

Examining Meditation Practices Among Research Administrators

by

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## ABSTRACT

Research administrators (RAs) are integral to universities and corporations as the first point of contact for faculty in research proposal submissions. RAs are also the intermediary between the university or the institution and the office sponsoring the project. The multiple demands placed upon RAs could potentially lead to burnout. The objective of this mixed-methods action research study was to understand better how incorporating mindfulness practices (e.g., breathing exercises, meditation) may allow RAs to manage or potentially eliminate burnout. Participants learned about mindfulness through a smartphone meditation application, which also shared various coaching techniques for reducing stress in their work-life. Results obtained from the quantitative and qualitative pre- and post-intervention data showed RAs might benefit from managing daily work life by incorporating mindfulness practices. While many were aware of the concept of mindfulness and university trainings, they expressed their demanding work environment is continually changing, and a solution in reducing burnout may need to be continuously redefined. The understanding gained from this action research study is RAs can benefit from mindfulness tools and techniques. Furthermore, other colleges or institutions with pre-award research administrators may benefit from how to aid in lowering burnout in their daily work environments.

## DEDICATION

If it was easy,  
everyone would do it.

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## CHAPTER 1

### INTRODUCTION AND PURPOSE OF THE STUDY

Research administrators (RAs) are integral to universities and corporations as they “perform administrative maintenance, compliance, review, or oversight for a sponsored program” (University of Texas at Austin, 2017). Research is usually funded by various sponsors, allowing institutions to further not only their research project(s) but also hire additional personnel (e.g., collaborators, students) to fulfill the proposed deliverables. An RA, the first point of contact for faculty, is also the intermediary between the university or the institution and the office sponsoring the project. An RA can complete pre-award tasks, such as compiling the sponsor bundle (SB) request for funding (e.g., research proposal), or post-award tasks, such as monitoring the sponsor's compliance with the proposal and the proper spending of funds.

Universities have a select number of RAs based on the total number of faculty, the degree programs, and the type of university (e.g., private or public). As of 2018, Arizona State University (ASU) employed approximately 114 pre-award RAs, and these individuals operated across 38 departments (ORSPA/Arizona State University, 2019). Pre-award RAs work with their department faculty to create SBs before each deadline. It is common for an RA to have multiple SBs due in the same week or even on the same date. There are numerous steps needed to complete the SB, and this can cause stress for the RA. An RA must understand and follow all the guidelines and checklists stated in the funding request. Depending on the sponsor, these instructions can range from a few pages to more than 100. The RA must review the SB one final time (as does the principal investigator or faculty or researcher) and approve it before submitting it to the assigned

grant officer for the official submission to the sponsor. Lastly, the RA is always working to resolve any research submission issues for any SB (Chan-Marples, 2018). The RA's role is demanding and, therefore, may lead to burnout, overall fatigue, and lack of energy. RAs must not only be extraordinarily organized but, more importantly, they must be able to multitask.

Because they deal with multiple demands, RAs can be subject to multiple workplace stressors leading to burnout: large workload, multitasking, deadlines, interruptions, maintaining professional relationships, accountability, and striving for perfection. An RA's caseload consists of working with multiple faculty and various sponsors and no submission will be identical. Multitasking or working on more than one item is extremely common for RAs. Being able to manage the stressors is critical since there is no grace period for submitting research proposals. Furthermore, interruptions are inevitable: from faculty stopping by to work on their submission or ask for advice on an upcoming proposal, management checking in on the workload and asking for updates, communications (via email, phone, or text), or co-workers asking for assistance. Relationships among faculty and grant officers, both key players in proposal submission, are essential for moving the proposal through all the process stages. The final stressors can be collective, as accountability and perfection (flawless) are crucial when creating a potentially award-winning research proposal.

Such stressors can affect an RA's daily activities and proposal submissions. Additionally, the complexity of the job based on length of time on the job may lead to burnout. By incorporating a mode of stress reduction, such as mindfulness, RAs may be able to lower overall stress. A reduction in stress may decrease burnout for RAs, as they

would learn how to manage everyday pressures.

### **Background Information and Context**

I am a Senior Research Advancement Administrator at ASU within the Research Advancement Office (RAO) of the College of Public Service and Community Solutions. The office is the key submitter for all proposals associated with the college. The RAO works to ensure all faculty have the opportunity to submit funding proposals. During the past six years, as my role expanded due to my supervisor's support and the acquisition of additional degrees, I worked on more complex proposals and as management on collaborator submissions.

ASU is a research university that serves as the flagship institution within the State of Arizona, leading the Arizona Board of Regents system. By 2025, ASU is expected to reach \$815 million in annual research expenditure, allowing the university to become a leader in research and development (Arizona State University, 2019). Currently, the university is on course to reach this goal, as research expenditure surpassed \$618 million in 2018.

RAs are integral to achieving this research expenditure goal. An RA is an intermediary between the faculty, grant officer, and, depending on the funding request, the sponsor. Only in rare cases, where grant monies are allocated directly to the faculty or researcher, an RA is not involved in the proposal submission. An RA's first level of involvement is that of a specialist. As the level of experience and education of an RA increases, the role can develop to that of an administrator, senior administrator, and, finally, manager and director. RAs, regardless of their position, need to feel secure and knowledgeable in their role to be successful in the research proposals. By completing

“on-the-spot” mindfulness training, seminars, and learning coping skills (e.g., meditation and breathing), RAs may be able to reduce burnout associated with their roles.

### **Identifying a Need for Further Research**

Previous cycles of research, labeled in this study as Cycles 0 and 1, have discussed overarching ‘stressors’ or issues in the grant submission process: deadlines, communication, maintaining healthy relationships, complex proposals, multiple institutions, and meticulous budgets (e.g., sponsors may request hourly breakdowns of personnel salaries). Cycle 1 defined potential remedies for the issues determined in Cycle 0. Solutions proposed included continual communication among stakeholders, additional preparation time, detailed checklists with deadlines that focus on the specific organization, time management associated with the task(s), and overall purpose of the study. By understanding an RA’s workload and daily work life, mindfulness practices may reduce potential burnout.

There is no definitive literature on an RA’s career span. Individuals may stay in their careers for a few years or a few decades. Their roles have continued to evolve during the last 20 years. In the past, RAs created the SBs on paper and submitted them via courier or mail, with a minimum mailing period to ensure successful delivery. Currently, most research proposals are sent electronically, enabling the SB to be delivered quickly. The process, however, can be sidelined by interruptions, stressors, and down-to-the-wire deadlines.

While adequate resources for job training exist, as Cycle 0 revealed and Cycle 1 confirmed, daily stressors (e.g., lack of time management and mindset) may lead to burnout. As an RA plans their day according to the number of research proposal

deadlines they must complete, it becomes difficult to allocate any additional periods for training or other activities. Furthermore, the already-demanding workload appears more challenging and complex within more prominent degree programs (e.g., engineering, business, or law) across the university, areas where research dollars are more focused nowadays. Additionally, an RA's placement is directly correlated to the degree program and overall number of research proposals submitted per year. The RA role may be based on the college's size, number of faculty, or the number of proposals submitted per year. Therefore, RAs must not only have invaluable proposal skills but also be present and positively engaged.

### **Purpose Statement**

These issues with RAs' workloads led this study to ask how the introduction of mindfulness may influence RA burnout. ASU invests considerable resources and energy into the development of research administration for the approximate 114 roles on campus. Unfortunately, due to workload (e.g., stressors, number of research proposals per year), little time occurs for participating in university educational resources. Therefore, by further exploring the effect of stressors on RAs, mindfulness techniques may reduce stress, lower burnout, and become a coping mechanism.

Fellow RAs who play key roles in proposal submissions and work simultaneously with faculty and grant officers are the focus of this intervention. RAs were recruited from a dataset of those who submitted a minimum of one proposal in 2019. RAs then completed pre- and post-intervention surveys related to the effects of stressors and knowledge of mindfulness.

### **Theories of Change**

A theory of change used in this study is mindfulness-based stress reduction (MBSR), a technique that incorporates practices such as meditation, mindfulness, and yoga. This theory follows the basic mindfulness practice wherein the individual makes a conscious effort to quiet their mind and stay present in the moment (DeHaan & Ryan, 2014). Without proper MBSR techniques, the mind can wander, reflecting on the numerous tasks ahead, whether work-related or personal. Humans have approximately 60,000 thoughts per day, of which 80% are negative (Hardy, 2018), and this can cause a downward spiral into a state of helplessness, stress, and anxiety. By bringing one's mindset back to a decisive, present moment, the prolonged unhappiness and feeling of being overwhelmed may be reduced. MBSR techniques have proven to be just as valuable as prescribed medications in terms of treatment (Kuyken et al., 2010).

An additional theory is the self-determination theory (SDT), which links personality, human motivation, and optimal functioning. It uses Deci and Ryan's work on motivation in the 1970s and 1980s to theorize that there are two main types of motivation—intrinsic and extrinsic (Deci & Ryan, 1985, 2000; Ryan & Deci, 2008). The theory postulates three basic needs: autonomy, competence, and relatedness (Ryan & Deci, 2008). SDT focuses on the intrinsic (internal) and extrinsic (external) propensities that lead individuals to make certain decisions every day, especially behaviors associated with well-being. Intrinsic motivation is an individual's desire to engage in an action. Extrinsic motivation is external and reward-driven behavior. A final behavior is that of amotivation, which is defined as what occurs when a person is completely lacking self-determination and has no desire to change their current behavior (Deci & Ryan, 2000). Motivation may be linked to the association between an individual's emotion and



behavior towards work, as those with higher levels of happiness should exhibit increased motivation.

### **Research Question**

This study's overall research question examines meditation practices among research administrators. This research question is then sub-divided into the following sub-questions:

RQ1 - To what extent do mindfulness practices reduce burnout among research administrators?

RQ2 - Do mindfulness practices assist research administrators in the management of their daily work life?

Chapter 2 will frame the theories and published research involving mindfulness, followed by Chapter 3, which discusses methods used for conducting the intervention and obtaining data. Chapter 4 will unite all datasets and answer said RQs and lastly, Chapter 5 will offer discussion of the results, lessons learned and future research discoveries.

## CHAPTER 2

### THEORETICAL PERSPECTIVES AND RESEARCH GUIDING THE PROJECT

#### **Burnout**

The definition and identification of burnout are highly debated topics. The term, first introduced by Dr. Herbert Freudenberger, is characterized by elevated stress levels before reaching an overall lack of energy in ‘helping’ occupations (e.g., medical, law, education; Institute for Quality and Efficiency in Health Care, 2017). Three elements form the meaning of burnout: ‘exhaustion’, ‘depersonalization’ (changed to ‘cynicism’), and ‘inefficacy’. Exhaustion is defined as having little energy, lacking emotion, and being overextended. Cynicism or negativity toward work and people in general lead toward isolation. Finally, inefficacy is defined as a lackluster performance in everyday home and work life (Callahan, Kelly, Christman, Grant, Maltby, 2018).

Burnout can be measured using various instruments, one of which is a tool used in this study, the Maslach Burnout Inventory (MBI). The MBI is considered the “gold standard” for measuring burnout; however, three additional measures used are the Burnout Clinical Subtype Questionnaire (BSQ), Professional Quality of Life (PRO-QOL), and the newest tool, the Professional Fulfillment Index (PFI). The latter scale assesses an element from Deci and Ryan’s SDT – intrinsic motivation – and only measures the last two weeks of the person’s profession (Callahan, Kelly, Christman, Grant, Maltby, 2018).

Numerous studies have obtained data on burnout, including key measurements on the participation and fulfillment of the intervention. Interventions included mindfulness meditations along with physical exercise and follow-up sessions (de Bruin et al., 2017;

Fortney et al., 2013) and access to websites containing discussion boards with open access to mindfulness meditations participants and non-participants (Charoensukmongkol, 2013). Additional subscale questionnaires such as the Kentucky Inventory of Mindfulness Skills, the Brief Coping Orientation to Problems Experienced, Brief Resilience Scale (Nevill & Havercamp, 2019), the Staff Stressor Questionnaire, Brief Cope Inventory, and Five Facet Mindfulness Questionnaire-Short Form (Kriakous et al., 2019) were also used, along with a meta-analysis of studies focused on improving mental health in employees while lowering career burnout (Edwards & Burnard, 2003; Janssen et al., 2018; Luken & Sammons, 2016).

So many areas of the human body manifest burnout, from the usual anxiety and depression to high blood pressure and cardiovascular issues (Luken & Sammons, 2016). It is an illness that manifests itself as physical or physiological and over time leads to lackluster performance (Edwards & Burnard, 2003). Identifying burnout is key to not only determining the proper coping strategy but also self-care techniques. These include social interaction at home and work, physical exercise, and mental health therapies (Callahan, Kelly, Christman, Grant, Maltby, 2018), specifically mindfulness meditation.

### **Mindfulness**

Mindfulness is a practice of engaging with the present moment to allow experiences to emerge without judgment (Kearney et al., 2018). It is a lifestyle and is a way of reconnecting with one's self through attention and awareness in the present moment, and it is becoming increasingly popular in psychological research (DeHaan & Ryan, 2014; Di Giuseppe et al., 2019; Friedel et al., 2015; Jha et al., 2014; Rayan & Ahmad, 2018; Rosenkranz et al., 2013). An awareness of the ideas and thoughts that go

through one's mind is essential since thoughts can influence actions. Early on, Buddhists practiced mindfulness to "alleviate suffering and cultivate compassion" (Ludwig & Kabat-Zinn, 2008). Mindfulness meditation (MM) is commonly recommended and teaches individuals to be present in their current experiences without using judgment and by actively practicing acceptance (Garland et al., 2015).

There are three key elements to mindfulness: intention, attention, and attitude. Intention is the "ultimate aim... vision and inspiration." Attention is defined as being fully present and not allowing oneself to reflect or focus on the past or future. Finally, attitude is defined as "how we pay attention" and being aware of one's surroundings. All three variables are necessary, as being present requires being aware and ready to operate (Shapiro et al., 2014). More specifically, "operational" methods and practices continue to be developed as research continues to discover mindfulness practices (Rosenkranz et al., 2013).

The way we think about our physicality and circumstances can affect our ability to live in the moment and without prejudice. Certain forms of meditations within mindfulness are specific to detachment and distancing one's thoughts and emotions from the perceived self to develop emotional balance (Ludwig & Kabat-Zinn, 2008). Through such meditation, individuals can work toward achieving a healthier balance by strengthening and applying their internal resources (Rosenkranz et al., 2013). Being in the present moment can considerably improve well-being, as being present relates to one's autonomy and overall level of happiness. Therefore, MM has been shown to decrease stress and regulate one's reactions to emotion (Di Giuseppe et al., 2019).

Several studies have researched mindfulness within workplaces (Converso et al., 2019; Hafenbrack, 2017; Malarkey et al., 2013; Wongtongkam et al., 2017). Association to mindful practices is a type of mental awareness, as it allows one to view their current workplace surroundings and behavior and then make conscious choices. By being cognizant of one's emotions and striving to maintain a positive balance and healthier relationships, one will be more able to manage challenging tasks (Wongtongkam et al., 2017).

Mindfulness is a practice that goes beyond what meditation, in many forms, is intended to do. It is a lived practice that is ongoing and a way for people to inhabit their bodies, minds, and hearts more fully while living in the present (Shapiro et al., 2014). Stressors that people face today are psychosocial; fight-or-flight chemical receptors remain active even though no physical threat is imminent. Painful thoughts and emotions or an unpleasant situation will activate the stress response, causing chemical receptors to become engaged. The longer these receptors are activated, the more compromised one's physical and mental health will be (Dahlgaard et al., 2019). Mindfulness practice can be a buffer that allows one to return to homeostasis, or the body's baseline and regular or stable biological process. This process of maintaining one's baseline has been called allostasis or the "adaptive process of maintaining stability" (Dahlgaard et al., 2019).

"Mindfulness has been well recognized as a conscious feature which promotes optimal health and well-being since it brings about the ability to accept thoughts, feelings, and emotions without judgment which leads to a better general and psychological well-being" (Valikhani et al., 2019, p. 1). When one has higher levels of mindfulness, they will have a combination of positive emotions and patience, leading to

fewer signs of depression, anxiety, and stress. Conversely, low levels of mindfulness have the opposite symptoms. Mindfulness and awareness practices can reduce one's anxiety, thereby lowering one's stress (Hoge et al., 2018; Jha et al., 2014; Rayan & Ahmad, 2018). Mindfulness is a coping mechanism for people who are significantly impacted by stress (Valikhani et al., 2019). It may allow individuals to reprogram their mindset, thereby affecting changes to their awareness and intelligence, allowing for improved resolutions moving forward (Jha et al., 2014).

Research surrounding mindfulness practices has become increasingly popular since the construct is a “combination of concentrative and analytical insight-based meditation practices” (Van Dam et al., 2010). Conscientiousness has a positive, direct correlation to mindfulness and is linked to many improved outcomes, including improved job performance, training performance, and general counterproductive behaviors in the workplace (Giluk, 2009). Stress is present due to the ever-changing conditions in society that move quickly and have become more complex due to technological advances.

Numerous Fortune 500 companies have successfully implemented mindfulness-based programs to effect change and help employees deal with stressors (Hafenbrack, 2017). It has been shown that employees who are unhappy, overworked, and dealing with conflict or unresolved issues exhibit higher amounts of stress. By following a model for “on-the-spot” training, quick-spreading negativity among individuals has been reduced, thereby weakening the direct correlation between stressors and counterproductive work actions (Hafenbrack, 2017). Mindfulness is a powerful tool for managing stressful emotions typically present in negotiations. It can help individuals self-regulate and manage negative emotions such as anxiety and manage other stimuli that naturally occur

in a situation. The emotional control afforded by mindfulness allows the individual to be strategic about which emotions they are exhibiting (Hafenbrack, 2017).

### ***Mindfulness-Based Stress Reduction***

MBSR is a formal, 8-week course developed initially by Kabat-Zinn and colleagues at the Stress Reduction and Relaxation Clinic at the University of Massachusetts Medical Center. The course aims to improve awareness through meditation and behavioral therapy. It was developed to assist those with stress in identifying coping mechanisms. A key component of MBSR is helping people recognize feelings and disengage from harmful internal narratives (Kabat-Zinn, 1994). Formal training techniques, such as daily mindful breathing at the same time and of the same length, can help alleviate pain and various psychological symptoms and reduce stress while promoting mental well-being (Bränström et al., 2013). Skills obtained through the training allowed individuals to become more autonomous. While there has been little research on specific treatments, studies have detected significant changes when comparing pre- and post-treatment groups.

### ***Mindfulness Attention Awareness Scale***

The Mindfulness Attention Awareness Scale (MAAS) is a survey that measures the three criteria of attitude, intent, and outcomes as they relate to daily lifestyle (Brown & Ryan, 2003). This tool allows for the detection of a change in emotion and level of stress while forecasting inspirational conclusions (Carlson & Brown, 2005). The MAAS is one of the most commonly used tools to measure mindfulness, and, therefore, it has been applied to many individuals and people-centered workplaces. Through different patient and participant samples, the MAAS has gained validation. The survey, as it relates

specifically to the subject of mindfulness, has been used in more than 900 research studies (Rayan & Ahmad, 2018).

The MAAS was of interest for this study's intervention for RAs as it can identify critical components of stress and one's overall emotional state. Therefore, the MAAS may serve as a valuable model to detect clouded judgment and lack of concentration.

### ***Self Determination Theory (SDT)***

The SDT evaluates an individual's motivation and personality while gauging the type of performed behavior: independent or controlled. Specific components within the theory are motivation, behavior, attitude, and value, which, when compiled into frameworks, could measure intrinsic motivation, extrinsic motivation, and amotivation (Deci & Ryan, 1985, 2000; Ryan & Deci, 2008). Self-determination or intrinsic motivation, the highest level of autonomy, is when an individual's behavior is accompanied by an optimistic feeling of attainment (Lloyd et al., 2017). Extrinsic motivation, or the opposite of self-determination, is a behavior that is completed to obtain a specific positive or negative effect. Each motivation can be further categorized—from least autonomous, which is amotivation, to the highest level, namely self-determination.

### **Maslach's Burnout Inventory**

Maslach's Burnout Inventory (MBI), created 35 years ago, is a valid and reliable survey tool that evaluates the risk of burnout among individuals in the workplace. While several versions have been created, the Educators Survey (ES) is used in this study as it is specific to education and its associated roles. By analyzing the results of the MBI-ES, there may be a direct correlation to stress, results that will be obtained via the MAAS (Mindgarden, 2018; Wheeler et al., 2011).



The MBI assessment examines three distinct areas of an individual's life: exhaustion, loss of empathy/responsiveness, and reduced sense of accomplishment (Maslach et al., 1996; Spiegel, 2019). Maslach renamed the three areas in the instrument to burnout, depersonalization, and personal achievement. Potentially confusing, given the questionnaire's title, the terms will be presented as such from here on forward.

Burnout measures one's feelings of tiredness, such as fatigue associated with work. Depersonalization is detachment from the situation, "leading to cynicism with negative attitudes... with regard to colleagues, feeling of guilt, avoidance of social contacts, and withdrawing into oneself." Finally, personal achievement and sense of accomplishment, or lack thereof, measures whether the "individual assesses himself negatively, feel[ing] he is unable to move the situation forward...leading to failure despite efforts...[and self-doubt]" (Maslach et al., 1996, p. 192).

MBI is one of the most valid and reliable tools as it has been used to measure stress and overall burnout in many population segments and specifically educators, human services, and medical professionals (Mindgarden, 2018; Wheeler et al., 2011). The doctors and nurses surveyed using the tool confirmed that they experience high levels of burnout (Dunham et al., 2019). A study using MBI found a direct relationship between the demands placed on an individual and their burnout level. This is to be expected since "burnout is the feeling of disinterest, reduction in performance and weariness (tiredness)" (Khan et al., 2018, p. 201). As a lack of resources increases, one's burnout level increases. The elements of burnout were further validated through studies conducted on individuals recruited from the internet and working in various careers. Researchers found that individuals working in human interaction positions had higher burnout levels,

specifically young females, with less work experience (Bakker et al., 2002). Stressors are a crucial factor in burnout, and the MBI can help detect the underlying elements that make tasks demanding (Converso et al., 2019). Individuals who work in universities function within a “psychosocial environment,” meaning there is evidence that “work overload correlated positively with workaholism, work-family conflict and intention to leave and negatively with job satisfaction” (Converso et al., 2019, p. 1).

MBI is not intended for medical purposes and is to be used as a diagnostic tool only. Nonetheless, it showcases how individuals deal with stress. The self-assessment tool has been used in more than 300 studies related to mindfulness over the last two decades. More recently, a study conducted in Pakistan examined burnout among university faculty. The study concluded that by finding ways to reduce stress and being aware of stressors, the faculty might become more productive and positive within a healthy environment (Khan et al., 2018).

### **Conclusion**

Burnout and mindfulness are crucial components of working in psychosocial careers due to the ever-changing demands and stressors of the job. RAs are inundated daily by stressors; therefore, understanding burnout risks and levels of mindfulness and having RAs use a meditation application may increase job satisfaction and lower exhaustion. By recognizing coping techniques, RAs could “[enhance their] health, job satisfaction, and better [their] task performance” (Wongtongkam et al., 2017, p. 139).

An intervention that promotes mindfulness activities may explain how RAs manage their daily work life. Similar to the ‘on-the-spot’ mindfulness training in corporations, the intervention should assist RAs in managing their emotions and coping

levels. The MBI and the MAAS can provide additional information on the correlation between mindfulness and burnout. There are no published studies on RAs and the workplace, and MBI and MAAS tools are valid and reliable based on previous studies' results.

## CHAPTER 3

### METHODS

RAs aim to get as many research projects submitted as possible. As a result, they are affected by stressors daily. To try to reduce stress levels, mindfulness activities (e.g., breathing exercises) may allow RAs to mitigate or potentially eliminate burnout. Furthermore, RAs with higher, more complex submissions that require over a year to complete may be more likely to experience stress and therefore, may be more open to participating in the intervention. For example, in 2019, some RAs submitted as many as 119 research proposals for their college.

This study examines meditation practices among RAs. The study further reinforced and was guided by the following research questions:

RQ1: To what extent do mindfulness practices reduce burnout among RAs?

RQ2: How do mindfulness practices assist RAs in the management of their daily work life?

#### **Setting**

The setting for this research is the ASU, a Research I institution with four major campuses located in Tempe, Arizona. The study was conducted in the Watts College of Public Service and Community Solutions, specifically under the RAO.

#### **Participants**

The participants, RAs, were identified and recruited from the previous fiscal year's office of sponsored projects and had to submit a minimum of one proposal in 2019. Each participant was asked to sign a consent form (see Appendix D) before the

research began, outlining the purpose of the study and how the research will be utilized. All participants were able to leave the study freely and all responses remain anonymous.

The researcher enrolled participants from across the colleges (17) within ASU. These university-wide participants possessed characteristics representing a diverse sample of research submission stress.

### **Research Design**

Action research Cycles 0 and 1 identified the everyday stressors described in Chapter 1 as a large workload, multitasking, deadlines, interruptions, maintaining professional relationships, accountability, and striving for perfection. The study employed a convergent (see Appendix C), concurrent mixed methods approach, with both qualitative and quantitative data collected alongside an intervention. This merging of data sets allowed for polyangulation and a better understanding of how the qualitative and quantitative data were related (Mertler, 2016).

Participants completed pre- and post-test surveys consisting of the MBI and MAAS. They participated in a chosen mindfulness activity guided and documented by the smartphone application Insight Timer. Participants who completed the intervention in its entirety completed a post-intervention qualitative survey. The qualitative data from the semi-structured survey (demographic and open-ended questions) and quantitative data from the MBI and MAAS were analyzed separately before being merged. Once combined, an additional examination occurred to interpret comparisons, transformations, or validations.

### **Procedures**

#### ***Mindfulness Exercises***

Mindfulness or “paying attention...on purpose, in the present” (Giluk, 2009) is similar to homeostasis; it is bringing the mindset back to zero or the starting point. Daily meditations conducted via application tool were recorded and analyzed to understand how mindfulness exercises reduce perceived stress in RAs.

### ***Insight Timer***

Insight Timer is an application that can be downloaded to smartphones that allow individuals to practice mindfulness activities. It is the "#1 free app for meditation and sleep" (Insight Timer Inc, 2019) and has over 5 million users, 3,000 meditation teachers, and more than 15,000 activities (e.g., meditations, music, talks, and courses; Plowman, 2018). One of many mindfulness applications, Insight Timer, offers users guidance and tools to develop skills of being present while also tracking their activity. Similar to any physical activity application, Insight Timer allows the user to choose between various mindfulness activities and track overall time and completed tasks in their profile. The app offers guided lessons, sleep meditations, educational courses, (meditational) music, talks (e.g., recorded interviews with mindfulness practitioners), lessons for beginners and kids, and daily meditations. The Insight Timer is cost-effective and allows the user to choose mindfulness activities best aligned to their lifestyle. The app enables any individual with a smartphone, regardless of age and language, to allot a duration of time to an activity that allows the mind to be present in the moment and positively engaged, returning the mind to its baseline.

Insight Timer, available for iPhone and Android, was used to deliver the regular intervention. Participants were provided with a written guide, including screen-shotted pictures (see Appendix I), to explain the application features (Insight Timer Inc, 2019)

and the process of downloading to a smartphone device. Each participant was asked to explore the app and begin their first mindfulness practice immediately then to integrate it into their daily lives for 30 days. The app has over 45,000 meditations available; therefore, to simplify the participants' process, the researcher selected a meditation that involved a short and structured nine-minute guided mindfulness technique (e.g., breathing, music, walking, being present). Therefore, all participants followed the same activity and, to reduce any personal biases of the participants or researcher, a specified nine-minute meditation technique with background music, hide spiritual [and] religious content, filtered by benefit (e.g., stress) and finally, by practice (e.g., mindfulness; Insight Timer Inc, 2019; see Appendix I) was selected.

The participant opened the app and followed the provided instructions to locate the specified guided nine-minute mindfulness meditation daily activity. The overall intervention spanned a total of 30 days (four weeks). The app tracked the completed meditations (the type of meditation, date stamp) within the user's profile and was shared with the researcher via a screenshot through email correspondence after the 30-day intervention. Each profile kept track of the total number of days of meditation, including consecutive ones, number of minutes, and milestones. Similar to social media platforms, users could create a public profile and share their mindfulness activities, invite friends, and share messages should they feel inclined.

### ***Intervention***

Each participant received instructions and background information on the application, Insight Timer (see Appendix I). Specific knowledge that could aid with stress reduction and managing daily work life was shared with fellow RAs through a

mindfulness tool, a technique suggested by a fellow ASU colleague housed in the Center for Mindfulness, Compassion, and Resilience.

## **Data Collection and Instruments**

### ***Quantitative Instruments***

Data collected from the Insight Timer included the participants' number, frequency, and length of activities and profile (Insight Timer Inc, 2019).

The MBI consists of 22 questions (seven for exhaustion, seven for depersonalization, and eight for personal achievement) rated on a 6-point Likert scale (from 0 = never, 1 = a Few times per year, 2 = once a month, 3 = a few times per month, 4 = once a week, 5 = a few times per week, 6 = every day). The higher the total score in the burnout and depersonalization category, the greater the chance of stress and exhaustion (for the scoring matrix, see Appendix F). Conversely, a higher score in the personal achievement category equates to a decreased chance of burnout (Maslach et al., 1996). The instrument calculates the participant's overall level of stress and burnout as it relates to their work life.

The MAAS contains 15 statements using a 6-point Likert Scale (from 1 = almost always, 2 = very frequently, 3 = somewhat frequently, 4 = somewhat infrequently, 5 = very infrequently, 6 = almost never) and assesses an individual's level of mindfulness or being in the present moment (see Appendix G). A score of 1 for each item indicates an absence of attention or awareness, while a score of 6 indicates a greater degree of attention or awareness. The higher the score, the higher the participant's level of mindfulness and of being in a present and receptive state of mind (Kabat-Zinn, 1994).



Participants completed two surveys, the MBI and MAAS, before and after the intervention to help understand the RAs' risk level of burnout and the overall state of mindfulness. MBI (see Appendix F) identifies the three core areas of 'exhaustion, depersonalization, and personal achievement' (Maslach et al., 1996). The MAAS (see Appendix G) assesses the RAs overall level of being present by inquiring how frequently one is mindful about activities in a day (Brown & Ryan, 2003; Carlson & Brown, 2005).

### ***Qualitative Instrument***

Following the intervention, semi-structured interviews were conducted using a qualitative Qualtrics survey, which extrapolated additional information related to mindfulness practices and intervention feedback. The survey consists of 17 questions including those on basic demographics (nine questions; see Appendix E), post-intervention open-ended questions (eight questions; see Appendix H), and those aimed at obtaining an understanding of the workplace stressors of the RA and their knowledge of mindfulness. The perspective of each RA allowed the researcher to understand better and determine how mindfulness techniques or applications may be implemented in the future. The researcher filtered through the semi-structured surveys and asked follow-up questions as applicable to find any similarities or emerging themes.

The qualitative data, which was produced using Qualtrics, includes one open-ended question related to mindfulness during the pre-intervention survey and nine short answers obtained post-intervention. The qualitative responses were used to define what mindfulness meant to the participants and their use of the Insight Timer, the intervention tool, was also measured. All results were analyzed for recurring keywords and themes and patterns using the software HyperRESEARCH (see Figure 2).

## **Data Analysis**

Datasets followed standard statistical guidelines, and each dataset was analyzed independently. Quantitative data were examined using descriptive statistics (summary of the mean sample scores) and one-sample paired t-test, assessing any changes between pre- and post-intervention means. The expected power from the t-test is low for this study due to researcher performing vigilant data collection and meticulous handling of participants whereby reducing variability. The analysis of the qualitative data attempted to identify recurring themes in the open-ended questions

Following the sequential convergent design, merging the two datasets (quantitative and qualitative) allowed for further interpretation to find potential similarities, disparities, and any overall correlation. An understanding of the merged results offered new insights into how mindfulness practices affected burnout among RAs.

### ***Quantitative Data***

SPSS Version 26 was used to analyze the pre- and post-survey datasets. The data was collected from the surveys and the Likert scales of the MBI and MAAS administered through Qualtrics. Each survey has its scoring matrix (see Appendixes F and G, respectively) which, once calculated, can suggest the RAs' level of burnout and mindfulness. A median score of the MAAS survey reveals the participant's overall level of mindfulness; wherein scores are summed for each section in the MBI, which are burnout, depersonalization, and personal achievement. Each section scores the participants from low- to high-level of burnout based on the total score. Mean and median scores from the pre- and post-survey results were compared via a one sample

paired t-test, indicating changes from the pre-to-post intervention (see Tables 3 and 4 in Chapter 4).

To ensure the participants' data was accurate, the researcher collected Insight Timer data from RAs who completed the mindfulness app. The Insight Timer data was collected to confirm the overall activity during the 30-day intervention. The participants who completed the entire intervention shared various screenshots with the researcher. The results confirmed that the participant completed the daily specified mindfulness meditation activity.

### ***Qualitative Data***

Using HyperResearch Version 4.0.3, a qualitative research analysis software, the researcher coded the participants' open-ended responses, thereby allowing insights into potential patterns or themes and allowing for conclusions. The researcher was searching for similar phrases or keywords that could indicate areas for future research on mindfulness meditation practices.

### ***Mixed Methods***

Similar to mixed methods, polyangulation creates valid and accurate data through the incorporation of no less than two datasets, whether quantitative or qualitative, or both (Mertler, 2016). Polyangulation is the latest adaption of triangulation, and it is an analytical process that accounts for the cyclical, wicked elements associated with social sciences in academia (Mora, 2014). Polyangulation, a term used in action research, allows the researcher to review data and identify themes and patterns as they emerge. Following this framework, the researcher can create an action plan for making changes or finding solutions for the project. Polyangulation is to action research as mixed methods

are to graduate research studies: a similar process but with somewhat different results based on needs, audience, and period. Polyangulation applies a less complex analysis, as the researcher uses descriptive statistics on quantitative datasets and searches for themes or patterns in the qualitative data (Mertler, 2016).

The MBI and MAAS surveys allowed the researcher to gain a small insight into the RAs' mental states as they relate to work-life; they were further supported by the qualitative, open-ended questions that provided feedback on mindfulness techniques and daily work practices. By identifying a connection between quantitative and qualitative aspects of this study, the researcher could obtain a more well-rounded and comprehensive perspective into how incorporating a mindfulness meditation activity affected the RAs' daily interactions with stress.

## CHAPTER 4

### DATA ANALYSIS AND RESULTS

The quantitative data included pre- and post-intervention surveys measuring the level of mindfulness and three constructs correlated to the risk of job burnout (burnout, depersonalization, and personal achievement). All surveys were distributed to 23 RAs. Only 11 completed the pre- and post-surveys, and six random participants completed the follow-up survey. Randomization occurred via an Excel spreadsheet using only participant identification numbers and applying the randomizing formula to list all 11 RAs accordingly; the top six identification numbers were selected for the follow-up survey (see Figure 1).

#### **Demographics**

Table 1 describes the demographic characteristics of the study participants. A total of 23 RAs consented to participate; however, only 11 completed the 30-day intervention and, after data cleaning, follow up, and randomization, only eight participants' data was analyzed quantitatively and, of these, six participants' data was analyzed qualitatively (see Figure 1).

Of the 11 participants who completed the intervention, four (36.4%) were between the ages of 18-34, three (27.2%) were between the ages of 35-49, and four (36.4%) were between the ages of 50-65. There were nine (81.8%) female and two (18.2%) male participants. The majority of participants were Caucasian (n = 8, 72.7%) and married (n = 7, 63.6%). Participants had a varying level of education, with 46% of them holding a Master's degree.

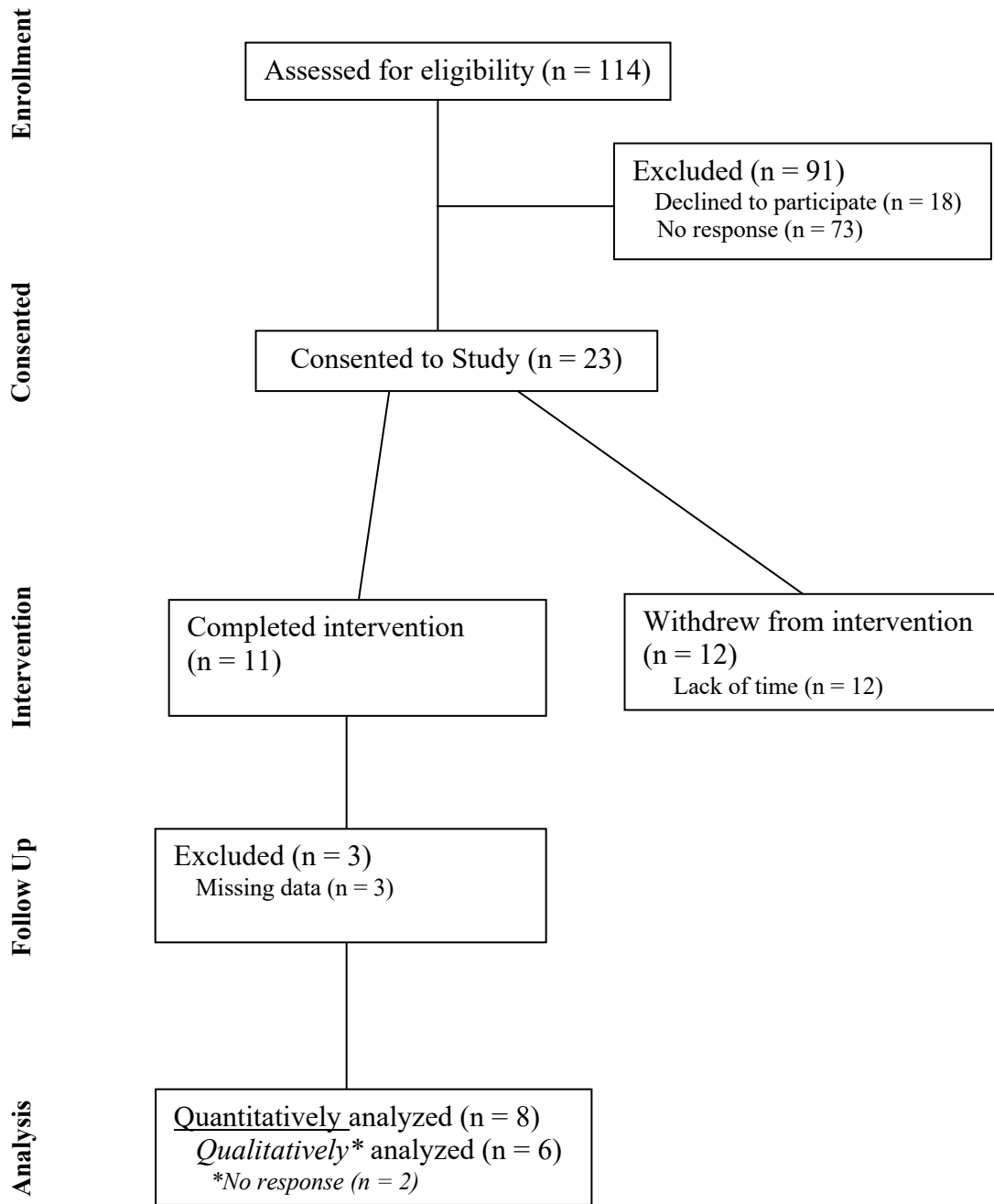


Figure 1. Flow diagram of study from enrollment to analysis

Table 1. Demographic characteristics of the study sample.

	N	(%)
N	11	
Age (years), M $\pm$ SD	43.27 $\pm$ 12.8	
18-34 years	4	(36.4)
35-49 years	3	(27.2)
50-65 years	4	(36.4)
Gender		
Female	9	(81.8)
Male	2	(18.2)
Ethnicity		
Caucasian	8	(72.7)
Mixed	1	(9.1)
African American	1	(9.1)
Hispanic	1	(9.1)
Marital Status		
Single/Dating	3	(27.3)
Divorced	0	(0.0)
Married/Partnership	7	(63.6)
Widowed	1	(9.1)
Education		
High School/Some College	2	(18.2)
Associate Degree	1	(9.1)
Bachelor Degree	3	(27.3)
Master Degree	5	(45.5)
Doctoral Degree	0	(0.0)

The participants had been in the RA position for varying years: one (9.1%) had less than one year in the position, two (18.2%) had 1-3 years, two (18.2%) had 4-6 years, two (18.2%) had 7-9 years, and four (36.4%) had more than 10 years. Eight of the eleven (73%) RAs worked in proposals for more than four years. There were two (18.2%) RAs who supported less than 50 faculty, and 55% supported 50-99 faculty. The number of proposals per year spanned from 0 to 149, and the participants were in all levels of the RA role. See Table 2 for further details.

Table 2. RA characteristics of the study sample.

	N (%)
N	11
Length of Role (years), M $\pm$ SD	3.55 $\pm$ 1.44
> 1 year	1 (9.1)
1-3 years	2 (18.2)
4-6 years	2 (18.2)
7-9 years	2 (18.2)
10+ years	4 (36.4)
# of Faculty Supported, M $\pm$ SD	2.18 $\pm$ 0.87
0-49 faculty	2 (18.2)
50-99 faculty	6 (54.5)
100-149 faculty	2 (18.2)
150-200+ faculty	1 (9.1)
# of Proposals per Year, M $\pm$ SD	2.09 $\pm$ 0.83
0-49 proposals	3 (27.3)
50-99 proposals	4 (36.4)
100-149 proposals	4 (36.4)
150-200+ proposals	0 (0.0)
Current RA Level <sup>a</sup>	
RAS	1 (9.1)
RAA	4 (36.4)
RAA Sr	1 (9.1)
RAM	2 (18.2)
Asst Director	1 (9.1)
Director	1 (9.1)
BOS Sr	1 (9.1)

<sup>a</sup> 1=Research Advancement (RA) Specialist (RAS),  
2=RA Administrator (RAA), 3=RAA Senior,  
4=RA Manager (RAM), 5=Assistant Director [within RA],  
6=Director [within RA], 7=Business Operation Specialist  
(BOS) Sr [within RA]

### Research Questions

RQ1 was answered primarily using the quantitative results, while RQ2 was responded to using qualitative data.



**RQ1 - To what extent do mindfulness practices reduce burnout among research administrators?**

Table 3 describes the quantitative results associated with RQ1, which asks how burnout was mitigated by mindfulness among RAs. The dataset uses pre- and post-intervention scoring and difference scoring. Given the small dataset ( $n = 8$ ), the analysis was limited.

In the examination of the MAAS, the level of mindfulness of seven (87.50%) of the eight RAs increased, whereas it decreased for one (12.5%) RA (see Appendix G). Across the three sections of MBI (see Appendix F), overall burnout of six (75.00%) participants decreased with one participant decreasing six points pre- to post-intervention. All RAs remained static across the intervention in terms of level within the burnout categories: low, moderate, and high. However marginal, two (25.00%) of the RAs' burnout levels increased in the pre- to post-intervention scoring. For depersonalization or lack of compassion, no RAs had a low rate of burnout, but five (62.50%) RAs did exhibit a decrease in score after the intervention, while three (37.5%) became more detached. Lastly, there was a split in results of the intervention for personal achievement. For three RAs (37.50%), the level of burnout decreased, for one (12.5%) it remained static, while for the remaining half it increased. The last section of MBI is correlated to the scoring of the first two sections (Maslach et al., 1996).

Table 3. Participant pre- and post-scores and difference scores.

	<i>Pre</i>	<i>Post</i>	<i>Difference<sup>e</sup></i>
<i>Participant 700</i>			
MAAS <sup>a</sup>	5.1	4.8	-0.3
MBI Burnout <sup>b</sup>	17.0	12.0	-5.0
MBI Depersonalization <sup>c</sup>	10.0	12.0	2.0
MBI Personal Achievement <sup>d</sup>	40.0	55.0	15.0
<i>Participant 705</i>			
MAAS	3.5	3.7	0.2
MBI Burnout	14.0	15.0	1.0
MBI Depersonalization	12.0	14.0	2.0
MBI Personal Achievement	45.0	39.0	-6.0
<i>Participant 707</i>			
MAAS	3.6	3.7	0.1
MBI Burnout	25.0	23.0	-2.0
MBI Depersonalization	25.0	24.0	-1.0
MBI Personal Achievement	48.0	38.0	-10.0
<i>Participant 709</i>			
MAAS	4.3	4.7	0.4
MBI Burnout	17.0	14.0	-3.0
MBI Depersonalization	14.0	11.0	-3.0
MBI Personal Achievement	47.0	52.0	5.0
<i>Participant 712</i>			
MAAS	3.7	3.9	0.2
MBI Burnout	25.0	19.0	-6.0
MBI Depersonalization	19.0	15.0	-4.0
MBI Personal Achievement	45.0	45.0	0.0
<i>Participant 717</i>			
MAAS	3.7	4.2	0.5
MBI Burnout	28.0	26.0	-2.0
MBI Depersonalization	19.0	15.0	-4.0
MBI Personal Achievement	47.0	43.0	-4.0
<i>Participant 718</i>			
MAAS	2.9	2.9	0.0
MBI Burnout	37.0	38.0	1.0
MBI Depersonalization	22.0	29.0	7.0
MBI Personal Achievement	35.0	39.0	4.0

*Participant 720*

MAAS	4.1	4.3	0.2
MBI Burnout	11.0	9.0	-2.0
MBI Depersonalization	9.0	8.0	-1.0
MBI Personal Achievement	53.0	52.0	-1.0

<sup>a</sup> Median score per survey scoring matrix

<sup>b, c, d</sup> Sum of score.

<sup>e</sup> Difference = Post score – Pre score.

This RA population is pretty balanced and increased but not significantly, having mindfulness background skills prior to intervention. The MAAS pre-intervention scores (the mean) show RAs exhibited mid-level mindfulness (3.87), moderate burnout for exhaustion [burnout] (21.75), high burnout correlated to loss of empathy [depersonalization] (16.25), and low burnout related to self-doubt [personal achievement] (45.00). See Table 4 for details.

Table 4. Computing pre, post- T-test for mindfulness practices and perceptions of stress as correlates of mindfulness attention awareness scale (MAAS) and Maslach burnout inventory (MBI).

Dataset	<i>Pre-intervention</i>		<i>Post-intervention</i>		<i>Difference<sup>a</sup></i>	<i>Significance</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>Sig.</i>
MAAS	3.87	0.66	4.03	0.62	0.16	0.12
MBI Burnout	21.75	8.56	19.50	7.93	-2.25	<b>0.04</b>
MBI Depersonalization	16.25	5.85	16.00	7.0	-0.25	0.86
MBI Personal Achievement	45.00	5.42	45.38	6.7	0.38	0.90

*Note: n = 8*

<sup>a</sup> Difference = Post mean - pre mean

Post-intervention mean scores show minimal improvements across all categories. Mindfulness (MAAS) increased slightly but not significantly (4.03), exhaustion [burnout]

(19.50) decreased and was significant, loss of empathy [depersonalization] (16.00) decreased slightly, and self-doubt [personal achievement] slightly increased (45.38).

There was only one significant association within the MBI survey, that of burnout (0.04). Taking one step further, after much discussion and potential benefit(s), outlier data reflecting those participants who used the Insight Timer less than 10 times over the 30-day intervention were removed. However, the data revealed no significance between usage of the mindfulness app and level of burnout.

The group exhibited no other significant associations for mindfulness, depersonalization, or personal achievement.

### **RQ2 - How do mindfulness practices assist RAs in the management of their daily work life?**

Data gathered pre-intervention from the 11 RAs inquired as to their definition of mindfulness. Post-intervention data consisted of nine open-ended questions related to work environment and feedback on the intervention tool from six RAs chosen from the 11 participants who had finished the intervention, had completed data for analysis and responded (see Figure 1). Themes or keywords aligned with the quantitative data, further validating the RA's definition of mindfulness.

#### **Pre-Intervention**

***Mindfulness Definition: Being present and in the moment, aware of surroundings.*** Nine of the eleven RAs had a similar definition of mindfulness: “knowing why you are doing what you are doing in any given moment,” “bringing one’s focus to the present and allowing yourself to disconnect from other thoughts,” and “a state of becoming more aware of your thoughts and emotions.” While related, two RAs’

definitions related to emotions and overall physical awareness. One participant stated, “a state of understanding your logical thinking and controlling your emotions to consider consequences and make decisions in a clear manner,” while the other said, “listening to my body and trying to adopt ways to keep stress from impacting me physically.”

The responses to the definition question indicated that the RAs had a basic understanding of mindfulness before completing the intervention.

### **Post-Intervention**

Six participants completed the post-intervention Qualtrics survey, which contained a total of 13 questions with 9 opened-ended questions related to the app and intervention (see Appendix H).

#### ***What was your process for reducing stress before using the Insight Timer:***

Three of the six participants had similar responses to this question, stating that taking a break or walking was their stress reduction technique. Two others stated that “deep breathing, exercising,” and “screen time to distract themselves” were their processes, while the sixth had “no specific process.”

Five of the six (83.00%) RAs were already following a self-chosen meditation technique for reducing daily pressures before participating in the intervention.

***What were the advantage(s) of the Insight Timer:*** The majority of participants all had a similar response: the tool was “simple, easy to use, and effective.” Specific additional responses included, “having a few moments of true downtime,” “knowing that I was going to meditate helped,” “guided meditation helped keep my focus,” and “[the tool] gave me a specific method of guided meditation.” Results were comparable and positive for all participants.

The tool gave RAs a quick and applicable technique for finding a small amount of time for mindfulness in their day. All participants used the application and identified positive attributes of it.

***How did this intervention impact your daily work life:*** Three of the six participants stated that they felt “clearer,” “more relaxed,” and “calmer, reducing anxiety.” Two others stated that, due to the intervention, “[I] found myself tak[ing] deep breaths more often,” “[I was] reminded to stop and breathe and regroup when I felt stressed,” and the sixth stated that the “intervention did not impact my daily work life. I tended to use the app outside of work hours.”

***Describe your overall pre-award/proposal submission role (e.g., tasks, duration, audience, etc.):*** The majority of participants had similar descriptions of their RA role: “work with principal investigators (PIs) on budgeting, compliance, document review and preparation, post-submission tasks. [The] audience includes faculty, postdocs, graduate students,” “help faculty at all levels, research scientists, postdoctoral researchers, and graduate students from the time they notify us... this could range from several months... to sometimes just one day or same-day notice...review funding announcements, prepare checklists, draft and finalize budgets and budget justifications, review all documents for compliance and formatting, and provide basic editorial assistance.” Additional details included, “longer duration tasks are usually large collaborative projects which can take weeks to prepare,” “participate in committees to determine best practices,” and “problem-solve. When there are unique questions or unclear guidance I seek clarification from the sponsor.”

It was expected that the participants had a similar role description since the intervention was targeted at pre-award RAs. Therefore, the researcher confirmed that there is a consensus among participants across the university as to the daily tasks conducted.

***Describe the change(s) made in how you prioritize your day:*** A similar theme emerged of participants “prioritizing [...] based on deadlines.” However, one RA took this a step further, stating that “the difference is more in how I react to situations.” Additional responses were, “[I] used Insight Timer before starting my day [as] it helped me regroup and refresh for the day,” “meditate mid-morning to revitalize,” “not allow myself to get overwhelmed,” and “I had no changes in how I prioritized my day... [but] if I need[ed] dedicated time to focus on certain tasks, I [was] able to work at home.”

Of the six RAs, five (83.33%) noted that this small incorporation of a mindfulness technique was a welcome change to their day, allowing them to be more productive in their planning.

***How do you plan for the inevitable interruptions:*** The consensus was that RAs would “[build] interruptions into [their] day,” “[accept] them as part of [their] job,” and “allow for time when planning day.” Others stated that “you can[not] plan for interruptions necessarily, but I have communicated more on my availability and when I can get tasks completed,” “I don’t think of them as interruptions, [as] I just respond to them quickly or put them on my list,” and finally “interruptions are part of daily work life...not let them stress me out [and] my constituents are typically mindful of my time.”

As these findings show, RAs are accustomed to managing multiple deadlines and tasks, so, while it is challenging to plan for interruptions, it is also proactive to be aware

of them. By engaging in such a pre-emptive process, one may be able to alleviate or reduce some of the daily stress.

***Reflecting on “inevitable interruptions,” how do you regain focus on the task at hand Theme:*** The data indicated that RAs could re-engage once their focus is interrupted. The common themes were “review what I [did] previously” and “take deep breath[s] and resume where I left off.” A few other practices included “re-prioritiz[ing] tasks while asking for some extra time,” and “look[ing] at most time-sensitive [tasks]...that is the key factor... used for prioritizing work.”

The data shows something familiar not only to RAs but to most work roles – how to return to the task when one’s focus has shifted. Sometimes, it can be something as simple as taking a deep, mindful breath or revisiting completed work to allow for re-engagement. A positive theme is that all participants were able to regain focus regardless of technique.

***How and when is it okay to say “no”:*** The responses to this question were intriguing as the word “no” has many definitions to an individual. Some participants shared that “it is okay to say no anytime tasks are thrown at me last minute without the necessary resources to complete [them]” or that they reject projects “[due to] tight deadlines,” “but it should be done politely, and with a justification.” Other insights for when to turn down a task is to set an expectation that “if I have too much [work], I can reach out for help or set tasks aside.” The silver lining was taking a balanced approach, wherein one could take a reactive approach by saying no but then incorporate a proactive approach such as “I [will] try to find a solution that will still get the job done.”



Overall, the word ‘no’ or the rejection of a task did not stop any participant from being able to continue their daily tasks. As is customary for an RA, an ‘it depends’ mentality aids in decision making. RAs consider questions such as whether there is a deadline, whether assistance can be requested, or whether a task can be delayed allowing for a more critical assignment. To complete tasks, RAs must assess the situation and determine where their focus should be.

***How do you monitor emails, such as how and when to respond/reply:*** It seems all participants had similar feedback on how to deal with electronic correspondence. A majority stated a “response is sent within 24 hours,” “monitor level of importance by sender,” and “monitor as they come into inbox.” Some participants further shared that “[on] days with hard/tight deadlines, [they] only monitor and respond to those emails regarding the deadline [then] resume normal email activity once [the] deadline has been met.”

RAs generally agreed that they reviewed their inbox but prioritized their responses based on the sender, deadline, or sense of urgency. Communication is an integral part of the RA’s role as they must work with multiple audiences to submit the proposal to sponsors successfully.

### **Themes from Qualitative Questions**

The RAs answered the nine open-ended questions with as much detail as they wanted to provide. The emerging broad themes were

1. Mindfulness is defined as deep breathing and being present
2. Stress reduction occurs through walking or taking a break

3. Simple tools (e.g., Insight Timer) help retain focus and are effective and easy to use
4. The tool serves as a reminder to relax and breathe
5. Work roles are similar across the university, with prioritizing and communication as key variables
6. RAs delegate and ask for help to increase productivity
7. Building time into the day for interruptions is important
8. RAs use tools or take breaks to regain focus after interruptions
9. Communication with audiences through a balanced approach of one's timeline so all parties are on the same page is important

The emerging themes show that RAs have good coping mechanisms for stress. While there is no specific practice for reducing burnout in the RA's role, the study data suggests there is a need for additional understandings of mindfulness and best practices to combat in one's daily role. Responses revealed that participants have an understanding of how to reduce burnout but also find it difficult to carve time for 'being present.'

### **Polyangulation of Research Questions and Results**

Data from the pre- and post-intervention participants' surveys (MBI, MAAS, post-intervention qualitative questions), or more accurately data obtained from two or more datasets through action research, suggests that burnout can be lowered, or at least more easily altered, by incorporating a form of mindfulness practice. The data were categorized in terms of the research question then further delineated by type (quantitative versus qualitative) or interview questions (e.g., qualitative). Through polyangulation, the

datasets were reviewed for themes or recurring ideas that could be used to develop mindfulness work strategies for RAs.

The data indicate that, in addition to a slight reduction in burnout, RAs also had a change in behavior. They expressed that they had a “clearer” mind, were “more relaxed,” had “reduced anxiety,” and were able to take a break and focus on being present in the moment. The awareness of this mindfulness behavior gathered from the qualitative data correlates to the slight reduction in burnout identified in the post-intervention quantitative scores. Despite the small number of participants, there is a slight direct correlation between behavioral change during the workday and the MBI scores showing a reduction in burnout.

#### *Analysis of RQ1*

The perceived burnout of RAs was assessed for RQ1 using quantitative methods, namely the MBI and MAAS. Pre-intervention results indicated that RAs were somewhat mindful and dealt with varying levels among the three burnout areas. However, post-intervention, there was a slight increase in the level of mindfulness and minor reduction for overall burnout. Specifically, a strong association occurred in burnout section, otherwise known as exhaustion.

Qualitative data from the pre-intervention survey showed that RAs were familiar with the concept of mindfulness; by combining with MBSR, behavioral change can slowly start to be modified (Kabat-Zinn, 1994). As RAs started altering their attitude and overall perception, there were shifts in mindfulness adaptation.

The datasets supported each other as it was found that RAs have existing knowledge of mindfulness but could enhance their practices to integrate ‘in-the-moment’

techniques to reduce stress and burnout. Most participants saw a positive change in numbers associated with being more mindful (MAAS), having a lower level of exhaustion (burnout), and marginally decreasing loss of empathy (depersonalization); the latter two elements relate to burnout. Only the MBI variable self-doubt (personal achievement) saw a split across pre- and post-intervention scores.

After comparing the RAs' pre- and post-intervention surveys and analyzing the intervention, the researcher found a relationship and explanation, while insignificant, that overall burnout can be affected by mindfulness behavior change. Polyangulation of datasets seems to suggest the intervention changed the RAs' behavior by instilling the practice of meditation to reduce burnout during their workday.

### *Analysis of RQ2*

Qualitative responses post-intervention allowed the researcher to inquire about daily work life and the Insight Timer application. RAs had similar answers regarding their role, how they deal with interruptions when it is okay to say 'no,' and how they monitor emails. The recurring themes and patterns (see Figure 2) from the nine open-ended questions were created using WordClouds.com, free online software that generates a single image. The word or text clouds are created using the number of times that they appear in the specific dataset. Therefore, the more times the word is used, the larger the size and the bolder the word cloud (BoostLabs, 2014).



Figure 2. Qualitative keywords

All but one RA will continue to utilize the Insight Timer app in their daily work life. The qualitative data indicated that the intervention had a positive effect and the RAs were now equipped with additional knowledge to reduce and manage burnout. While most RAs used the technique at work, one participant employed the mindfulness application at home.

To determine whether a mindfulness technique allowed RAs to manage their day better and answer RQ2, data was gathered primarily from the pre-, post-, and follow-up qualitative interview questions. An understanding of how each participant defined mindfulness was obtained before the intervention, allowing for better insights into what details each RA knew before completing the mindfulness application. The post-intervention questions allowed the researcher to gain specific feedback on the chosen

intervention technique along with information on the daily role of individual RAs. Responses were similar, yet they had slightly different guidelines and practices per college or area.

After completing the 30-day technique, the data suggested that incorporating a form of mindfulness – in this case, a less than nine-minute breathing procedure – was easy to do and allowed the participant to quiet their mind. Mirroring RQ1, the quantitative data support the qualitative one as it confirms that a form of mindfulness practice does allow RAs to manage their burnout level, especially when juggling multiple deadlines, audiences, and varying levels of communication.

Analysis and interpretation of the datasets suggest that RAs may be aided in managing their daily work life by incorporating mindfulness practices. Responses associated with reprioritizing one's day and regaining focus after an interruption seem to coincide with the pre-intervention conception of mindfulness; the RAs are aware of the concept of mindfulness as being in the moment or being present. Multiple variables, such as the participants, work environment, and the researcher, are continually adapting to their work life. Therefore a solution or aid in reducing burnout will have to be continuously redefined. Only after analyzing the post-intervention scores does polyangulation show that a meditation app, Insight Timer, aided RAs in effecting change and managing their daily work lives.

## CHAPTER 5

### DISCUSSION OF FINDINGS

This study aims to explore meditation practices among RAs to better understand if burnout could be mitigated via mindfulness and if meditation could be incorporated into an RA's daily work life. The intervention allowed participants to learn about mindfulness through a meditation app, which would help them learn how to reduce work stress and integrate mindfulness into their work environment. However, due to the small number of RAs, the study also gained the insight that a pre-award administrator (regardless of their role level) can have varying knowledge of mindfulness techniques. This chapter discusses and interprets the results and offers recommendations for future research.

#### **Analysis Summary**

The research study was designed to determine how meditation affected RAs across ASU colleges. The mixed methods of quantitative and qualitative surveys allowed the researcher to obtain pre- and post-intervention data. The data revealed similar themes; by applying polyangulation, it showed that the intervention reduced burnout, however minimally. Individual scores, viewed across the entire study, slightly and significantly improved (thus burnout decreased), showing that a form of mindfulness practice does aid in the RAs' work role. Social research, which typically has limited clear solutions, can be aided by applying polyangulation. Overall, the data suggest that practicing a form of mindfulness can reduce the RAs' perceptions of burnout. While individual mean scores from the MAAS and MBI were insignificant and fluctuated across pre- and post-intervention (see Appendices F and E, respectively), there was a positive outcome in terms of increased mindfulness and decrease of all levels of burnout.

The increase of mean scores for mindfulness and MBI personal achievement post-intervention suggests that RAs incorporated a form of meditation into their daily work life to aid with stress reduction and their motivation to remain positive in their role increased, albeit minimally. Furthermore, decreased MBI burnout and depersonalization scores show that the mindfulness application, even if only incorporating nine minutes of meditation, lowered fatigue [burnout] and negativity [depersonalization].

RAs define their workload as demanding and can cause significant stress, as discussed in Chapter 1, as it requires RAs to continuously juggle deadlines and disruptions (whether by phone, email, or in-person), be flawless, act responsibly, and be in constant communication with colleagues. A few of these stressful demands were discussed again in the post-intervention open-ended survey, and it further showed that stress exists for RAs across all colleges in the university. An RA must multitask, and, therefore, having a tool that reminds them to breathe, take a break, or regain focus is essential for reducing stress. Furthermore, throughout the study, it became clear that RAs had a basic understanding of how to manage daily stress. While each RA was not familiar with the Insight Timer app, they applied various techniques for reducing tension or anxiety.

Results reveal that RAs are in the middle in terms of scores for mindfulness and burnout. While the results could be met with skepticism, it seems typical for a relatively experienced group wherein most have worked doing proposals for more than four years (see Table 2). They have mindfulness techniques, and after providing the intervention, a small group of RAs improved in the burnout category. Taking less than nine minutes per day to clear one's mind seems to decrease the feeling of exhaustion. The other categories



of depersonalization and personal achievement, in which there was a small and non-significant change, suggest that RAs already practice some elements of mindfulness.

The feedback from RAs was positive and, since the role is stressful – as even I can attest – there is a need for a tool or technique that reduces stress and allows one to quiet their mind. It is preferable to have an RA who is perceived as calm, collected, and a perfectionist rather than one who is frazzled, disorganized, and careless. Being mindful is especially essential when submitting a proposal that asks for millions of dollars for faculty members and an institution to conduct research.

### **Discussion**

As the study and research suggest, mindfulness is a crucial element for today's workforce due to the ever-changing demands and stressors placed on them. Specific mindfulness methods are needed to achieve an emotional balance (Ludwig & Kabat-Zinn, 2008) and ultimately a healthier balance through empowerment and the application of ones' intrinsic abilities (Rosenkranz et al., 2013). Mindfulness meditation allows the individual to return to homeostasis, where one is not only present in the moment but also reaches autonomy and a higher level of happiness.

RQ1 was measured through an intervention that promoted a mindfulness activity to understand how RAs managed their daily work life. This intervention was a meditation activity that would allow the RA to escape their work environment stressors for approximately nine minutes per day. Based on pre- and post-quantitative scores attained from the MBI and MAAS, this study suggests that mindfulness practices do reduce perceptions of stress among RAs.

One significant association found in the surveys was that between the intervention and burnout. A significance of 0.04 suggests that there is a 96% chance that this finding is true; meaning there is a strong association between the intervention and burnout scores, as seen from the pre- to post-intervention data. Clearing one's brain for less than nine minutes daily and returning to a neutral state of mind is an obtainable task. There were no other significant associations in mindfulness (MAAS), depersonalization (MBI), or personal achievement (MBI). Perhaps burnout was impacted by the RAs' daily use of the mindfulness meditation app, thereby lowering their feeling of exhaustion associated with daily work life.

The researcher attempted to determine what mindfulness techniques helped RAs manage stress in their daily role, both pre- and post-intervention, in RQ2. As the quantitative data shows, RAs have a foundational definition and understanding of mindfulness. The open-ended qualitative questions were divided by themes associated with each of the nine inquiries. The feedback was positive: RAs used existing knowledge to aid in burnout reduction; furthermore, the intervention was a valuable tool and helped because it gave them a daily reminder to be present.

The study results suggest that there is a need for an additional understanding of mindfulness and best practices to combat stress in one's work environment, specifically for RAs. While the small sample size shared various definitions of mindfulness, none of the RAs were familiar with the intervention app. Continuing the research of Kabat-Zinn (1994), expanding mindfulness practices may allow the researcher to better determine which tool(s) or practice(s) reduce burnout among RAs, especially since the responses

revealed that while there is an understanding of how to reduce stress, the difficulty lays in finding the time to ‘be present’ in their daily work lives.

### **Strengths and Limitations**

The study uses a quasi-experimental design, a methodology that tries to determine if a cause-and-effect relationship exists between two or more nonrandomized elements in a target population (Harris et al., 2006). The intervention was conducted in the RAs’ environment, thus allowing participants to feel more comfortable.

Using two quantitative surveys that were valid and reliable added to the strength of the study. Furthermore, as mindfulness is incorporated into more workplaces, the Insight Timer application should also be incorporated because it is a useful tool.

The lack of studies on RAs is a limitation. No studies on mindfulness and RAs were found (Brown & Ryan, 2003). While MBI, MMAS, and Insight Timer have been used in various studies, no research was found on RAs that used these tools.

The sample size is also a slight limitation; the research study email was sent to 114 RAs, but only 23 RAs answered, and that number further diminished to eight and six for the quantitative and qualitative data analyses, respectively (see Figure 1). Information produced supportive data, despite a sample size that was too small to detect any significant differences besides for burnout. As explained in Chapter 4, the final analysis yielded a much smaller subset of useable data.

The research design, albeit a mixed-methods design that used quantitative and qualitative data, is subject to issues of internal validity. These issues include maturation, testing, and the experimenter effect. Maturation occurs as RAs or participants grow and

mature between the time of pre- and post-testing. This issue might have been mitigated by the use of control and test groups.

An additional issue is that of testing or what is commonly known as the practice effect (Smith & Glass, 1987). When participants are exposed to the test or intervention more than once, data can be influenced by recall and memory. The researcher tried to reduce this effect by switching the placement of questions within the surveys. Lastly, the researcher's role may have weakened internal validity. The researcher is an RA who has worked with the participants during the last seven years and, therefore, is familiar with the participants. To minimize bias and its effect, a quasi-experimental design was applied when applicable, and the researcher worked to remain neutral across all levels of the study.

### **Implications for Future Research**

This study and the promotion of mindfulness practice could be applied to a university setting, for any job requiring thought and detail in which one must work with creative minds in a social science atmosphere. The idea of incorporating meditation into the RA role originated from a former colleague who worked in the Center for Mindfulness, Compassion, and Resilience within ASU. It is a center that employs approximately half a dozen individuals who effect change and teach how to reduce burnout via mindfulness practices, yet few know of it. By collaborating with this center, and sharing the significant data even though it came from a small sample, could show that mindfulness applications are beneficial.

Additional suggestions for future studies: (1) longer intervention period spanning multiple or more progressive deadlines per sponsor; (2) more extensive sampling of the

RA community; (3) increasing accessibility to resources including tools and applications to reduce burnout; (4) determining basic learning styles among RAs; and (5) better understanding interruptions and perceived amount of time for mindfulness.

### **Longer Intervention Period per Sponsor**

As this study began at the end of the fall semester and spanned two significant holidays, perhaps a more realistic picture of RA stress could be taken by analyzing a timeframe that does not include Thanksgiving and Christmas and includes more submission deadlines. Specifically, an increased number of proposals during a specific timeframe or proposals for a particular sponsor may return a diverse perception of stress. Conducting a study that establishes solid mindfulness habits through various interventions may boost the effectiveness of RAs during high workload periods or holidays. If the study collected data for a minimum of three to six months, it is reasonable to believe that more RAs would participate. The addition of additional benefits, such as reducing stress via meditation practices and earning rewards such as chair massages or extended lunch breaks, may keep RAs engaged throughout the study.

### **More Extensive Sampling of the RA Community**

Furthermore, a larger sampling of RAs would potentially yield different results. Due to the lack of research on RAs and mindfulness, the study had no baseline for comparison. The additional exploration of these two variables may produce other significant findings for the RA role. Such research could examine in-depth why such a shift, while positive and significant, occurred within burnout. Furthermore, the data collection could include other institutions and universities to provide additional insights into how stress is managed through mindfulness practices.

## **Accessibility to Resources Including Tools and Applications to Reduce Burnout**

Numerous stress-reduction tools for RAs could be disseminated on a larger scale through various content (virtual, workshop, online, etc.). Such support could prove valuable as it would affect behavioral change and serve as a reminder that daily mental health is important. Additionally, benefits could reach further across the university as staff, faculty, and students could implement similar techniques to reduce and manage their daily stress.

Further iterations that used the Insight Timer and quantitative measures (MBI and MAAS) could compare concurrent groups with past participants' data. Such a study would yield multiple datasets as methods could include specific meditation(s), different lengths of intervention, different roles (years of experience), and test groups versus control groups. Incorporating a training protocol across the entirety of the intervention with weekly meetings with participants may help the researcher gain insights into the RAs' daily work lives.

## **Determining Basic Learning Styles Among RAs**

There are four learning styles that, depending on the individual, prove to be most useful for learning (D. Kolb, 1984). The styles are the “concrete experience, reflective observation, abstract conceptualization, and active experimentation” (A. Y. Kolb & Kolb, 2009). Known more as a kinesthetic style, ‘concrete experience’ is hands-on learning, wherein reflection is learning by mirroring the act. The latter two styles are characterized by embedding human auditory, and visual senses to learn. RAs will have different learning styles that can determine the next steps in a study or its overall implications. A researcher could thus choose a better-suited mindfulness technique by understanding the

RA's specific learning style. For example, a visual learner would not be engaged with an auditory meditation, and, therefore, this would have little impact on reducing burnout.

### **Better Understanding of Interruptions and Perceived Amount of Time for Mindfulness**

Understanding specifics before an intervention can potentially affect results. Thus, researchers should understand the interruptions that RAs face and explain that the irritation, while unexpected, is a normal process of research proposals while ensuring that the intervention is not seen as a source of irritation. Perhaps structuring the intervention technique as the first task of the day or the start of a lunch break may make the tool better received. Furthermore, a researcher should identify what the RA deems as an appropriate amount of time for meditation. As the RAs were already implementing a form of mindfulness in their day, researchers could record the total number of minutes that RAs spent on mindfulness, which would allow them to better tailor the intervention to their participants.

### **Conclusion**

Similar to any research study, especially within the social sciences, additional research is always recommended. Asking additional qualitative questions while using a larger sample size of RAs may help determine more approaches for reducing burnout or offer insights for modifying and motivating behavioral change. Finally, due to the limited research conducted on RAs, additional dialogue with fellow research institutions may yield new datasets, themes, or mindfulness practices (if applicable) from RAs in other pre-award roles and further information on how they manage their daily work life. It is possible that lengthening the study may uncover additional insights into the RA role,

which could further establish a baseline for future studies and new to the career individuals.

The results of this mixed-method research study show that RAs can use mindfulness practices to reduce stress and manage their daily life. Understanding mindfulness and how to properly practice it when the stressors manifest themselves is critical. Through various tools and outlets, RAs could learn to incorporate time to 'be present' into their days and thus reduce their overall stress levels. The results indicate that implementing 'in-the-moment' techniques improves mindfulness and reduces levels of burnout among RAs.

RAs work with their respective faculty across university departments to create individual SBs before the deadlines. Bundles may be similar in some respects, but they do change based on the sponsor guidelines and requirements. Every proposal will contain a scope of work and project abstract, a budget, and budget justification. Additional documents will be needed for successful submission depending on the sponsor. Attention to detail is key as an RA, especially when working in a college whose programs traverse multiple platforms. RAs can, at times, be tasked with 8-15 proposal submissions (usually one per faculty member) with various upcoming deadlines in one week. By multiplying that element by other faculty and sponsors, multiple workplace stressors (multitasking, deadlines, interruptions, interrelations, accountability, and perfectionism) are placed on RAs, who may fall victim to workplace burnout. Unfortunately, stress may affect an RA's daily role and they may have negative thoughts and emotions due to their overall stress levels. Therefore, by incorporating a mode of stress reduction, such as meditation and mindfulness, they may be able to lower their burnout level.



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APPENDIX A  
RESEARCH STUDY TIMELINE

**To what extent does mindfulness practices affect research administrators?**

***Objective: Better understand the application of mindfulness among research administrators at Arizona State University***

<b>Action Step</b>	<b>Time Frame</b>	<b>Actions</b>	<b>Procedures</b>	<b>Evaluation</b>
<i>Study and Plan</i>	August 2019	IRB Approval	Approval obtained in ERA by ASU	<i>IRB reviewed at the start of Fall 2019</i>
<i>Collect Evidence</i>	November 2019  End December 2019	Survey study participants (RAs $n = 23$ )  Quant & Qual data analysis	Conduct pre-intervention via quantitative surveys (MBI & MAAS)  Conduct qualitative participant interviews	<i>Collection of survey results</i>
<i>Analyze Evidence</i>	January 2020	Data Analysis	Analyze all collected data; find potential relationships, themes, or categories that may exist	<i>Data Analysis &amp; Coding</i>
<i>Take Action</i>	February 2020	Integration of quantitative and qualitative results	Review of all findings and interpretation/explanation	<i>Synthesis of findings.</i>
<i>Reflect</i>	March 2020	Consolidation of collected data (RAs $n = 8$ )	Document findings and translate into innovation implementation	<i>Drafting of findings and implications</i>



APPENDIX B

ASU INSTITUTIONAL REVIEW BOARD APPROVAL

**EXEMPTION GRANTED**

**Leigh Wolf**  
**Division of Educational Leadership and Innovation - Tempe**

-

**Leigh.Wolf@asu.edu Dear**

**Leigh Wolf:**

**On 9/27/2018 the ASU IRB reviewed the following protocol:**

Type of Review:	Initial Study
Title:	How does planned behavior affect the development of timely grant submissions?
Investigator:	Leigh Wolf
IRB ID:	STUDY00008931
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	<ul style="list-style-type: none"> <li>• Bryant Consent Recruitment Form Revised.pdf, Category: Consent Form;</li> <li>• Bryant Survey Instrument - Revised.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);</li> <li>• Leigh Wolf HRPP-IRB Training Certificate.pdf, Category: Non-ASU human subjects training (if taken within last 3 years to grandfather in);</li> <li>• HRP-503a Social Behavioral, Category: IRB Protocol;</li> <li>• CITI - Collaborative Institutional Training Initiative Summary.pdf, Category: Non-ASU human subjects training (if taken within last 3 years to grandfather in);</li> </ul>

**The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 9/27/2018.**

**In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).**

**Sincerely,**

**IRB Administrator**

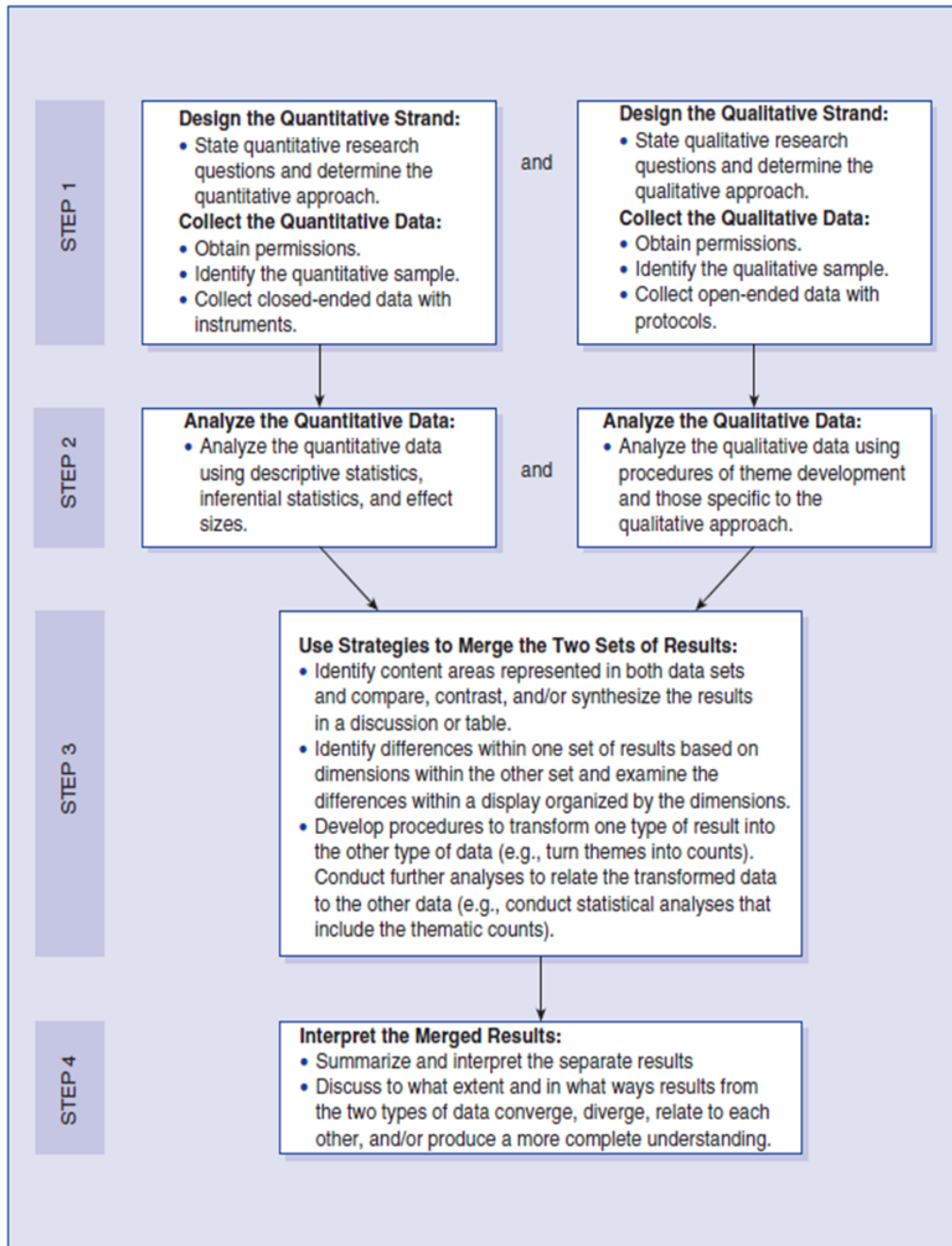
**cc: Sarah**

**Bryant**

**Sarah Bryant**

## APPENDIX C

### MIXED METHODS BASIC STEPS USING CONVERGENT DESIGN



APPENDIX D  
PARTICIPANT CONSENT

Dear Colleague:

My name is Sarah Bryant, and I am a doctoral student in the Mary Lou Fulton Teachers College (MLFTC) at Arizona State University (ASU). I am working under the direction of Dr. Kathleen Puckett, a faculty member in MLFTC. We are conducting a research study exploring how Research Administrators (RA) keep balance. The purpose of this study is to better understand how stressors effect RAs and how mindfulness may reduce overall impact to their role.

We are asking for your assistance, which will involve your participation in a study concerning your knowledge, experiences, and beliefs about mindfulness and how it impacts RAs. The research study will involve completing a daily, short mindfulness meditation via a free smartphone app, which tracks your activity over the 30-day study. The mindfulness meditation is pre-determined and instructions for downloading app and usage will be provided for Apple and Android smartphones. Prior to using the app, you will be asked to complete a pre-survey, which should take no more than 15-20 minutes. After the 30-day mindfulness exercise, you will complete the same survey as follow-up. Three randomly chosen participants will also be asked to provide additional reflection of the study via survey.

- \* Each participant who completes the pre-intervention survey will receive a \$15 Visa gift card.
- \* Each participant that completes the 30 day mindfulness study and follow-up survey(s) will be entered into a one-time drawing for a \$50 Visa gift card.

Your participation in this study is voluntary. If you choose not to participate or withdraw from the study at any time, there will be no penalty. You must be 18 years of age or older to participate.

The benefit to participation is the opportunity for you to reflect on and think more about steps in the RA role and how to mitigate potential stressors through mindfulness practices. Thus, there is potential to enhance the experiences of fellow research administrators. There are no foreseeable risks or discomforts to your participation.

Your responses will be anonymous. Results from this study may be used in reports, presentations, or publications, but your name will not be used.

If you have any questions concerning the research study, please contact the research team – Kathleen Puckett at [kathleen.puckett@asu.edu](mailto:kathleen.puckett@asu.edu) or (480) 727-5206 or Sarah Bryant at [sb4@asu.edu](mailto:sb4@asu.edu) or 602-496-0399.

**If you wish to be part of the study, please let me know via email ([sb4@asu.edu](mailto:sb4@asu.edu)) and your correspondence will serve as Consent. I will then forward the survey(s) accordingly with next steps and deadlines.**

Thank you,

Sarah Bryant, Doctoral Student

Kathleen Puckett, Professor

If you have any questions about your rights as a participant in this research, or if you feel you have been placed at risk, you can contact Kathleen Puckett at (480) 727-5206 or the Chair of Human Subjects Institutional Review Board through the ASU Office of Research Integrity and Assurance at (480) 965-6788.



APPENDIX E  
PARTICIPANT DEMOGRAPHIC SURVEY

## **Demographics**

1. What is your age?
2. What is your gender?
3. What is your ethnicity (race)?
4. What is the highest degree or level of school you have completed?
5. What is your marital status?

## **RA Characteristics**

6. Current RA level (e.g., title)
7. How long have you been an RA (years)?
8. How many researchers/faculty do you support?
9. How many proposals do you submit or assist on per year?
10. How do you define mindfulness?

APPENDIX F  
MASLACH BURNOUT INVENTORY (MBI)

For each question, indicate the score that corresponds to your response.

Questions: Exhaustion	Never	A Few Times per Year	Once a Month	A Few Times per Month	Once a Week	A Few Times per Week	Every Day
<b>Section A:</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
I feel emotionally drained by my work.							
Working with people all day long requires a great deal of effort.							
I feel like my work is breaking me down.							
I feel frustrated by my work.							
I feel I work too hard at my job.							
It stresses me too much to work in direct contact with people.							
I feel like I'm at the end of my rope.							
<b>TOTAL SCORE - Section A</b>							

Questions: Loss of Empathy	Never	A Few Times per Year	Once a Month	A Few Times per Month	Once a Week	A Few Times per Week	Every Day
<b>Section B:</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
I feel I look after certain faculty/co-workers impersonally, as if they are objects.							
I feel tired when I get up in the morning and have to face							

another day at work.							
I have the impression that my faculty/co-workers make me responsible for some of their problems.							
I am at the end of my patience at the end of my workday.							
I really don't care about what happens to some of my faculty/co-workers.							
I have become more insensitive to people since I've been working.							
I'm afraid that this job is making me uncaring.							
<b>TOTAL SCORE - Section B</b>							

Questions: Self-doubt	Never	A Few Times per Year	Once a Month	A Few Times per Month	Once a Week	A Few Times per Week	Every Day
<b>Section C:</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
I accomplish many worthwhile things in this job.							
I feel full of energy.							
I am easily able to understand what my faculty/co-workers feel.							
I look after my faculty/co-workers problems very effectively.							
In my work, I handle emotional problems very							

calmly.							
Through my work, I feel that I have a positive influence on people.							
I am easily able to create a relaxed atmosphere with my faculty/co-workers.							
I feel refreshed when I have been close to my faculty/co-workers at work.							
<b>TOTAL SCORE - Section C</b>							

## SCORING RESULTS – INTERPRETATION

### Section A: Burnout

Burnout (or depressive anxiety syndrome): Testifies to fatigue at the very idea of work, chronic fatigue, trouble sleeping, physical problems. For the MBI...exhaustion would be the key component of the syndrome. Unlike depression, the problems disappear outside work.

- Total 17 or less: Low-level burnout
- Total between 18 and 29 inclusive: Moderate burnout
- Total over 30: High-level burnout

### Section B: Depersonalization

Depersonalization (or loss of empathy): Rather a “dehumanization” in interpersonal relations. The notion of detachment is excessive, leading to cynicism with negative attitudes with regard to patients or colleagues, feeling of guilt, avoidance of social contacts and withdrawing into oneself. The professional blocks the empathy he/she can show to colleagues.

- Total 5 or less: Low-level burnout
- Total between 6 and 11 inclusive: Moderate burnout
- Total of 12 and greater: High-level burnout

### Section C: Personal Achievement

The reduction of personal achievement: The individual assesses themselves negatively, feels they are unable to move the situation forward. This component represents the demotivating effects of a difficult, repetitive situation leading to failure despite efforts. The person begins to doubt their genuine abilities to accomplish things. This aspect is a consequence of the first two.

- Total 33 or less: High-level burnout
- Total between 34 and 39 inclusive: Moderate burnout
- Total greater than 40: Low-level burnout

**A high score in the first two sections and a low score in the last section may indicate burnout.**

APPENDIX G

MINDFUL ATTENTION AWARENESS SCALE (MAAS)



Instructions:

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

- | <b>1</b>                 | <b>2</b>                   | <b>3</b>   | <b>4</b>                         | <b>5</b>                     | <b>6</b>                |
|--------------------------|----------------------------|--|----------------------------------|------------------------------|-------------------------|
| <b>Almost<br/>always</b> | <b>Very<br/>frequently</b> | <b>Somewhat<br/>frequently</b>   | <b>Somewhat<br/>infrequently</b> | <b>Very<br/>infrequently</b> | <b>Almost<br/>never</b> |
| _____                    | 1.                         | I could be experiencing some emotion and not be conscious of it until some time later.                       |                                  |                              |                         |
| _____                    | 2.                         | I break or spill things because of carelessness, not paying attention, or thinking of something else.        |                                  |                              |                         |
| _____                    | 3.                         | I find it difficult to stay focused on what's happening in the present.                                      |                                  |                              |                         |
| _____                    | 4.                         | I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.   |                                  |                              |                         |
| _____                    | 5.                         | I tend not to notice feelings of physical tension or discomfort until they really grab my attention.         |                                  |                              |                         |
| _____                    | 6.                         | I forget a person's name almost as soon as I've been told it for the first time.                             |                                  |                              |                         |
| _____                    | 7.                         | It seems I am "running on automatic," without much awareness of what I'm doing.                              |                                  |                              |                         |
| _____                    | 8.                         | I rush through activities without being really attentive to them.  |                                  |                              |                         |
| _____                    | 9.                         | I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there. |                                  |                              |                         |
| _____                    | 10.                        | I do jobs or tasks automatically, without being aware of what I'm doing.                                     |                                  |                              |                         |
| _____                    | 11.                        | I find myself listening to someone with one ear, doing something else at the same time.                      |                                  |                              |                         |
| _____                    | 12.                        | I drive places on 'automatic pilot' and then wonder why I went there.  |                                  |                              |                         |
| _____                    | 13.                        | I find myself preoccupied with the future or the past.   |                                  |                              |                         |
| _____                    | 14.                        | I find myself doing things without paying attention.   |                                  |                              |                         |
| _____                    | 15.                        | I snack without being aware that I'm eating.   |                                  |                              |                         |

**Scoring: To score, compute mean (average) of the 15 items. Higher scores reflect higher levels of dispositional mindfulness.**

APPENDIX H  
POST-INTERVENTION QUALITATIVE SURVEY

Thank you for participating in the *Examining how meditation practices may reduce stressors among research administrators* study. To obtain additional insight and fully understand how mindfulness practices can aid individuals working in this field, follow-up analysis is requested.

You have been randomly selected to answer questions associated with the mindfulness meditation you followed over the 30 days and your RA role.

Upon completion of your survey, you will receive one additional entry in the grand prize drawing.

Participant # (Example: 402)

---

Were you aware of the app *Insight Timer* before this intervention?

- Yes (1)
- No (2)

What was your process for reducing stress before using *Insight Timer*?

---

How many total times did you use the *Insight Timer* app within the 30 days?

- None (1)
- 1-5 (2)
- 6-10 (3)
- 11-15 (4)
- 16-20 (5)
- 21-25 (6)
- 25-30 (7)

Are any other RAs using similar apps for mindfulness and/or stress reduction?

- Yes (1)
- Maybe (2)
- No (3)

What were advantage(s) of the *Insight Timer*?

---

How did this intervention impact your daily work life?

---

Will you continue to use *Insight Timer*?

- Yes (1)
- No (2)

Describe your overall pre-award/proposal submission role (e.g. tasks, duration, audience, etc.).

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---

**For the following five (5) questions, reflect on your usage of the Insight Timer.**

1. Describe the change(s) made in how you prioritize your day?

---

2. How do you plan for the inevitable interruption(s)?

---

3. Reflecting on "inevitable interruptions," how do you regain focus on the task at hand?

---

4. How and when is it okay to say "no"?

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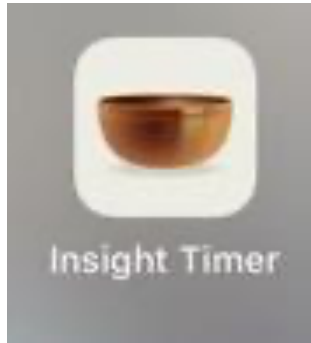
5. How do you monitor emails, such as how or when to respond/reply?

---

APPENDIX I  
INSIGHT TIMER INSTRUCTIONS

The *Insight Timer* app is a **free** (additional purchase options available) meditation application for reducing stress, anxiety, and calming the mind.

Note: Pictures/icons may appear different based on phone type/model.



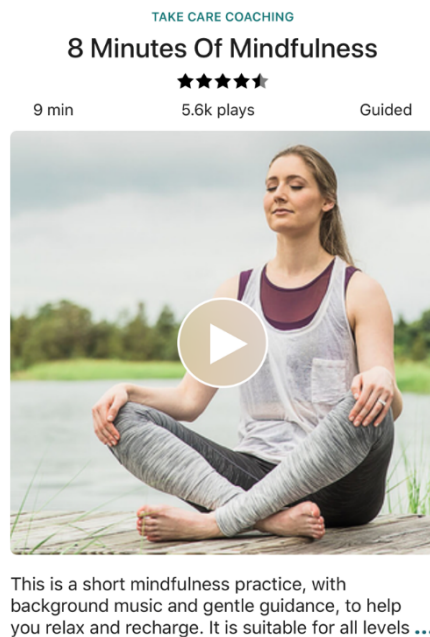


- **How to download the Insight Timer app**

The app can be downloaded to an **Apple** or **Android** device by accessing the App Store or Play Store. Search for “Insight Timer” and then install. Once you download the app (based on phone model), you will need to create your profile.\* A profile must be created, as this will store activity and stats for intervention.

\***NOTE:** No subscription is required for this intervention. Can create profile using Facebook.

**Specific meditation (8 Minutes of Mindfulness):**



- **How to access the meditation for intervention based on phone model**

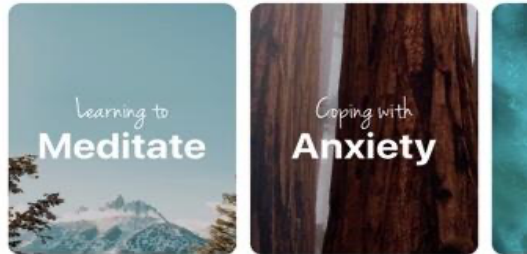
**APPLE** (Researcher phone model)

- Complete the following steps for specific mindfulness intervention course:
- Click *Guided*

## 28,000 Free Meditations

The largest free library on earth

### BEGINNER KITS



### FILTER BY TIME

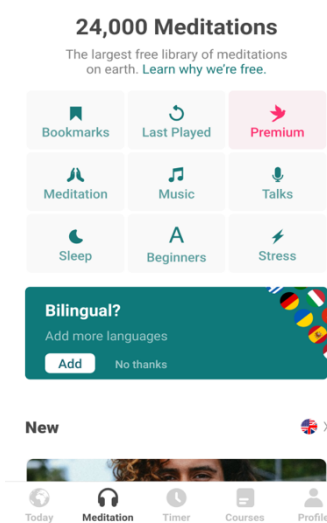


- Filter by Time (minutes)
    - Chose *10*
  - Click *Filters*
    - **Type**
      - Click *Meditations*
    - **Audio**
      - Click *With background music*
    - **References**
      - Click *Hide Spiritual content*
      - Click *Hide Religious content*
    - **Advanced**
      - Click *Filtered by Benefit*
        - Choose *Stress*
      - Click *Filtered by Practice*
        - Choose *Mindfulness*
  - **View Six (6) Results** should be listed at bottom
    - Chose *8 Minutes of Mindfulness*
      - You can bookmark session by clicking the “flag” in the upper right-hand corner\*\*
- \*\*NOTE: You must have created a profile to “flag”

## **ANDROID**

Complete the following steps for specific mindfulness intervention course:

- Click *Meditation* on bottom of screen



- Choose *Meditation* again
    - Click *Mindfulness*
  - Click the following
    - **Length**
      - Click *06-10 mins*
  - Click **Filters**
    - **All Types**
      - Click *Meditations*
    - **Audio**
      - Click *With background music*
    - **References**
      - Click *Hide Spiritual content*
      - Click *Hide Religious content*
    - **Advanced**
      - Click *Filtered by Benefit*
        - Choose *Stress*
      - Click *Filtered by Practice*
        - Choose *Mindfulness*
    - **View Six (6) Results** should be listed at bottom
      - Chose *8 Minutes of Mindfulness*
        - You can bookmark session by clicking the “flag” in the upper right-hand corner\*\*
- \*\*NOTE: You must have created a profile to “flag”
- **Sharing the Insight Timer app data once a week with Researcher**

## APPLE (Researcher phone model)

- Click *Profile*



- Click *Activity*
  - Take screenshot
    - Model 8 and older: Press and hold Power button & Home button at exact same time.
    - Model 9 and newer: Press Side button and Volume up at same time and quickly release.
  - Send one week of Activity via email to [sb4@asu.edu](mailto:sb4@asu.edu)
    - A total of four (4) emails will be sent to researcher

### Activity



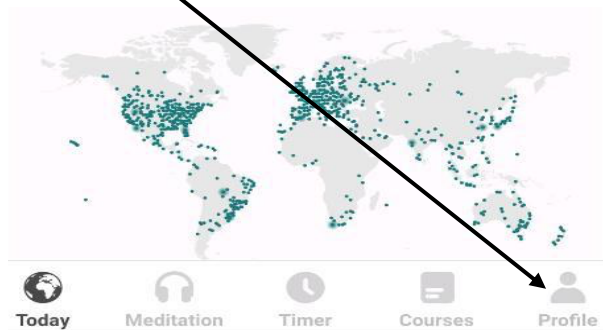
1 minute ago

Meditated to 8 Minutes Of Mindfulness



## ANDROID

- Click *Profile*



- Click *Activity*
  - Take screenshot

- Press and hold Volume button & Power button at exact same time and/or choose Screenshot
- Send one week of Activity via email to [sb4@asu.edu](mailto:sb4@asu.edu)
  - A total of four (4) emails will be sent to researcher



Add location...

Edit profile and privacy

ACTIVITY

FRIENDS 0

GROUPS

STATS



Meditated to **8 Minutes Of Mindfulness**

10 minutes ago