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Explaining Gender Differences in Mindfulness Interest: Applying the Theory of Planned
Behavior

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ABSTRACT

Evidence suggests that men are significantly less likely to utilize mindfulness-based practices than women, yet little is known about the psychosocial factors that influence this gender difference. Applying the theory of planned behavior, I propose that gender differences in mindfulness interest are explained by gender differences in attitudes towards mindfulness, social norms surrounding mindfulness, and self-efficacy for practicing mindfulness. A survey study with 213 undergraduate students (Study 1) confirmed that men are less likely to sign up for a mindfulness-based class than women. Additionally, results revealed a significant indirect effect of gender on intention to sign up for a mindfulness-based class through self-efficacy. However, no significant indirect effect was found through social norms or attitude. Furthermore, an experimental study (Study 2) with 286 male undergraduate students was designed that manipulated three ways of marketing mindfulness classes: (1) beneficial for health and performance (control – positive attitudes), (2) male-led and male-dominated class (control + social norm), and (3) efficient and beginner-level mindfulness class (control + efficacy). The male social norm class increased intentions to sign up for a mindfulness-based class compared to both the other groups; surprisingly, this effect was explained by self-efficacy rather than social norms. Our research has important practical implications, suggesting that creating a male-dominated class environment is effective in increasing male interest in mindfulness-based practices.

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Chapter 1

Introduction

Recent data suggests that the prolonged stress sustained since the Covid-19 pandemic combined with the impact of global conflicts, social injustices, inflation, and climate-related catastrophes have contributed to the significant strain on the wellbeing of many Americans (APA, 2023). Among adults between the ages of 35 and 44, chronic illnesses increased from 48% in 2019 to 58% in 2023, and mental health diagnoses increased from 31% in 2019 to 45% in 2023. Additionally, globalization, digitization, and societal transformations have complicated and intensified work processes, leading to high levels of stress, burnout, and exhaustion among employees (Vonderlin et al., 2020).

Mindfulness, often defined as the intentional and nonjudgmental awareness of the present moment (Kabat-Zinn, 1994), is one way to holistically approach and alleviate the detrimental symptoms of our modern crises. Research on mindfulness has blossomed into a promising list of psychological, physical, cognitive, and interpersonal benefits relevant to our time (Chiesa et al., 2011; Keng et al., 2011; Khoury et al., 2013; Lomas et al., 2019; Vonderlin et al., 2020; Zhang et al., 2021). However, despite their favorable outcomes, wide availability, and cost effectiveness (De Vibe et al., 2012), the majority of Americans do not engage in mindfulness-based practices, and gender differences in the utilization of such practices are consistently documented (Rhee & Harris, 2017; Upchurch & Johnson, 2019).

Evidence suggests that men are significantly less likely to utilize mindfulness-based practices than women. For example, women are four times more likely than men to engage in

these holistic practices as both clients and practitioners (Keshet & Simchai, 2014). Additionally, women are more likely than men to engage in mindfulness-based practices like meditation, guided imagery, and deep breathing (Fouldabakhsh & Stommel, 2010), and women are twice as likely to practice yoga than men (Clarke et al., 2018). Furthermore, the skewed samples in mindfulness research also reflect this gap as multiple meta-analyses have confirmed that over 70% of research participants—often volunteers—are women (Bodenlos et al., 2017; Dryden & Still, 2006; Eichel et al., 2021; Waldron et al., 2018).

This gender gap is problematic in two ways. The first problem is that the general gender disparity in mindfulness interest may have contributed to the significant underrepresentation of men in mindfulness research, and thus, may have skewed our understanding of mindfulness in the current literature. Although mindfulness research has been flooded with positive results (Chiesa et al., 2011; Keng et al., 2011; Khoury et al., 2013; Lomas et al., 2019; Vonderlin et al., 2020; Zhang et al., 2021), these findings must be interpreted with caution, especially in terms of generalizability. There is a need to take a step back and understand how to effectively recruit a more diverse sample. Specifically, it may be beneficial to understand how to encourage male participation in mindfulness-based practices, so mindfulness can be further explored with a balanced perspective.

The second problem is that this gender disparity in mindfulness interest and use means that men are not benefitting from it. Health professionals suggest that in developed nations, lifestyle factors contribute to the gender disparity in health outcomes such that men are more likely to die young as well as experience cancer and heart disease than women (Galdas et al., 2005). Furthermore, scholars have shed light on the silent crisis in men's mental health and the urgent need for proper support and resources (Affleck et al., 2018). While mindfulness-based

practices may be particularly relevant in promoting healthy lifestyles and improving men's physical and mental health, more research is needed to understand how to motivate men to engage in these practices, so its benefits can be optimized. Answering Choi et al.'s (2022) call for the recognition of nuanced and complex nature of mindfulness, I will examine how gender impacts interest in mindfulness-based programs and how to increase male participation.

Little is known about the psychosocial factors that influence this gender gap in the utilization of mindfulness-based practices. Some theorize that men's adherence to masculine behavioral norms reduces their likelihood of admitting they need help or engaging in preventative care in general (Galdas et al., 2005; Vaidya et al., 2012). Utilizing the Theory of Planned Behavior (Ajzen, 1991), I expand these ideas about gender norms to examine how three factors contribute to behavioral intentions. Specifically, the TPB proposes that attitudes toward the behavior, social norms around the behavior, and self-efficacy for the behavior will influence the choice to engage in the behavior. I propose that gender differences in TPB constructs explain why men are less likely to engage with mindfulness.

This research offers contributions at the theoretical, empirical, and practical level. At a theoretical level, I extend the theory of planned behavior by considering the role of gender and applying it to an activity that is often characterized as feminine (Krick & Felfe, 2020). To my knowledge, I am the first to examine gender differences in the utilization of mindfulness-based practices through the lens of TPB. Empirically, I offer two complementary studies; a survey to test which TPB pathway best explains the gender differences in mindfulness (Study 1), and an experimental study to identify the most effective way to market mindfulness to the male audience (Study 2). This research contributes to the current mindfulness literature by diversifying the sample to include men, who are often underrepresented in mindfulness research, and can help

inform participant recruitment strategies in future mindfulness research. Additionally, the experimental study responds to the calls to go beyond correlational designs and utilize scientifically rigorous designs (Sniehotta, 2009). Practically, the results of this research will better inform how mindfulness-based programs can be framed and marketed to the male population. By increasing male participation in mindfulness-based practices, more men can improve their physical, psychological, cognitive, and interpersonal health. My research may also have broader implications in minimizing the gender gap in other health-related behaviors such as help-seeking or prevention care.

Mindfulness-Based Programs

Although the roots of mindfulness are often traced back to ancient, spiritual practices of Eastern Buddhism and Hinduism, it has recently gained exponential popularity in Western culture (Olendzki, 2005). According to the American Mindfulness Research Association (AMRA, 2021), 1362 journal articles on “mindfulness” were published in 2021, compared to just 8 in 2001. Consistent with this trend, mindfulness-based programs (MBPs) have gained mainstream interest and expanded their application to a wide variety of settings such as health care, education, criminal justice, and the workplace (Crane et al., 2017).

Most MBPs are based on the mindfulness-based stress reduction program (MBSR; Kabat-Zin, 2003) initially developed by Jon Kabat-Zin for those experiencing chronic pain. According to Crane et al. (2017), the following components are essential to any MBP. First, these programs must be informed by the synergy of contemplative traditions, science, and the disciplines of psychology, medicine, and education. Additionally, MBPs recognize and alleviate

human distress through its emphasis on intentional and non-judgmental awareness. Finally, MBPs are guided by qualified instructors that offer experiential learning and sustained training in meditation practice. These practices allow individuals to shift their relationship with their inner and outer world, which helps cultivate a deeper sense of joy, compassion, wisdom, and peace via heightened attentional, emotional, and behavioral self-regulation.

Mindfulness Effectiveness

Studies on MBPs show promising results. For example, mindfulness programs significantly reduce stress and burnout as well as psychological symptoms such as emotional reactivity, depression, and anxiety (Keng et al., 2011; Khoury et al., 2013). Additionally, mindfulness can benefit physical health by reducing somatic complaints, pain, hypertension, insomnia, and cancer-related symptoms (Lomas et al., 2019; Vonderlin et al., 2020; Zhang et al., 2021). Mindfulness also improves interpersonal relationships by increasing feelings of compassion and empathy, improving behavioral self-regulation, and increasing prosocial behaviors (Lomas et al., 2017; Zhang et al., 2021). Lastly, research suggests that mindfulness can improve cognitive and executive functions such as enhancing attention and memory (Chiesa et al., 2011) and is linked to higher job satisfaction and performance (Vonderlin et al., 2020; Lomas et al., 2017).

Mindfulness and Gender

Identifying whether mindfulness works similarly across gender is difficult when men are less likely to be involved in such research. Based on what is known, some evidence suggests that women perceive greater benefits of meditation training than men (Rojiani et al., 2017). However, it is possible that women may appear to respond better to mindfulness-based programs simply because they have more room to improve; women tend to self-report higher levels of anxiety, depression, and stress than men, allowing for larger treatment effects in mindfulness studies (Brown et al., 2021).

More research suggests that mindfulness benefits (reduced stress, improved emotional and physical health, improved relationships, and positive lifestyle changes) work similarly well for both men and women (Upchurch & Johnson, 2019). Several studies have shown that mindfulness is effective for men and within masculine contexts (Barrett, 2017; Hovee et al., 2021; Krick & Felfe, 2020; Simpson et al., 2019). In one study by Krick and Felfe (2020), police officers that were randomly assigned to a mindfulness-based program showed significant reduction in psychological strain, health complaints, and negative affect in comparison to the control group, suggesting its effectiveness even in a male-dominated workplace. Interestingly, this study found that favorable social norms moderated effectiveness, suggesting that participant motivation and engagement with the mindfulness practice was influenced by their colleagues' attitude towards the program.

Another study found that young men who were previously incarcerated benefited from yoga and mindfulness training through stress reduction and improved emotional regulation (Barrett, 2017), but over 70% of male participants initially felt uncomfortable, making

recruitment and retention a significant challenge (Barrett, 2017; Simpson et al., 2019). To expand mindfulness research and implement mindfulness-based programs in a way that is beneficial for all people, including men, we need a better understanding of what helps with comfort and motivates men to engage in mindfulness-based practices.

Hypothesis Development

I utilize the theory of planned behavior to better understand the mechanism of the relationship between gender and intention to sign up for a mindfulness-based program.

Theory of Planned Behavior

The TPB is a well-established theory utilized to predict people's participation in a wide variety of health-related behaviors such as exercise, smoking, HIV prevention, and mammography utilization (Montaño & Kasprzyk, 2015). The TPB suggests that three factors—attitudes, social norms, and self-efficacy—predict people's intentions, which then predicts their behaviors (Ajzen, 1991). Attitudes refer to the extent to which a person views the target behavior as favorable or unfavorable. For example, some may view engaging in mindfulness as beneficial to their health while others may view it as ineffective. Social norms refer to how a person views other's attitudes about the target behavior. Some may feel a social pressure to engage or not engage in mindfulness-based practices. Finally, self-efficacy refers to the extent to which a person believes they can execute the target behavior. Some may view participation in mindfulness-based practices as easy while others may view it as challenging. According to the TPB, these three factors predict intention or willingness to engage in these behaviors, which then predict performance of the actual behavior.

Four studies have utilized TPB to explain mindfulness behaviors, supporting the usefulness of this framework to understand this behavior in general (Beattie et al., 2019; Crandall et al., 2019; Jones et al., 2022; Kim et al., 2013). Therefore, consistent with the TPB and previous research, I propose that

H1: Intent to sign up for a mindfulness-based course is higher when people hold more positive attitudes about mindfulness (1a), social norms endorsing mindfulness (1b), and self-efficacy for doing mindfulness (1c).

Gender Gap in Mindfulness Use

As previously mentioned, data suggests that women are more likely than men to utilize mindfulness-based practices as clients, practitioners, and even research participants (Keshet & Simchai, 2014; Bodenlos et al., 2017; Dryden & Still, 2006; Eichel et al., 2021; Waldron et al., 2018). Because this gender gap in mindfulness interest serves as the foundation of my study, I will test this assumption by proposing that

H2: Men are less likely than women to intend to sign up for a mindfulness-based course.

According to the TPB, the gender difference in utilization of mindfulness-based practices indicates gender differences in the constructs of attitude, social norms, and self-efficacy (Ajzen, 1991). This gender difference in the TPB constructs has been theorized to stem from adherence to traditional gender norms and avoidance of gender-role conflict. Contradicting stereotypical gender norms can lead to negative emotional, cognitive, and behavioral consequences, and thus individuals are motivated to act within the established norms (Addis & Mahalik, 2003). Because

mindfulness-based practices and psychological health interventions, in general, are considered soft or weak, it contradicts the masculine standards of staying independent, strong, and non-emotional (Krick & Felfe, 2020). This discrepancy in the societal conceptualization of mindfulness and masculinity may lead men to hold skeptical and cynical attitude towards mindfulness, which in turn may also reduce their intention to engage in a mindfulness-based practice. This is consistent with general research findings that for men, high conformity to traditional masculine norms is linked to less help-seeking behavior and unfavorable attitudes toward seeking psychological support (Addis & Mahalik, 2003).

In addition to personal attitudes about mindfulness, the discrepancy in mindfulness and masculine stereotypes may also influence social norms and how others view mindfulness. For example, it is possible that men are concerned how they will be perceived by others if they choose to engage in a practice that is not considered masculine by society (Krick & Felfe, 2020). On the other hand, women may experience less resistance since the nurturing connotations of mindfulness does not contradict their traditional gender role. Therefore, gender differences in social norms or the extent to which mindfulness is endorsed by those around them can influence their utilization of mindfulness.

Finally, the clash between mindfulness and masculine stereotypes may impact gender differences in self-efficacy for mindfulness-based practices. Because mindfulness is dominantly practiced and taught by women (Keshet & Simchai, 2014), more men might believe that mindfulness is not for people like them. This may lead these individuals to doubt their ability to successfully engage, learn, and practice mindfulness. On the other hand, more women may have a higher sense of self-efficacy because they see that other women are successful in utilizing mindfulness-based practices. This is consistent with research that suggests gender role conflict

negatively impacts the self-efficacy of male counselor trainees (Wester & Vogel, 2002). The lack of self-efficacy in men may encourage them to avoid practicing mindfulness-based practices.

While no study has utilized the TPB constructs to explain gender differences in intention to participate in mindfulness-based programs, other studies have applied TPB to explore gender differences in other health-related behaviors (e.g., Emanuel et al., 2012; Liu et al., 2021; Wang & Wang, 2015). For instance, one study found that self-efficacy was linked to smoking cessation intention for men but not women (Liu et al., 2021). Additionally, Emmanuel et al. (2012) found that gender differences in TPB constructs of social norms and self-efficacy significantly explained the gender differences in fruit and vegetable intake.

H3: The gender difference in the intention to sign up for a mindfulness-based course is mediated by positive attitudes about the value of mindfulness (3a), social norms for men doing mindfulness (3b), and self-efficacy for doing mindfulness (3c).

Chapter 2

Study 1 Methods

Two studies were conducted. In Study 1, I tested basic assumptions about the TPB and gender differences in intention to sign up for a mindfulness-based class. Additionally, I examined the gender differences in attitude, social norms, and self-efficacy as well as how these constructs impact an individual's intention to sign up for a mindfulness-based class. Based on the results of Study 1, I conducted an experimental research design for Study 2. I manipulated the TPB constructs to understand how to best market mindfulness-based programs to male students.

Study 1 Participants

For Study 1, 213 undergraduate students from the Pennsylvania State University were recruited through the psychology department's subject pool. Students who were 18 years or older were eligible to participate. After IRB approval was obtained, the study was uploaded to the subject pool website. This study was posted alongside many other studies, and students had the autonomy to choose which studies to participate in. Participants received partial course credit for their participation. Alternate research studies and assignments were available for those that did not want to participate in this study.

Majority of the sample identified as female (79.8%) and 19.7% identified as male. In terms of racial and ethnic composition, majority were Caucasian (71.8%) with 5.6% Asian, 4.7% Black, and 3.3% Latinx/Hispanic. Most of the participants were first-year students (76.1%) with 15% second-year, 6.1% third year, and 2.3% fourth year.

Study 1 Procedure and Design

An online survey was utilized for this study. Eligible participants accessed the survey through the subject pool website. After reading the consent form, participants provided informed consent to move forward with the study. The consent form explained that the purpose of this study was to examine their interest in health-related behaviors. Participants first answered demographic questions, and then, they were asked to rate their likelihood of signing up for different types of general education health and wellness classes—fitness-based, knowledge-based, and mindfulness-based course. They also reported their frequency of using mindfulness-based practices.

Participants were then provided the definition of mindfulness and asked to imagine the opportunity to take a general education health and wellness course on mindfulness. They then answered questions about their intention, attitudes, perceived norms, and self-efficacy regarding this course.

Study 1 Measures

The TPB constructs listed below were operationalized utilizing the methodology developed by Ajzen (2002). See Appendix A for list of items.

Attitude. Six items were used to assess participant attitude towards mindfulness, specifically the extent to which they believed mindfulness was effective. Participants were asked about the likelihood of the mindfulness class leading to different outcomes such as improved wellbeing and improved academic performance. Each item was measured on a seven-point scale

ranging from “extremely unlikely” to “extremely likely,” and higher scores indicated a more favorable attitude towards mindfulness.

Social Norms. Four items were utilized to assess social norms surrounding the practice of mindfulness. Injunctive norms were measured by assessing the extent to which people in their life approve of their participation in a mindfulness-based class. Descriptive norms were measured by assessing the extent to which people in their life engage and utilize mindfulness-based practices. Each item was measured on a seven-point scale ranging from “strongly disagree” to “strongly agree,” and higher scores indicate higher level of social support and approval for engaging in mindfulness.

Self-Efficacy. Five items were utilized to assess self-efficacy and the extent to which they believed they were capable of committing to this class and learning from it. An example item includes “how certain are you in your ability to learn different mindfulness techniques?” Each item was measured on a five-point scale ranging from “none at all” to “a great deal” with higher scores indicating higher levels of confidence regarding their ability to learn and practice mindfulness.

Intention. One item was utilized to assess intention or willingness to participate in a mindfulness-based course. Participants were asked to rate the likelihood of signing up for a mindfulness-based class on a continuous scale of 0 to 100. Additionally, at the beginning of the survey, they were asked to rate the likelihood of signing up for different types of General Education Health and Wellness Classes—fitness-based, knowledge-based, and mindfulness-based—so mindfulness can also be compared to other types of behavior.

Chapter 3

Study 1 Results

Factor Analysis

The EFA results indicated that three factors explained over 66.99% of the variance for the Theory of Planned Behavior items. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.88, suggesting that the sample was adequate, and Bartlett's Test of Sphericity showed a p -value of <0.001 . One item from the subjective norms subscale was dropped to improve reliability and factor structure. Based on the structure matrix, the remaining loadings were all above the minimum cutoff (.40), with loadings > 0.74 for factor 1 (attitudes), with loadings >0.56 for factor 2 (social norms), and $>.71$ for factor 3 (agency). The reliability for all subscales were relatively high (attitudes: $\alpha = .92$; subjective norms: $\alpha = .93$; perceived behavioral control: $\alpha = .79$). Items were averaged for each of the four constructs.

Theory of Planned Behavior

A multiple linear regression was conducted to test the Theory of Planned Behavior and predict intention to sign up for a mindfulness class based on attitude, social norms, and control. The model explained 37.0% of the variation in intention of signing up for mindfulness class. This model including the three constructs was significantly useful in explaining intention, $F(3, 205) = 40.14, p < 0.001$. With one-unit increase in attitude, intention increases by 0.82, which was not found to be a significant change, $t(205) = 0.46, p = 0.64$. Therefore, hypothesis 1a was rejected. However, with one unit increase in self-efficacy, intention increased significantly by

15.34, $t(205) = 7.17$, $p < 0.01$, and with one unit increase in social norms, intention increased significantly by 3.15, $t(205) = 2.19$, $p < 0.05$. Therefore, hypothesis 1b and 1c were supported. Both self-efficacy and social norms were significant predictors of intention while attitude was not. Results of the linear regression analysis can be found in Table 1.

Table 1

Results of Linear Regression Analysis with Simultaneous Entry

Variable	Beta	SE	95% CI		β	p
			LL	UL		
Constant	-14.65	8.91	-32.22	2.92		0.10
Attitude	0.82	1.78	-2.68	4.32	0.03	0.65
Social Norms*	3.15	1.44	0.31	5.99	0.14	0.00
Self-Efficacy*	15.34	2.14	11.12	19.56	0.50	0.03

Note. $N = 209$. Beta = unstandardized regression coefficient; SE = standard error of the coefficient; β = standardized regression coefficient; CI = confidence interval; LL = lower limit; UL = upper limit. * $p < 0.05$.

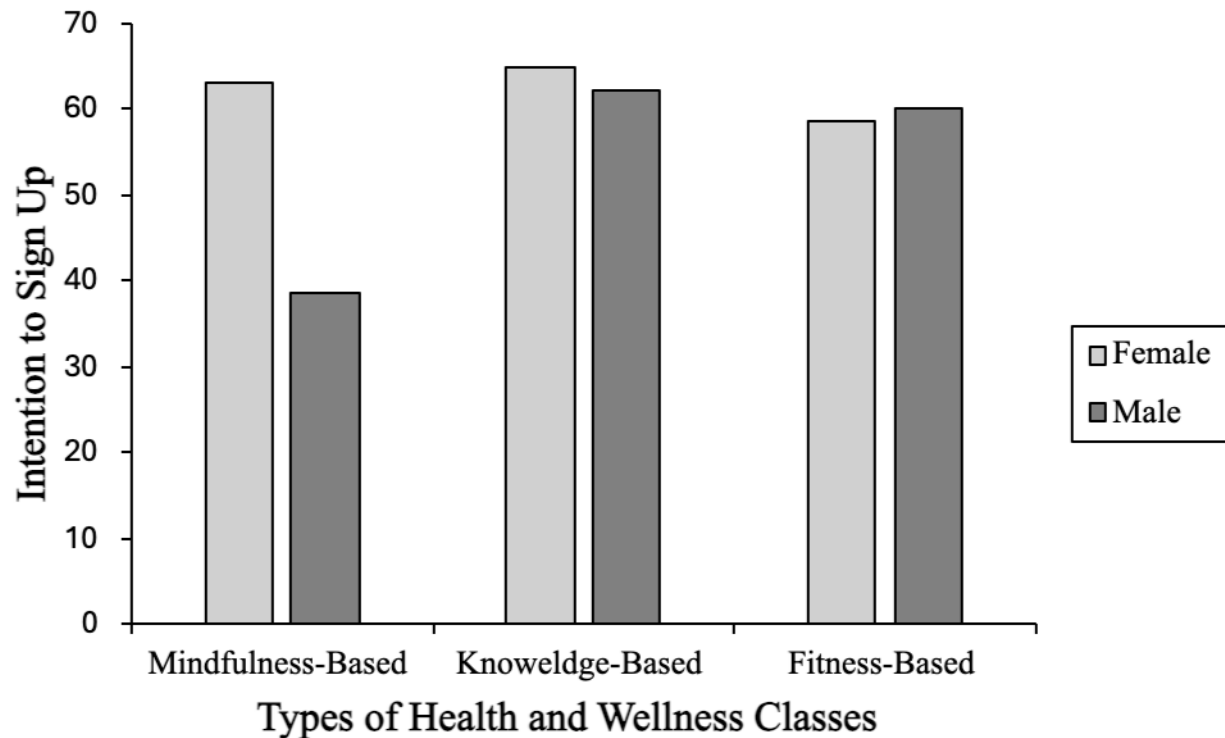
Intention for Mindfulness

Consistent with prior research and our hypothesis 2, an independent samples t-test indicated significant gender differences in intention towards mindfulness utilization, $t(206) = -4.58$, $p < 0.01$. Women ($M = 64.74$, $SD = 26.04$) were more likely to sign up for a mindfulness-based course than men ($M = 43.65$, $SD = 26.84$).

Based on gender norms, is possible that women are more likely to seek preventative care or social opportunities of any sort. To determine if the gender difference was unique for mindfulness, we explored gender differences in the intentions to sign up for other types of health and wellness courses. Independent samples t-tests revealed that there were no significant gender differences in intention to sign up for a knowledge-based health and wellness class, $t(202) = -0.60, p = 0.55$, or fitness-based health and wellness class, $t(207) = 0.27, p = 0.79$. Thus, the proposed gender difference is specifically about mindfulness behaviors as illustrated in Figure 1.

Figure 1

Gender and Intention to Sign Up for Health and Wellness Classes



Indirect Effects

As expected, significant gender differences were found for all three TPB constructs. Attitude towards mindfulness was more positively held for women ($M= 5.68$, $SD = 1.09$) than men ($M= 5.26$, $SD = 1.02$), $t(210)$, $p = 0.02$. Women perceived more favorable social norms regarding mindfulness ($M= 1.04$, $SD = 1.24$) than men ($M= 0.48$, $SD = 1.17$), $t(210) = -2.61$, $p = 0.01$. Lastly, women also reported higher levels of self-efficacy ($M = 5.04$, $SD = 1.24$) than men ($M = 4.48$, $SD = 1.17$), $t(210) = -3.30$, $p = 0.00$. Descriptive Statistics and reliability coefficients for gender and TPB constructs are provided in Table 2.

Table 2

Descriptive Statistics and Correlations for Gender and TPB constructs

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	1	2	3	5	5
1. Gender	212	0.80	0.40	—				
2. Attitude	213	5.60	1.09	0.16*	—			
3. Social Norms	213	4.92	1.24	0.18**	0.40**	—		
4. Self-Efficacy	213	3.58	0.92	0.22**	0.51**	0.48**	—	
5. Intention	209	60.54	27.44	0.30**	0.37**	0.40**	0.59**	—

Note. Gender; 1 = female, 0 = male. * $p > 0.05$. ** $p > 0.01$.

Using PROCESS Model 80 (Hayes, 2018), I examined whether gender differences in the TPB constructs (attitudes, social norms, and self-efficacy) explain gender differences in intention to sign up for a mindfulness-based course. This mediation model viewed gender as the predictor variable, intention to sign up as the dependent variable, and attitudes, social norms, and self-efficacy as potential mediators. Results revealed a significant indirect effect of gender on

intention to sign up for a mindfulness-based course through self-efficacy, [$b = 7.15$, 95% CI = (2.74, 12.31)]. However, no significant indirect effect of gender on intention was found through social norms, [$b = .02$, 95% CI = (-.02, .08)] or attitude, [$b = .01$, 95% CI = (-.04, .07)], and there was a significant direct effect of gender on intention to sign up with these mediators included [$b = 12.34$, 95% CI = (4.72, 19.97)]. Thus, self-efficacy partially mediated the relationship between gender and intention to sign up supporting Hypothesis 3c but not Hypothesis 3a and 3b.

Chapter 4

Study 1 Discussion

In conclusion, study 1 supported our assumption that interest in mindfulness-based practices differ by gender and that the theory of planned behavior helps explain this gender difference. Consistent with our prediction, men were significantly less likely to sign up for the mindfulness-based class than women. Additionally, gender difference was specific to mindfulness-based courses and not applicable to knowledge-based courses (e.g., learning about nutrition or effects of alcohol) or fitness-based classes (e.g., learning how to swim or play golf). Although prior research indicates that men are less likely to seek or engage in health-related behaviors (Addis & Mahalik, 2003), mindfulness-based practices may be particularly gendered. This supports the need to further investigate and consider the context of gender when promoting and implementing mindfulness-based programs. Additionally, in study 1, self-efficacy emerged as the strongest predictor of intention to sign up for a mindfulness-based program, and the relationship between gender and intention is partially mediated by self-efficacy. Therefore, it may be useful to market mindfulness-based programs in a way that increases self-efficacy. For example, programs may be adapted to suit the needs of beginners or be designed in a way that is time efficient.

In study 1, the sample size was predominantly women due to the nature of the sampling pool. Students were recruited from psychology courses that were female-dominated. The concept of mindfulness was not included in the recruitment material, so the topic was not the reason for less male representation. There is a need to gather more data from men to truly understand the psychosocial motivation behind their intention to sign up for a mindfulness-based course.

Additionally, causal claims cannot be made based on the research design of study 1, which relied heavily on correlations. Researchers have called for the use of experimental studies to test the TPB constructs (Sniehotta, 2009) as well as test male interest in mindfulness recruitment strategies (Simpson et al., 2019). Therefore, to further understand male interest in mindfulness through the TPB perspective, we will conduct study 2 using an experimental design with all male participants.

Chapter 5

Study 2

Through an experimental design, study 2 aims to understand how to increase male interest in mindfulness utilizing the TPB constructs. Study 1 showed that social norms and self-efficacy were significant predictors of intention to sign up for a mindfulness-based course; however, attitude was not. Based on these results, I sought to understand whether increasing male students' beliefs that they are capable of doing the mindfulness class (i.e., self-efficacy), or increasing male students' sense that men are welcomed and attend the mindfulness class (i.e., social norms) would increase their interest in taking the class compared to simply reminding them that mindfulness is beneficial which is held constant across conditions (control-attitude).

Based on the results of study 1, I propose that

H4: Classes that focus on male student involvement (social norms) will increase male participants' intention to engage in mindfulness compared to the control group.

H5: Classes that focus on the ease of mindfulness (self-efficacy) will increase male participants' intention to engage in mindfulness as compared to the control group.

Chapter 6

Study 2 Methods

Study 2 Participants

For Study 2, 286 undergraduate students were recruited utilizing the same method as Study 1 through the psychology department's subject pool at the Pennsylvania State University. The study was posted on the subject pool website and only visible to male students older than 18. Participants received partial course credit for their participation. Alternate research studies and assignments were available for those that did not want to participate in this study. IRB approval was obtained.

All participants were male. In terms of racial and ethnic composition, majority were Caucasian (65.4%) with 11.5% Asian, Latinx/Hispanic, and 4.9% Black. Majority of the participants were first-year students (63.3%) with 20.3% second-year, 10.1% third year, and 5.2% fourth year.

Study 2 Procedure and Design

Eligible participants accessed the online survey through the subject pool website. After reading the consent form, participants provided informed consent to move forward with the study. The consent form explained that the purpose of this study was to examine their interest in health-related behaviors. Participants first answered demographic questions, and then, they were asked to rate their likelihood of signing up for a mindfulness-based course. All participants were informed of the definition of mindfulness as well as its scientifically supported benefits. Participants were then randomly assigned to one of three conditions. All participants were asked to read a brief description of the mindfulness-based course and view the attached flyer carefully.

They were asked to picture the opportunity of taking this 3-credit course and informed that they will later be asked to offer their opinion regarding this course.

Manipulation of conditions. All conditions stated that the classes will be led by a qualified instructor and listed the benefits of mindfulness. Beyond that, there were three versions that represented three conditions. Participants assigned to the **social norms condition** saw a flyer titled “Mindfulness for Male Students,” and read the following description with images:

This evidence-based class is **designed specifically for MALE college students**. Research has shown that **mindfulness benefits men** emotionally, mentally, and physically. Athletes such as **Michael Jordan and Kobe Bryant credit their mindfulness practice for their success** in their careers. **A qualified MALE instructor** will teach you effective techniques to integrate mindfulness into your life as a college student and beyond.

Participants assigned to the **self-efficacy** condition saw a flyer titled “Mindfulness for Busy Students,” and read the following description with images:

This evidence-based class is designed for **ALL people, BEGINNERS included**. Although some may view mindfulness-based practices as time consuming or difficult, studies have shown that even just **FIVE MINUTES** of mindfulness can lead to physical, emotional, and mental benefits. Focusing on **ease and efficiency**, your **qualified instructor** will teach you **quick, simple, and effective mindfulness techniques** to integrate into your busy life as a college student and beyond.

Lastly, the participants assigned to the control group saw a flyer titled “Mindfulness for College Students.” read the following description with images:

Your **qualified instructor** will teach you **effective techniques** to integrate mindfulness into your life as a college student and beyond.

After viewing the course description and flyer, participants completed a manipulation check to ensure they interpreted the intervention accurately. They then answered questions about their attitude, social norms, self-efficacy, and intention. Flyers for each condition is provided in Appendix B.

Study 2 Measures

Attitude. The same six items as Study 1 were utilized to assess participant attitude towards mindfulness, specifically the extent to which they perceived mindfulness as beneficial. However, for Study 2, I utilized a five-point scale instead of seven. The six items were averaged into a composite ($\alpha = .87$).

Social Norms. The items for social norms were slightly altered. Study 1 included four items measuring the approval of people close to the participants as well as people in their academic field. For study 2, I utilized two items to focus on the approval of family and friends. I also changed this to a five-point scale instead of seven. The two items were averaged into a composite ($\alpha = .63$).

Self-Efficacy. The same five items were utilized as Study 1. The five items were averaged into a composite ($\alpha = .91$).

Intention to sign up for mindfulness. To assess within-person changes of the intervention, I asked the same item from Study 1 both before and after the intervention: “likelihood of signing up for a mindfulness-based general education course before graduation.” To assess between-group differences in intentions for mindfulness after the intervention, I added five other items to create a composite. These items ask about intentions for mindfulness at other

time points and in other ways (i.e., next semester, in their free time, a different class, through an app, and yoga class with mindfulness components). All items were asked on a continuous scale from 0 to 100 (0 = definitely not, 100 = definitely yes). The six items were averaged into a composite ($\alpha = .87$).

Chapter 7

Study 2 Results

Exploratory Factor Analysis

The 19 items (see Appendix C) of the four multi-item measures for mindfulness attitudes, social norms, self-efficacy, and intentions were analyzed in an exploratory factor analysis (EFA) with varimax rotation. The EFA results indicated that four factors explained over 67.52% of the variance. Due to issues with cross-loading, one item (i.e., likelihood of taking a different mindfulness class) from the intention subscale was dropped. The five remaining items were averaged into a composite ($\alpha = .83$). Based on the rotated component matrix, the intended item loadings for each factor were all above a minimum cutoff (.40), with loadings > 0.67 for factor 1 (attitudes), with loadings > 0.78 for factor 2 (social norms), $> .70$ for factor 3 (efficacy), and $> .51$ for factor 4 (intention) and no cross-loadings on unintended factors greater than 0.40.

Manipulation Checks

There were three conditions, a control condition that simply referred to the benefits of mindfulness, and two experimental conditions that were intended to increase perceived ease or efficacy of mindfulness training, and perceived social comfort for men with male-focused mindfulness training. To confirm that conditions were manipulated effectively, respondents rated items assessing their perceived ease and comfort.

Efficacy condition. Participants rated the extent to which they viewed mindfulness as time consuming or time efficient (1 = extremely time consuming to 5 = extremely time efficient), with higher scores signifying higher efficiency. While a one-way ANOVA did not show

significant overall effect, $F(2, 280) = 2.10, p = 0.125$, participants assigned to the efficacy condition perceived mindfulness class as more time efficient ($M = 3.59, SD = 0.99$) than those in the social norms ($M = 3.40, SD = 0.90$) and control group ($M = 3.31, SD = 0.97$). LSD's post hoc test supported a significant difference between the efficacy condition and control group, [95% CI = (0.0063, 0.5515), excluding 0].

Participants in the efficacy condition were explicitly informed that this mindfulness-based class is designed for beginners. Respondents reported the extent to which they viewed this class level as beginner or advanced (1 = extremely beginner, moderately beginner, neither, moderately advanced, 5 = extremely advanced). Although the efficacy group rated the class as being more beginner-level ($M = 2.12, SD = 0.87$) than the control ($M = 2.26, SD = 0.85$), it did not differ from the social norms group ($M = 2.12, SD = 0.87$), and overall the conditions did not significantly differ on this rating, $F(2, 281) = 1.323, p < 0.27$. However, as an attention check, I eliminated 7 participants in this condition who rated the class as moderately or extremely advanced.

Social norm condition. We asked about the likelihood of the instructor being a man on a 0 to 100 scale, with an option to select "not sure." Those that selected "not sure" were excluded from the analysis. A one-way ANOVA analysis showed that there were significant between groups effect, $F(2, 274) = 50.76, p < .01$. As expected, participants in the social norms condition assumed higher likelihood of having a male instructor ($M = 64.30, SD = 28.27$) than the self-efficacy ($M = 38.06, SD = 14.54$) and control group ($M = 35.42, SD = 14.97$). LSD's post hoc test revealed that participants in the social norms perceived a higher likelihood of having a male instructor than both the control [95% CI = (22.63, 35.14), excluding 0] and efficacy groups [95%

CI = (20.02, 32.47), excluding 0], and no significant difference was found between the control and efficacy group control [95% CI = (-8.88, 3.60), including 0].

Additionally, participants in the social norms condition were explicitly informed that this mindfulness-based class is designed specifically for male students. I asked respondents to guess the gender ratio of the classroom based on the course description and flyer (1 = mostly female, 0 = equally male/female, 1 = mostly male). As intended, fewer participants said the social norm condition was female dominated ($N = 26$) than the efficacy ($N = 62$) or control ($N = 72$) conditions. As a quality control check, I eliminated the 26 participants who inaccurately indicated the classroom gender ratio will be mostly female.

Attitudes: Constant. Finally, we checked to ensure that attitude was consistent across all three groups. We aggregated the six items measuring the extent to which they believed mindfulness was effective ($\alpha = 0.87$, factor loading > 0.67). A one-way ANOVA confirmed that there was no significant difference in attitude between the groups, $F(2, 281) = 0.037$, $p = 0.964$. In other words, all three groups perceived the benefits of mindfulness similarly.

These results suggest that we were able to successfully manipulate the efficacy and social norms condition so that a significant difference was recorded in comparison to the control group. As intended, those in the self-efficacy condition perceived the mindfulness class as more time-efficient than the control (though not the social norms condition) and those in the social norms condition perceived the mindfulness class as male-led than the other two conditions. All three conditions were similar in the favorable attitudes held about mindfulness.

Manipulation checks as quality checks. Overall, to ensure quality of data, I eliminated 33 participants with responses to the manipulation checks that suggested they had not paid

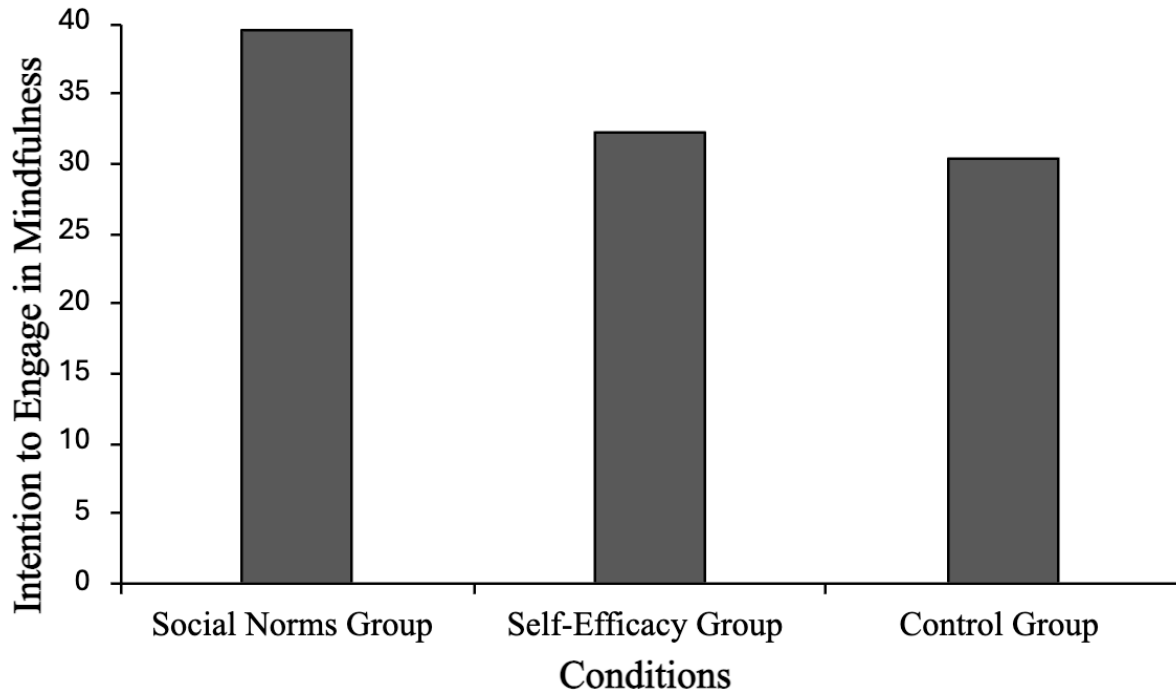
attention to or understand the instructions in the manipulations. Thus, 92.5% of the efficacy group respondents ($N = 86$) and 73.2% of the social norms group ($N = 71$) were retained.

Intervention Effectiveness

A one-way ANOVA was conducted to assess group differences in intention to engage in mindfulness (see Figure 2). Results indicated significant difference in intention to engage in mindfulness between groups, $F(2, 248) = 3.93, p < .05$. Participants in the social norms condition showed higher levels of intention to engage in mindfulness ($M = 39.54, SD = 22.90$) than those in the efficacy group ($M = 32.32, SD = 22.48$) or control group ($M = 30.33, SD = 19.78$). The LSD post hoc test showed that the difference in intention was significant between the social norms group and control group, [95% CI = (2.55, 15.87), excluding 0] as well as the social norms and efficacy group [95% CI = (0.35, 14.08), excluding 0]. Participants in the social norms condition were significantly more likely to show higher levels of interest in mindfulness-based practices than the control or efficacy group. Therefore, hypothesis 4 was supported indicating that increasing social norms endorsement led to higher levels of intention to engage in mindfulness-based practices. On the other hand, the LSD post hoc test revealed that the difference in intention between self-efficacy and control group was not significant, [95% CI = (-8.35, 4.36), including 0]. Although participants in the self-efficacy group showed higher levels of interest to engage in mindfulness-based practices than the control group, the evidence was not statistically significant. Thus, I reject hypothesis 5 that the efficacy manipulation increases male participants' intention to engage in mindfulness.

Figure 2

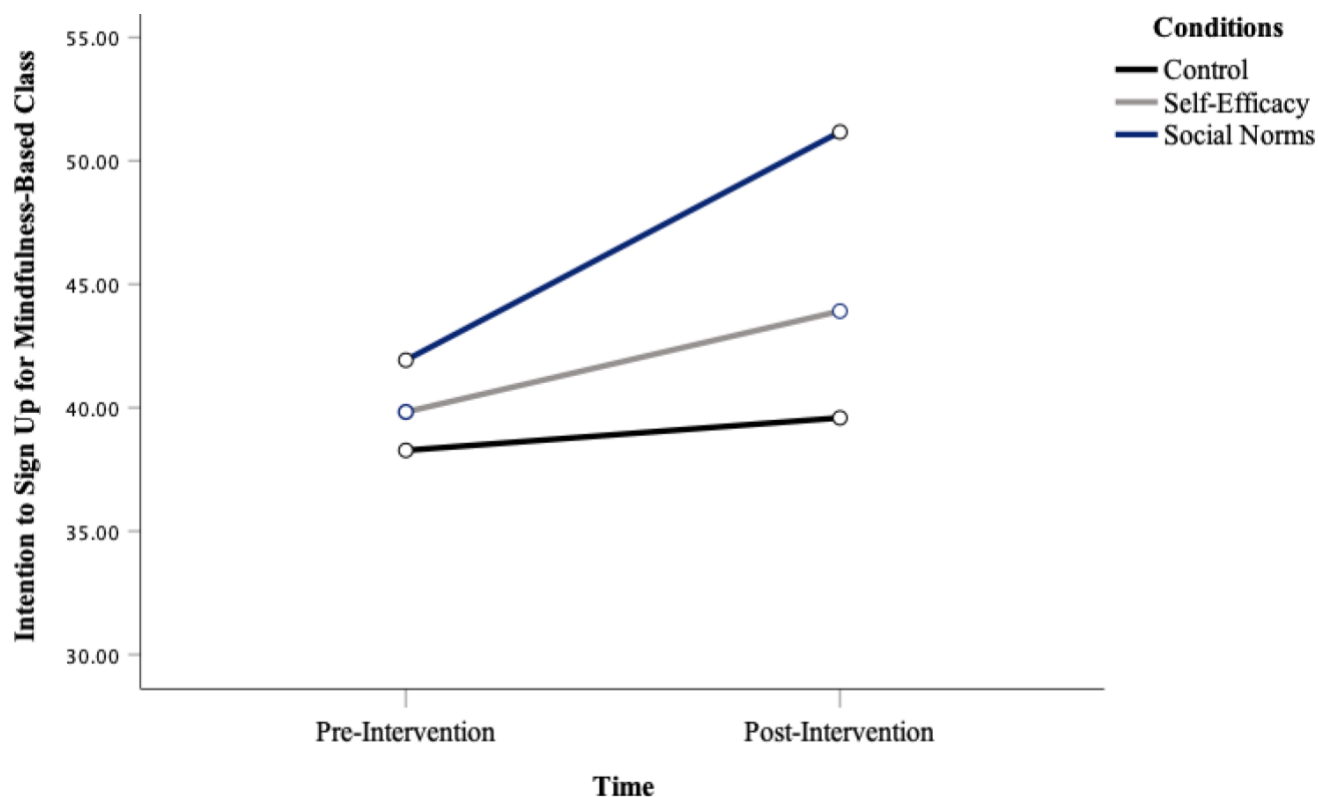
Differences in Intention to Sign Up for a Mindfulness-Based Class



The above tests are comparing between-condition responses. As another test of my predictions, I also examined changes in intention, before and after the intervention utilizing repeated measures. For the control group, intention increased by 1.33 after reading the flyer ($M_{pre} = 38.27$ and $M_{post} = 39.60$). On the other hand, intention increased by 4.08 for the self-efficacy group ($M_{pre} = 39.83$ and $M_{post} = 43.91$), and 9.24 for the social norms group ($M_{pre} = 41.93$ and $M_{post} = 51.17$). Testing within-subjects contrasts showed that the difference in intention change for the control group and self-efficacy was not significant, [95% CI = (-10.47, 4.59), including 0] while the difference in intention change for the control and social norms groups trended towards significant, [95% CI = (-0.25, 15.49), including 0] as illustrated in Figure 3.

Figure 3

Changes in Intention to Sign Up for a Mindfulness-Based Class Pre and Post Intervention



Post-Hoc Analyses

To confirm if the reason participants assigned to the social norms reported significantly higher levels of intention than the control group was due to the mechanisms outlined in TPB as expected, I conducted exploratory mediation analyses. Using PROCESS Model 80 (Hayes, 2018), I examined whether the TPB constructs (attitudes, social norms, and self-efficacy) help explain group differences in intention to engage in mindfulness-related practices or activities.

This mediation model viewed the dummy coded conditions (social norms vs control) as the independent variable, intention to sign up as the dependent variable, and attitudes, social

norms, and self-efficacy for mindfulness as simultaneous mediators. Results revealed a significant indirect effect of the social norms condition on intention to sign up for a mindfulness-based course through perceived self-efficacy, [$b = 3.79$, 95% CI = (0.03, 7.91), excluding 0]. However, attitude [$b = -0.001$, 95% CI = (-0.57, 0.64), including 0] and social norms [$b = 1.02$, 95% CI = (-0.34, 3.03), including 0] was not a significant mediator in the relationship between the social norms manipulation and intention. Using PROCESS Model 4, I examined each of the mediators separately. Consistent with prior analysis, self-efficacy was the only significant mediator [$b = 4.86$, 95% CI = (0.29, 8.52), excluding 0]; attitude [$b = 0.063$, 95% CI = (-2.01, 2.59), including 0] and social norms [$b = 1.70$, 95% CI = (-0.51, 4.23), including 0] were not significant mediators. This result shows that creating a male-dominated environment encourages male interest in mindfulness-based practices, and this outcome is driven by an increased sense of self-efficacy rather than social norms or attitude.

Additionally, I further examined the mechanism for the efficacy manipulation. This mediation model viewed the dummy coded conditions (efficacy vs control) as the independent variable, intention to sign up as the dependent variable, and attitudes, social norms, and self-efficacy, for mindfulness as simultaneous mediators. Results using PROCESS model 80 revealed that self-efficacy [$b = 2.04$, 95% CI = (-1.56, 5.71), including 0], social norms [$b = 0.35$, 95% CI = (-1.55, 2.19), including 0], and attitude [$b = 0.04$, 95% CI = (-0.65, 0.62), including 0] did not serve as significant mediators in the relationship between the efficacy manipulation and intention to sign up. When examining the mediators separately, PROCESS model 4 also revealed that self-efficacy [$b = 2.46$, 95% CI = (-1.47, 6.61), including 0], social norms [$b = 0.42$, 95% CI = (-2.18, 3.11), including 0], and attitude [$b = -0.19$, 95% CI = (-2.72, 2.18), including 0] were not significant as mediators when examined separately. Therefore, it seems that the TPB constructs

did not help explain the difference in intention between control and efficacy group. Descriptive statistics and reliability coefficients are provided in Table 3.

Table 3

Descriptive Statistics and Correlations for Conditions and TPB Constructs

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1. Social Norms Group	167	0.43	0.50	—					
2. Efficacy Group	182	0.47	0.50	a.	—				
3. Attitude	251	3.82	0.69	0.01	-0.02	—			
4. Social Norms	252	4.03	0.79	0.12	0.03	0.43**	—		
5. Self-Efficacy	251	3.09	0.92	0.16*	0.08	0.50**	0.30**	—	
6. Intention	251	33.60	21.86	0.21*	0.05	0.36**	0.40**	0.64**	—

Note. Social Norms Group; 1 = Social Norms Group, 0 = Control. Efficacy Group; 1 = Efficacy Group, 0 = control. * $p > 0.05$. ** $p > 0.01$. a = no correlation for two categorical variables.

Chapter 8

Study 2 Discussion

The findings of Study 2 revealed that when marketing mindfulness-based programs, the social norms condition, which focused on creating a male-dominated environment, was significantly more effective than the self-efficacy group and the control group in increasing male intention in engaging with mindfulness. Additionally, manipulating self-efficacy was not any more effective than the control groups in increasing male intention to sign up for a mindfulness-based class. Consistent with findings from Study 1, we found that self-efficacy mediated the relationship between the social norms group and intention to engage in a mindfulness-based practice. On the other hand, the TPB constructs was not useful in explaining the difference in intention between the control and self-efficacy group. This show that self-efficacy can be cultivated by creating an environment that feels inclusive to the target audience. In fact, my research suggests that this method may be even more effective than explicit advertising of efficacy (e.g., "mindfulness is quick and easy"). My results also show that simply stating the benefits of mindfulness is not enough to motivate men to participate in mindfulness-based practices.

Chapter 9

General Discussion

Research has indicated that mindfulness-based practices lead to many physical, psychological, interpersonal, and cognitive benefits (Chiesa et al., 2011; Keng et al., 2011; Khoury et al., 2013; Lomas et al., 2019; Vonderlin et al., 2020; Zhang et al., 2021). Despite its favorable outcomes relevant to our modern society, men are significantly less likely than women to utilize mindfulness-based practices (Rhee & Harris, 2017; Upchurch & Johnson, 2019), and little is known about the psychosocial factors that contribute to this gender disparity. Our study aims to understand why this gender gap exists and how to increase male interest in mindfulness-based programs. Understanding how to encourage male interest in mindfulness-based practices is important in not only improving men's holistic health (Barrett, 2017; Hoeve et al., 2021; Krick & Felfe, 2020; Simpson et al., 2019), but also diversifying research samples and establishing a balanced perspective in the mindfulness literature (Bodenlos et al., 2017; Dryden & Still, 2006; Eichel et al., 2021; Waldron et al., 2018).

I utilized the theory of planned behavior to examine the psychosocial factors that influence one's interest in mindfulness-based programs. The TPB proposes that attitudes, social norms, and self-efficacy impacts people's intentions and thus behaviors (Ajzen, 1991). I extend this theory by considering the role of gender and applying it to mindfulness, an activity that is often characterized as soft and contradicts masculine stereotypes (Krick & Felfe, 2020).

In Study 1, I confirmed the presence of a gender gap in the intention to sign up for a mindfulness-based course. Consistent with existing research (Rhee & Harris, 2017; Upchurch & Johnson, 2019), women were significantly more likely to sign up for a mindfulness-based class

than men. Additionally, we found that this difference was unique for mindfulness-based classes and not applicable to other knowledge-based and fitness-based health and wellness classes. These findings rule out the possibility that gender gaps exist generally for all health-related behaviors and support the need to closely examine the role of gender in interest for mindfulness-based practices.

I extend what is known about the gender gap in mindfulness interest by examining why this difference occurs. Based on the theory of planned behavior, results indicated that self-efficacy and social norms were significant predictors of intention for signing up for a mindfulness-based class, but attitude was not. Focusing on gender differences in intention, an indirect effect analysis showed that self-efficacy, but not social norms or attitude, partially mediated the relationship between gender and intention. Specifically, men were more likely to report lower levels of self-efficacy regarding the utilization of mindfulness-based practices, which then led to lower levels of intention to engage in mindfulness-based practices. In other words, when gender was considered, self-efficacy was the only significant predictor of intention for engaging in a mindfulness-based class.

For Study 2, we manipulated the TPB constructs to assess how we can best market mindfulness-based programs to increase male participation. The control condition highlighted the benefits of mindfulness, which was held constant for the other two conditions, the social norms condition highlighted a male-dominated classroom environment, and the self-efficacy condition highlighted the ease (in terms of effort and time) of the mindfulness training. Results found that the social norms condition was more effective than the control group and self-efficacy group in increasing male interest in mindfulness, while manipulating ease of the class was not more effective than the control group. Finally, we examined the underlying mechanism

of their intention to engage in mindfulness-based practices through the TPB perspective. Results indicated that participants in the social norms group showed higher levels of intention than the control group due to higher levels of self-efficacy, but not social norms or attitude. For the comparison between the control and efficacy group, the TPB constructs did not help to explain the difference in intention. Thus, across both studies we see evidence that (1) men tend to have lower self-efficacy for practicing mindfulness than women, (2) this belief explains why men are less willing to sign up for mindfulness than women, and (3) a more male-dominated and led class can help increase men's self-efficacy. This makes sense from a social cognitive theory (Bandura, 1986) perspective, seeing other men leading and taking mindfulness classes enhances belief the men can do this through vicarious learning.

Overall, these results indicate partial support for TPB to explain intention in the context of gender and mindfulness-based programs. Attitude, social norms, and self-efficacy were all positively correlated to intention to sign up for a mindfulness-based course, and self-efficacy emerged as the strongest predictor. Study 1 revealed that women held a more positive attitude towards mindfulness than men; however, further analyses indicated that gender differences in attitude does not help predict gender differences in intention to sign up for a mindfulness-based class. Additionally, while Study 1 showed that women perceived higher social endorsement of engaging in mindfulness than men, perceived social norms did not explain gender differences in mindfulness interest. Ajzen (2020) conceptualizes social norms as the approval of those important to the target individual such as family, friends, spouse, coworkers, and supervisors. In the context of conducting an experiment, this construct is somewhat limiting because it is challenging to manipulate the opinions of the people that are in the participants' lives. While Study 2 could not manipulate social norms in the way that it is often conceptualized (e.g., family

approval), it focused on creating a comfortable environment for male students with male instructors and peers. Results indicated that cultivating a male-dominated classroom environment is effective in increasing male intention to engage in mindfulness. This calls into question the conceptualization of social norms in TPB research. Although it is important to consider general support from those close to the individual, it may also be important to consider situational social norms. For example, male students may be reluctant to sign up for a mindfulness-based class not because they fear how their family and friends will perceive them, but because they may feel uncomfortable being the only man in a female-dominated space. For health-related behaviors that involve a physical and social space such as a mindfulness-based classes, the social norms and culture of that space may matter more than the social expectations outside of that.

Finally, in Study 1, self-efficacy emerged as the strongest predictor of gender differences in intention to sign up for a mindfulness-based class. In Study 2, results indicated that participants in the social norms group showed higher levels of self-efficacy than the control group, which led to higher levels of intention to engage in mindfulness. Interestingly, the condition that attempted to increase self-efficacy was not effective in increasing mindfulness interest as compared to the control group. This highlights the need to strategize more effectively ways to increase self-efficacy beliefs when marketing mindfulness-based programs.

This research offers practical implications that can help increase male interest and participation in mindfulness-based practices. First and foremost, practitioners should market mindfulness-based courses in a way that increases self-efficacy for the male audience. However, it may not be enough to explicitly state how quick and easy mindfulness can be. Rather, it may be helpful for men to have role models, or people that are like them that are successfully achieving and practicing mindfulness-based practices. It may be a particularly effective method

to create a comfortable environment for the target audience by utilizing male instructors and having a predominantly male group. Additionally, according to research findings, practitioners should avoid solely relying on the benefits of mindfulness as a persuasion tactic.

By understanding how to increase male participation in mindfulness-based practices, the benefits of mindfulness can be actualized. Considering the current crisis in men's mental and physical health (Affleck et al., 2018; Galdas et al., 2005), the utilization of a holistic wellness intervention is in dire need. Additionally, understanding how to encourage male participation in mindfulness-based practices can help scholars in the recruitment process of their research. By diversifying their samples to include men, mindfulness can be examined in a holistic light and expand its generalizability. My research may also have broader implications in minimizing the gender gap in other health-related behaviors such as help-seeking or prevention care as well as ways to increase self-efficacy for men in activities or occupations that are female-dominated or often conceptualized as being feminine.

Chapter 10

Strengths and Limitations

To my knowledge, my research is the first to explore gender differences in mindfulness interest through the theory of planned behavior. While a few have examined general interest in mindfulness through the TPB (Beattie et al., 2019; Crandall et al., 2019; Jones et al., 2022; Kim et al., 2013) and others have modified mindfulness programs for male use (Barrett, 2017; Simpson et al., 2019), they have not investigated systematically the psychosocial factors that influence the gender disparity in mindfulness utilization. Additionally, I conducted two studies. By confirming the gender gap and exploring the role of each TPB construct in Study 1, I was able to create a more nuanced research design in Study 2. Considering most TPB research is correlational (Sniehotta, 2009), implementing a randomized experimental design for Study 2 has helped strengthen the implications of my findings. My research also offers practical steps that mindfulness practitioners and scholars can utilize to recruit male clients and research samples.

However, there are also many limitations to my research study. For study 1, I was unable to recruit an even sample size for men and women due to the gender composition of our subject pool. This skewed sample may have influenced our results. Additionally, I measured intention using just one item, which focused on the intention to sign up for a mindfulness-based class but did not cover their general interest in learning or engaging in mindfulness-based courses outside of the class. In Study 2, some participants were unable to pass the manipulation checks, and as a result, were excluded from the final analyses. This may also indicate a need for an intervention that is more engaging beyond a description and flyer. There are also some inconsistencies in our findings. While self-efficacy emerged as the strongest predictor for gender differences in

mindfulness interest, the manipulation of the self-efficacy condition was proven ineffective. This suggests that either the manipulation was not strong enough or self-efficacy needs to be increased in other indirect ways such as the presence of a male instructor.

In general, both studies utilized undergraduate students, so it is questionable whether the results can be generalized to others such as older men. For undergraduate students, it is realistic to sign up for a 3-credit general education course on health and wellness. However, other men, especially those not in a formal educational setting, may not have the financial resources or time to commit to a mindfulness-based program regardless of their interest. Finally, most research on TPB includes measures regarding behavior (Ajzen, 1991), but we were unable to measure behavioral change due to the nature of a one-time online study.

Future research should incorporate behavioral measures as well as longitudinal research design to track mindfulness practice over time. For example, participants should periodically report how often they engage in mindfulness-based practices after the intervention. This step is necessary in solidifying intervention effectiveness. Additionally, experimental studies may consider implementing interventions that are more interactive and engaging such as experiencing a guided meditation or interacting directly with the male instructor. To manipulate self-efficacy, it may be more effective to manipulate the time and structure of the program (i.e., “5 minutes a day!”) instead of offering a 3-credit class, which could be considered a heavy time commitment. Lastly, men are not the only underrepresented population in mindfulness research (Biggers et al., 2020). We must also consider why other minorities may not engage in mindfulness-based practices and examine how to increase their participation while being aware of financial, educational, social, and cultural barriers that may exist. Understanding the complexities of

encouraging mindfulness-based practices is a step forward in cultivating a healthier future for all.

Appendix B Study 2 Flyers

Flyer for Social Norms Condition

SIGN UP FOR GEN ED HEALTH & WELLNESS COURSE:

MINDFULNESS FOR MALE STUDENTS



Learn evidence-based mindfulness and meditation techniques!

- Led by a qualified, male instructor
- Improve your wellbeing, relationships, and performance

Flyer for Self-Efficacy Condition

SIGN UP FOR GEN ED HEALTH & WELLNESS COURSE:

MINDFULNESS FOR BUSY STUDENTS



Learn quick and easy
mindfulness and meditation
techniques!

- Led by a qualified, beginner-friendly instructor
- Improve your wellbeing, relationships, and performance

Flyer for Control Condition

SIGN UP FOR GEN ED HEALTH & WELLNESS COURSE:

MINDFULNESS FOR COLLEGE STUDENTS



Learn evidence-based mindfulness and meditation techniques.

- Led by a qualified instructor
- Improve your wellbeing, relationships, and performance

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