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**THE RELATIONSHIP BETWEEN MINDFULNESS AND STRESS AMONG
COLLEGE STUDENTS**

by

Elizabeth M. von der Heyde

A Thesis

Submitted to the
Department of Educational Services and Leadership
College of Education
In partial fulfillment of the requirement
For the degree of
Master of Arts in School Psychology
at
Rowan University

Thesis Chair: Carmelo Callueng, Ph.D

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Dedication

I would like to dedicate this manuscript to my friends and family who supported me through this thesis and my undergraduate professor who introduced mindfulness to me, Dr. Marcello Spinella.

Acknowledgements

I would like to express my appreciation to Dr. Carmelo Callueng, Dr. Roberta Dihoff, and Alicia Clendaniel for their guidance and help throughout this research.

Abstract

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THE RELATIONSHIP BETWEEN MINDFULNESS AND STRESS AMONG
COLLEGE STUDENTS

2016- 2017

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Master of Arts in School Psychology

College students who have high levels of stress have reported difficulties with functioning on a daily basis, whether it be high anxiety due to classes or an increase in unhealthy habits like smoking or overeating. Studies have shown that those who practice mindfulness every day learn how to live with accepting the stresses in their lives (Siegel & Allison, 2016). This study explored the relationship between mindfulness and stress in college students from a medium size public university in the northeast. Two self-report measures were used to collect data through an online survey. Data were subjected to descriptive and inferential statistical analysis. Results indicated that students rated themselves relatively high in the Observing and Describing facets of mindfulness. Students overall stress was at the moderate level. Lastly, students' ratings of mindfulness and stress were negatively correlated. Hence, the hypothesis that mindfulness and stress are inversely correlated was verified in this study.

Table of Contents

Abstract	v
List of Figures	x
List of Tables	xi
Chapter 1: Introduction	1
Purpose of the Study	3
Research Questions	3
Hypothesis	3
Significance of the Study	4
Limitations	4
Assumptions	5
Definition of Terms	5
Mindfulness	5
Awareness	5
Stress	5
Observing	5
Describing	5

Table of Contents (Continued)

Acting with Awareness	6
Non- Judgment.....	6
Non- Reacting.....	6
Overview of the Study	6
Chapter 2: Literature Review	7
Stress.....	7
Self- Esteem.....	9
Employment Status	10
Academic Load	11
Mindfulness.....	13
Observing.....	16
Describing.....	17
Non-Reacting	18
Acting with Awareness	19
Non- Judging.....	21
Synthesis	22

Table of Contents (Continued)

Chapter 3: Methodology	23
Setting and Participants.....	23
Instrumentation	23
Inventory of College Students Recent Life Experiences (ICSRLE).....	23
Five Facet Mindfulness Questionnaire (FFMQ).....	24
Procedure	24
Data Analysis	25
Chapter 4: Results.....	26
Descriptive Statistics of FFMQ and ICSRLE Scores	26
Differences in Participants' Mindfulness Facets and Overall	27
Differences in Stress Levels of Participants as Measured by ICSRLE	27
Correlation Between FFMQ and ICSRLE Scores	28
Chapter 5: Discussion	30
Implications.....	30
Future Research	30
References.....	32

Table of Contents (Continued)

Appendix A: Participant Survey	39
Appendix B: Participant Survey	42

List of Figures

Figure	Page
Figure 1. Level of Stress of Participants.....	28

List of Tables

Table	Page
Table 1. Descriptive Statistics of the FFMQ and ICSRLE Scores	26
Table 2. Results of Repeated ANOVA on Mindfulness Scores of Participants	27
Table 3. Correlation Between FFMQ and ICSRLE Scores	29

Chapter 1

The Problem

College students' levels of stress have been on the rise with about one third reporting to have difficulties functioning and almost half experiencing feelings of overwhelming anxiety (Novotney, 2014). It is important to investigate different ideas for students to find a way to relieve stress. Practicing mindfulness can help students living in the present moment and learn to accept their stressors without judgement (Siegel & Allison, 2016). The study aimed to describe the profiles and determine the relationship of mindfulness and stress in a sample of college students in a public university in the northeast. Students within the millennial age have shown extraordinary signs of stress in their academics while showing signs and symptoms of mood disorders and behavioral issues. Guney et al., (2014) has described anxiety disorders as one of the most common mental health condition in children and adolescence with a worldwide prevalence rate of 20% (Chavira et al., 2004). Within the recent time period of mental health treatment and coping mechanisms, using mindfulness to help decrease symptoms of mental health disorders and academic stress has increased. According to Goldin & Saltzman (2008), there have been many studies conducted to better understand mindfulness skills to adults, one of the most popular being mindfulness- based stress reduction. Since mindfulness for adults has been practiced, the idea of teaching mindfulness- based coping skills for stress has become a growing concept for psychologists today.

In a study completed by Opatye in 2014 on the relationships among emotional stress, test anxiety, stress, academic success, and attitudes in high school students, stress was one of the psychological traits often being observed in school learners. Garnett

(2001) emphasized that stress is a common element in the life of every individual, regardless of race, or cultural background. In 2008, the Anxiety and Depression Association of America (ADAA) conducted a survey on college students and their levels of stress. According to the survey done by Associated Press and mtvU, 80% of participants experience daily stress, 34% have felt depressed within the last three months, 13% have been diagnosed with a mental health condition, and 9% have considered suicide in the past year (ADAA, 2008). Mental health disorders and serious symptoms have been at a rise for many students within the recent years due to the high demand schools.

Studying mindfulness has been shown to be beneficial to those who are struggling with mental health issues and everyday stress. However, individuals who have neither heard nor experimented with mindfulness, have shown difficulties with focusing on calmness and composure. According to Goldin and Saltzman (2008), many children do not understand what it is like to feel both alert and still. Shockingly, many of these children's only way to describe a still quiet place is "dead". Mindfulness is known as the practice of being aware and conscious of one's self and surrounding. Mindfulness has recently shown benefits as a western practice in psychotherapy to help individuals with mental and behavioral disorders focus on the present moment rather than being unable to concentrate or have abundant symptoms. Germer, Oldendzki, & Siegel (2008) explained that meditating on awareness, presence of experience, and acceptance show beneficial outcomes. In order to reach this awareness, one must be aware of common misunderstandings, such as to not have a blank mind, learn not to withdraw from life, and

to not focus on becoming emotionless while practicing mindfulness meditation (Germer, Oldenzdki, & Siegel, 2008).

Purpose of the Study

Researchers have studied the effect of stress among college students. According to De Carvalho (2009) college students in the United States have been exposed to a spread of different experiences over the last 10 years. Di Carvalho (2009) suggested that since young adults and teenagers had recently been exposed to news around the world (e.g., smart phones, internet, media) that had caused a rise in distress about life. Academics is another leading cause of students' stress. Transition to college life can be a stressor on its own. It is obvious stress can be a detrimental fallback in a student's life.

The purpose of this research study was to determine the relationship between mindfulness and stress in college students.

Research Questions

1. How do students assess their mindfulness skills?
2. How do students assess their stress levels in various areas of college life?
3. What is the relationship between mindfulness and stress?

Hypothesis

The study postulated that there is an inverse relationship between mindfulness and stress. Students who are more mindful tend to experience less stress.

Significance of the Study

The significance of this study is to find and understand how using mindfulness skills can decrease stress levels of college students. Using the Five Facets of Mindfulness, the main elements will help assess the amount of mindfulness and awareness skills each participant uses. Assessing a participant's stress levels will also be assessed to find the correlation for each mindfulness skill.

Davis and Hayes (2012) explained the benefits of mindfulness awareness, reduced rumination, which consists of less negative thoughts. A study done by Hoffman et al. (2010) measured the benefits of mindfulness- based stress reduction and mindfulness- based cognitive therapy. The findings showed that the use of MBSR helps shape students' emotion regulation stability to decrease their stress (Hoffman et al., 2010). The use of mindfulness also shows a boost in working memory, cognitive flexibility, and focus (Davis & Hayes, 2012).

Limitations

Many mindfulness awareness scales are designed to be self- reporting. When students self- report their experiences, they may not be entirely truthful to the questions being asked; thus, affecting the validity of responses. There is also a possibility of a lack of introspective ability for students to provide accurate responses. Student could see himself/herself in a different way than how he/she may describe self to another person (Hoskin, 2012).

Because the sample for this study was only 33 college students at Rowan University, results may not be generalizable to the population of college students at Rowan.

Assumptions

The study assumed that participants responded to the self-reports measures truthfully. It was also assumed that the measures used in this study included items that adequately described mindfulness and stress in college students.

Definition of Terms

Mindfulness. A psychological state of awareness that promotes consciousness. Mindfulness has been theorized to increase metacognition, decrease ruminating thoughts, and helps a person to focus (Davis & Hayes, 2012).

Awareness. A mental state of thinking- feeling wherein a person is separated from his/her consciousness to be able to “watch” his/her emotions rather than be succumbed by them and identify with them. (Davis & Hayes, 2012).

Stress. Specific and nonspecific physical and emotional response a person makes to a stimulus that is found disturbing or overwhelming (Gambhir, 2015)

Observing. A person’s perceived way to notice when something in his/her consciousness is changing. For example, one who can understand mindfulness may be able to observe when his/her mood is changing (Baer, et al. 2006).

Describing. A person’s way to understand and perceive the things around and within him/her. For example, a person who is mindfully aware may be able to describe how he/she is currently feeling with ease, rather than not knowing how to describe his/her emotions (Baer, et al. 2006).

Acting with awareness. A state of being able to become fully aware of one's actions and emotions. A person who has difficulty keeping his/her mind focused is an example of one who has difficulties with acting with awareness (Baer, et al. 2006).

Non- judgment. The ability of the person to accept either his/her own emotions or another person's feelings without using judgement

Non- reacting. The ability of the person to keep emotions under control without losing control and reacting in a negative way.

Overview of the Study

Chapter 2 provides a literature review of how stress levels from college students negatively effects their self- esteem and academic levels, as well as how mindfulness skills can help increase student's academic work and overall awareness. Chapter 3 details the methodology of the study by describing the following sections: participants, measures, procedures, and data analysis. Chapter 4 summarizes the findings of the study through tables and their interpretations. Lastly, chapter 5 discusses the findings in light of existing literature. It also provides conclusion and recommendation for future research on mindfulness and stress in college students.

Chapter 2

Literature Review

Stress

Stress among college students have been a major concern. Not only is severe stress a downside to a student's work ethic, but it can lead to many different negative factors in their life. According to Dixon and Sharon (2008), two of the greatest concerns that can detriment a college's graduation rates are stress and depression. Majority of students taking classes in a university or college experience moderate to severe amounts of stress (Dixon & Sharon, 2008). With this high amount of stress in schools, one would believe it would be wise to seek counseling or help with tutoring and planning. However, research shows a large amount of college students who experience this severe psychological stress do not usually seek counseling (Holland & Wheeler, 2016). A study was conducted by Britt et al. (2008) to understand why students who have academic and perceived stress do not seek counseling to help reduce their stress levels throughout their academic years. The study indicated that students who experience high levels of stress showed an increase in avoidance behavior, which caused an increase in depression and a decrease to finding help through counseling (Holland & Wheeler, 2016).

Researchers have conducted studies in order to determine what is the main cause of stress for college students. A study was conducted by Dusselier et al. (2005) to determine college student's primary stressors (Brough, 2015). The primary stressors they found were academic stress, financial concerns, and pressure from families (Aselton, 2012; Brough, 2015). A student's academic performance, such as attending classes,

exams, and work ethic, can be easily deterred by stress alone, which causes poorer grades and performance, as well as issues with cognitive processes and attention (Lumley, 2003). A study conducted by Lumley (2003) examined what can help students decrease their stresses in college. While it was hypothesized that time management could decrease stress, there were only few studies that actually demonstrated any improvement. Instead, Lumley (2003) considered written emotional disclosure as a means to decrease students' academic stresses. Students learned to become aware of their academic pressures with their emotions through the four days of the experiment, which helped decrease the chance of students becoming succumbed to their negative emotions and stress. Writing down negative emotions can be closely linked to using mindfulness as the students become in control of their thoughts as they recognize how negative thoughts can lead to negative emotions

With the many stressors college students experience throughout their schooling, it can increase the possibility of students to do poorly in their academics. This can include a significant decrease in their concentration and problem-solving skills (Abdollahi, 2016). Students learn problem-solving skills overtime throughout their academic career with the many different circumstances they go through in life, but high amount of stress can deter that, causing decreases in motivation and developmental growth, as well as having problems with control and commitment (Maddi et al., 2012; Abdollahi, 2016). It is important to find ways to make problem-solving skills effective, rather than ineffective. Abdollahi (2016) has determined that the implications of prevention and intervention are ways to help students overcome their stresses. The main part of any prevention program is to reduce the stress of the participants (Abdollahi 2016). Ways to reduce an

individual's stress levels include coping skills, support from peers, and practicing self-care in their daily routine. Only then, will students experiencing stresses be able to take control of their lives. Studies have recently shown an increase of mental stabilization with not only the help of coping skills and help from others, but showing the act of mindfulness in their daily life. This idea of mindfulness is fairly new in the psychology and counseling realm, but researchers have conducted studies in order to show the benefits of being mindful and aware.

According to previous studies, stress in college students is related to self-esteem, employment status, and academic load.

Self-esteem. High stress levels and low self-esteem have shown high correlation in college students, as well as less awareness of their own health (Hudd, Dumlao, & Erdmann-Sager, 2000; Britz & Pappas, 2010). When students begin to show signs of low self-esteem, it can cause many difficulties with self-worth and motivation to strive forward with their studies. Because of the high stress levels, they feel, many reports of young adults begin to become more prone to illness through the semester, which can also be caused by unhealthy behaviors due to low self-esteem (Farlex, 2009). According to a number of studies, increased stress can be linked to increase drinking, smoking, lack of exercise and sleep, and poor eating (Von Ah, Ebert, & Ngamvitro, 2004; Britz & Pappas, 2010). These studies can be correlated to how students' reactions to stress can dramatically change their views on themselves. For example, 81 percent undergraduate female students' eating habits have changed, where "33 percent reported eating healthily when stressed, while the rest ate more sweet and fast food" (Kandiah, Yale, & Jones, 2006; Britz & Pappas, 2010).

A student's self-esteem can be changed due to what the student is exposed to if they are not being mindful of their behaviors and reactions to stressors. Thompson and Waltz (2008) studied if those who practice mindfulness will see a rise in their self-esteem. Having participants complete an Unconditional Self-Acceptance Questionnaire (USAQ; Chamberlain & Haga, 2001), they found that mindfulness and self-acceptance are related to one another and that those who are more mindful usually show higher self-esteem than those who do not (Thompson & Waltz, 2008, 123). Students who find themselves struggling with self-worth and self-acceptance may find it beneficial to participate in every day mindfulness.

Employment status. Employment status can be a significant issue when it comes to high stress. This can be broken down on two different ways. First, people can experience high stress due to little to no income. In a cross-sectional study, results show women who work are psychologically better off than those who are unemployed; this also included those who did not have an education, as well as familial support showed a higher chance of depression (Bromberger & Matthews, 1994). Second, the possibility of losing employment can also cause a great deal of stress. A study to determine stress levels in three different years, 1983, 2006, and 2009, showed higher stress levels in 2009 due to economic collapse. "Unemployment, though generally associated with significant psychological stress, may lose some of its potency as a personal stressor when experienced in the context of an elevated national unemployment rate (approaching 10% at the time of the 2009 survey). A major component of the stress associated with job loss is a loss of self-esteem and social status" (Cohen & Janicki-Deverts, 2012). Due to

recent economic issues currently employed people may currently suffer the consequences thus causing a heightened level of stress in the United States.

According to Perna of the American Association of University Professors (AAUP), many professors believe students who currently have a place of employment to only work ten to fifteen hours per week (2010). Not only do students, but other faculty can agree that the number of hours' professors believe to be true is actually false. Statistics from the National Center for Education Statistics, 45 percent of full time students and 80 percent part time students were also employed in 2007; about 15 percent working less than 20 hours and 21 percent working between twenty and thirty- four hours per week (Perna, 2010). Many researchers believe the rise of employed students are because of the rise of tuition costs to attend colleges and universities, as well as other financial stressors (i.e., parenting and housing). Perna believes colleges should support working students by more one- on- one time with professors for extra support and help students may need in order to complete their classes (2010). This idea could also help liven campus culture, making students feel more comfortable with their tedious schedules.

Academic load. The academic load college students endure in modern times has shown to be a big component of everyday stress. “Students report experiencing academic stress at predictable times each semester with the greatest sources of academic stress resulting from taking and studying for exams, grade competition, and the large amount of content to master in a small amount of time” (Abouserie, 1994; Archer & Lamnin, 1985; Britton & Tesser, 1991; Kohn & Frazer, 1986; Mckean & Misra, 2000). Because of the excessive academic based stress, students can experience psychological and physiological

impairments. For example, many students become ill during the time final exams are being completed, as well as many students are being diagnosed with anxiety and depression due to an excessive academic load (Mckean & Misra, 2000). Being able to come up with ways to manage a student's time correctly has shown to be beneficial to stress out college students.

Practicing mindfulness can be very beneficial for students with exceptional academic loads, especially college students who are transitioning to college life. "The transition to college enhances feelings of loneliness, and lonely students typically underperform academically due to the depletion of cognitive resources. Mindfulness practice has been demonstrated to improve certain cognitive abilities" (Margalit & Rosenstreich, 2015). By measuring loneliness, optimism, academic self- efficacy, and memory, practicing mindfulness will show if there is a correlation. The results did indeed show that not only was loneliness controlled through mindfulness, but all around academic achievement increased as well (Margalit & Rosenstreich, 2015). Mindfulness is beneficial for college students when attempting to continue to excel in their studies and control negative emotions throughout the school year.

According to the Likert scale Five Facet Mindfulness Questionnaire the participants for this study will complete, the five different facets describe how an individual is able to observe, describe, act with awareness, be nonjudgmental, and the ability to not react in a negative manner. According to Baer et al. (2006), this questionnaire will be able to determine the amount of each facet an individual is able to determine their mindfulness abilities. With this questionnaire, students can learn different ways to achieve mindfulness to benefit themselves.

Mindfulness

One of the most common uses of mindfulness in the realm of psychology is the study of mindfulness- based stress reduction (MBSR). Defined by Baer, Carmody, and Hunsinger (2012), MBSR is an empirically supported mindfulness- based intervention. “In its standard form, it includes eight weekly sessions of 2.5 hours, with an all-day session during week 6” (Baer, Carmody, & Hunsinger 2012, 755). Sessions for MBSR include meditation exercises and yoga, all of which are non- judgement based and teach participants to observe and accept the different sensations they experience throughout each session (Baer et al. 2012). Although these practices in MBSR are to be done in a group session each time, there is no downfall to using the practices in everyday life.

Researchers Goldin and Gross (2014) wanted to see how MBSR can alter a person’s brain activity and mind with those who suffer from Social Anxiety Disorder and Seasonal Affective Disorder (SAD). Image acquisition was used in order to fully determine the benefits of their hypothesis. Goldin and Gross had patients undergo fMRI scanning to measure blood oxygenation level- dependent contrast (BOLD) pre-and post MBSR. Results have shown a greater BOLD post MBSR for breath- focused attention versus negative self- beliefs (Goldin & Gross, 2014). The results have shown that patients who have social anxiety and SAD experienced differences in their symptom severity showing more oxygenation in the brain, thus causing a decrease in negative belief symptoms (Goldin & Gross, 2014).

Mindfulness has been defined in many ways, but has recently been referred as a psychological state of awareness and a practical mode for individuals to be able to

process information (Davis, 2011). Marlatt and Kristeller (1999) describes mindfulness as “bringing one’s complete attention to the present experience on a moment- to- moment bases” (Jha, Krompinger, & Baime, 2007). Kanat- Zinn (1994) has defined it as “paying attention in a particular way, on purpose, in the present moment, and nonjudgmentally” (Jha, Krompinger, & Baime, 2007). Many practitioners and researchers have defined the idea of using mindfulness every day in their own way but have equally been able to help others understand it better. Mindfulness to new practitioners and curious people may be foreign, especially in modern day’s busy lifestyle, but practicing each day to take some time and be in the present moment can have beneficial effects on the practitioner. The idea of being nonjudgmental in a moment- to- moment basis has shown benefits with an individual’s thoughts and emotions, as well as stability and cognitive flexibility.

Many of those who first begin engaging in the idea of mindfulness argue they have a difficult time with stabilizing their emotions and thoughts. The idea of focusing on consciousness and awareness can be simple, but focusing on attention is the key component of achieving the ability to ground oneself through mindfulness meditation. One may watch television and have an understanding of what they are watching, but just how much are they paying attention to small details, or rather the background of the show. Using the same concept in everyday life, such as where one’s feet are placed, whether or not one may feel pain in a certain part of their body, or paying attention to their spouse’s true feelings can make the difference from just being conscious to being mindful.

Since mindfulness has been practiced for many centuries, empirical evidence has been received through years of studying and analyzing. One definition given when

studying mindfulness is emotional intelligence. “Emotional intelligence, as described by Salovey, Mayer, Goldman, Turvey, and Palfia (1995), includes perceptual clarity about one’s emotional states...In less mindful states, emotions may occur outside of awareness or drive behavior before one clearly acknowledges them” (Brown & Ryan, 2003).

Openness is another form of mindfulness practitioners said they experience through practicing mindfulness. Openness involves accessibility and interests to new experiences (Brown & Ryan, 2003).

The role of mindfulness can be used in many different terms, not only can it help with the decrease of stress, but there is the benefit of satisfaction with the self and with the world around the self. How stress can lead to depression has already been discussed in the literature, therefore it is important to look at how mindfulness and awareness can produce emotion regulation. Researchers have hypothesized that mindfulness in work related environments may be beneficial and be particularly strong when it is in need of emotion regulation (Hülshager, 2013). Emotional labor, defined by Hochschild (1983) is a theory that suggests employees make use of two different emotion regulation strategies given the demand of emotional stressors, which is surface acting and deep acting (this can be related to academic stress and forms of other types of stress among college students). Research has found that surface acting alters an individual’s external emotional expression and suppressing the individual’s true feelings, where deep acting shows the opposite, the individual shows their true feelings. The suppression of a student’s emotions in this case, such as not reaching out for help and making people believe they are not stressed when they indeed are, has been shown to be very negative to their mind and body, thus causing more stress and emotional exhaustion (Hülshager, 2013).

Learning to be in control of their deep acting skills will decrease that negativity, simply because the individual shows more emotion and not suppressing negative emotions.

According to Baer et al. (2006), the five facets of mindfulness are different skills individuals use to assess themselves. Each element of mindfulness describes specific characteristics of what is to be used to enhance one's perception of their awareness. The five elements are observing, describing, acting with awareness, non-judging, and non-reacting items.

Observing. In an individual's perception, to observe is described by Baer as "attending to sensory stimuli that mainly derive from external sources and the body as well as related cognitions and emotions" (Baer et al., 2006). A student who attempts to use observation must be able to be aware of effects in the world around them and observe themselves and their feelings toward the external stimuli. When observing one's own stress levels, being in tune with one's own emotional input and output is beneficial to controlling the amount of stress an individual's experience. For example, the Five Facet Mindfulness Questionnaire has specific statements that allow the participant to ask questions about how they not only observe their emotions, but whether or not they are aware of their body sensations, and their thought process (Baer et al., 2006). The idea of observation is meant to show a deeper meaning by allowing the participant understand how to be aware of their stress levels, rather than be consumed by them.

The idea of using one's own awareness to understand their own emotions should be a continuous practice. According to Brown and Ryan (2004), observing one's own thought has been associated with being psychologically free from negative thinking.

Using one's attention against one's ruminative thinking can allow the individual to become control of their stress. Lumley's study on written emotional disclosure uses this idea of observing. The student is asked to write down their emotions as they feel them. Doing this uses the act of observing because the student is thinking and understanding what they are feeling in order to write down how they feel at that current moment (Lumley, 2003).

Describing. Being able for an individual to describe their own feelings is crucial to learning how to be mindful. As a student's stress becomes more encompassing and negative, they will start to experience psychological impairment as well as physical impairments (Murphy & Archer, 1996; Misra & McKean, 2000). An example from the Five Facet Mindfulness Questionnaire for the subset "describe items" is the inability to think about or express how to explain emotions (Baer, 2006). If a student is unable to describe how they may feel due to high stress levels, then it will become exceedingly difficult to be mindful with their academics and life complications.

Many practitioners have explained that to treat stress and negative emotions, one must first learn how to confront these said emotions. However, this can be difficult for some people, which is when it is important to self-reflect. A study done by Kross, Ayduk, and Mischel (2005) compares different self-perspectives that can help decrease negative emotions: self-immersion and self-distance (710). Self-immersion can be described as thinking in an egocentric manner which can help an individual focus on specific experiences to decrease negative emotions (Kross, Ayduk, & Mischel, 2005). Self-distancing is the opposing idea of distancing oneself from their negative emotions and reflect in the third person (Kross, Ayduk, & Mischel, 2005). Results from their study

showed self- distancing worked better than self- immersion. For example, a student who struggles with many stressors may try mindfulness meditation as a way to help distance themselves from the negative feelings. Learning how to distance negative emotions from oneself can help the student better understand and describe what they are feeling rather than letting them consume the student and experience more stress.

In order for an individual to learn how to describe themselves easier is to change their behavior toward the complication. A common reason why it may be difficult for an individual to have difficulties describing their thoughts and emotions may be because of more than one reason. According to Grohol, many defense mechanisms and deeper emotions under the surface of the issue at hand could be coming into play. Fear of conflict, fear of rejections, low self- esteem and feelings of hopelessness are among a few of the possible reasons why an individual is unable to express themselves and describe their thoughts (Burns, 1989; Grohol, 2016). In order to gain control of thoughts and emotions, one must seek what is the underlying cause of the inability to do so.

Non-reacting. When a student experiences stress throughout their academic career, they will react in certain ways that can alter their emotions. The Gadzella's Student- Life Stress Inventory (SLSI) (1991) is a 51 item Likert Scale that assesses five different categories of academic stressors a student will experience, as well as four categories of different reactions to stressors. These categories include physiological, emotional, behavioral, and cognitive. According to the Office of Mental Health service, physical reactions include symptoms that can be seen in common anxiety disorders such as increased heart rate and fatigue to a decreased resistance to infections. Stress and an increase of illness are correlated in students (CMHS, 2000). Behavioral and emotional

symptoms of stress can include difficulties in communication, hyper-vigilance, restlessness, apathy, and feelings of being misunderstood, which can cause isolation and self-criticism (CMHS, 2000).

On the Five Facet Mindfulness Questionnaire, examples of how to not react to stress are learning how to feel emotions without reacting to them (Baer et al., 2006). While an individual becomes more accustomed to using mindfulness in their everyday life, this idea of not reacting to their emotions becomes easier over time with practice. According to researchers, this is an indicator of dealing with one's perspective. A study done by Niemiec, Rashid, and Spinella explains perspective as an obstacle that requires taking a wider view of life (2012). The metacognitive perspective is a specific way to make it possible for an individual to see and understand temporary emotions rather than identifying with them (Teasdale, 1999). For example, a student experiences feelings of dread for their multiple finals coming up soon and starts to lose control of their work ethic and organization. Instead of identifying with this feeling of dread, the metacognitive perspective lets the student acknowledge their feelings and emotions, but does not act upon them. This perspective lets the student feel their emotions without suppressing them, but does not act upon them and is able to regain control.

Acting with awareness. When an individual begins to act with awareness, they become more in tuned with themselves and the environment. However, understanding how that can be done can be difficult at first, especially if the individual is conditioned to feeling stressed and under pressure. The simplest way for anyone to act with awareness is to breath control. When a person experiences stress, it is physiologically normal for them

to feel shortness of breath. According to Niemiec, Rashid, and Spinella, focusing on the breath can help expand awareness to the person under stress (2012).

Mindfulness listening can help those with high stress concentrate more thoroughly. On the Five Facet Mindfulness Questionnaire, students are asked if they are easily distracted. This is a common component to students reacting to high stress and can deter their chance to achieve their academic success. Becoming more in tuned with listening skills gives the student a chance to increase their attention skills to both verbal and nonverbal cues, as well as to their own reactive cues (Niemiec et al., 2012). For the student to achieve these acts of mindfulness, they must be aware daily. Students who struggle with daily tasks due to high stress levels can learn different practices that are common in MBSR and mindful meditation.

“Practices often found in mindfulness- based programs are the body scan, sitting meditation, three- minute breathing space, eating meditation, mindful waking, mindfulness with emotions, loving- kindness meditation, and mindful yoga (Carson et al., 2004; Kabat- Zinn, 1990; Segal et al. 2002). Each requires such character strengths as perseverance, self-kindness, and perspective” (Niemiec et al., 2012).

A study conducted by Calvete, Orue, and Sampedro (2017) helped to better determine if acting with awareness helps predict associations between symptoms of psychological issues in adolescents. They argue that because adolescents are more likely to externalize negative behaviors, acting with awareness can alleviate negative feelings before adolescents begin to externalize their stressors. Their results show that long- term

acting with awareness can indeed help with predicting negative emotions and symptoms of psychological issues (Calvete, Orue, & Sampedro, 2017). This can help with regulating emotions of adolescents and cope with adversity (Calvete, Orue, & Sampedro, 2017).

Non-judging. Becoming judgmental toward oneself or another can be a large detriment toward a student's ability to be mindful. According to Mendl et al. and Paul et al., Judgement is a bias that reflects the cognitive element of an individual's affective state (2009; 2005). When an individual feel judgmental toward something or someone, it hinders their ability to achieve mindfulness, thus their outcome becomes more negatively impacted. An example from the Five Facet Mindfulness Questionnaire is if the student criticizes themselves for having irrational thoughts and emotions (Baer et al., 2006). Judging oneself due to negative emotions will not make a problem going away, it will only grow more negative.

The ironic process theory is very similar to how the mind works when it is pressures to judge the conditions around it and when stress becomes suppressed due to judgement. This theory, according to Wegner, Erber, and Zanakos (1993), is the idea that suggests when the mind is forced to focus on a stimulus different from the task at hand (i.e., stress, academic load, or financial issues) the ability to do so declines and is unable to not defer away from the specific task at hand. This idea is where can be easily explained with the purple elephant experiment derived from Eric Fleming. If a person asks to not think of a purple elephant, the mind is unable to get the specific idea out of their head, therefore the purple elephant is the first thing that they can think of (Fleming, 2012). This shows how judging one's own emotions in a negative manner can cause the

negative feelings to not only linger, but could increase. If a student forces themselves to expel their stress, it cannot simply just disappear. The negative emotions will continue to cause stress unless the student uses a more beneficial alternative than forcing them away.

Synthesis

When studying about the influence of mindfulness on reducing stress, one must look to see what has already been established. Mentioned previously, mindfulness- based stress reduction is a new approach to increasing the well- being of those who practice it and benefit with achieving mindful awareness. Over the past decades, MBSR has been used to decrease ailments both in mental and physical nature, is a group based practice, and routinely is practice eight to ten weeks (Grossman, Niemann, Schmidt, & Walach, 2004).

However, the analysis that was conducted did not include MBSR, but rather borrowed ideas from the program in order to achieve results. Many college students in modern times have shown to have symptoms of anxiety, depression, and even suicidal ideations. According to National College Health Assessment in 2001, 78 percent of students reported to feel overwhelmed and 22 percent reported they were unable to function with their studies as a result of the depression set by feeling overwhelmed (Dixon & Kurpius, 2008). The statistics from previous studies have already shown students who struggle with every day stressors need a way to learn how to feel more attentive and aware; practicing mindfulness is a key component to relieving the stress these students feel. In order to show the beneficial results, the hypothesis proposed that mindfulness and stress are inversely correlated will be verified in this study.

Chapter 3

Method

Setting and Participants

Participants of the study were 33 college students from a public university in the northeast. It included 19 females and 15 males. Demographics of the participants show that majority were in the age range of 18- 24 (94%) years and the remaining few (6%) were aged 25 years or older (6%). Racial/ethnic background was comprised of Caucasian (62%) African American/ Black/ Caribbean (20%), Asian/ Pacific Islander (12%), and Hispanic/ Latino (6%). Majority of the participants had a full-time academic load (97%). As to year level, 36% were in first year, 30% in second year, 15% in third year, 15% in fourth year, and 3% fifth year.

Instrumentation

Inventory of College Students' Recent Life Experiences (ICSRLE). The ICSRLE was originally developed by Kohn, Lafreniere, and Gurevich (1990) to assess student's sources of stress in life. The survey has a total of 49 Likert-type items with four response options: 1- not at all in the last month, 2- only slightly part of your life over the last month, 3- distinctly part of your life over the past month, and 4- very much part of your life over the last month. Item content consisted of situations describing social, academic, and future concerns that may be experienced college students. Overall score on the ICSRLE can indicate negative feelings of tension, anxiety, and sadness. A score of 49 or less can suggest that a person has a slight change of experiencing negative feelings. A score of 50-147 can suggest that a person has a moderate chance of experiencing negative

feelings. A score of above 147 can suggest that a person is highly likely to suffer from negative feelings (Kohn, Lafreniere, & Gurevich, 1990).

The construct validity of the ICSRLE was established by shows validation Osman, Barrios, Longnecker, and Osman (1994). Subscale reliability was determined through Cronbach's alpha ranging from .66 to .93 (Peciuliene, Perminas, Gustainiene, & Valiune, 2015).

Five Facet Mindfulness Questionnaire (FFMQ). The FFMQ is a Likert scale that was developed by Baer et al. (2006) to measure five factors of mindfulness such as Observing, Describing, Acting with Awareness, Non-Judging of Inner Experience, and Non-Reacting to Inner Experience. These five factors can be considered to represent the broad construct of mindfulness based on existing literature (Baer et al., 2006). The scale is made up of 39 items with five response options: 1- never or very rarely true, 2-rarely true, 3- sometimes true, 4-often true, and 5-very often or always true.

Of the five facets of FFMQ, construct validity was evident in four facets of Observing, Describing, Non- Judging, and Non- Reacting (Baer et al., 2006). Reliability was established through test-retest and internal consistency methods (Veehof et al., 2011).

Procedure

Upon approval of an electronic IRB for the study by the Rowan University Office of Research Compliance, recruitment of participants was conducted through the subject pool of the Department of Psychology and student clubs and organization at Rowan University. Students who consented to participate in the study completed an online

survey through Qualtrics. The online survey was completely anonymous and voluntary.

Data Analysis

Analytical strategies consisted of statistical procedures described below by research questions of the study.

Research Question 1: How do students assess their mindfulness skills?

FFMQ scores were subjected into a one-way repeated ANOVA to determine if there was significant differences on the five facets of mindfulness. A $p < .05$ alpha was used criterion to reject the null hypothesis that scores of participants in the five facets of mindfulness did not differ.

Research Question 2: How do students assess their stress levels in various areas of college life?

Based on total scores on the ICSRLE, participants were classified into three groups (i.e., low, moderate, and high) according to probability of experiencing negative feelings of tension, anxiety, and sadness. Percentage of students on the three categories of stress levels was displayed in a bar graph.

Research Question 3: What is the relationship between mindfulness and stress?

The relationship between mindfulness and stress was calculated using Pearson correlation. Each of the five facets and total mindfulness scores were correlated with ICSRLE total scores. A $p < .05$ alpha will be used to determine if the correlation was significant. Significant correlations were also described in terms of effect size: .10- low, .30- medium, and .50- large.

Chapter 4

Results

Descriptive Statistics of the FFMQ and ICSRLE Scores

Table 1 summarizes the FFMQ and ICSRLE scores of participants using mean and standard deviation as measures of central tendency and variability, respectively. Additionally, normality of score distributions were examined using skewness and kurtosis. All calculated values of skewness and kurtosis were within the range of -2 to +2, which suggest that score distributions met normality (Meyers, Gamst, and Guarino, 2017).

Table 1

Descriptive Statistics of the FFMQ and ICSRLE Scores

	<i>M</i>	<i>SD</i>	<i>Skewness</i>	<i>Kurtosis</i>
Mindfulness				
Observing	3.17	.50	-.19	-1.13
Describing	3.22	.50	-.17	1.4
Acting with Awareness	2.99	.73	-.12	1.47
Non-Judging	2.91	.41	-.23	.17
Non-Reacting	3.03	.30	-.23	-.45
Overall Mindfulness	3.06	.23	-.43	.45
ICSRLE	96.97	21.91	.14	.16

Differences in Participants' Mindfulness Facets and Overall

Facets and overall mindfulness scores of participants were compared using repeated ANOVA. As shown in Table 2, Mauchly's test indicated that assumption of sphericity had been violated, therefore the Greenhouse-Geiser corrected tests are reported ($\epsilon = .51$). The results show that self-ratings of the students on the five mindfulness facets and overall were significant different, $F(2.79, 89.29) = 29.17, p = .00, \omega^2 = .48$. In reference to means of the mindfulness facets and overall presented in Table 1, participants perceived themselves as higher in the Describing and Observing facets and lower in Non-Judging and Acting with Awareness facets.

Table 2

Results of Repeated ANOVA on Mindfulness Scores of Participants

<i>Source</i>	<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>p</i>	ω^2
Mindfulness	49.70	2.79	17.81	29.17	.00	.48
Error	54.51	89.29	.61			

Differences in Stress Levels of Participants as Measured by ICSRLE

Figure 1 displays the percentage of participants by stress levels. Of the total participants, 32 or 97% had moderate stress level and 1 or 3% had high stress level. No one reported mild stress level. Moreover, as displayed in Table 1, mean of ICSRLE scores of participants implies a moderate level of stress ($M= 96.97, SD= 21.91$).

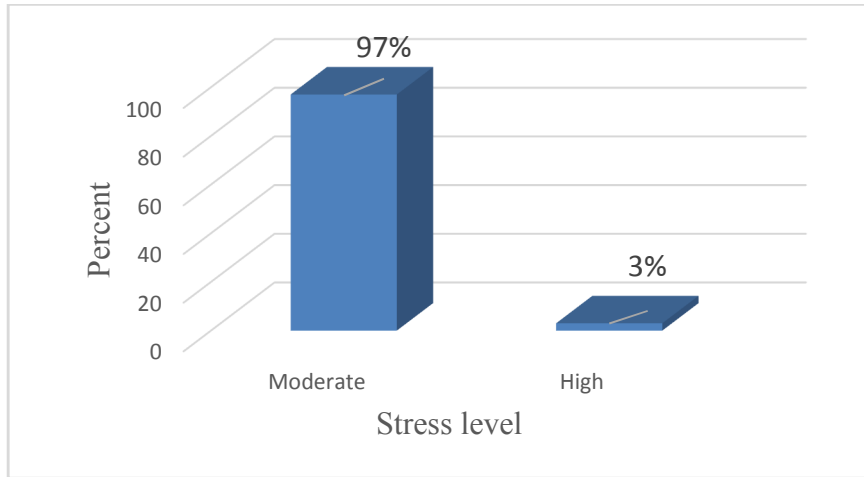


Figure 1. Level of Stress of Participants

Correlation Between FFMQ and ICSRLE Scores

Table 3 presents the correlation matrix of FFMQ and ICSRLE scores to explore the relationship between mindfulness and stress of participants. Overall Mindfulness was significantly and inversely correlated with ICSRLE scores, $r(32) = -.51, p \leq .01$, with a large effect size. Of the five facets of mindfulness, Describing [$r(32) = -.41, p \leq .05$] and Acting with Awareness [$r(32) = -.52, p \leq .01$] were significantly and inversely correlated with ICSRLE scores, with a medium and large effect sizes, respectively. The other three facets of mindfulness were not significantly correlated with ICSRLE scores: Observing [$r(32) = .12, p \geq .05$], Non-Judging [$r(32) = -.18, p \geq .01$], and Non-Reacting [$r(32) = .07, p \geq .01$].

The results imply that participants who had high scores in Overall Mindfulness and in Describing and Acting with Awareness facets had lower ICSRLE scores. Based on

these results, the hypothesis that mindfulness and stress are inversely correlated is confirmed.

Table 3

Correlation Between FFMQ and ICSRLE Scores

	1	2	3	4	5	6	7
1. O	-	.13	-.47**	-.185	.08	.15	.12
2. D		-	.17	-.08	.07	.60**	-.41*
3. AA			-	.35*	-.10	.61**	-.52**
4. NJ				-	.17	.51**	-.18
5. NR					-	.322	.07
6. OM						-	-.51**
7. S							-

Note. * $p \leq .05$, ** $p \leq .01$

O- Observing, D- Describing, AA- Acting with Awareness, NJ- Non- judgement, NR- non- reacting, OM- Overall Mindfulness, S- Stress

Chapter 5

Discussion

The present study had supported the hypothesis that there is an inverse correlation between mindfulness and stress in college students. Specifically, high scores of students in Overall Mindfulness and in the facets of Describing and Acting with Awareness were related to low scores in ICSRLE, with effect size ranging from medium to large. Results also showed that college students rated themselves higher in Observing and Describing facets and lower in Acting with Awareness and Non-Judging facets of mindfulness. On average, students' stress was at a moderate level.

Implications

Students' use of mindfulness skills can help in managing the stresses they may experience. According to Segal et al. (2002), the nature of mindfulness is to help an individual focus on their attention and experiences while allowing to investigate through mindfulness without automatically judging or negatively reacting to stimuli around them (Baer et al., 2006).

Future Research

As research in mindfulness and awareness of the self continues to grow, so should the instruments for assessing mindfulness variables. As Baer et al. (2006) described, "the development of these [mindfulness] questionnaires are an important advancement in the study of mindfulness because it provides new opportunities for empirical investigations of the nature of mindfulness and its relationships with other psychological constructs" (p.

28). Future studies should take into consideration in recruiting a larger sample size to accurately represent the target population. In conjunction, including a more diverse sample will allow for exploring the impact of demographic characteristics on mindfulness and stress of college students.

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Appendix A
Participant Survey

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

1	2	3	4	5
Never or very rarely true	rarely true	sometimes true	often true	very often or 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.
- _____ 39. I disapprove of myself when I have irrational ideas.

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

Appendix B

Participant Survey

Using one of the response choices listed, indicate for each experience how much it has been a part of your life *over the past month*.

Response choices:

1= *Not at all* part of your life over the past month

2= *Only slightly* part of your life over the past month

3= *Distinctly* part of your life over the past month

4= *Very much* part of your life over the past month

Conflicts with boyfriend's/girlfriend's/spouse's family	_____
Being let down or disappointed by friends	_____
Conflict with professor(s)/instructor(s)	_____
Social rejections	_____
Too many things to do at once	_____
Being taken for granted	_____
Financial conflicts with family members	_____
Having your trust betrayed by a friend	_____
Separation from people you care about	_____
Having your contributions overlooked	_____

Struggling to meet your own academic standards	_____
Being taken advantage of	_____
Not enough leisure time	_____
Struggling to meet the academic standards of others	_____
A lot of responsibilities	_____
Dissatisfaction with school	_____
Decisions about intimate relationship(s)	_____
Not enough time to meet your obligations	_____
Dissatisfaction with your mathematical ability	_____
Important decisions about your future career	_____
Financial burdens	_____
Dissatisfaction with your reading ability	_____
Important decisions about your education	_____
Loneliness	_____
Lower grades than you hoped for	_____
Conflict with teaching assistant(s)	_____
Not enough time for sleep	_____
Conflicts with your family	_____
Heavy demands from extracurricular activities	_____
Finding courses too demanding	_____
Conflicts with friends	_____
Hard effort to get ahead	_____
Poor health of a friend	_____

- Disliking your studies _____
- Getting “ripped off” or cheated in the purchase of services _____
- Social conflicts over smoking _____
- Difficulties with transportation _____
- Disliking fellow student(s) _____
- Conflicts with boyfriend/girlfriend/spouse _____
- Dissatisfaction with your ability at written expression _____
- Interruptions of your school work _____
- Social isolation _____
- Long waits to get service (e.g., at banks or stores) _____
- Being ignored _____
- Dissatisfaction with your physical appearance _____
- Finding course(s) uninteresting _____
- Gossip concerning someone you care about _____
- Failing to get expected job _____
- Dissatisfaction with your athletic skills _____

ICSRLE Score: _____

Scoring

Add the score you assigned to each item on the ICSRLE. The higher your score, the more likely it is that in the near term your well-being will suffer from the effects of negative feelings such as tension, anxiety, sadness, and fatigue. As a result, you could develop a mental or physical illness. A score of 49 or less indicates it is unlikely you

will develop negative feelings. A score of 50 to 147 indicates you have a moderate chance of experiencing negative feelings as a result of the hassles in your life. A score of over 147 indicates it is highly likely you will suffer from negative feelings that could lead to a stress-related illness.