Buddhism differentiates mindfulness from other meditative techniques.

Open monitoring. The practice of open monitoring meditation differs from focused attention in that the scope of one's attentional object becomes much broader and more receptive (Lutz et al., 2008). If focused attention can be thought of as a flashlight illuminating one narrow component of experience (e.g., the sensations of the breath), open monitoring is like a lamp that brings light to an entire room, illuminating all potential objects of one's consciousness. In open monitoring, one simply becomes aware of whatever arises in consciousness without judging it and without pursuing it with further elaboration. Open monitoring can be utilized to notice one's intentions, sensations, emotions, thoughts, and behaviors. Additionally, one can become aware of *interoception*: the sensations coming from inside the body (Farb, Segal, & Anderson, 2012).

Focused attention practice can be viewed as a doorway into open monitoring practice in that concentration may act to first calm the mind/quiet it down enough to allow for a less judgmental and less habitually reactive awareness of the stream of mental events. To expand the metaphor, if focused attention is holding the glass of water still to allow the sand to fall to the bottom, open monitoring is actually placing the glass down and letting go of the effort to make the sand settle, but rather simply observing as it settles fully on its own. Over time, this practice

optimally becomes generalized to everyday living even while not engaged in formal meditation; stimuli that may have once caused an instinctive reaction (e.g., stress or anxiety), may be processed with greater perspective and responded to in a more intentional and reflective manner, optimizing one's capacity to approach each and every situation with objectivity rather than relying on habitual avoidant coping.

Mental noting. The shift from focused attention into open monitoring meditation practice can occur via the mechanism of *mental noting* (Fronsdal, 2008). The aim of this practice is to simply note the various alternating objects of one's attention rather than repeatedly reorienting to a particular object of focus. From moment to moment, one simply notes (i.e., labels) wherever the mind is (e.g., "thinking," "planning," "judging," or even "don't know") from the standpoint of an objective observer. One study showed that mindfulness meditation led to reduced negative affect via this ability to mentally label negative affective stimuli as it occurs (Creswell et al., 2007). The purpose is to gradually cultivate a sense of relaxed awareness toward, and deeper understanding of, the constant flow of the mind without having to effortfully place it on any particular object of attention. This is why the technique is called open monitoring, as the practitioner is simply open to and curious about all possible conscious phenomena in its simplest form.

Loving-kindness and compassion. The practice of loving-kindness and compassion meditation refers to cultivating a particular *quality* of awareness rather than directing awareness to a particular object or to all passing objects of consciousness. These exercises are oriented around intentionally enhancing unconditionally positive emotional states with regard to oneself and others (Germer et al., 2016). According to the Dalai Lama (2003), loving-kindness is a "state of mind which aspires that all sentient beings may enjoy happiness, whereas compassion is "the

wish that all sentient beings may be free from suffering" (p. 67). These explanations are evocative of the complementary elements of well-being, that of reducing distress and increasing wellness. Meditations can be formulated to intentionally cultivate both of these aspects of loving-kindness and compassion (Hopkins, 2001).

A typical loving-kindness meditation guides the individual through a series of objects of attention (Hofmann, Grossman, & Hinton, 2011), intentionally wishing well for each of these objects; that they be safe, healthy, happy, and live with ease, for example (Salzberg, 2002). It is important for this practice to not be mechanical in nature and to investigate any psychological and physiological resistance one experiences – such resistance provides an additional opportunity for the application of mindful observation.

The literature suggests that these meditative methods are associated with an increase in positive affect and a decrease in negative affect, as well as improvements in social anxiety and interpersonal stress. Hofmann and colleagues (2011) conducted a review of the literature and found that these techniques may be particularly potent when combined with empirically-supported treatments, such as cognitive therapy. Studies have also shown that that elements of loving-kindness and compassion can be trained in a relatively short amount of time. Hutcherson and colleagues (2008) found that feelings of social connection and positivity toward strangers could be created in a controlled laboratory environment following a brief loving-kindness meditation exercise in comparison with a closely matched control task. In a final continuation of the glass of water metaphor, the step of loving-kindness and compassion is akin to seeing through the glass of water that has become clear via focused attention and open monitoring practice, acknowledging the sources of one's own suffering, and extending the focus of mindful awareness to the suffering of others. John Stuart Mill, a 19th-century British philosopher,

articulated a sentiment that emphasized the importance of such an other-focused practice for the genuine enhancement of one's own well-being, when he stated the following: "Those only are happy who have their minds fixed on some object other than their own happiness, on the happiness of others, on the improvement of mankind, even on some art or pursuit, followed not as a means, but as itself an ideal end. Aiming thus at something else, they find happiness by the way" (Mill, 1873, p. 115).

Informal mindfulness practice. In addition to formal meditation, informal mindfulness practice refers to the intentional and directed application of nonjudgmental awareness to everyday activities. Any daily behavior can become the object of informal mindfulness practice. For example, two common exercises are "mindful walking" and "mindful eating" (Germer et al., 2016). Walking and eating are two activities that become habitually engaged in with minimal conscious awareness, in the doing mode, and thus are excellent opportunities for the application of informal mindfulness practice. Instead of using these daily activities as a means to an end (i.e., getting somewhere or no longer feeling hungry), they can be broken down into their component parts and experienced with renewed curiosity. There is a famous Zen story in which a teacher is asked to explain the essence of Zen and responds simply with the following: "When walking, just walk. When sitting, just sit" (Richardson, p. 104, 2009). In this way, mindfulness practice can be integrated into one's life in a variety of ways that do not necessarily have to include sitting down with one's eyes closed.

Challenges in mindfulness and meditation practice. While mindfulness and meditation practices are currently being employed as a popular health intervention in a variety of contexts, it is important to acknowledge experiences related to these practices that have been described as challenging, difficult, distressing, and even functionally impairing. Lindahl and colleagues

(2017) employed mixed-methods procedures and revealed that practitioners' experiences ranged in valence from very positive to very negative. These findings emphasize the necessity of taking into account the breadth and depth of experiences that can arise from moving into distressing internal phenomena, and of providing sufficient resources for practitioners.

College Student Vulnerability to Stress

Undergraduate students are particularly vulnerable to the negative effects of stress (Stallman, 2010). Students face a myriad of contemporaneous stressors, such as academic demands, work/life balance, social challenges, and financial strains. The typical age of college transition also coincides with the period of human development known as *emerging adulthood* (Arnett, 2000; Johnson, Crosnoe, & Elder, 2011), which spans from ages 18 to 25. The stressors associated with this period may negatively impact the optimal growth of college students during this highly malleable time (Friedlander et al., 2007), particularly because many of these life challenges are surfacing for the first time (Hicks & Heastie, 2008).

The National College Health Assessment is a national research survey conducted by the American College Health Association (www.acha.org) in order to collect data about student behaviors and perceptions regarding prevalent health topics, including stress. In their 2015 assessment, results showed that about one third of college student respondents indicated that stress was the most significant impediment to their functioning, 84% stated they felt "overwhelmed," and 42% reported more than average (relative to their "normal" level) stress over the past year. An additional report demonstrated a steady trend over time toward more increased and varied sources of stress reported by students (Lewin, 2011), such as taking out student loans and not being able to secure summer employment.

The contemporaneous factors of college life and the emerging adulthood transition may interact in a diathesis-stress dynamic. A diathesis is a predisposition for the development of a pathology or disease state, with that disease state resulting from a combination of the predisposition coming into contact with stressful events (Zuckerman, 2000). The challenges of college life and emerging adulthood may compound to present a diathesis-stress scenario for students where stressors may elicit difficulties that could have been avoided or overcome had the individual been better prepared. Accordingly, it is necessary to better understand how personal resources for coping with distress and cultivating well-being might mitigate this diathesis and insulate students against the negative impacts of these challenges most effectively. One promising method of this insulation may be boosting the tendency of students to utilize approach coping via mindfulness interventions.

Mindfulness Interventions for College Students

Mindfulness-based interventions have begun to receive widespread attention as an effective means for reducing distress and improving the ability to cope specifically for college student populations (Bamber & Schneider, 2016; Dvorakova et al., 2017). Mindfulness training has displayed a myriad of benefits in the college population, such reduced stress and anxiety (Astin, 1997; Shapiro, Oman, Thoresen, Plante, & Flinders, 2008), improved psychological well-being (Jain, Shaprio, & Swanick, 2007; Rosenzweig, Reibel, Greeson, & Brainard, 2003), improved quality of interpersonal relationships (Cohen & Miller, 2009), improved attention and testing performance (Mrazek, Franklin, Phillips, Bair, & Schooler, 2013), increased comprehension and retention of class didactic material (Ramsburg & Youmans, 2014), and improved decision making under stress (Hafenbrack, Kinias, & Barsade, 2013). In one randomized controlled trial (Galante et al., 2016), researchers found that an eight-week

mindfulness-based intervention, derived from the components of MBSR, reduced students' psychological distress and improved resilience to stressors, as well as improve academic performance. Another randomized controlled study found that a seven-week MBSR program reduced mental distress, improved subjective well-being, and particularly improved in the mindfulness facet of nonreactivity among undergraduate students in psychology and medicine who received the training relative to no-treatment control group (de Vibe et al., 2013). Students also displayed decreases in stress directly associated with studying and test-taking, which suggests that they were less caught up in narrative worry about their performance and more able to focus on the task at hand.

MBSR remains the most popular form of mindfulness intervention (Flowers, 2014), but there are a wide variety of interventions based in mindfulness which are known as mindfulness-based interventions (MBIs). Acceptance and Commitment Therapy, (ACT; Hayes et al., 2011), Compassion Focused Therapy (CFT; Gilbert, 2009), Dialectical Behavioral Therapy (DBT; Linehan, 1993), Mindful Self Compassion (MSC; Neff & Germer, 2013), and Positive Psychology (PP; Seligman & Csikszentmihalyi, 2000), are all methodologies that have been packaged and implemented for college populations that have core elements of mindfulness.

Crane and colleagues (2016) attempted to clarify the essential elements of MBIs and found that a MBI 1) is informed by theory and practice stemming from a combination of contemplative traditions and scientific research; 2) is founded upon an underlying theory of the fundamental sources of human distress and the most direct pathways toward relieving it; 3) cultivates a new and often paradigm-shifting relationship with one's experience characterized by focus on the present moment and an approach orientation; 4) supports the training of greater self-regulation of attention, emotions, and behavior, in addition to qualities such as compassion and

equanimity; and 5) engages participants in consistent and intensive meditation practice, as well as other experiential exercises aimed at developing insight and understanding.

Research has demonstrated that MBIs can be packaged and delivered effectively in the form of an online training (Messer, Horan, & Turner, 2015). This format reduces the cost associated with such training and increases its accessibility. Despite the loss of in-person interaction and participation, online mindfulness interventions have produced positive effects on outcomes such as perceived stress, sleep quality, general health, and life satisfaction, comparable to those garnered from in-person trainings (Herzberg et al., 2012; Lappalainen et al., 2014). Online interventions present a feasible and efficient complement to existing strategies to boost student mental health and have the potential to reach large audiences. Such an intervention can also be packaged as a standardized course that an institution can utilize each semester with minimal variability of design and delivery.

While the empirical benefits of MBIs for college students are highly encouraging, there are few studies investigating the specific mechanisms and underlying mediators and moderators of observed training effects (Dvorakova et al., 2017). It is possible that the quality of awareness cultivated by mindfulness training may be the result of the adoption of more adaptive coping strategies in response to stressful situations, enabling access to an awareness in the moment that is often hijacked by emotional and habitual reactivity. Weinstein, Brown, & Ryan (2009) found that adaptive styles of coping (higher approach coping and lower avoidant coping) partially mediated the relationship between mindfulness and well-being, and the current study aimed to extend these findings within the context of an intervention. Additionally, the component of *nonreactivity* may be a unique potentiator within the impact of mindfulness on approach coping. The proposed study aims to investigate these possibilities and contribute to the development of

effective programming to help undergraduate students most effectively cope with the inevitable stress they will face, setting the stage for a life characterized by enhanced well-being.

Research Aims and Hypotheses

The aim of the present study was to assess the short-term impact of a mindfulness-based online course for improving the psychological well-being of college students possibly via increasing their tendency toward adaptive coping with stress. While the empirical benefits of MBIs for college students are encouraging, there are few studies investigating the specific mechanisms and underlying mediators and moderators of observed training effects (Dvorakova et al., 2017). It is possible that the quality of awareness cultivated by mindfulness training can be deployed via the adoption of more adaptive coping strategies in response to stressful situations, enabling access to an awareness in the moment that is often hijacked by emotional and habitual reactivity. Weinstein, Brown, and Ryan (2009) found that adaptive styles of coping (higher approach coping and lower avoidant coping) partially mediated the relationship between mindfulness and well-being, and the study aimed to extend these findings within the context of an online intervention embedded within a stand-alone course.

Additionally, the component of *nonreactivity* may be a unique potentiator within the impact of mindfulness on approach coping. The study aimed to explore this possibility and generally to contribute to the development of effective programming to help undergraduate students more effectively cope with the inevitable stress they will face. Accordingly, the present study proposed to test the following aims and hypotheses:

Research aim 1. Investigate whether an eight-week online mindfulness training program will lead to enhanced mindfulness as measured by the FFMQ.

Hypothesis 1. The mindfulness-based course will lead to a statistically significant increase in self-reported mindfulness from Time 1 to Time 2.

Research aim 2. Investigate whether an online mindfulness training program will lead to enhanced psychological well-being.

Hypothesis 2. The mindfulness-based course will lead to a statistically significant increase in self-reported psychological well-being (as assessed by measures of well-being, affect, and symptoms of depression, stress, and anxiety) from Time 1 to Time 2.

Research aim 3. Investigate whether an online mindfulness training program will yield enhanced adaptive coping.

Hypothesis 3. The mindfulness-based interventions embedded in the course curriculum will lead to a statistically significant increase in self-reported adaptive coping (reduced avoidant and/or increased approach coping) from Time 1 to Time 2.

Research aim 4. Investigate whether adaptive coping will mediate the relationship between mindfulness and well-being.

Hypothesis 4. Enhanced adaptive coping (reduced avoidant and/or increased approach coping) will mediate the relationship between mindfulness and well-being.

Research aim 5. Investigate whether the mindfulness facet of nonreactivity has a unique impact on the relationship between mindfulness and adaptive coping.

Hypothesis 5. Nonreactivity will significantly explain the variance in adaptive coping above and beyond the other four facets of mindfulness from the FFMQ.

CHAPTER II

METHOD

Participants

Participants in the study were all undergraduate students enrolled in a three-credit elective psychology course at Norfolk State University (NSU), a mid-sized public historically Black university (HBCU) in Virginia, during the 2018-2019 academic year. Non-intervention comparison participants, undergraduate psychology students enrolled contemporaneously at NSU, were also recruited to complete a pre-survey in order to assess whether there were any existing differences between participants in the course and the general student population. A power analysis was conducted utilizing the software G*Power (Faul, Erdfelder, Lang, & Buchner, 2007). In order to detect a medium effect size as has been displayed in mindfulness intervention research (Blank et al., 2018; McArthur et al., 2017), the analysis revealed that 34 participants would be needed for a paired samples t-test, 107 participants for a multiple regression, and 107 participants for a hierarchical regression.

The initial sample size collected included course participants and non-course-participant comparison participants. The intention at the outset of the study was to utilize data from comparison participants at Time 1 and at Time 2 as a quasi-experimental control for comparison with changes observed in the participants in the mindfulness course. However, likely due to a lack of incentivization, there was not enough usable data for the comparison group at Time 2. Therefore, non-intervention participants (n = 22) were used only for comparison with the course participant group (n = 45) at the outset of the study in order to gauge if the course participants represent a generalizable sample of the larger psychology student population or if they may be unique with regard to some or all of the measures being investigated. The course participant

group was, therefore, large enough to detect a medium effect size per the previously described power analysis but was underpowered for multiple regression and hierarchical regression analyses. Validity check response items were implemented within each portion of the surveys that students were asked to complete in order to gauge for random responding. Three respondents were removed due to random responding, resulting in 67 usable data sets for analysis, 22 of those consisting of comparison subjects to be utilized only at the outset of the study for comparison. Therefore, for the main analyses of the study, the total sample size consisted of the 45 course participants. A limitation of the current study was the small sample size for regression analyses, which is noted in the discussion.

The mean age of the course participant sample was 23.15 years old ($SD = 5.70$; $R = 30$). The sample included 38 females (84.4%) and 7 males (15.6%), which is somewhat comparable to NSU's typical student population (65% females and 35% males; NSU, 2018). The course participant mean GPA for all of their classes was 2.89 ($SD = .45$; $R = 1.8$). Thirty nine percent of the sample reported prior experience with mindfulness practice, with the remainder reporting no prior experience. The comparison sample mean age was 19.09 years old ($SD = 1.51$; $R = 6$) and this did significantly differ from the course participant sample ($p < .001$). The comparison mean GPA was 2.90 ($SD = 0.69$; $R = 2.5$), which did not significantly differ from the course participant sample ($p = .95$). Other demographic characteristics of the sample are reported in Table 1.

Table 1
Demographic characteristics of participant group sample

Factor	Course Participants n (% of 45)	T1 Comparison Participants n (% of 22)
Gender		
Male	7 (15.6%)	2 (9.1%)

Table 1 Continued

Factor	Course Participants n (% of 45)	T1 Comparison Participants n (% of 22)
Female	38 (84.4%)	20 (90.9%)
Race/Ethnicity		
African American	36 (80.0%)	21 (95.5%)
Asian/Pacific Islander	1 (2.2%)	
Hispanic/Latino	1 (2.2%)	
Multiracial	4 (8.9%)	1 (4.5%)
Caucasian	2 (4.4%)	
No response	1 (2.2%)	
Year in School		
1st Year		20 (90.9%)
2nd Year	1 (2.2%)	1 (4.5%)
3rd Year	16 (35.6%)	1 (4.5%)
4th Year	27 (60.0%)	
Graduate Student	1 (2.2%)	

Procedure

The study was approved by the Institutional Review Board at NSU. The study consisted

of the administration of an eight-week online mindfulness-based *Special Topics in Psychology*

course. *Introduction to Mindfulness and Meditation* was listed as a three-credit free-elective

psychology course for undergraduate students at NSU with no prerequisites required for

enrollment. The course was offered during two consecutive eight-week mini-term semesters, and

students self-enrolled into the course or were enrolled by their academic advisor at the student's

request. At the beginning and end of the course, participants completed a survey containing the

measures of interest. Time 1 comparison participants, recruited via email through professors of

introductory psychology courses at NSU, also completed the pre-survey in order to assess

differences in responding to the questionnaire items between the course participants and the

general student population. The initial page of the survey consisted of informed consent (Appendix A) followed by self-report instruments measuring mindfulness, well-being, and coping style, as well as a short demographic questionnaire (Appendices B-G). It was estimated that the study materials would take the average participant 20-30 minutes to complete. Participants were able to exit the survey at any time without penalty. Focal group participants' surveys were requirements for course credit. Surveying was administered online via Qualtrics (www.qualtrics.com). All data were kept in secured electronic files in compliance with the standards of the University, federal regulations, and the American Psychological Association (APA, 2010). Data files with participant survey information were kept anonymous and were coded so that only de-identified data would be available during analyses.

The course was eight weeks in length, delivered online through the Blackboard learning management system in accordance with NSU's policies for training and implementation of online instruction. The course was facilitated asynchronously. Course content and the syllabus (Appendix H) were derived from exercises used in Kabat-Zinn's (1982) Mindfulness-Based Stress Reduction (MBSR) curriculum via a required textbook (Williams, Penman, & Kabat-Zinn, 2012) as well as incorporated mindfulness practices and techniques from Acceptance and Commitment Therapy (Harris, 2008) in order to cultivate an approach-coping orientation. Weekly instructional videos were provided following along with the assigned textbook (Williams, Penman, & Kabat-Zinn, 2012), specific practices were assigned along with weekly reflections based on those practices, and formative and summative assessments were given to gauge participant comprehension of text and course material. Participants were instructed to utilize the *Insight Timer* (www.InsightTimer.com) meditation smartphone app in order to standardize individual meditation practices. The use of the app provided a no-cost mechanism for

the delivery of recorded guided meditations and allowed for the exporting of practice logs, so the amount and frequency of one's meditation practice could be documented. In the case that participants did not have access to a smartphone, audio files of guided meditations would have been made available to students online; however, this was not necessary for anyone from this sample.

Measures

   Demographics Questionnaire. A demographics questionnaire was utilized that assesses age, gender, and academic year of study in addition to assessment of previous mindfulness and meditation practice (Appendix B) in order to control for the influence of this factor.

   Five Facet Mindfulness Questionnaire. The *Five Facet Mindfulness Questionnaire* (FFMQ; Baer et al., 2006) is a 39-item Likert-scaled self-report measure that yields and overall mindfulness score and five facets related to core mindfulness skills. Baer and colleagues (2006) identified the following Cronbach's alpha coefficients for each of the five facets: *observing* (α = .83), *describing* (α = .71), *acting with awareness* (α = .87), *nonjudging* of inner experience (α = .87), and *nonreactivity* to inner experience (α = .75). Items are rated from 1 (*never or very rarely true*) to 5 (*very often or always true*). Nineteen of the items are reverse scored, the scores for each facet are summed and averaged to create total facet subscale scores ranging from one to five, and the facet scores are then averaged to create a total mindfulness score, with higher scores indicating greater levels mindfulness.

   Baer et al. ran an exploratory factor analysis on all items from existing mindfulness measures including the following: the Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003), the Freiburg Mindfulness Inventory (FMI; Buchfield, Grossman, & Walach, 2001), the Kentucky Inventory of Mindfulness Skills (KIMS; Baer, Smith, & Allen), the Cognitive and

Affective Mindfulness Scale (CAMS; Feldman, Hayes, Kumar, & Greeson, 2004), and the

Mindfulness Questionnaire (MQ; Chadwick, Hember, Mead, Lilley, & Dagnan, 2005). Results

suggested the five-factor model that is the basis for the FFMQ. The items with the highest

loadings on these factors were included and then a confirmatory factor analysis was run with a

second sample, which supported the five-factor model. Research by Bohlmeijer and colleagues

(2011) has confirmed the internal consistency of the FFMQ. Cronbach's alphas ranged from .73

to .91 for each of the facets, and subscales correlated in expected directions with concurrent

measures that assessed positive mental health ($r = .37$), acceptance ($r = .54$), anxiety ($r = -.24$),

and depression ($r = -.25$). Cronbach's alphas for the current sample were as follows: *observing*

(T1 = .72; T2 = .74), *describing* (T1 = .86; T2 = .83), *acting with awareness* (T1 = .82; T2 =

.82), *nonjudging* of inner experience (T1 = .86; T2 = .85), and *nonreactivity* to inner experience

(T1 = .64; T2 = .71). The FFMQ is provided in Appendix C.

     COPE Inventory. The COPE inventory (Carver, Scheier, & Weintraub, 1989) is a

measure that was developed to gauge an individual's utilization of various types of coping styles

in response to distressing situations. Subscales have been combined to form composite scales of

avoidant and approach coping (Weinstein, Brown, & Ryan, 2009). Avoidant coping efforts

include the subscales of denial, behavioral disengagement, and mental disengagement (each

subscale containing four items). Approach coping efforts include active coping, acceptance, and

positive reinterpretation and growth (each subscale containing four items). Responses are scaled

from 1 (*I did not do this at all*) to 4 (*I did this a lot*). Internal consistency for each subscale

ranges from 0.61 to 0.73, average $\alpha = 0.68$ (Weinstein, Brown, & Ryan, 2009). Past research

(e.g., Deisinger et al., 1996; Lyne & Roger, 2000; Stowell et al., 2001) has utilized averages of

the three subscales comprising each type of coping to form composite approach and avoidant

scales (α = 0.82 and 0.86, respectively). Cronbach's alphas for the current sample were .78 for the approach scale at Time 1 and .76 at Time 2; and .75 for avoidant at Time 1 and .76 at Time 2. The COPE Inventory is provided in Appendix D.

Ryff Scales of Psychological Well-Being. One of the most widely used well-being survey instruments is Ryff's multi-dimensional Psychological Well-being scales (PWB; Ryff & Keyes, 1995). It consists of 42 Likert-scaled statements, with negatively-phrased statements being reverse coded. This instrument was specifically designed to measure positive aspects of psychological functioning along six theoretically-motivated dimensions: independence and self-determination (autonomy); having satisfying relationships (positive relations with others); the ability to manage one's life (environmental mastery); being open to new experiences (personal growth); believing one's life is meaningful (purpose in life); and a positive attitude towards oneself and one's life (self-acceptance). Individual sub-scales within this measure have been found to be valid and to correlate individually with measures of satisfaction with life ($r = .47$), happiness ($r = .58$), and self-esteem ($r = .46$), and have been found to be reliable, with each of the subscales having test-retest coefficients ranging from .70 to .78, and an overall score reliability of .82 (Bayani, Koocheky, & Bayani, 2008). Some analyses have displayed adequate measurement of average levels of well-being, but lack precision of measurement at high levels (Abbot, Ploubidis, Huppert, Kuh, & Croudace, 2010). Cronbach's alphas for the current sample were as follows: *autonomy* (T1 = .65; T2 = .78); *environmental mastery* (T1 = .71; T2 = .71); *personal growth* (T1 = .64; T2 = .77); *positive relations* (T1 = .60; T2 = .71); *purpose in life* (T1 = .75; T2 = .76); and *self-acceptance* (T1 = .81; T2 = .67). The PWB is provided in Appendix E.

Positive and Negative Affect Schedule. The Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) comprises two mood scales, one that measures

positive affect and the other which measures negative affect. There are 20 single-word items (positively or negatively valenced) and individuals state to what degree they feel that way now or have felt that way over the past week. Reliability and validity reported by Watson (1988) was moderately good. For the Positive Affect Scale, the Cronbach alpha coefficient was 0.86 to 0.90; for the Negative Affect Scale, 0.84 to 0.87. Over an eight-week time period, the test-retest correlations were 0.47-0.68 for the PA and 0.39-0.71 for the NA. The PANAS has displayed validity with such measures as general distress and dysfunction, depression, and state anxiety. Cronbach's alphas for the current sample were .91 for positive affect at Time 1 and .89 at Time 2; and .84 for negative affect at Time 1 and Time 2. The PANAS is provided in Appendix F.

Depression Anxiety and Stress Scales. The *Depression Anxiety and Stress Scales* (DASS-21; Henry & Crawford, 2005) is a 21-item screening instrument used to assess symptoms of depression, anxiety, and stress. Sub-scales are generated for each of these symptom clusters. Research has demonstrated strong internal consistency ($\alpha > .70$) as well as significant correlations with related measures such as the Beck Anxiety and Beck Depression Scales ($r = .58-.78$), the PANAS ($r = .69$), and the Symptom Checklist-90-R ($r = .57-.84$) (Brown, Chorpita, Korotitsch, & Barlow, 1997). Cronbach's alpha for the current sample were .81 for depression at both Time 1 and Time 2; .70 for anxiety at Time 1 and .73 for anxiety at Time 2; and .78 for stress at Time 1 and .80 for stress at Time 2. This measure is provided in Appendix G.

CHAPTER III

RESULTS

Data Analysis and Descriptive Statistics

Data were analyzed utilizing SPSS Version 21.0 (IBM, 2012). Prior to conducting

analyses, data were cleaned and questionnaire responses were analyzed for missingness. A

missing values analysis revealed low levels of missingness (< .05). Missing data were imputed

using expectation maximization estimation, operating under the assumption that data were

missing completely at random.

Several assumptions were assessed to ensure the appropriateness of the data for the

proposed analyses. All variables appeared normally distributed, with the criteria for normality

based on skewness and kurtosis falling between ±2 (George & Mallery, 2010). Levene's tests

indicated homogeneity of variance ($p > .05$; Levene, 1960). Descriptive statistics for each

measure, including Time 1 comparison participants, are presented in Table 2.

Table 2
Descriptive statistics for independent and dependent variables

Variable	T1 *M (SD)*	T2 *M (SD)*	T1 Comparison
Total Mindfulness**	3.31 (0.42)	3.50 (0.45)	3.24 (0.41)
Observing**	3.50 (0.66)	3.76 (0.66)	3.57 (0.71)
Describing	3.49 (0.72)	3.61 (0.65)	3.37 (0.79)
Awareness	3.39 (0.70)	3.43 (0.63)	3.37 (0.78)
Nonjudgment	3.13 (0.82)	3.35 (0.53)	2.90 (0.94)
Nonreactivity***	3.02 (0.56)	3.34 (0.56)	3.11 (0.51)
Coping			
Approach Coping	3.11 (0.49)	3.14 (0.46)	3.14 (0.45)
Avoidant Coping	2.06 (0.51)	1.94 (0.40)	2.16 (0.56)

Table 2 Continued

Variable	T1 *M (SD)*	T2 *M* (*SD*)	T1 Comparison
Psychological Well-Being			
Autonomy	4.39 (0.80)	4.50 (0.84)	4.36 (0.76)
Environmental Mastery	4.00 (0.85)	4.40 (0.73)	3.82 (0.77)
Personal Growth	4.86 (0.73)	4.98 (0.81)	4.53 (0.76)
Positive Relationships	4.44 (0.80)	4.62 (0.80)	4.20 (0.76)
Purpose in Life	4.69 (0.81)	4.72 (0.82)	4.54 (0.71)
Self-Acceptance	4.26 (0.99)	4.42 (0.78)	4.10 (1.04)
Affect			
Positive Affect	3.46 (0.95)	3.63 (0.94)	3.20 (0.94)
Negative Affect	2.31 (0.83)	2.27 (0.91)	2.36 (0.91)
Symptoms			
Depression	21.33 (7.35)	20.62 (8.05)	27.45 (10.36)
Anxiety	24.71 (8.25)	24.31 (7.82)	25.82 (7.25)
Stress	26.76 (8.77)	25.91 (8.75)	29.27 (7.57)

Note. $^*p < .05$, $^{**}p < .01$, and $^{***}p < .001$

Univariate outliers were examined utilizing box plots. Box plots revealed one outlier on measures of avoidant and adaptive coping both pre and post-intervention. These outliers were not considered extreme (i.e., standardized residuals were less than 3; Laerd Statistics, 2015) and were thus windsorized (see Wilcox, 2014). The assumption of normality of residuals was met, as assessed by visual inspection of a Q-Q Plot. The variance inflation factor values were lower than two across all models, suggesting that multicollinearity was not an issue (Hair, Anderson, Tatham, & Black, 1995). Lastly, while participants enrolled in the online mindfulness courses differed in terms of age from comparison participants, the groups did not significantly differ (*p* >

.05) on any Time 1 outcome variables, suggesting that individuals enrolled in the course were not systematically different from the larger student body (see Table 2 for comparison data).

Hypotheses

      Hypothesis 1. *The mindfulness-based course will lead to a statistically significant increase in self-reported mindfulness from Time 1 to Time 2.*

      The results of paired samples t-tests suggested that the online mindfulness course was effective at increasing one's level of mindfulness ($p = .004$). Total mindfulness scores increased from 3.31 ($SD = .42$) pre-intervention to 3.50 ($SD = .45$) post-intervention. These results appear to be driven by the observing and nonreactivity subscales, with observing scores significantly increasing from 3.50 ($SD = .66$) to 3.76 ($SD = .66$; $p < .01$) and nonreactivity scores increasing from 3.02 ($SD = .56$) to 3.34 ($SD = .57$; $p < .001$). No other changes in mindfulness subscale scores were significant ($p > .05$).

      Hypothesis 2. *The mindfulness-based course will lead to a statistically significant increase in self-reported psychological well-being from Time 1 to Time 2.*

      Paired samples t-tests revealed no significant changes in affect, symptoms of depression, stress, or anxiety ($p > .05$). However, there was a significant increase in participants' psychological well-being as measured by the well-being subscale of Environmental Mastery, increasing from 4.00 ($SD = .85$) to 4.40 ($SD = .73$; $p = .05$) from Time 1 to Time 2. In addition, bivariate correlations revealed that total mindfulness scores were significantly associated in expected directions with approach coping, avoidant coping, all facets of psychological well-being, and depressive symptoms. See Table 3 for a bivariate correlation table.

Table 3

Zero-order correlations among study variables pre- and post-intervention

Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Mindfulness T1	1	.67**	.32*	.32*	-.57*	-.35*	.63**	.41**	.20	.07	-.34*	-.24	-.45**	-.20	-.16	-.10	-.52**	-.21
2. Mindfulness T2		1	.38*	.61**	-.34*	-.41*	.59**	.70**	.01	.24	-.19	-.02	-.23	-.39**	-.12	-.13	-.33*	-.25
3. Approach Coping T1			1	.56**	-.16	-.26	.53**	.32*	-.01	.03	-.34*	-.01	-.33*	-.33*	.07	-.06	-.15	-.12
4. Approach Coping T2				1	-.18	-.35*	.49**	.55**	-.08	.18	-.27	-.11	-.26	-.43**	-.14	-.17	-.20	-.25
5. Avoidant Coping T1					1	.47**	-.46**	-.33*	-.17	-.02	.22	.28	.32	.13	.22	.11	.41**	.22
6. Avoidant Coping T2						1	-.29	-.54**	-.03	-.05	.25	.33*	.29	.51**	.21	.46	.27	.44*
7. Well-Being T1							1	.60**	.27	.21	-.44**	-.23	-.59**	-.25	-.35*	-.18	-.50**	-.36*
8. Well-Being T2								1	.03	.20	-.26	-.18	-.52**	-.65**	-.29	-.42**	-.38*	-.46**
9. Positive Affect T1									1	.49**	.28	.24	-.31*	.12	.14	.12	.06	.11
10. Positive Affect T2										1	.14	.00	-.18	-.22	.03	-.22	-.02	-.17
11. Negative Affect T1											1	.55**	.27	.08	.48**	.21	.57**	.37*
12. Negative Affect T2												1	.30*	.35*	.46**	.54**	.41**	.55**
13. Depression T1													1	.49**	.45**	.43**	.64**	.44**
14. Depression T2														1	.20	.70**	.30*	.60**
15. Anxiety T1															1	.50**	.67**	.66**
16. Anxiety T2																1	.46**	.87**
17. Stress T1																	1	.62**
18. Stress T1																		1

Note. $^*p < .05$, $^{**}p < .01$, and $^{***}p < .001$

Hypothesis 3. *The mindfulness-based interventions embedded in the course curriculum will lead to a statistically significant increase in adaptive coping (reduced avoidant and/or increased approach coping) from Time 1 to Time 2.*

Paired samples *t*-tests did not reveal significant changes in approach or avoidant coping ($p < .05$), but two hierarchical linear regressions were run to examine the relationship between mindfulness and adaptive coping as a result of participation in the course. In Step 1, Time 1 mindfulness total scores and coping scores were entered (analyses were run separately for approach and avoidant coping scores). In Step 2, Time 2 mindfulness total scores were entered as the independent variable of interest. Models were run separately for approach coping and avoidant coping as the dependent variables. Results suggested that, while controlling for scores at Time 1, mindfulness was significantly and positively associated with approach coping ($p < .05$), and significantly and negatively associated with avoidant coping ($p < .05$) while controlling for Time 1 levels of the variables. Mindfulness scores explained 20% of the variance in changes in approach coping and 7% of changes in avoidant coping. This indicated that the relationship between one's level of mindfulness and their use of adaptive coping (approach over avoidance) was significant at the end of the course while controlling for participants' scores at Time 1. See Table 4 results of hierarchical linear regressions. Also, of note, bivariate associations between mindfulness and approach coping increased from a medium effect ($r = .35$) before the course to a large effect ($r = .61$) at the end of the course. In addition, approach coping was positively correlated almost universally with well-being, and avoidant coping showed inverse relationships (see Table 3).

Table 4

Hierarchical regression analysis of mindfulness predictors of Time 2 avoidant and approach coping

	Approach Coping Post-Score					Avoidant Coping Post-Score				
	B	$SE\ B$	β	$R^2\ Adj$	ΔR^2	B	$SE\ B$	β	$R^2\ Adj$	ΔR^2
Step 1: Pre-Scores				.30	---				.23	---
Approach Pre-Score	0.46	0.12	.51***			---	---	----	----	
Avoidant Pre-Score	---	---	----	----		0.34	0.15	.40*		
Mindfulness Pre-Score	0.16	0.14	.15			-0.11	0.14	-.21		
Step 2: Mindfulness				.50	.20***				.30	.07*
Approach Pre-Score	0.36	0.10	.40**			---	---	----	----	
Avoidant Pre-Score	---	---	----	----		0.36	0.13	.43*		
Mindfulness Pre-Score	-0.26	0.16	-.24			0.14	0.19	.15		
Mindfulness Post-Score	0.64	0.15	.63***			-0.33	0.16	-.37*		

Note. *$p < .05$, **$p < .01$, ***$p < .001$.

Hypothesis 4. *Enhanced adaptive coping (reduced avoidant and/or increased approach coping) will mediate the relationship between mindfulness and well-being.*

A mediation analysis was not conducted due to the lack of significant changes in adaptive coping and the majority of well-being variables (aside from Environmental Mastery) as a result of the course. Therefore, it was not found that enhanced adaptive coping mediated the relationship between mindfulness and well-being.

Hypothesis 5. *Nonreactivity will significantly explain the variance in adaptive coping above and beyond the other four facets of mindfulness from the FFMQ.*

Multiple hierarchical regressions were run to explore the possible unique role of the nonreactivity facet of mindfulness in adaptive coping (see Table 5). Time 1 variables of the FFMQ subscales were entered in Step 1 along with Time 1 levels of the outcome variables (i.e., approach and avoidant coping based on model – approach and avoidant again being entered in separate analyses). In Step 2, Time 2 FFMQ scores were added with the exception of Time 2 nonreactivity scores that were added in Step 3. Nonreactivity explained 4% of unique variance in approach coping and approached significance ($p = .07$). Nonreactivity explained 2% of unique variables in avoidant coping but was not significant ($p > .05$). The describing facet of mindfulness was the strongest predictor of both avoidant and approach coping. When models were re-analyzed entering the describing facet in Step 3, the describing facet explained 7% of variance in approach coping ($p = .02$) and 5% of variance in avoidant coping but was not significant ($p > .05$). These results did not support the hypothesis that nonreactivity would uniquely explain variance in adaptive coping.

Table 5

Multiple hierarchical regression analysis of FFMQ facet predictors of Time 2 avoidant and approach coping

	Approach Coping Post-Score					Avoidant Coping Post-Score				
	B	$SE\ B$	β	$R^2\ Adj$	ΔR^2	B	$SE\ B$	β	$R^2\ Adj$	ΔR^2
Step 1: Pre-Scores				.29	---				.17	---
Approach Pre-Score	0.35	0.14	.39*			---	---	----	----	
Avoidant Pre-Score	---	---	----	----		0.26	0.16	.31		
Observe Pre-Score	0.10	0.11	.14			0.10	0.11	.17		
Describe Pre-Score	0.03	0.12	.04			-0.05	0.12	-.09		
Act Pre-Score	-0.08	0.13	-.11			-0.04	0.11	-.06		
Non-judge Pre-Score	0.04	0.11	.06			-0.00	0.10	-.00		
Non-react Pre-Score	0.18	0.12	.23			-0.17	0.12	-.25		
Step 2: Facets of FFMQ				.49	.20**				.27	.10
Approach Pre-Score	0.26	0.13	.29*			---	---	----	----	
Avoidant Pre-Score	---	---	----	----		0.30	0.15	.35		
Observe Pre-Score	0.05	0.11	.07			0.11	0.12	.17		
Describe Pre-Score	-0.08	0.11	-.11			0.01	0.12	.02		
Act Pre-Score	-0.25	0.14	-.37			0.01	0.14	.02		
Non-judge Pre-Score	0.14	0.11	.22			0.08	0.12	.14		
Non-react Pre-Score	0.00	0.11	.00			-0.05	0.11	-.07		
Observe Post-Score	0.10	0.11	.14			0.05	0.12	.09		
Describe Post-Score	0.38	0.12	.54**			-0.17	0.12	-.29		
Act Post-Score	0.08	0.14	.12			0.02	0.15	.03		
Non-judge Post-Score	-0.03	0.15	-.03			-0.28	0.15	-.37		
Step 3: Non-reactivity facet				.53	.04				.29	.02
Approach Pre-Score	0.30	0.13	.34*			---	---	---	---	---
Avoidant Pre-Score	---	---	---	---	---	0.28	0.15	.33		
Observe Pre-Score	0.05	0.11	.07			0.11	0.12	.18		
Describe Pre-Score	-0.11	0.11	-.16			-0.01	0.12	-.02		
Act Pre-Score	-0.27	0.14	-.40			-0.01	0.14	-.02		
Non-judge Pre-Score	0.15	0.11	.24			0.08	0.12	.15		
Non-react Pre-Score	-0.07	0.11	-.08			-0.08	0.12	-.12		
Observe Post-Score	0.05	0.11	.07			0.02	0.12	.04		
Describe Post-Score	0.32	0.12	.49*			-0.21	0.13	-.35		
Act Post-Score	0.13	0.14	.17			0.06	0.15	.07		
Non-judge Post-Score	-0.04	0.14	-.04			-0.28	0.15	-.37		
Non-reactivity Post-Score	0.23	0.12	.29			0.13	0.13	.19		

Note. *$p < .05$, **$p < .01$, ***$p < .001$.

CHAPTER IV

DISCUSSION

This study examined the impact of a brief online mindfulness-based intervention on the mindfulness and well-being of college students and investigated the potentially mediating role of enhanced adaptive coping in the relationship between mindfulness and well-being. One aim of the study was to determine if the intervention would in fact increase students' reported levels of mindfulness (Hypothesis 1), well-being (Hypothesis 2), and adaptive coping as measured by an increase in students' reported use of approach coping strategies and a decrease in avoidant coping (Hypothesis 3). The results were mixed in terms of their support of these hypotheses. The intervention was shown to significantly increase students' mindfulness, particularly in the FFMQ facets of nonreactivity and observing. The intervention was also shown to increase students' psychological well-being in the domain of environmental mastery but did not significantly enhance other psychological well-being domains or reduce students' endorsement of symptoms of depression, anxiety, or stress. Additionally, the intervention was found to not significantly impact students' use of adaptive coping, which consequently did not support the hypothesis that adaptive coping mediates the relationship between mindfulness and well-being (Hypothesis 4). However, the relationship between one's level of mindfulness and their use of adaptive coping (approach over avoidance) was significant at the end of the course while controlling for participants' scores at Time 1. Therefore, students who were relatively higher in mindfulness at the end of the course were also relatively higher in approach coping and lower in avoidant coping, indicating that the course may have impacted this dynamic relationship.

These findings contribute to the understanding and creation of efficient mindfulness-based interventions for college students. Data from the current study suggest that efforts to

implement such mindfulness-based training may be considered with regard to efforts to improve

certain elements of the well-being of college students, particularly their sense of competence in

managing their environment, and that further research is needed in order to more thoroughly

understand the mechanisms of mindfulness' beneficial impact on the lives of students. It may

also be that a longer intervention than utilized in this study may be necessary to reveal this

impact in greater clarity, as well as the use of delayed follow-up measurement to gauge long

term effects, particularly with regard to mindfulness' relationship with adaptive coping.

One additional aim of the study was to explore the unique impact of nonreactivity within

the mindfulness process at large, utilizing the FFMQ conceptualization of nonreactivity as one of

five facets (along with observing, describing, acting with awareness, and nonjudging) under the

umbrella of mindfulness. Previous research suggested that nonreactivity played a primary role in

mindfulness' positive relationship with resilience (Freligh & Debb, 2019), and it was theorized

that nonreactivity would play a similar role in mindfulness' relationship with adaptive coping

(Hypothesis 5). This hypothesis was not supported, but it may be beneficial to further examine

the individual roles of FFMQ facets as it may pertain to future research regarding mindfulness'

beneficial impact on college students and their use of adaptive coping.

Implications

Theoretical implications. The current study utilized the conceptualization of the *doing*

and *being* modes of experience as a means of understanding what mindfulness is and how it

exerts its broad positive impact on well-being. Figure 1 illustrated the theoretical

conceptualization of mindfulness presented in the study, utilizing *doing* and *being* as the two

basic experiential modes of living, and integrated the FFMQ facets as they may be implicated in

the *being* mode. While the results of this study did not support the unique role of nonreactivity,

this theoretical model may still provide useful to future researchers interested in studying the effects of individual facets of mindfulness. Figure 2 illustrates the negative impact of relying too heavily upon the *doing* mode and the way in which it may support avoidant coping. Avoidance is instinctively activated as a strategy to reduce the discrepancy between current and desired state, but actually functions to exacerbate the effect of the original stimulus (Brewer, 2017) which swells the negative effects of stress. Alternatively, the *being* mode offers an antidote to this vicious circle.
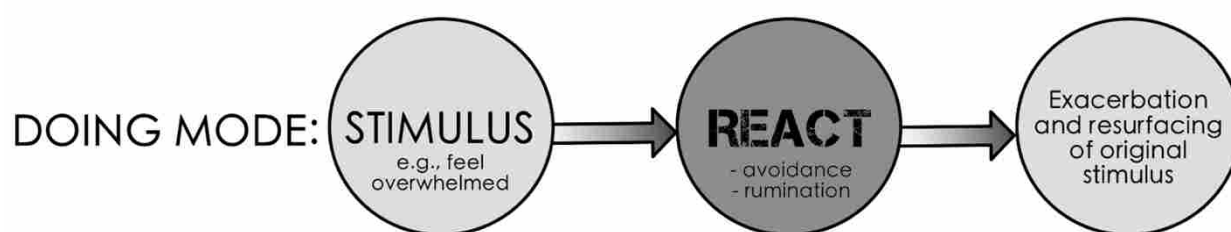

Figure 2. The *doing* mode's self-defeating impact as applied to internal experiences.

The *being* mode represents a shift from conceptual experience (identifying how things are and how they "should" be) to direct experience. *Being* can be thought of as the inverse of the discrepancy model; in the *being* mode, there is no standard of how things should be and therefore no need to resolve any discrepancy. Instead, the focus is on accepting the current experience without having to immediately change it, which allows for a slowing down of processing and a reduction of habitual action, which is synonymous with the mindfulness process. The sense of "should" or "must" associated with the discrepancy model becomes less strongly linked with consequent actions (Ostafin & Kassman, 2012). Figure 3 illustrates the being mode.
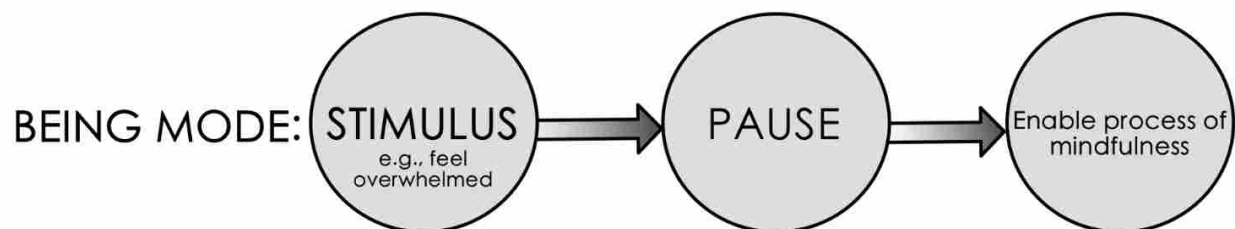
Figure 3. The *being* mode as it may differ from *doing* in response to a threatening stimulus.

The aforementioned study (Frelign & Debb, 2019) found that *nonreactivity*—the capacity to pause before responding to an initially threatening stimulus—may play a primary role in the *being* mode process particularly in the case of mindfulness' impact on resilience to stress (via explaining variance in resilience above and beyond the other four identified mindfulness facets). Again, while this study did not replicate these results with regard to the specific impact of nonreactivity on adaptive coping, the conceptual model presented in this study may prove useful for future research interested in the unique variables within mindfulness that may be essential to unlocking/enabling the broader mindfulness process along with its consequent impacts on well-being. The theory related to the primary impact of nonreactivity may require further articulation, potentially utilizing additional measures outside of the FFMQ, to capture this construct in order for the hypothesized impact to be effectively assessed. This may enhance current training to be able to target specific outcome variables.

Practical implications. Evaluative feedback from participants was collected within the courses both at the mid-semester point and at the end of the course to gauge their subjective experience of and satisfaction with the course (see in full in Appendix I). Participants reported their satisfaction with the course on a scale of 1 (least satisfied) to 5 (most satisfied), and the

results showed that there was a high level of satisfaction ($M = 4.64$; $SD = .35$). Additionally, participants' comments revealed several themes, such as increased self-confidence and self-compassion (e.g., "I feel more comfortable with myself," "I have learned a lot about myself," and "this course teaches one to celebrate themselves and their characteristics"), appreciation of much of the course content being delivered in short "informative and easy to understand" videos, and the recommendation that such a course be a requirement for incoming students. This qualitative data may imply an effectiveness of the course not captured by the hypotheses and results of this study, and future studies may further explore the quantitative underpinnings of the benefits of such a course delivered in this short-term online model. One potential avenue for study may be that of self-compassion, which appeared to be reflected as a benefit of the course throughout students' evaluative feedback. It may be the course design, course delivery, course instructor, or some other combination of course dynamics that were otherwise unaccounted for.

Additionally, from a practical perspective, academic institutions may adopt this sort of standardized online mindfulness course into their curriculum with minimal financial or time-based burden, with implementation consistent with retention initiatives targeting preventative or protective factors contributing to students' positive transitioning throughout their college careers. As seen in the qualitative feedback, many of the students from this sample reported that this sort of curriculum should be available for all students in order to improve students' mental health and to counteract typical stressors of higher education.

Strengths and Limitations

Despite the lack of direct support for several of the hypotheses, data from this study may be further contributed to via ongoing administration of the same course in the future. This may increase the sample size and potentially detect effects that may have gone undetected in this

iteration of the study due to being underpowered. Additionally, this study utilized a sample of typically understudied individuals (mostly African American students at an HBCU, and mostly women within this demographic) not only in research at large but specifically within the mindfulness literature, which has utilized largely homogenous Caucasian samples. There was additionally a low attrition rate in the participant group and, as shown above, the course received positive qualitative feedback from participants, suggestive of its utility as a stand-alone course offering.

A significant limitation of the study is that, while the intention at the outset of the study was to utilize data from comparison participants at Time 1 and at Time 2 as a control group, there was not enough usable data for the comparison group at Time 2. This was likely due to a lack of incentive for these participants to complete the survey. Therefore, the comparison participants (n = 22) were used only for comparison with the course participant group (n = 45) at the outset of the study in order to gauge if the course participants represent a generalizable sample of the larger psychology student population. The course participant group was, therefore, large enough to detect a medium effect size for Time 1 versus Time 2 t-tests but was underpowered for multiple regression and hierarchical regression analyses. The lack of a control group at Time 2 limits the ability to account for changes that may have simply occurred over time rather than as a function of participation in the course. It may also be that a maintenance of well-being measurements at the same level at Time 1 and Time 2 was a strength of this course, relative to a possible decrease over time as students' semesters become more demanding and potentially more stressful. The lack of control data at Time 2 disallowed the assessment of this possibility.

The results of this study may be limited due to reliance on self-report data, which presents the complicating factor of response biases including social desirability (van de Mortel, 2008). While the study utilized a novel sample with regard to existing mindfulness literature, it also consisted of a highly homogenous sample mostly comprised of African American females, limiting the generalizability of findings. Additionally, it is unknown what motivated individuals to participate in the course, and it may be that those with a previously existing interest in mindfulness self-selected into participation. However, participants in the study were found not to significantly differ on any of the variables of interest from the non-participant comparison group.

Future Directions

Future research may benefit from including a more heterogeneous sample including males and individuals from other races and ethnicities. It may also be valuable to have a clearer way of assessing why students self-enrolled in the course. Additionally, it would be interesting to compare the results of a general population sample such as from the present study with that of college students who also constitute diagnostically clinical samples in terms of more extreme mental health symptomology, for example, those suffering from either acute or chronic stress disorders or comorbid mood disorders. Future research should continue to investigate the mechanisms of change underlying mindfulness training's benefits on well-being potentially utilizing the conceptual model presented in this study and continue to explore the impact of mindfulness on adaptive coping.

Different study designs may provide useful, such as ecological momentary assessment (EMA) research, which could allow for measurement of between person versus within person changes at a momentary level and increase the sensitivity to mechanisms hypothesized in this study. The course materials in this study, while created in a standardized fashion, were also

largely instructor based, and were limited with regard to their direct generalizability to other existing mindfulness interventions. And, while the use of the Insight Timer application provided free access to standardized meditation practices, this may have also introduced some complication in terms of participants' facility and experience with the use of such applications, in addition to other possible unforeseen complications of utilizing and depending upon technology.

It may also be valuable to explore other methods of measuring mindfulness in addition to the FFMQ including potentially physiological and/or behavioral measurement. With regard to the delivery of the course itself, it may prove useful to offer the course at varying lengths to gauge if a longer course may show different results, as well as to compare the online course with a comparable in-person course to assess the role of learning online.

CHAPTER V

CONCLUSION

This study contributes to the understanding of how mindfulness training exerts its beneficial impact on the well-being of college students, and from a practical standpoint, it implemented an original efficient online mindfulness training that appeared to be well-received by students. The study also contributed to the study of mindfulness interventions with a majority African American population, as 85% of the sample racially self-identified as such. Overall, the findings revealed that the training, consisting of experiential activities and formative assessments, enhanced students' levels of mindfulness and their psychological well-being in the domain of environmental mastery. While the study did not reveal an impact of the training on students' use of approach over avoidant coping, it did reveal a significant positive relationship between mindfulness and approach coping and a significant negative relationship between mindfulness and avoidant coping for participants at the end of the course while controlling for their scores before the course. This may indicate that participants who developed significantly in their capacity for mindfulness practice may indeed have demonstrated the impact upon adaptive coping hypothesized in this study. Future research should continue to investigate these potential changes and their impact on the often-stressful lives of college students.

References

Abbott, R. A., Ploubidis, G. B., Huppert, F. A., Kuh, D., & Croudace, T. J. (2010). An evaluation of the precision of measurement of Ryff's Psychological Well-Being Scales in a population sample. *Social Indicators Research, 97*(3), 357-373.

Aikens, K. A., Astin, J., Pelletier, K. R., Levanovich, K., Baase, C. M., Park, Y. Y., & Bodnar, C. M. (2014). Mindfulness goes to work: Impact of an online workspace intervention. *Journal of Occupational & Environmental Medicine, 56*(7), 721-731.

Allport, G. (1961). *Pattern and growth in personality.* New York, NY: Holt, Rinehart, & Winston.

American College of Health Association (2015). *National college health assessment spring 2015 reference group data report [Data file].* Retrieved from www.achancha.org/reports_ACHA-NCHAII.hmtl.

American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: American Psychological Association.

Andrews, F. M., & Withey, S. B. (1976). *Social indicators of well-being: America's perception of life quality.* New York, NY: Plenum Press.

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55,* 469-480.

Astin, J. (1997). Stress reduction through mindfulness meditation. *Psychotherapy & Psychosomatics, 66*(2), 97-106.

Baer, R. A. (2003). Mindfulness training as a clinical intervention: A conceptual and empirical review. *Clinical Psychology: Science & Practice, 10*, 125-143.

Baer, R. A., Smith, G. T., Lykins, E., Button, D., Krietemeyer, J., Sauer, S., & Williams, J.

(2008). Construct validity of the Five Facet Mindfulness Questionnaire in meditating and nonmeditating samples. *Assessment, 15,* 329-342.

Bamber, M. D., & Schneider, J. K. (2016). Mindfulness-based meditation to decrease stress and anxiety in college students: A narrative synthesis of the research. *Educational Research Review, 18,* 1-32.

Barbosa, P., Raymond, G., Zlotnick, C., Wilk, J., Toomey, R, III, & Mitchel, J., III (2013). Mindfulness-based stress reduction training is associated with greater empathy and reduced anxiety for graduate healthcare students. *Education for Health, 26,* 9-14.

Barnes, P., & Lightsey, O. (2005). Perceived racist discrimination, coping, stress, and life satisfaction. *Journal of Multicultural Counseling & Development, 33,* 48-61.

Batchelor, S. (1997). *Buddhism without beliefs.* New York, NY: Riverhead Books.

Bayani, A. A., Koocheky, A. M., & Bayani, A. (2008). Reliability and validity of Ryff's psychological well-being scales. *Iranian Journal of Psychiatry & Clinical Psychology, 14,* 146-151.

Bhikku, T. (1997). Sallatha Sutta: The Arrow. Retrieved May 30, 2018, from https://www.accesstoinsight.org/tipitaka/sn/sn36/sn36.006.than.html

Bishop, S. R. (2002). What do we really know about mindfulness-based stress reduction? *Psychosomatic Medicine, 64*(1), 71-83.

Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., Segal, Z. V., Abbey, S., Speca, M., Velting, D., & Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science & Practice, 11*(3), 230-241.

Blank, P., Perleth, S., Heidenreich, T., Kröger, P., Beate, D., Bents, H., & Mander, J. (2018).

Effects of mindfulness exercises as stand-alone intervention on symptoms of anxiety and depression: Systematic review and meta-analysis. *Behaviour Research & Therapy, 102,* 25-35.

Boss, M. (1965). *A psychiatrist discovers India.* London, UK: Oswald Wolff.

Brake, A. C., Sauer-Zavala, S., Boswell, J. F., Gallagher, M. W., Farchione, T. J., & Barlow, D. H. (2015). Mindfulness-based exposure strategies as a transdiagnostic mechanism of change: An exploratory alternating treatment design. *Behavior Therapy, 47*(2), 225-238.

Brewer, J. A., Elwafi, H. M., & Davis, J. H. (2012). Craving to quit: Psychological models and neurobiological mechanisms of mindfulness training as treatment for addiction. *Psychology of Addictive Behaviors, 27*(2), 366-379.

Broderick, P. C. (2005). Mindfulness and coping with dysphoric mood: Contrasts with rumination and distraction. *Cognitive Therapy & Research, 29,* 501-510.

Brown, T. A., Chorpita, B. F., Korotitsch, W., & Barlow, D. H. (1996). Psychometric properties of the Depression Anxiety Stress Scales (DASS) in a clinical sample. *Behavioral Research & Therapy, 35*(1), 79-89.

Brown, K. W., Creswell, J. D., & Ryan, R. M. (2016). *Handbook of mindfulness: Theory, research, and practice.* New York, NY: Guilford Press.

Campbell, A., Converse, P. E., & Rodgers, W. (1976). The quality of American life: Perceptions, evaluations, and satisfactions. New York, NY: Russell Sage Foundation.

Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality & Social Psychology, 56,* 267-283.

Cheng, C. (2003). Motivational processes underlying coping flexibility: A dual-process model. *Journal of Personality & Social Psychology, 84*(2), 425-438.

Cohen, J. S., & Miller, L. J. (2009). Interpersonal mindfulness training for well-being: A pilot study with psychology graduate students. *Teachers College Record, 111*(12), 2760-2774.

Crane, R. S., Brewer, J., Feldman, C., Kabat-Zinn, J., Santorelli, S., Williams, J. M. G., & Kuyken, W. (2016). What defines mindfulness-based programs? The warp and the weft. *Psychological Medicine, 47 (6),* 990-999.

Creswell, J. D., Way, B. M., Eisenberger, N. L., & Lieberman, M. D. (2007). Neural correlates of dispositional mindfulness during affect labeling. *Psychosomatic Medicine, 69*, 560-565.

Crimmins, E. M., Kim, J. K., Alley, D. E., Karlamangla, A., & Seeman, T. (2007). Hispanic paradox in biological risk profiles. *American Journal of Public Health, 97*(7), 1305-1310.

Dalai Lama, XIV. (2003). *Lighting the path: The Dalai Lama teaches on wisdom and compassion.* South Melbourne, AUS: Thomas C. Lothian.

Deisinger, J. A., Cassisi, J. E., & Whitaker, S. L. (1996). Relationships between coping style and PAI profiles in a community sample. *Journal of Clinical Psychology, 52*(3), 303-310.

Demarzo, M. M. P., Andreoni, S., Sanches, N., Perez, S., Fortes, S., & Garcia-Campayo, J. (2014). Mindfulness-based stress reduction (MBSR) in perceived stress and quality of life: An open, uncontrolled study in a Brazilian healthy sample. *Explore, 10,* 118-120.

de Vibe, M., Solhaug, I., Tyssen, R., Friborg, O., Rosenvinge, J. H., Sørlie, T., & Bjørndal, A. (2013). Mindfulness training for stress management: A randomised controlled study of medical and psychology students. *BMC Medical Education, 13,* 107.

Diener, E., Oishi, S., & Lucas, R. E. (2002). Subjective well-being: The science of happiness and life satisfaction. In C.R. Snyder & S.J., Lopez, Handbook of Positive Psychology (2nd Ed.). Oxford and New York: Oxford University Press.

Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three

decades of progress. *Psychological Bulletin, 125*(2), 276-302.

Dickerson, S. S., & Kemeny, M. E. (2004). Acute stressors and cortisol responses: A theoretical

integration and synthesis of laboratory research. *Psychological Bulletin, 130,* 355-391.

Dvorakova, K., Kishida, M., Li, J., Elavsky, S., Broderick, P. C., Agrusti, M. R., Greenberg, M.

T. (2017). Promoting healthy transition to college through mindfulness training with first-

year college students: Pilot randomized controlled trial. *Journal of American College*

Health, 65(4), 1-9.

Eaton, S. B., & Bean, J. P. (1995). An approach/avoidance behavioral model of college student

attrition. *Research in Higher Education, 36*(6), 617-645.

Erikson, E. (1959). Identity and the life cycle. *Psychological Issues, 1,* 1-171.

Farb, N., Segal, Z., & Anderson, A. (2013). Mindfulness meditation training alters cortical

representations of interoceptive attention. *Social Cognition & Affective Neuroscience,*

8(1), 15-26.

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical

power analysis program for the social, behavioral, and biomedical sciences. *Behavior*

Research Methods, 39, 175-191.

Flowers, S. (2014). *What is mindfulness-based stress reduction?* (Vol. 2014). Chico, CA:

Mindful Living Programs.

Fortune, D. G., Richards, H. L., Main, C. J., & Griffiths, C. E. M. (2002). Patients' strategies for

coping with psoriasis. *Clinical & Experimental Dermatology, 27*(3), 177-184.

Frankl, V. E., & Allport, G. W. (1964). *Man's search for meaning: An introduction to*

logotherapy. London, UK: Hodder and Stoughton.

Freligh, C., & Debb, S. (2019). Nonreactivity and resilience to stress: Gauging the

mindfulness of African American college students. *Mindfulness, 10*(11), 2302-2311.

Frewen, P. A., Evans, E. M., Moraj, N., Dozios, D. J. A., & Partridge, K. (2008). Letting go:

Mindfulness and negative automatic thinking. *Cognitive Therapy & Research, 32,* 758-

774.

Friedlander, L. J., Reid, G. J., Shupak, N., & Cribbie, R. (2007). Social support, self-esteem, and

stress as predictors of adjustment to university among first-year undergraduates. *Journal

of College Student Development, 48*, 259–274.

Fronsdal, G (2008). Mental Noting. Retrieved June 2, 2018, from

https://www.insightmeditationcenter.org/books-articles/articles/mental-noting/

Galante, J., et al. (2016). Protocol for the mindful student study: A randomized controlled trial of

the provision of a mindfulness intervention to support university students' well-being and

resilience to stress. *BMJ Open, 6*(11), e012300.

Garrison, K. A., Zeffiro, T. A., Scheinost, D., Constable, T., & Brewer, J. A. (2015). Meditation

leads to reduced default mode network activity beyond an active task. *Cognitive,

Affective, & Behavioral Neuroscience, 15*(3), 712-720.

Germer, C. K., Siegel, R. D., & Fulton, P. R. (2016). *Mindfulness and psychotherapy.* New

York, NY: Guilford Press.

Gilbert, P. (2009). *The Compassionate Mind.* London, UK: Constable.

Graham, J. R., West, L. M., & Roemer, L. (2013). The experience of racism and anxiety

symptoms in an African-American sample: Moderating effects of trait mindfulness.

Mindfulness 4, 332-341.

Gu, J., Strauss, C., Bond, R., & Cavanagh, K. (2015). How do mindfulness-based cognitive

therapy and mindfulness-based stress reduction improve mental health and well-being? A

systematic review and meta-analysis of mediation studies. *Clinical Psychology Review,*

37(1), 1-12.

Hafenbrack, A. C., Kinias, Z., Barsade, S. G. (2013). Debiasing the mind through meditation:

Mindfulness and the sunk-cost bias. *Psychological Science, 25*(2), 369-376.

Hagen, S. (1998). *Buddhism plain and simple.* London, UK: Penguin Books.

Hagen, S. (2012). *Meditation now or never.* London, UK: Penguin Books.

Hanh, N (2009). *Happiness: essential mindfulness practices.* Berkeley, CA: Parallax Press.

Harrel, S. (2000). A multidimensional conceptualization of racism-related stress: Implications

for the well-being of people of color. *American Journal of Orthopsychiatry, 70,* 42-57.

Harris, R. (2008). *The happiness trap: How to stop struggling and start living*. Boston, MA:

Trumpeter Books.

Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2011). *Acceptance and Commitment Therapy:

The Process and Practice of Mindful Change.* New York, NY: Guilford Press.

Henry, J. D., & Crawford, J. R. (2005). The short-form version of the Depression Anxiety Stress

Scales (DASS-21): Construct validity and normative data in a large non-clinical sample.

British Journal of Clinical Psychology, 44, 227-239.

Herzberg, K. N., Sheppard, S. C., Forsyth, J. P., Credé, M., Earleywine, M., & Eifert, G. H.

(2012). The believability of anxious feelings and thoughts questionnaire (BAFT): A

psychometric evaluation of cognitive fusion in a nonclinical and highly anxious

community sample. *Psychological Assessment, 24*(4), 877-891.

Herman-Stabl, M. A., Stemmler, M., & Petersen, A. C. (1995). Approach and avoidant coping:

Implications for adolescent mental health. *Journal of Youth & Adolescence, 24*(6), 649-665.

Hicks, T., & Heastie, S. (2008). High school to college transition: A profile of the stressors, physical and psychological health issues that affect the first-year on-campus college student. *Cultural Diversity, 15*(3), 143-147.

Hofmann, S. G., Grossman, P., & Hinton, D. E. (2011). Loving-kindness and compassion meditation: Potential for psychological interventions. *Clinical Psychology Review, 31*(7), 1126-1132.

Hölzel, B. K., Lazar, S. W., Gard, T., Schuman-Olivier, Z., Vago, D. R., & Ott, U. (2011). How does mindfulness meditation work?: Proposing mechanisms of action from a conceptual and neural perspective. *Perspectives on Psychological Science, 6*(6), 537-559.

Hopkins, J. (2001). *Cultivating compassion*. New York, NY: Broadway Books.

Hutcherson, C. A., Seppala, E. M., & Gross, J. J. (2008). Loving-kindness meditation increases social connectedness. *Emotion*, *8,* 720-724.

Jain, S., Shapiro, S. L., & Swanick, S. (2007). A randomized controlled trial of mindfulness meditation versus relaxation training: Effects on distress, positive states of mind, rumination, and distraction. *Annals of Behavioral Medicine, 33*(1), 11-21.

James, W. (1890). *The principles of psychology.* New York, NY: Holt.

Johnson, M. K., Crosnoe, R., Elder, G. H. (2011). Insights on adolescence from a life course perspective. *Journal of Research on Adolescence, 21*(1), 273-280.

Josefsson, T., Lindwall, M., & Broberg, A. G. (2014). The effects of a short-term mindfulness

based intervention on self-reported mindfulness, decentering, executive attention, psychological health, and coping style: Examining unique mindfulness effects and mediators. *Mindfulness, 5*(1), 18-35.

Jung, C. G. (1933). *Modern man in search of a soul* (W. S. Dell & C. F. Baynes, Trans.). New York, NY: Hartcourt Brace, & World.

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

Kabat-Zinn, J. (1990). *Full catastrophe living: How to cope with stress, pain and illness using mindfulness meditation*. New York: NY: Bantam Dell.

Kahneman, D., Krueger, A. B. (2006). Developments in the measurement of subjective well-being. *Journal of Economic Perspectives, 20*(1), 3-24.

Kang, Y. S., Choi, S. Y., & Rye, E. (2009). The effectiveness of a stress coping program based on mindfulness meditation on the stress, anxiety, and depression experienced by nursing students in Korea. *Nurse Education Today, 29*, 538-543.

Kiken, L. G., Garland, E. L., Bluth, K., Palsson, O. S., & Gaylord, S. A. (2015). From a state to a trait: Trajectories of state mindfulness in meditation during intervention predict changes in trait mindfulness. *Personality & Individual Differences, 81,* 41-46.

Killingsworth, M. A., & Gilbert, D. T. (2010). A wandering mind is an unhappy mind. *Science, 330,* 932.

Kong, F., Wang, X., & Zhao, J. (2014). Dispositional mindfulness and life satisfaction: The role of core self-evaluations. *Personality & Individual Differences, 56*, 165-169.

Landrine, H., & Klonoff, E. (1996). The schedule of racist events: a measure of racial

discrimination and a study of its negative physical and mental health consequences. *Journal of Black Psychology, 22,* 144-168.

Lappalainen, P., Granlund, A., Siltanen, S., Ahonen, S., Vitkainen, M., Tolvanen, A., Lappalainen, R. (2014). ACT internet-based vs face-to-face? A randomized controlled trial of two ways to deliver acceptance and commitment therapy for depressive symptoms: An 18-month follow-up. *Behavior Research & Therapy, 61,* 43-54.

Larson, D. G. & Chastain, R. L. (1990). Self-concealment: Conceptualization, measurement, and health implications. *Journal of Social & Clinical Psychology, 9,* 439-455.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping.* New York, NY: Springer.

Lee, J. K., & Orsillo, S. M. (2014). Investigating cognitive flexibility as a potential mechanism of mindfulness in Generalized Anxiety Disorder. *Journal of Behavior Therapy & Experimental Psychology, 45*(1), 208-216.

Lewin, T. (2011, January 26). Record level of stress found in college freshmen. Retrieved July 7, 2017, from http://www.nytimes.com/2011/01/27/education/27colleges.html?_r=1.

Lindahl, J. R., Fisher, N. E., Cooper, D. J., Rosen, R. K., & Britton, W. (2017). The varieties of contemplative experience: A mixed-methods study of meditation-related challenges in Western Buddhists. *PLoS One, 12*(5), e0176239.

Linehan, M. (1993). *Skills Training Manual for Treating Borderline Personality Disorder: Diagnosis and Treatment of Mental Disorders.* New York, NY: Guilford Press.

Litman, J. A. (2006). The COPE Inventory: Dimensionality and relationships with approach and avoidance motives and positive and negative traits. *Personality & Individual Differences, 41,* 273-284.

Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the depression anxiety stress scales.*

Sydney, AUS: Psychology Foundation.

Lyne, K., & Roger, D. (2000). A psychometric re-assessment of the COPE questionnaire. *Personality & Individual Differences, 29*(2), 321-335.

Lutz, A., Slagter, H. A., Dunne, J. D., & Davidson, R. J. (2008). Attention regulation and monitoring in meditation. *Trends Cognitive Sciences, 12,* 163-169.

Maslow, A. (1968). *Toward a psychology of being* (2nd ed.). New York, NY: Van Nostrand.

Masuda, A., Anderson, P. L., Sheehan, S. T. (2009). Mindfulness and mental health among African American college students. *Complementary Health Practice Review, 14*(3), 115-127.

McArthur, M., Mansfield, C., Matthew, S., Zaki, S., Brand, C., Andrews, J., Hazel, S. (2017). Resilience in veterinary students and the predictive role of mindfulness and self-compassion. *Journal of Veterinary Medical Education, 44*(1), 106-115. doi: 10.3138/jvme.01116-027R1.

McCullough, M. E., Orsulak, P., Brandon, A., & Akers, L. (2007). Rumination, fear and cortisol: An *in vivo* study of interpersonal transgressions. *Health Psychology, 26*(1), 126-132.

Merz, E. L., Malcarne, V. L., Roesch, S. C., Ko, C. M., Emerson, M., Roma, V. G., & Sadler, G. R. (2013). Psychometric properties of Positive and Negative Affect Schedule (PANAS) original and short forms in an African American community sample. *Journal of Affective Disorders, 151*(3), 942-949.

Messer, D., Horan, J. J., & Turner, W. (2015). The effects of internet-delivered mindfulness training on stress, coping, and mindfulness in university students. *AERA Open, 2*(1).

Mill, J. S. (1873). *Autobiography.* London, UK: Penguin.

Mrazek, M. D., Franklin, M. S., Phillips, D. T., Baird, B., & Schooler, J. W. (2013). Mindfulness

training improves working memory capacity and GRE performance while reducing mind wandering. *Psychological Science, 24*(5), 776-781.

Myers, D. G., Diener, E. (1995). Who is happy? *Psychological Science, 6*(1), 10-19.

Neff, K., & Germer, C. K. (2013). *Self-Compassion: Stop beating yourself and leave insecurity behind.* New York, NY: HarperCollins.

Palmer, A., & Rodger, S. (2009). Mindfulness, stress, and coping among university students. *Canadian Journal of Counseling, 43*(3), 198-212.

Pascoe, E. A., & Richman, L. S. (2009). Perceived discrimination and health: A meta-analytic review. *Psychological Bulletin, 35,* 531-554.

Purdon, C., Antony, M., Monteiro, S., & Swinson, R. P. (2001). Social anxiety in college students. *Journal of Anxiety Disorders, 15*(3), 203-215.

Ramler, T. R., Tennison, L. R., Lynch, J., & Murphy, P. (2016). Mindfulness and the college transition: The efficacy of an adapted mindfulness-based stress reduction intervention in fostering adjustment among first-year students. *Mindfulness, 7,* 179-188.

Ramsberf, J. T., & Youmans, R. J. (2014). Meditation in the higher-education classroom: Meditation training improves student knowledge retention during lectures. *Mindfulness, 5*(4), 431-441.

Ratanasiripong, P., Sverduk, K., Hayashino, D., & Prince, J. (2010). Setting up the next generation biofeedback program for stress and anxiety management for college students: A simple and cost-effective approach. *College Student Journal, 44*(1), 97-100.

Richardson, M. (2009). *Zen and now: On the trail of Robert Pirsig and the art of motorcycle maintenance.* Crawley, WA: University of Western Australia Press.

Rogers, C. (1961). *On becoming a person.* Boston, MA: Houghton Mifflin.

Rosenzweig, S., Reibel, D. K., Greeson, J. M., & Brainard, G. C. (2003). Mindfulness-based stress reduction lowers psychological distress in medical students. *Teaching & Learning Medicine, 15*(2), 88-92.

Roth, S., & Lawrence, J. (1986). Approach, avoidance, and coping with stress. *American Psychologist, 41*(7), 813-819.

Rucker, L., West, L., & Roemer, L. (2009). Relationships among perceived racial stress, intolerance of uncertainty, and worry in a black sample. *Behavior Therapy, 41,* 245-253.

Ryff, C. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality & Social Psychology, 57*, 1069-1081.

Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality & Social Psychology, 69*(4), 719-727.

Salzberg, S. (2002). *Lovingkindness: The revolutionary art of happiness.* Boston, MA: Shambhala.

Salzberg, S. (2011). *Real happiness: The power of meditation.* New York, NY: Workman.

Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self- mastery, and self-esteem): A re-evaluation of the Life Orientation Test. *Journal of Personality & Social Psychology*, 67, 1063-1078.

Segal, Z. V., Williams, J. M., & Teasdale, J. D. (2012). *Mindfulness-based cognitive therapy for depression* (2nd ed.). New York, NY: Guilford Press.

Seligman, M., & Csikszentmihalyi (2000). Positive psychology: An introduction. *American Psychologist, 55,* 5-14.

Shapiro, S. L., Brown, K. W., & Biegel, G. M. (2007). Teaching self-care to caregivers: Effects of mindfulness-based stress reduction on the mental health of therapists in training.

Training and Education in Professional Psychology, 1, 105-115.

Shapiro, S., Jazaieri, H., & Goldin, P. R. (2012). Mindfulness-based stress reduction effects on moral reasoning and decision making. *The Journal of Positive Psychology, 7,* 504-515.

Shapiro, S. L., Oman, D., Thoresen, C. E., Plante, T. G., & Flinders, T. (2008). Cultivating mindfulness: Effects on well-being. *Journal of Clinical Psychology, 64*(7), 840-862.

Shontz, F. C. (1975). *The psychological aspects of physical illness and disability.* New York, NY: Macmillan.

Song, Y., & Lindquist, R., (2015). Effects of mindfulness-based stress reduction on depression, anxiety, stress and mindfulness in Korean nursing students. *Nurse Education Today, 35,* 86-90.

Stallman, H. M. (2010). Psychological distress in university students: a comparison with general population data. *Australian Psychologist, 45,* 249-257.

Stowell, J. R., Kiecolt-Glaser, J. K., & Glaser, R. (2001). Perceived stress and cellular immunity: When coping counts. *Journal of Behavioral Medicine, 16*, 199-202.

Sue, D. W., Capodilupo, C. M., & Holder, A. M. B. (2008). Racial microaggressors in the life experience of Black Americans. *Professional Psychology: Research & Practice, 39,* 329-336.

Suzuki, S., & Dixon, T. (1970). *Zen mind, beginner's mind.* New York, NY: Walker/Weatherhill.

Tang, Y., Hölzel, B. K., & Posner, M. (2015). The neuroscience of mindfulness meditation. *Nature Reviews Neuroscience, 16,* 213-225. doi: 10.1038/nrn3916.

Treanor, M. (2011). The potential impact of mindfulness on exposure and extinction learning in anxiety disorders. *Clinical Psychology Review, 31*(4), 617-625.

Watson, D., & Clark, L. A. (1984). Negative affectivity: The disposition to experience aversive emotional states. *Psychological Bulletin, 96*, 465-490.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality & Social Psychology, 54*(6), 1063-1070.

Watts, A. (1957). *The Way of Zen.* New York, NY: Pantheon.

Weinstein, N., Brown, K. W., & Ryan, R. M. (2009). A multi-method examination of the effects of mindfulness on stress attribution, coping, and emotional well-being. *Journal of Research in Personality, 43,* 374-485.

Weiss, L. A., Gerben, J. W., Bohlmeijer, E. T. (2016). Can we increase psychological well-being? The effects of interventions on psychological well-being: A meta-analysis of randomized controlled trials. *PLoS One, 11*(6), e0158092.

Wenzel, M., von Versen, C., Hirschmüller, S., & Kubiak, T. (2015). Curb your neuroticism: Mindfulness mediates the link between neuroticism and subjective well-being. *Personality & Individual Differences, 80*, 68-75.

Williams, D. R. & Mohammed, S. A. (2009). Discrimination and racial disparities in health: Evidence and needed research. *Journal of Behavioral Medicine, 32*(1), 20.

Williams, J. M., Penman, D., & Kabat-Zinn, J. (2012). *Mindfulness: An eight-week plan for finding peace in a frantic world.* Emmaus, PA: Rodale Books.

Womack, V. Y. & Sloan, L. R. (2017). The association of mindfulness and racial socialization messages and approach-oriented coping strategies among African Americans. *Journal of Black Studies, 48*(4), 408-426. doi: 10.1177/0021934717696789.

Wood, A. M., & Joseph, S. (2010). The absence of positive psychological (eudemonic) well-

being as a risk factor for depression: A ten year cohort study. *Journal of Affective Disorders, 122*(3), 213-217.

Woods-Giscombé, C. L. & Gaylord, S. A. (2014). The cultural relevance of mindfulness meditation as a health intervention for African Americans. *Journal of Holistic Nursing, 32*(3), 147-160.

Zautra, A. J., Davis, M. C., Reich, J. W., Nicassario, P., Tennen, H., Finan, P., … Irwin, M. R. (2008). Comparison of cognitive behavioral and mindfulness meditation interventions on adaptation to rheumatoid arthritis for patients with and without history of recurrent depression. *Journal of Consulting & Clinical Psychology, 76*(6), 408-421.

APPENDIX A

Informed Consent Form
*For course participants

Description of Study:
In conjunction with this for-credit course, your instructor is conducting a research study to examine the impact of the course materials as it pertains to different aspects of mindfulness. This study consists of an online survey that will be administered to individual participants in the Introduction to Mindfulness and Meditation course through Qualtrics (a secure online survey tool). You will be asked to provide answers to a series of questions related to mindfulness, well-being, and coping style. You may access the survey by following the web link located under the "Giving of Consent" section below. This course will serve as both a traditional survey-style course, but also as a short-term but still longitudinal data collection effort.

Purpose of Study:
To investigate the relationships between mindfulness and well-being in college students.

Time Required:
Participation in this study should require approximately 25 minutes of your time. The investigators will ask you to fill out the survey questionnaire at the beginning of the study and once again after eight weeks

Risks:
The investigator does not perceive more than minimal risks from your involvement in this study (that is, no risks beyond the risks associated with everyday life). However, meditation and mindfulness practice can reveal or bring into greater focus uncomfortable thoughts and emotions. Mediation can also bring physical discomfort from prolonged sitting (e.g. back, knees, hips, and feet). These issues will be addressed directly in the course, providing opportunities to reflect upon, share, and receive support for any difficulties. Additionally, as an enrolled student at Norfolk State University, you may contact the NSU Counseling Center (757-823-8173) located in Room 312 of the Student Center on the main campus (or any other health care professional of your choosing) if you experience any psychological discomfort or distress.

Benefits:
There are inherent benefits from participation in this study, most notably, the acquisition of skills and knowledge pertaining to mindfulness as a function of being a student in the course. Further, contributing to the understanding of mindfulness in the undergraduate population as a whole as well as NSU students specifically is an indirect benefit to research in higher education and may provide grounds for mindfulness-oriented intervention in the future.

Compensation for Participation:
Participation in this study and completion of the online survey is part of your participation for course credit; however, you may opt out of the anonymous data reporting component of the course at any time.

Confidentiality:
The results of this research may be presented for research purposes and may be published in a peer-reviewed journal in aggregate form (i.e., without identifying any individual). While individual responses are anonymously obtained and recorded on-line through Qualtrics (a secure online survey tool); data is kept in the strictest confidence. No personally identifying information will be kept for data analysis, as your responses will be recorded under an anonymous ID number. All electronic data will be stored on a secure server accessible only to the researcher and NSU faculty adviser. Final aggregate results will be made available to participants upon request. Although all of these surveys are required activities for the course, you will not be penalized if you choose to keep your results private; however, confirmation of completion of the assignment is required in order for you to earn course credit.

Questions about the Study:
If you have any questions or concerns, please contact:

Charles Freligh, Doctoral Student
Virginia Consortium Program in Clinical Psychology
Norfolk State University
cfrel002@odu.edu

Scott Debb, Ed.D.
Associate Professor of Psychology
Brown Hall 216
Norfolk State University
757.823.8943
smdebb@nsu.edu

Any questions regarding your rights as a research participant or research-related injuries may be directed to NSU's Office of Sponsored Programs, (757) 823-9053.

Giving of Consent:
I have read this consent form and I understand what is being requested of me as a participant in this study. I freely consent to participate. The investigator provided me with an electronic copy of this consent for review prior to taking the survey, and I understand that if I would like a copy, I may request one from the principal investigator at any time. By clicking on the link below, and completing and submitting this confidential online survey, I am consenting to participate in this research study.

Informed Consent Form
*For control participants

Description of Study:
This study consists of an online survey that will be administered to individual participants through Qualtrics (a secure online survey tool). You will be asked to provide answers to a series of questions related to mindfulness, well-being, and coping style. Should you decide to participate in this voluntary and completely confidential research, you may access the survey by following the web link located under the "Giving of Consent" section below.

Purpose of Study:
To investigate the relationships between mindfulness and well-being in college students.

Time Required:
Participation in this study should require approximately 25 minutes of your time. The investigators will ask you to fill out the survey questionnaire at the beginning of the study and once again after eight weeks

Risks:
The investigator does not perceive more than minimal risks from your involvement in this study (that is, no risks beyond the risks associated with everyday life). However, as an enrolled student at Norfolk State University, you may contact the NSU Counseling Center (757-823-8173) located in Room 312 of the Student Center on the main campus (or any other health care professional of your choosing) if you experience any psychological discomfort or distress.

Benefits:
There are no direct benefits from participation in this study. However, contributing to the understanding of mindfulness in the undergraduate population as a whole as well as NSU students specifically is an indirect benefit to research in higher education and may provide grounds for mindfulness-oriented intervention in the future.

Confidentiality:
The results of this research will be presented for classroom research and may be published in a peer-reviewed journal in aggregate form (i.e., without identifying any individual). While individual responses are anonymously obtained and recorded on-line through Qualtrics (a secure online survey tool); data is kept in the strictest confidence. No personally identifying information will be kept for data analysis, as your responses will be recorded under an anonymous ID number. All electronic data will be stored on a secure server accessible only to the researcher and NSU faculty adviser. Final aggregate results will be made available to participants upon request.

Participation & Withdrawal:
Your participation is entirely voluntary. You are free to choose not to participate. Should you choose to participate, you can withdraw at any time without consequences of any kind.

Questions about the Study:
If you have any questions or concerns, please contact:

Charles Freligh, Doctoral Student
Virginia Consortium Program in Clinical Psychology
Norfolk State University
cfrel002@odu.edu

Scott Debb, Ed.D.
Associate Professor of Psychology
Brown Hall 216
Norfolk State University
757.823.8943
smdebb@nsu.edu

Any questions regarding your rights as a research participant or research-related injuries may be directed to NSU's Office of Sponsored Programs, (757) 823-9053.

Giving of Consent:
I have read this consent form and I understand what is being requested of me as a participant in this study. I freely consent to participate. The investigator provided me with an electronic copy of this consent for review prior to taking the survey, and I understand that if I would like a copy, I may request one from the principal investigator at any time. By clicking on the link below, and completing and submitting this confidential online survey, I am consenting to participate in this research study.

APPENDIX B

Demographic Survey

"***" indicates *validity check item*

1) Gender:
_Female
_Male
_Transgender
_Other
_Prefer not to respond

2) Race/Ethnicity:
_Black
_Asian/Pacific Islander
_Hispanic/Latino
_Multiracial *Please specify:*_____
_Native American/American Indian
_White
_Not listed *Please Specify:*_____
_Prefer not to respond

3) Class status (credits): *Please just answer to the best of your ability*
_Freshman (Less than 30)
_Sophomore (30-59)
_Junior (60-89)
_Senior (90 or more)
_Graduate student
_Continuing education student

4) Date of birth: *Please enter in numerical format (e.g., 04/13/16)*

_____

5) How many hours do you work for pay per week (including part-time work but not volunteering)?
_Less than 1
_1-10
_11-20
_21-30
_More than 30

6) How many hours do you spend on schoolwork outside of class per week?
_Less than 1
_1-5
_6-10
_11-15
_More than 15

7) What is your current major?
*Please enter*_____

8) What is your current GPA?
(Please report to the best of your knowledge – this data will not be identified with you)
Please enter a number including one decimal point (e.g. 3.5, 2.7, etc.)
___

9) *** Please select "Neutral" (VALIDITY CHECK)

Strongly Disagree	Disagree	Slightly Agree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

10) Which of the following more accurately describes you?
_Extroverted (e.g., outgoing, talkative)
_Introverted (e.g., quiet, reserved, shy)

11) Do you have any experience with mindfulness practice, including meditation practices and mindful movement practices (e.g., yoga or tai chi)?
_Yes
_No

12) If you selected "Yes," how much experience do you have with these practices?
   If you selected "No," please select "0"
_0

13) Please briefly describe your experience with mindfulness-related practices:

_____

Very Little (less than a month)	Some (a month or more but less than a year)	Very Much (over a year)
1	2	3

13) How many hours of sleep do you typically get in an average day (24-hour period)?

0	1	2	3	4	5	6	7	8	9	10	11	12	More than 12

14) Please select which of the following you more strongly believe to be the case for you:
_I am in control of what happens to me
_I feel like I have little influence over the things that happen to me

APPENDIX C

The Five Facet Mindfulness Questionnaire

Please rate each of the following statements using the scale provided. Write the number in the blank (1-5) that best describes your own opinion of what is generally true for you.

1) never or very rarely 2) sometimes true 3) often true 4) very often 5) always true

_____ 1. When I'm walking, I deliberately notice the sensations of my body moving.
_____ 2. I'm good at finding words to describe my feelings.
_____ 3. I criticize myself for having irrational or inappropriate emotions.
_____ 4. I perceive my feelings and emotions without having to react to them.
_____ 5. When I do things, my mind wanders off and I'm easily distracted.
_____ 6. When I take a shower or bath, I stay alert to the sensations of water on my body.
_____ 7. I can easily put my beliefs, opinions, and expectations into words.
_____ 8. I don't pay attention to what I'm doing because I'm daydreaming, worrying, or
       otherwise distracted.
_____ 9. I watch my feelings without getting lost in them.
_____ 10. I tell myself I shouldn't be feeling the way I'm feeling.
_____ 11. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.
_____ 12. It's hard for me to find the words to describe what I'm thinking.
_____ 13. I am easily distracted.
_____ 14. I believe some of my thoughts are abnormal or bad and I shouldn't think that way.
_____ 15. I pay attention to sensations, such as the wind in my hair or sun on my face.
_____ 16. I have trouble thinking of the right words to express how I feel about things
_____ 17. I make judgments about whether my thoughts are good or bad.
_____ 18. I find it difficult to stay focused on what's happening in the present.
_____ 19. When I have distressing thoughts or images, I "step back" and am aware of the
       thought or image without getting taken over by it.
_____ 20. I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing.
_____ 21. In difficult situations, I can pause without immediately reacting.
_____ 22. When I have a sensation in my body, it's difficult for me to describe it because I can't
       find the right words.
_____ 23. It seems I am "running on automatic" without much awareness of what I'm doing.
_____ 24. When I have distressing thoughts or images, I feel calm soon after.
_____ 25. I tell myself that I shouldn't be thinking the way I'm thinking.
_____ 26. I notice the smells and aromas of things.
_____ 27. Even when I'm feeling terribly upset, I can find a way to put it into words.
_____ 28. I rush through activities without being really attentive to them.
_____ 29. When I have distressing thoughts or images I am able just to notice them without
       reacting.
_____ 30. I think some of my emotions are bad or inappropriate and I shouldn't feel them.
_____ 31. I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of
       light and shadow.
_____ 32. My natural tendency is to put my experiences into words.
_____ 33. When I have distressing thoughts or images, I just notice them and let them go.

_____ 34. I do jobs or tasks automatically without being aware of what I'm doing.
_____ 35. When I have distressing thoughts or images, I judge myself as good or bad, depending what the thought/image is about.
_____ 36. I pay attention to how my emotions affect my thoughts and behavior.
_____ 37. I can usually describe how I feel at the moment in considerable detail.
_____ 38. I find myself doing things without paying attention.

Scoring Information:
Observe items:
1, 6, 11, 15, 20, 26, 31, 36
Describe items:
2, 7, 12R, 16R, 22R, 27, 32, 37
Act with Awareness items:
5R, 8R, 13R, 18R, 23R, 28R, 34R, 38R
Nonjudge items:
3R, 10R, 14R, 17R, 25R, 30R, 35R, 39R
Nonreact items:
4, 9, 19, 21, 24, 29, 33

Reference:

Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment, 13*, 27-45.

APPENDIX D

The COPE Inventory

We are interested in how people respond when they confront difficult or stressful events in their lives. There are lots of ways to try to deal with stress. This questionnaire asks you to indicate what you generally do and feel, when you experience stressful events. Obviously, different events bring out somewhat different responses, but think about what you usually do when you are under a lot of stress.

Then respond to each of the following items by blackening one number on your answer sheet for each, using the response choices listed just below. Please try to respond to each item separately in your mind from each other item. Choose your answers thoughtfully, and make your answers as true FOR YOU as you can. Please answer every item. There are no "right" or "wrong" answers, so choose the most accurate answer for YOU--not what you think "most people" would say or do. Indicate what YOU usually do when YOU experience a stressful event.

    1 = I usually don't do this at all
    2 = I usually do this a little bit
    3 = I usually do this a medium amount
    4 = I usually do this a lot

*ITEMS USED IN THIS STUDY ARE IN BOLD

1. **I try to grow as a person as a result of the experience.**
2. **I turn to work or other substitute activities to take my mind off things.**
3. I get upset and let my emotions out.
4. I try to get advice from someone about what to do.
5. **I concentrate my efforts on doing something about it.**
6. **I say to myself "this isn't real."**
7. I put my trust in God.
8. I laugh about the situation.
9. **I admit to myself that I can't deal with it, and quit trying.**
10. I restrain myself from doing anything too quickly.
11. I discuss my feelings with someone.
12. I use alcohol or drugs to make myself feel better.
13. **I get used to the idea that it happened.**
14. I talk to someone to find out more about the situation.
15. I keep myself from getting distracted by other thoughts or activities.
16. **I daydream about things other than this.**
17. I get upset, and am really aware of it.
18. I seek God's help.
19. I make a plan of action.
20. I make jokes about it.
21. **I accept that this has happened and that it can't be changed.**
22. I hold off doing anything about it until the situation permits.
23. I try to get emotional support from friends or relatives.
24. **I just give up trying to reach my goal.**

25. I take additional action to try to get rid of the problem.
26. I try to lose myself for a while by drinking alcohol or taking drugs.
27. I refuse to believe that it has happened.
28. I let my feelings out.
29. I try to see it in a different light, to make it seem more positive.
30. I talk to someone who could do something concrete about the problem.
31. I sleep more than usual.
32. I try to come up with a strategy about what to do.
33. I focus on dealing with this problem, and if necessary let other things slide a little.
34. I get sympathy and understanding from someone.
35. I drink alcohol or take drugs, in order to think about it less.
36. I kid around about it.
37. I give up the attempt to get what I want.
38. I look for something good in what is happening.
39. I think about how I might best handle the problem.
40. I pretend that it hasn't really happened.
41. I make sure not to make matters worse by acting too soon.
42. I try hard to prevent other things from interfering with my efforts at dealing with this.
43. I go to movies or watch TV, to think about it less.
44. I accept the reality of the fact that it happened.
45. I ask people who have had similar experiences what they did.
46. I feel a lot of emotional distress and I find myself expressing those feelings a lot.
47. I take direct action to get around the problem.
48. I try to find comfort in my religion.
49. I force myself to wait for the right time to do something.
50. I make fun of the situation.
51. I reduce the amount of effort I'm putting into solving the problem.
52. I talk to someone about how I feel.
53. I use alcohol or drugs to help me get through it.
54. I learn to live with it.
55. I put aside other activities in order to concentrate on this.
56. I think hard about what steps to take.
57. I act as though it hasn't even happened.
58. I do what has to be done, one step at a time.
59. I learn something from the experience.
60. I pray more than usual.

Scales (sum items listed, with no reversals of coding):
Positive reinterpretation and growth: 1, 29, 38, 59
Mental disengagement: 2, 16, 31, 43
Focus on and venting of emotions: 3, 17, 28, 46
Use of instrumental social support: 4, 14, 30, 45
Active coping: 5, 25, 47, 58
Denial: 6, 27, 40, 57
Religious coping: 7, 18, 48, 60
Humor: 8, 20, 36, 50

Behavioral disengagement: 9, 24, 37, 51
Restraint: 10, 22, 41, 49
Use of emotional social support: 11, 23, 34, 52
Substance use: 12, 26, 35, 53
Acceptance: 13, 21, 44, 54
Suppression of competing activities: 15, 33, 42, 55
Planning: 19, 32, 39, 56

APPENDIX E

The Ryff Scales of Psychological Well-Being

Please indicate your degree of agreement (using a score ranging from 1-6) to the following sentences:

1) Strongly Disagree
2) Disagree
3) Somewhat Disagree
4) Somewhat Agree
5) Agree
6) Strongly Agree

_____ 1. I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people.
_____ 2. In general, I feel I am in charge of the situation in which I live.
_____ 3. I am not interested in activities that will expand my horizons.
_____ 4. Most people see me as loving and affectionate.
_____ 5. I live life one day at a time and don't really think about the future.
_____ 6. When I look at the story of my life, I am pleased with how things have turned out.
_____ 7. My decisions are not usually influenced by what everyone else is doing.
_____ 8. The demands of everyday life often get me down.
_____ 9. I think it is important to have new experiences that challenge how you think about yourself and the world.
_____ 10. Maintaining close relationships has been difficult and frustrating for me.
_____ 11. I have a sense of direction and purpose in life.
_____ 12. In general, I feel confident and positive about myself.
_____ 13. I tend to worry about what other people think of me.
_____ 14. I do not fit very well with the people and the community around me.
_____ 15. When I think about it, I haven't really improved much as a person over the years.
_____ 16. I often feel lonely because I have few close friends with whom to share my concerns.
_____ 17. My daily activities often seem trivial and unimportant to me.
_____ 18. I feel like many of the people I know have gotten more out of life than I have.
_____ 19. I tend to be influenced by people with strong opinions.
_____ 20. I am quite good at managing the many responsibilities of my daily life.
_____ 21. I have a sense that I have developed a lot as a person over time.
_____ 22. I enjoy personal and mutual conversations with family members or friends.
_____ 23. I don't have a good sense of what it is I'm trying to accomplish in life.
_____ 24. I like most aspects of my personality.
_____ 25. I have confidence in my opinions, even if they are contrary to the general consensus.
_____ 26. I often feel overwhelmed by my responsibilities.
_____ 27. I do not enjoy being in new situations that require me to change my old familiar ways of doing things.
_____ 28. People would describe me as a giving person, willing to share my time with others.
_____ 29. I enjoy making plans for the future and working to make them a reality.

_____ 30. In many ways, I feel disappointed about my achievements in life.
_____ 31. It's difficult for me to voice my own opinions on controversial matters.
_____ 32. I have difficulty arranging my life in a way that is satisfying to me.
_____ 33. For me, life has been a continuous process of learning, changing, and growth.
_____ 34. I have not experienced many warm and trusting relationships with others.
_____ 35. Some people wander aimlessly through life, but I am not one of them.
_____ 36. My attitude about myself is probably not as positive as most people feel about themselves.
_____ 37. I judge myself by what I think is important, not by the values of what others think is important.
_____ 38. I have been able to build a lifestyle for myself that is much to my liking.
_____ 39. I gave up trying to make big improvements or changes in my life a long time ago.
_____ 40. I know that I can trust my friends, and they know they can trust me.
_____ 41. I sometimes feel as if I've done all there is to do in life.
_____ 42. When I compare myself to friends and acquaintances, it makes me feel good about who I am.

Scoring Instruction:

1. Recode negative phrased items. For example, if a score is 6, the adjusted score is 1. If a score is 5, the adjusted score is 2, etc.
2. Add together the final degree of agreement in the 6 dimensions.

Autonomy: questions 1, 7, 13, 19, 25, 31, 37 _____/42
Environmental Mastery: questions 2, 8, 14, 20, 26, 32, 38 _____/42
Personal Growth: questions 3, 9, 15, 21, 27, 33, 39 _____/42
Positive Relations: questions 4, 10, 16, 22, 28, 34, 40 _____/42
Purpose in Life: questions 5, 11, 17, 23, 29, 35, 41 _____/42
Self-acceptance: questions 6, 12, 18, 24, 30, 36, 42 _____/42

TOTAL: ___/252

DIMENSION	HIGH SCORER	LOW SCORER
AUTONOMY	Is self-determining and independent; able to resist social pressures to think and act in certain ways; regulates behavior from within; evaluates self by personal standards.	Is concerned about the expectations and important decisions; conforms to social pressures to think and act based on evaluations of others; relies on judgments of others.
ENVIRONMENTAL MASTERY	Has a sense of mastery and competence in managing the environment; controls complex array of external activities; makes effective use of surrounding opportunities; able to choose or create contexts suitable to personal needs and values.	Has difficulty managing everyday affairs; feels unable to change or improve surrounding context; is unaware of surrounding opportunities; lacks sense of control over external world.

PERSONAL GROWTH	Has a feeling of continued development; sees self as growing and expanding; is open to new experiences; has sense of realizing one's potential; sees improvement in self and behavior over time; is changing in ways that reflect more self-knowledge and effectiveness.	Has a sense of personal stagnation; lacks sense of improvement or expansion over time; feels bored and uninterested with life; feels unable to develop new attitudes or behaviors.
POSITIVE RELATIONS WITH OTHERS	Has warm satisfying, trusting relationships with others; is concerned about the welfare of others; capable of strong empathy, affection, and intimacy; understands give and take of human relationships.	Has few close, trusting relationships with others; finds it difficult to be warm, open, and concerned about others; is isolated and frustrated in interpersonal relationships; not willing to make compromises to sustain important ties with others.
PURPOSE IN LIFE	Has goals in life and a sense of direction; feels there is meaning to present and past life; holds beliefs that give life purpose; has aims and objectives for living.	Lacks a sense of meaning in life; has few goals of aims, lacks sense of direction; does not see purpose of past life; has no outlook or beliefs that give life meaning.
SELF-ACCEPTANCE	Possesses a positive attitude toward the self; acknowledges and accepts multiple aspects of self, including good and bad qualities; feels positive about past life.	Feels dissatisfied with self; is disappointed with what has occurred in past life; is troubled about certain personal qualities; wishes to be different than what one is.

APPENDIX F

The Positive and Negative Affect Schedule

Indicate the extent you have felt this way over the past week.
The rating scale is as follows:
1) Very slightly or not at all
2) A little
3) Moderately
4) Quite a bit
5) Extremely

_____ 1. Interested
_____ 2. Distressed
_____ 3. Excited
_____ 4. Upset
_____ 5. Strong
_____ 6. Guilty
_____ 7. Scared
_____ 8. Hostile
_____ 9. Enthusiastic
_____ 10. Proud
_____ 11. Irritable
_____ 12. Alert
_____ 13. Ashamed
_____ 14. Inspired
_____ 15. Nervous
_____ 16. Determined
_____ 17. Attentive
_____ 18. Jittery
_____ 19. Active
_____ 20. Afraid

APPENDIX G

The Depression Anxiety and Stress Scales

Please read each statement and select number 0, 1, 2, or 3, which indicates how much the statement applied to you *over the past week*. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:
0) Did not apply to me at all
1) Applied to me to some degree, or some of the time
2) Applied to me a considerable degree, or a good part of the time
3) Applied to me very much, or most of the time

_____ 1. I found it hard to wind down
_____ 2. I was aware of dryness of my mouth
_____ 3. I couldn't seem to experience any positive feeling at all
_____ 4. I experienced difficulty breathing (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion).
_____ 5. I found it difficult to work up the initiative to do things
_____ 6. I tended to over-react to situations
_____ 7. I experienced trembling (e.g., in the hands)
_____ 8. I felt that I was using a lot of nervous energy
_____ 9. I was worried about situations in which I might panic and make a fool of myself
_____ 10. I felt that I had nothing to look forward to
_____ 11. I found myself getting agitated
_____ 12. I found it difficult to relax
_____ 13. I felt down-hearted and blue
_____ 14. I was intolerant of anything that kept me from getting on with what I was doing
_____ 15. I felt I was close to panic
_____ 16. I was unable to become enthusiastic about anything
_____ 17. I felt I wasn't worth much as a person
_____ 18. I felt that I was rather touchy
_____ 19. I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat)
_____ 20. I felt scared without any good reason
_____ 21. I felt that life was meaningless

APPENDIX H

Course Syllabus

Introduction to Mindfulness & Meditation:
NSU Spring 2019

1. **Course Basics:**
   a. Title: Introduction to Mindfulness and Meditation
   b. 8-week spring 2019 mini-term psychology free-elective
      i. 3 credits – hybrid/blended course
      ii. 1 day per week for 3 hours
   c. Course materials
      i. Insight Timer app usage
      ii. Texts:
          1. *Mindfulness: An Eight-Week Plan for Finding Peace in a Frantic World* (Williams, Penman, & Kabat-Zinn, 2012)
             a. $10 on Amazon.com: LINK HERE
          2. *The Happiness Trap* (Harris, 2007)
             a. $10 on Amazon.com: LINK HERE
          3. Selected passages made available by professor via Blackboard pertaining to particular theme of week

2. **Week 1:** Pre-testing
   a. Informed consent
   b. Introduction to what mindfulness is
      i. Articulate visual model and how the course will follow its steps
   c. Explain basics of pre- and post-testing
   d. Pre-testing at NSU MCAR lab

3. **Week 2:** What is the basic problem in life? How can "mindfulness" help?
   a. Basic problem: "Friction"
      i. The difference between how things are right now versus how I want them to be (utilize psychological theory terms – e.g., definition of psychological stress… "craving" – Brewer, 2017).
      ii. External friction → usually okay (e.g., thirsty → drink a glass of water)
      iii. Internal friction → **problematic** (e.g., anxious → play video games instead of study)
   b. How we typically deal with internal friction (where the problem lies)
      i. The Second Arrow (e.g., avoidance behaviors)
      ii. **Fast Forward** or **Rewind**
   c. Mindfulness as a strategy for friction reduction
      i. Approach
      ii. The possibility to not have to have things be different than they are
      iii. **Play** button
   d. Meditation as a technique for building mindfulness
      i. **Pause** button

        ii. Building (retraining) attention to now ("observer effect")
       iii. Video game model (visual)
       iv. This course will follow the video game model
    e. Basic focus/concentration practice
        i. Stilling the water metaphor
        ii. Stilling the body
       iii. Breath-focus → Anchor for present moment experience
    f. Assignment for week 2:
        i. Explain use of **Insight Timer**
        ii. Basic concentration ("Focused Attention") guided meditation x5
           1. Submission of IT meditation logs
       iii. **1-page reflection paper** on BC meditation experience

4. **Week 3:** Stilling the Mind
    a. Doing and Being
    b. Sympathetic and parasympathetic nervous system
    c. Turning down the noise
    d. MindDump → implicit reappraisal
    e. Open Monitoring meditation
        i. Mental Noting
    f. Practice
    g. Assignment for week 3:
        i. Assigned meditation x5
           1. Submission of IT meditation logs
        ii. **1-page reflection paper** on meditation experience and reading

5. **Week 4:** Comfort in Discomfort & Loving Kindness
    a. Approaching vs. avoiding
    b. Comfort in Discomfort → Exercise
    c. Compassion
    d. Loving Kindness meditation
    e. Practice
    f. Assignment for week 3:
        i. Assigned meditation x5
           1. Submission of IT meditation logs
        ii. **1-page reflection paper** on meditation experience and reading

6. **Week 5:** Everyday Mindfulness & Nonjudgment
    a. Tuning into all aspects of experience
    b. Awareness of automatic judgment
    c. Application of mindfulness to everyday life experiences
        i. Eating
        ii. Communication
       iii. Technology
       iv. Walking and exercise
    d. Practice

  e. Assignment for week 3:
    i. Assigned meditation x5
      1. Submission of IT meditation logs
    ii. **1-page reflection paper** on meditation experience and reading

7. **Week 6:** Finding Life Answers with Meditation
  a. Meditating on a life problem
  b. MindDump specifically for what is troubling you
  c. Practice
  d. Assignment for week 3:
    i. Assigned meditation x5
      1. Submission of IT meditation logs
    ii. **1-page reflection paper** on meditation experience and reading

8. **Week 7:** Letting Go of the Meditator
  a. Simile of the Cup
  b. Importance of this step (acceptance)
  c. Review of visual model
    i. Concentration
    ii. Receptivity
  d. Practice
  e. Assignment for week 3:
    i. Assigned meditation x5
      1. Submission of IT meditation logs
    ii. **3-page Final review reflection paper** on meditation experience and reading

9. **Week 8:** Post-testing
  a. Course debrief
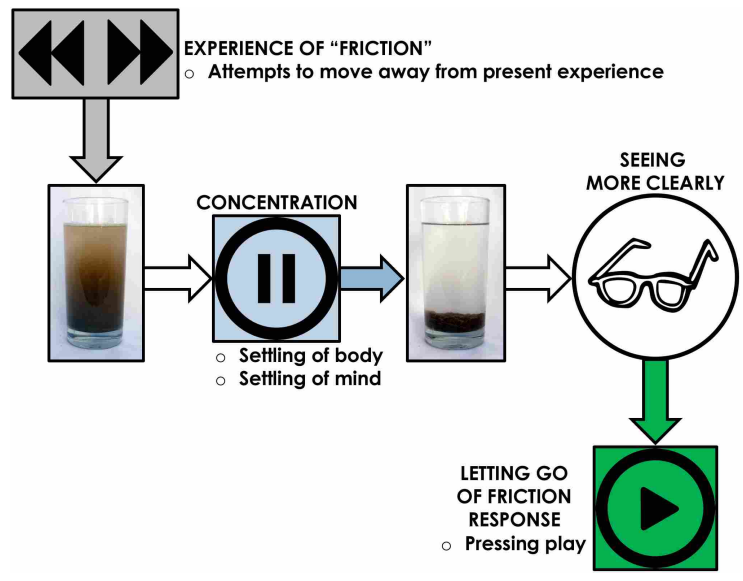 b. Post-testing at NSU MCAR lab

Course Notes:
- Course modules build on each other, so practices from previous weeks will be integrated as students advance through the course
- Students will export and submit Insight Timer logs weekly to Blackboard along with weekly reflection papers

Learning Outcomes:
- Students will be able to briefly define **mindfulness** and **meditation** and explain the benefits of their practice
- Students will be able to distinguish between several different types of meditation practice and demonstrate an understanding of the difference between Doing and Being
  - Specifically, students will develop familiarity and personal experience with:
    - Focused Attention meditation
    - Open Monitoring meditation

- - Loving-Kindness and Compassion meditation
  - Specific and general informal mindfulness practices
- Students will demonstrate knowledge of the common misconceptions about mindfulness and meditation
- Students will identify personal "problem" areas to which the application of mindfulness would be beneficial and explain how practice has impacted these areas (reflection papers)
- Students will have completed at least 10 hours of combined in-class and at-home meditation practice over the course of the term

*Visual model of course flow (to be articulated in Week 1 of the course):

EXPERIENCE OF "FRICTION"
o Attempts to move away from present experience

CONCENTRATION
o Settling of body
o Settling of mind

SEEING MORE CLEARLY

LETTING GO OF FRICTION RESPONSE
o Pressing play

APPENDIX H

STUDENT FEEDBACK/EVALUATION OF THE COURSE

Midway Feedback:

- My professor suggested this class and I swear he got a sense of what I needed in my life because this course has been eye-opening. It has allowed me insight into different techniques for dealing with my frantic mind. I allows me to finally realize I am not crazy and that a lot of us go through similar things while thinking to ourselves that we are crazy.

- My expectations for this class were exactly what I expected them to be. I expected this class to be an uplift in my life and it has been, especially using the meditations that are required and recommended by the professor. My favorite part are the mini videos and my least favorite is nothing.

- I am more at ease and learning great life lessons. I have realized I am over-stimulated and it is hard for me to concentrate on one thing.

- This course has surpassed my expectations! I have learned so many different exercises that help me and my family on a daily basis. I have been educating my family members about things I've learned in this course.

- My favorite part of this course has been the explanations and examples that are given in the videos of the different lessons. I think they are very informative and easy to understand. I look forward to the lessons. If every course adapted this teaching style would increase the success of the students. I do not dislike anything about this course. What is there not to like?!

- My favorite part of this course are the weekly assignments because it allows me to express what I have learned.

- This course is giving me exactly what I wanted to be mindful. I want to truly be aware of my experiences, to reduce the anger that I often let build up by not being aware.

- This course has given me a new outlook on life. I will be able to take lessons from this course and use them in my daily life.

- I like how the assignments are thought-provoking and that we are given videos about what we are learning. It almost feels like a face-to-face class with the videos with Charles.

- I really enjoy the assignments where we are asked to provide examples. I love that we are having to think how the lessons or what we learn apply to our actual lives and situations we have been through.

- I also truly enjoy the background items in the videos Charles makes. It is clever and funny how the elephants, tiger, etc. are placed in different spots sometimes. Quite entertaining to see how each item's placement is different in the videos.

- I do not honestly really dislike anything about this course though, I have enjoyed the assignments, the readings, and watching the videos each week.

- I really did not know what to expect when I entered this class, but my favorite part so far has been the different challenges each week. In some way they have all enlightened me on things that I was not aware of before that I now pay attention to.

- This course has actually exceeded my expectations. It is actually very well put together. It teaches you about mindfulness and how to actually relax beyond just breathing. My favorite part of this course is focused attention and having "anchors."

- I love this course and how assignments revolve around practicing meditation. I feel that this course should be mandatory for every student, to help minimize and decrease stress levels, and to also help build confidence. This course has helped me to keep my energy positive, and I look forward to the mindfulness assignments, videos and reading assignments every week.

- My expectations have been far exceeded. I am much more aware of situations happening in life from small things such as enjoying meals more, to big things like tunnel vision while driving to work in the morning and not remembering getting there. This course should be mandatory for students due to the fact that it will allow people to have a better outlook on life all around.

- Since starting this class I have seen a significant change in how I feel about my personal experiences because I better understand that my perspective at times is different from what is actually occurring.

- The mediation exercises do help and at first, I honestly didn't think they would. My favorite part of the course is learning the different meditations and learn how to actually conduct them in the right way. I have learned so much about myself in a way. I have never been so relaxed until this course. By far the best course I have taken within the 3 years I have been in college.

Final Feedback:

- I absolutely loved the course. I'm upset its only offered as a mini term.

- The videos and guided meditations have helped my anxiety tremendously.

- I feel like everything was very relevant and the material was easy to understand.

- I thought the videos, workload, and text were perfect and well put together for the course.

- I enjoyed the videos the most. They were informative.

- I feel the material did relate culturally and can relate to anyone's life whether it be a traditional student or not.

- I am truly glad this was one of my last classes at Norfolk State.

- This course was helpful to me for many ways. This course has taught me that becoming connected and conscious of yourself is most important.

- After taking this course, I feel more comfortable with myself.

- I feel that the presentations were the best, Mr. Freligh explained everything extremely well.

- I personally feel this course has been one of the most interesting Psychology courses I have taken.

- Leave the course the way it is. The way the course is designed now we learn, engage and grow and that is beautiful.

- I feel the material was relevant to me culturally. The material allows you to become more in tune with who you are as a person.

- My main takeaway is that meditation is not some Asian based religious practice, it is a mental, mind-stimulating spiritual experience that can improve your quality of life and produce real positive life progression. Thank you for all the knowledge that has been bestowed to me as being a part of this class.

- A few of my main takeaway lessons that I learned from this course are to be kind to yourself, that there is no wrong way of meditating, and listen more to others. I really enjoyed the video lessons and practicing the meditations described in the videos.

- One of my favorite lessons was about pretending to be an alien trying a small food item for the first time. That was a way for me to truly appreciate and have a vivid refreshing experience of a food item (pink starburst) that I so often experience without awareness, and experiencing it in a new way was fun.

- I really enjoyed the assignments. I truly loved being able to be creative with my responses and include examples from my actual life. The assignments were actually something I looked forward to every end of my week.

- I am a little sad this course is coming to an end, and I hope more classes like this will be offered for future students of NSU. Participating in this class was a great way to end my time at NSU, and I feel I am a better person from the tools I learned in this course.

- I do feel the presentation of the material was relevant to me culturally. I think that it included activities that could be done by all kinds of people of all kinds of cultures, and the readings and videos were presented in a way that was understandable and not overwhelming at all.

- I am so thankful I signed up for this course and I will be sure to continue to practice some of the meditations and activities again in the future. I will also keep my insight timer app and try my best to always make time to meditate.

- I hope the videos will be available for a while to reference back to and watch still. Thanks for all the feedback and insight through the videos! I hope that everyone found this course material rewarding and are better too through meditation and mindfulness.

- This class was by far my favorite course I've taken here at Norfolk State University.

- This course has definitely taught me a different standing on life. It has showed me how to live my life more peacefully. It has showed me how to understand people and how to adapt to many different scenarios.

- My favorite lesson was the one that taught me how to stop listening to respond and/or to be correct, but rather, how to listen to actually understand where the speaker is coming from.

- Honestly, this course was an amazing course and I loved it. The presentation of the material was relevant to me culturally because it showed me so many different ways to stay in a peaceful mindset. It taught me how to deal with different adversities without making it such a big deal and how to focus my attention. This was my favorite course hands down and I'm truly upset it's over.

- I did not realize how beneficially this would be until I was able to put some of these practices to use outside of me doing my homework. These lessons are definitely something I plan to carry out beyond this course and to even venture further to see what other practices I can learn.

- I think the videos were extremely helpful rather than trying to just read material. A lot of the time I felt I had my own personally one-on-one time with Charles guiding me through my mediations. Thank you for having me in this course, I have learned a lot about myself during this time.

- I think that this was an awesome course. This course has taught me more about myself and how to be mindful of myself. This course teaches one to celebrate themselves and their characteristics. I do not think you should change much about this course I do think that it is culturally relevant.

- I absolutely loved taking this course. I loved the videos that we got to watch, it gave me life tips and advice. What I learned in this class will stick with me and help me in life, and that's another reason I loved this course.

- I loved this course. It was very informative about the practice of mindfulness and meditation overall. I would have liked to have seen more practice with the meditations instead of moving on so fast. However, I understand that it is a shorter course. Culturally, I do feel that it fit me, I just had to take what applied and leave the rest that didn't stick.

- I really enjoyed the video lectures in this course as well as the life-long lessons I will take with me. Mindfulness and meditation is a journey to becoming more aware and present in the moment and, honestly, it has helped me become a better me.

- I really enjoyed this course. I never saw myself actually being a person that meditates. With this course, I have become more open to things. I believe that all the material that was presented in the course was relevant and helpful.

- This course has helped me tremendously in my daily life. I think it would be great if it were an in-person class vs. online.

- My main takeaway lessons were that small things do make up the big picture and that the current moment is more valuable than the stresses, daydreaming, and other things that may distract us from the now.

- I absolutely enjoyed this course. For me, the timing for taking the course was God-sent and divinely ordered.   At my church we were discussing the importance of meditation and mindfulness. I was so excited to hear of this new venture, especially since I was learning the benefits.

- I enjoyed this class very much. I absolutely loved the questions and the video lessons. I feel that this material was more relevant to me than I know. It opened my eyes to so many things and helped me understand. I will be continuing mindfulness and mediation.

- The questions, the lesson plan and the exercises were well thought out and planned in a way that contributed to my understanding of the course. The presentation of the material was very much relevant in order to help bring peace and understanding to others as well as take a minute and come to your senses before acting out irrationally.

- My favorite lessons were the video lessons because I am a visual person and it felt like I had a meditation guide with me. I enjoyed learning about how feelings, sights, and sounds are perceptions. I feel that I can enjoy life more freely and be an observer.

- I think the lesson that was provided about why meditation is not a religion was important

- I've learned how to focus my mind on one thing and letting go of everything else. I've been able to take a step back, think differently and then choose and alternative outcome

- I have had many classes and some that I have even had to retake. However, this class I feel should be mandatory for all students to take. When this course started, I was 208 pounds. I am now 190 pounds and almost exceeded my goal. This course has helped me see clearly, be able to speak better in front of crowds, and helped me find motivation when I had absolutely none whatsoever. Thank you so much for this course and insight on helping me find me when I couldn't. This course does not need anything changed besides making it mandatory for all students.

- I enjoyed all the techniques used in different situations and how to act a certain way in that specific time. It really transferred to reality too. There is no improvement to be made because this was my favorite online course and this did affect my life and help out in so many ways.

- I get bored easily so I liked the fact that the videos were short but full of information. I wouldn't change anything about this course, it was great!

- This has by far been one of my favorite courses since I've been in college. I have learned to control my anxiety as well as learn more about myself and this topic.

- This course was very organized and thorough. This class has already helped with my anxiety and that mean the world to me.

- Overall this was a great course and I would recommend it to everyone as it taught me skills that are essential to life and being able to cope with the everyday stressors it can bring.

Charles Bradley Freligh

EDUCATION

Virginia Consortium Program in Clinical Psychology 8/14- 08/20
Ph.D., Clinical Psychology
University-based, APA accredited program
Jointly Sponsored By:
Eastern Virginia Medical School, Norfolk State University, and Old Dominion University

Master of Science in General Psychology 09/11-12/12
New York University, New York, NY

Bachelor of Science in Psychology 08/04- 05/08
James Madison University, Harrisonburg, VA

PREDOCTORAL INTERNSHIP

William and Mary Counseling Center 08/19- 08/20
Group Therapy Specialty Track Position
APA-Accredited Internship

SELECTED RESEARCH

Freligh, C., & Debb, S. (2019). Nonreactivity and resilience to stress: Gauging the mindfulness of African American college students. *Mindfulness.* Advance online publication.