UNIVERSITY OF CALIFORNIA

Santa Barbara

The Feasibility and Acceptability of an Online Mindfulness-Based Cognitive Therapy Intervention for Same-Sex Attracted Men

A dissertation submitted in partial satisfaction of the

requirements for the degree Doctor of Philosophy

in Counseling, Clinical, and School Psychology

by

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September 2016

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July 2016

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Professional Presentations

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Examples of Activities & Responsibilities

- Conducted guest lectures, led discussion groups, and co-facilitated a three hour outdoor experiential event to introduce students to career planning, career counseling theories, and to techniques and information related to career development and career planning
- Assisted students in defining their own career criteria and developing an action plan, based upon their Myers-Briggs Type Indicator and Strong Interest Inventory results, with measurable goals by the end of the quarter

Graduate Student Mentor. University of California, Santa Barbara, McNair Scholars Program. *June 2011 – September 2012*

Examples of Activities & Responsibilities

- Mentored first-generation and low-income undergraduate students who are underrepresented in the professoriate, through one-on-one sessions
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- Generated and led projects related to facilitating McNair Scholar graduate school preparation

Teaching Assistant and Discussion Section Leader. **Feminist Studies 20 – Women, Society, and Culture**. **University of California, Santa Barbara, Department of Feminist Studies.** *Spring 2011*

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- Conducted guest lectures and led discussion groups to help students think critically about the representations of femininity and masculinity, as well as the structures that surround ideas, beliefs, and actions

Honors, Awards, and Grants

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2011	**UCSB Resource Center for Sexual and Gender Diversity Schwab Textbook Scholarship**

Clinical Experience

University of Delaware, Center for Counseling & Student Development
Doctoral Intern *August 2015 – present*
Primary Supervisors: Karen Tsukada, Ph.D. & Soonhee Lee, Ph.D.

Examples of Activities & Responsibilities

- Conducted time-limited individual and group psychotherapy, initial assessment appointments, and case presentations
- Co-led the lesbian, bisexual, transgender, queer, and questioning process group, ***Living Out Loud***
- Co-led the emotional regulation (DBT-based) skills group***, You Got This!***
- Engaged in outreach and consultation projects with affiliated campus organization
- Attended weekly seminars on a variety of clinical topics
- Average 40 hours/week

Hosford Counseling & Psychological Services Clinic
Clinical Supervisor/Outreach Emphasis *October 2014 – July 2015*

Faculty Supervisors: Heidi Zetzer, Ph.D., Collie Conoley, Ph.D., Maryam Kia-Keating, Ph.D.

Examples of Activities & Responsibilities

- Supervised 1st and 2nd year counseling, clinical, and school psychology doctoral students who conduct intakes and psychotherapy services, and provide feedback on their clinical documentation
- Screened potential clients
- Co-facilitated weekly seminars for 1st year students
- Maintained the "Everybody Does Outreach" program to provide psychoeducation to community organizations and increase community utilization of clinic services

Hosford Counseling & Psychological Services Clinic
Practicum Clinician *January 2011 – September 2012*; *June 2014 – September 2014*
Supervisors: Heidi Zetzer, Ph.D., Steve Smith, Ph.D., Merith Cosden, Ph.D.

Examples of Activities & Responsibilities

- Conducted individual psychotherapy, intakes, a variety of symptom, cognitive, and personality assessments, case presentations, and integrated report writing
- Conducted an assessment case through the affiliated Psychology Assessment Clinic
- Administered/Reviewed/Reported to clients OQ – 45.2 or YOQ – 30.2, Quality of Life Index, Outcome Rating Scale, and Session Rating Scale at each session
- Average 10-15 hours/week

University of California, Santa Barbara Counseling and Psychological Services (UCSB-CAPS). Practicum Clinician. *September 2013 – June 2014*
Supervisor: Rikki Pashen, Psy.D.

Examples of Activities & Responsibilities

- Conducted individual and group psychotherapy, intakes, and case presentations
- Co-led the psychotherapy group, ***Mindfulness and Yoga for Wellness***
- Co-led the psychotherapy group***, Overwhelmed by ADHD? Find Your Focus***
- Administered/Reviewed/Reported to clients the Counseling Center Assessment of Psychological Symptoms-34 (CCAPS-34) assessment at each session
- Attended weekly seminars on a variety of clinical topics
- Average 12 hours/week

Pacific Pride Foundation (PPF). Practicum Clinician. *April 2013 – August 2014*
Supervisor: Bren Fraser, MFT.

Examples of Activities & Responsibilities

- Conducted individual psychotherapy, intakes, and case presentations for lesbian, gay, bisexual, transgender, queer, low-income, homeless, and HIV+ communities
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Family Service Agency (FSA). Practicum Clinician. *October 2012 – August 2013*
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Examples of Activities & Responsibilities

- Conducted individual psychotherapy, intakes, and case presentations for underserved low-income, homeless immigrant, ethnic minority communities
- Administered/Reviewed/Reported to clients Outcome Questionnaire 45.2 (OQ - 45.2) or Youth Outcome Questionnaire 30.2 (YOQ – 30.2) every 6 sessions
- Average 10 hours/week

Leadership Experience

2014-2016	**Liaison (Two-Terms),** American Psychological Association Board of Educational Affairs and American Psychological Association of Graduate Students
2014-2015	**Representative,** California Psychology Internship Council, representing the American Psychological Association of Graduate Students
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2012-2014	**Liaison,** National Council of Schools of Professional Programs in Psychology and American Psychological Association of Graduate Students
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2011-2014	**Campus Representative,** California Psychological Association of Graduate Students
2011-2012	**Member,** Committee on Lesbian, Gay, Bisexual, and Transgender Concerns, American Psychological Association of Graduate Students
2011-2012	**Member,** Government Affairs Committee, Santa Barbara County Psychological Association
2011-2012	**Member,** Admissions Committee, University of California – Department of Counseling, Clinical, and School Psychology

Interviews

Voelker, R. (January, 2015). Interviewed in: Ready for practicum? Advice on preparing for and getting the most out of your practicum experience. *gradPSYCH,* p. 26. Retrieved from: http://www.apa.org/gradpsych/2015/01/practicum.aspx

Voelker, R. (September, 2014). Interviewed in: Just write it. *gradPSYCH,* p. 24. Retrieved from: http://www.apa.org/gradpsych/2014/09/write-it.aspx

Smith, B. L. (November, 2014). The lifelong benefits of mentoring. *gradPSYCH,* p. 32. Retrieved from: http://www.apa.org/gradpsych/2014/11/mentoring-benefits.aspx

Voelker, R. (January, 2014). Interviewed in: Being a mentee – and a mentor. *gradPSYCH*, p. 32. Retrieved from: http://www.apa.org/gradpsych/2014/01/mentee-mentor.aspx

Clay, R. (November, 2013). Interviewed in: Crushed by debt? *gradPSYCH*. p. 23.Retrieved from: http://www.apa.org/gradpsych/2013/11/debt.aspx

Banville, J. (September, 2012). Interviewed in: Facing challenges, old and new. *gradPSYCH.* p. 46. Retrieved from: http://www.apa.org/gradpsych/2012/09/facing-challenges.aspx

Professional Organization Memberships

2008-present	American Psychological Association (APA)
	American Psychological Association of Graduate Students (APAGS)
	Division 17 – Society of Counseling Psychology
	Division 44 – Lesbian, Gay, Bisexual, and Transgender Issues
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2011-2015	Psychology
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ABSTRACT

The Feasibility and Acceptability of an Online Mindfulness-Based Cognitive Therapy Intervention for Same-Sex Attracted Men

by

Todd Raymond Avellar

The purpose of the current study was to evaluate the feasibility and acceptability (F&A) of an online Mindfulness-Based Cognitive Therapy (MBCT) intervention for same-sex attracted men with a range of bullying experiences. The intervention was closely modeled after the original 8-week MBCT protocol developed by Segal, Williams, and Teasdale (2013). The sample consisted of men who identified as gay or same-sex attracted, between the ages of 19 and 61, who resided in the United States. Due to high dropout rates, we were unable to complete the original goal of assessing the efficacy of the intervention. The F&A study utilized a follow-up survey designed to evaluate factors leading to high attrition in the efficacy study. Out of the 80 participants who completed at least the pretests in the efficacy study, 41 participants completed the F&A survey. The F&A study utilized descriptive, multinomial logistic regression, and chi-square test of independence quantitative analyses. Qualitative content analysis (Crowe, Inder, & Porter, 2015) was also used to evaluate positive and negative experiences of the training. Analyses were conducted to determine the relationship between various demographic characteristics and retention rates. Age, socioeconomic status, bullying status, and internalized homonegativity status did not

appear to be related to retention rates. While ethnicity did not appear to be statistically associated with retention rates, a large effect size suggested that participants of color may have been more likely to drop out of the study compared to White participants. Findings from the F&A study showed that monetary compensation and session length might have served as barriers to completing the 8-week training. That is, there is evidence that increased pay and decreased session length and overall number of sessions may have led to higher retention rates. Data revealed that the most unfavorable aspects of the efficacy study were related to training content (e.g., training was perceived as boring or lacking value). There was also evidence to show that some participants had difficulty with training logistics (e.g., not being able to view videos or the efficacy sessions not being optimized for mobile technology). Overall, this study shows promising support for engaging in F&A research to inform the effective design and implementation of mindfulness and other wellness-based trainings, particularly for same-sex attracted men. Future research efforts should aim to inform the development and evaluation of efficacy studies, which can yield adequate retention rates.

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Chapter 1 – Rationale and Research Questions

Lesbian, gay, bisexual, and queer (LGBQ) individuals are susceptible to the ongoing presence of minority stress. The minority stress model indicates that minorities experience unique mental health challenges, as a result of marginalization of their identity (Kuyper & Vanwesenbeeck, 2011). Meyer (2003) postulated "external, objective stressful events and conditions (chronic and acute), expectations of such events and the vigilance this expectation requires and the internalization of negative societal attitudes…" (p. 676) contribute to negative mental health outcomes of LGBQ individuals. That is, minority status can result in personal identification with that minority group, and thereby lead to feelings of being stigmatized and de-valued. (Meyer, 2003; Miller & Major, 2000). For instance, a victim of an anti-gay hate crime might become increasingly fearful of oppression and marginalization in the future. These fears are hypothesized to be proximal to the person and involve self-perceptions and appraisals (Meyer, 2003).

In addition to minority stress, sexual minority youth are frequent victims of peer rejection and victimization (Almeida, Johnson, Corliss, Molnar, & Azrael, 2009; Rosario, Schrimshaw, Hunter, & Gwadz, 2002). From the outset, these students may feel unsafe in their environment, which can negatively impact their academic performance and attendance (Bochenek & Widney, 2001; D'Augelli, Hershberger, & Pilkington, 1998; Haskell, 2008). Further, school bullying is positively correlated with social anxiety, loneliness, depression, and low self-esteem (Hawker & Boulton, 2000). LGBQ targets of bullying have also been shown to internalize the negative messages about their sexuality from their environment (Meyer & Dean, 1998). This internalized homonegativity (IH) is a "set of negative attitudes

and affects toward homosexuality in other persons and toward homosexual features in oneself" (Shidlo, 1994, p. 178). According to Meyer and Dean (1998), this experience can be detrimental to the self-worth and self-regard of the individual, and can thereby result in self-stigma around sexual orientation. Given the multidimensional impacts of anti-LGBQ bullying, sexual minority youth have been shown to be more likely to report self-harm (21% vs. 6%, $p < .0001$) and suicidal ideation, than heterosexual, non-transgendered youth (30% vs. 6%, $p < .0001$) (Almeida et al., 2009).

There is evidence to support that many of the effects of bullying can increase risk of emotional and psychosomatic disorders (Allison, Roeger, & Reinfeld-Kirkman, 2009) later in adulthood. For instance, it has been shown that adults who have been previously bullied may be at elevated risk for depression (Lund et al., 2008; Ttofi, Farrington, Lösel, & Loeber, 2011). Adult survivors of bullying may also be at increased risk to attempt suicide (Meltzer, Vostanis, Ford, Bebbington, & Dennis, 2011).

Given the evidence that suggests bullying can lead to negative mental health outcomes in adult survivors, that LGBQ people are impacted by minority stress, and that they experience unique forms of bullying, (e.g., negative epithets towards their sexual orientation, gender identity, and how they express their gender; Kosciw, Palmer, Kull, & Greytak, 2013) we sought to create an efficacy intervention study that would attempt to alleviate these issues for these populations.

Mindfulness-based interventions have recently been shown to help improve many of the effects of minority stress. For instance, mindfulness can help individuals confront and work through their post-traumatic distress (Vujanovic, Niles, Pietrefesa, Schmertz, & Potter, 2011). Mindfulness can help people develop greater awareness of their difficult emotions and cognitions, in order to help them respond adaptively to their situation (Brown & Ryan, 2003; Vujanovic et al., 2011). One recent study showed the utility of using the mindfulness-based Acceptance Commitment Therapy (ACT) on decreasing self-stigma amongst sexual minorities (Yadavaia & Hayes, 2012). Mindfulness has been shown to be a promising approach to meeting the needs of this population. Mindfulness-Based Cognitive Therapy (MBCT) is a widely used mindfulness protocol, and is effective for depression and anxiety-based symptoms (Evans et al., 2008; Segal, Williams, & Teasdale, 2002).

In response to the literature, this dissertation began by designing and implementing an MBCT efficacy study via an eight-session online format (e.g., Boettcher et al., 2014). Because MBCT has been shown to aid the aforementioned symptoms, the intervention was predicted to increase quality of mental health for both bullied and non-bullied participants. It was also believed that participants who have experienced bullying would exhibit worse negative quality of mental health and IH at baseline than those who had not been bullied. The intervention was hypothesized to create positive change scores in variables related to the quality of mental health (Keyes, 1998; Ryff, 1989), and IH. As aforementioned, the type of bullying an individual may experience can range depending on their demographic

characteristics (e.g., gender and sexual orientation). Furthermore, the way different types of bullying are received may lead to different long-term consequences. Such is why measures of internalized stigma are often specific to the individuals they are used for (e.g., bisexuals, lesbians, and gay men, respectfully). Because of this, the study was designed to focus on the experience of gay men, using the commonly cited Mayfield (2001) measure. Given the need for a large participant pool in the efficacy study, eligibility criteria was broadened to same-sex attracted men, by explaining to participants that the "homosexual" terminology in the IH measure simply referred to same-sex attractions.

The attrition for the initially conceived efficacy study was considerably higher than expected, rendering efficacy analyses unworkable and inspiring the notion to invite the participants to participate in a feasibility and acceptability (F&A) study in order to lay the groundwork for a future efficacy study. Therefore, a F&A follow-up study was designed to address factors responsible for participant dropout. The literature lacks systematic information demonstrating the F&A of mindfulness interventions for LGBQ individuals, particularly those conducted online. The aims of F&A studies are to investigate the practicability, appropriateness, and validity of randomized controlled trials (RCT; Tickle-Degnen, 2013). Feasibility studies often investigate aspects of an RCT, in order to "…estimate important parameters that are needed to design the main study" (NETSCC, 2012, Methods section, para. 3). F&A studies typically assess factors related to how accessible respective studies are to participants (e.g., timing, venue, and ease of use)

participants' sense of value or potential value of a given study, how helpful participants perceive a particular study, as well as other potential barriers that may hinder participant involvement (Kendal, Callery, & Keeley, 2011).

This F&A project assessed participants' experiences and perceptions related to the acceptability and feasibility of the MBCT-based eight-session online efficacy study (e.g., Boettcher et al., 2014) designed to address mental health issues of same-sex attracted men with a range of bullying experiences during grade and high school. Specifically, the study was designed to answer the following questions:

1. What would be needed to recruit and retain an adequate sample of participants to conduct an efficacy study of a multi-session, online mindfulness training?
    a. Which participant characteristics are associated with retention in the efficacy study?
    b. What level of incentives would be required?
    c. What barriers prevented participants from staying engaged in the efficacy study?
    d. How likely are same-sex attracted men on Amazon Mechanical Turk to participate in multi-session online mindfulness training?
    e. What number of participant characteristics, recruitment processes, and characteristics of the intervention would yield enough participants to have

sufficient statistical power, which is at least 51 participants (see power analysis in prospective participant section)?

2. How valuable do same-sex attracted men find multi-session online mindfulness training?
    a. Which aspects of the efficacy study did participants find most and least enjoyable?
    b. To what extent did they perceive mindfulness as something that will benefit their mental health?
    c. To what extent do they perceive mindfulness training as worth the effort to commit to the mindfulness practices?
    d. What was the overall acceptability of the efficacy study?

Chapter 2 – Review of the Literature

Over a quarter of men and women report being bullied in their youth (Gladstone, Parker, & Malhi, 2006). As defined by Carlisle and Rofes (2007), school bullying is the act of "one or more students repeatedly acting toward another, less powerful, student in a way that is intended to hurt or harm that other student" (p. 17). The deleterious effects of bullying on youth include severe depression, anxiety, and internalizing behaviors such as self-doubt (Gladstone et al., 2006). In many cases, these symptoms have resulted in instances of suicidal ideation, intent, and actual follow-through. Although peer victimization is common-place for many youth, lesbian, gay, bisexual, transgender, and queer (LGBTQ) youth are often report higher rates of bullying than non-sexual minority youth (D.C. Public Schools, 2007) and the messages conveyed through anti-LGBQ bullying are distinct from non-LGBQ specific bullying (Poteat & Espelage, 2005). These experiences are additive to the ongoing minority stress that all sexual minority youth experience. According to Meyer (2003), "…stigma, prejudice, and discrimination create a hostile and stressful social environment that causes mental health problems" (p. 674). Minority stress involves minority group membership, personally identifying as a member of that group, and the resultant self-perceptions and appraisals that accompany that identity (Meyer, 2003). For LGB individuals, such proximal factors can be related and lead to "expectations of rejection, concealment, and internalized homophobia" (Meyer, 2003, p. 678). There is ample research detailing the immediate impact of bullying (e.g., Almeida et al., 2009; Deci, Vallerand,

Pelletier, & Ryan, 1991; Galliher, Rostosky, & Hughes, 2004; Hoover & Fishbein, 1999; Horn, 2006, Osterman, 2000; Taywaditep, 2001). Research on long-term psychological consequences of such victimization is relatively recent and growing (Allison et al., 2009; Averdijk, Eisner, & Ribeaud, 2014; Carlisle & Rofes, 2007; Glastone et al., 2006; Hamilton, Newman, Delville, C., & Delville, Y., 2008; Lösel & Bender, 2014; Lund et al., 2008; McCabe, Antony, Summerfeldt, Liss, & Swinson, 2003; McVie, 2014; Rivers 2004; Ttofi, Bowes, Farrington, & Lösel, 2014; Ttofi et al., 2001). The following chapter synthesizes the literature and discusses implications for research and practice regarding the long-term impact of minority stress and bullying on adult LGBQ individuals.

Evolution of Bullying Research & Classification

The phenomenon of bullying has been observed under a variety of frameworks since it was first identified as an issue in Sweden during the late 1960s and early 1970s (Olweus, 2010). During the inception of such research, bullying was then referred to as "mobbing," a term used to "characterize the action of a school class or a group of soldiers ganging up against a deviating individual" (Olweus, p. 9). However, because peer-on-peer victimization is not always an "all against one" phenomena, it was recognized that "mobbing" would be an ill-fitting term of peer victimization experiences now known as "bullying." For instance, modern research shows that only a small number of students actually become "bullies" and that when more than one perpetuator gathers against a victim, these groups are generally composed of only two to three bullies (Olweus, 1978).

Today, there are multiple categories of bullying group classifications (Olweus, 2010). Those who report being bullied at least 2-3 times a months are typically referred to as victims. Furthermore, submissive/passive victims are those that have not bullied other victims (not at all or once or twice a month). These victims often show symptoms of anxiety, depression, negative self-views, social isolation, non-aggressive behavior, and internalizing problems. Bully-victims are those students who have also bullied other students (typically 2-3 times a month). Like submissive/passive victims, these individuals also experience internalizing problems in addition to exhibiting externalizing problems such as aggressive behavior. According to Olewus, in order for individuals to be categorized as a victim, a power imbalance must be present whereas victims of bullying perceive a significant amount of threat and lack of control over their situation.

Anti-LGBQ Bullying

LGBQ individuals in the United States are at particular risk for societal oppression, rejection, and stigmatization (Almeida et al., 2009; Rosario et al., 2002). For instance, sexual minority youth who deviate from normative sexual and gender expectations prevalent in our society are especially at risk for social rejection (Almeida et al., 2009; Hoover & Fishbein, 1999; Horn, 2006; Taywaditep, 2001). Egan and Perry (2001), conducted a 92-item questionnaire to examine relations between components of gender identity and psychosocial adjustment and found that children are often faced with pressure by peers to conform to specific behaviors deemed as acceptable for their respective sex and when they

do not conform, these youths are often faced with physical or emotional harm (Ewing Lee & Troop-Gordon, 2011). A national survey conducted by the Gay, Lesbian, and Straight Education Network (GLSEN) showed sexual minority males indicated that teachers and other students made such negative comments towards them because they were not "masculine enough" (Kosciw et al., 2008). According to Ewing Lee and Troop-Gordon (2011), anti-LGBQ peer victimization is often overt, so victims are aware that they are in fact, being "bullied." For instance, in one study of 416 LGB youth, Trenchard and Warren (1984) found that at least 39% of their respondents had experienced some form of victimization (e.g., verbal or physical). In another study of sexual minority youth in Washington D.C., 31% reported to being bullied in the past year compared to 17% of heterosexual youth (D.C. Public Schools, 2007).

Verbal and physical abuses are common features of anti-LGBQ peer victimization. Remafedi (1987) found that over half of respondents experienced verbal peer victimization and Trecnhard and Warren (1984) found that at least 21% of their respondents had experienced verbal abuse. Such verbal abuse can also lead to physical harm for targeted victims. In the aforementioned GLSEN study, it was found that "…almost one quarter of youth were pushed and shoved and 14% were outright physically assaulted (i.e., punched, kicked, or injured by a weapon) due to their gender expression." (Kosciw et al., 2008). Additionally, "…38% of their LGBQ youth respondents reporting feeling unsafe at school because of their gender expression." (Haskell, 2008, p. 40; Kosciw et al., 2008). Trenchard

and Warren (1984) found that 12% of their participants had reported being previous physically attacked. Indeed, there is ample research showing that sexual minority youth are at great risk of being victims to verbal or physical assault (Almeida et al., 2009; Robin et al., 2002; Russel, Franz, & Driscoll, 2001; Williams, Connolly, Pepler, & Craig, 2003).

LGBQ youth of color experience other unique challenges related to anti-LGBQ bullying. For instance, some LGBQ youth of color experience "homophobia from their respective racial or ethnic groups," "racism from within a predominantly white LGBT community," and "homophobia and racism from society at large" (NEA, 2007, p. 1). One of the greatest challenges that LGBQ people of color experience is that they may feel pressure from conflicting values between their respective ethnic and sexual identities (Dube & Savin-Williams, 1999). Some individuals experiencing this may also feel torn between both cultures, without being able to have a strong identity in either (Tremble, Schneider, & Appathural, 1989). On one hand, ethnic minority youth may experience homophobia within their racial/ethnic communities (Battle, Cohen, Warren, Fergerson, & Audam, 2002; Dang & Vianney, 2007; Diaz & Ayala, 2001) and the other hand, many LGBQ youth of color have reported racism from mainstream LGBQ communities (Battle et al., 2000; Dang & Vianney, 2007; Diaz & Ayala, 2001). Additionally, according to the national survey conducted by GLSEN, many youth of color reported experiencing verbal or physical victimization due to *both* their perceived sexual orientation and race/ethnicity (GLSEN, 2005).

Short- and Long-Term Effects of Anti-LGBQ Bullying

There are numerous short and long-term ramifications that come as a result of anti-LGBQ bullying. As frequent victims of peer rejection and victimization, sexual minority youth are susceptible to health issues and emotional distress (Almeida et al., 2009; Rosario et al., 2002). Given that school belonging is critical for psychosocial and academic functioning (Galliher et al., 2003; Osterman, 2000), a lack of or negative school relations can lead to symptoms of emotional distress, psychopathology, heightened stress, and other health problems (Deci et al., 1991; Galliher et al., 2003; Human Rights Watch, 1995).

LGBQ youth may feel unsafe in their school environment, they may "…perform poorly academically and sometimes stop attending school activities altogether." (Bochenek & Widney, 2001; D'Augelli et al., 1998; Haskell, 2008, p. 44). For instance, according to GLSEN's survey, more than 30% of LGBQ youth respondents indicated that they felt unsafe and skipped school in the past month and that a perceived lack of social support was identified as a primary issue for these individuals. (Kosciw et al., 2008).

Children experiencing peer victimization show symptoms of social anxiety, loneliness, depression, and low self-esteem (Hawker & Boulton, 2000). It is no wonder that sexual minority youth have been shown to have lower self-esteem than their heterosexual peers (Galliher et al., 2003; Garofalo, Wolf, & Kessel, 1998). Additionally, Almeida et al. (2009) found that sexual minority youth who had been discriminated against because of their

orientation generally scored higher on measures of depression and were more likely to report self-harm and suicidal ideation compared to non-sexual minority youth.

Victims of anti-LGBQ bullying may experience what is commonly known as internalized homophobia. As Meyer and Dean (1998) have defined, internalized homophobia is a form of self-stigma where "the gay person's direction of negative social attitudes [are directed] toward the self, leading to a devaluation of the self and resultant internal conflicts and poor self-regard" (p. 161). More recently, the term internalized homonegativity (IH) has been adopted, because internalized homophobia reflects "…clinical fear and avoidance (phobia) of homosexuals and, therefore, does not include the cultural attitudes that encourage people to devalue and hate non-heterosexual persons." (Mayfield 2001, p. 54; see also Herek, 1994; Shidlo, 1994). Indeed, these effects are detrimental to the very self-worth of LGBQ youth (Haskell, 2008). In the case of IH, an individual internalizes societal and deleterious anti-LGBQ messages, which in turn leads to the phenomena of self-stigma. Self-stigma is defined as "shame, evaluative thoughts, and fear of enacted stigma that results from individuals' identification with a stigmatized group that serves as a barrier to the pursuit of valued life goals" (Luoma, Hayes, Bunting, & Rye, 2008, p. 150).

Those who experience same-sex attractions but have not adopted an LGBQ identity might be most susceptible to self-stigma around sexual orientation (Luoma et al., 2008). In a literature review of evidence-based studies, Rivers (2004) highlights that sexual minority individuals suffering from IH may experience feelings of self-loathing and

worthlessness, challenges with "forming and maintaining lasting intimate relationships" (George & Behrendt, 1987), "unsafe sexual practices" (Shidlo, 1994), "avoidant coping strategies with AIDS among HIV sero-positive gay men" (Nicholson & Long, 1990) and elevated risk of suicide (Pilkington & D' Augelli, 1995). In the same review of the literature, researchers have highlighted that those who are victims of bullying and peer alienation, *and* difficulties accepting their sexual orientation are shown to have high correlations with problems including "violent behavior, alcoholism and substance abuse, eating disorders, and, again, suicidal ideation." (Rivers, p. 2; see also Buhrich & Loke, 1988; Gonsiorek, 1988; Hershberger & D'Augelli, 1995; Skinner & Otis, 1996; Pilkington & D'Augelli, 1995; Remafedi, Farrow, & Deisher 1991; Remafedi, French, Story, Resnick, & Blum, 1998).

The combination of LGB identity and peer victimization status may lead to elevated levels of health risk behaviors for victims (Bontempo & D'Augelli, 2002). For instance, Bontempo and D'Augelli conducted analyses of variance to investigate the prevalence of health risk behaviors by sexual orientation by gender by victimization level on data from the 1995 Youth Risk Behavior Survey taken by 9,188 ninth- through twelfth-grade students; 315 of whom identified as LGB. The researchers found that LGBQ-identified individuals experienced heightened levels of peer victimization as opposed to non LGBQ-identified individuals. For those LGBQ individuals who experienced low levels of peer victimization, their health-risk behaviors were similar to non-LGBQ peers. LGBQ youths in the high-victimization group exhibited significantly greater health risk behaviors than the

heterosexual youths in the high-victimization group. Bontempo and D'Augelli believe that the magnitude of these findings may even be conservative because those individuals who suffered from high victimization may have been more likely to skip school and less likely to be encapsulated by the study. Such effects of LGBQ sexual orientation "include higher drinking rates for males, marijuana/cocaine use, victimization, truancy because of fear and suicide attempts" (Bontempo & D' Augelli, p. 371). Also, LGBQ youth of color can be especially likely to miss school than those students who were bullied for their sexual orientation or their race/ethnicity, or neither. Furthermore, students of color can be susceptible to segregator factors that can lead to negative inter-group sentiments (Rodkin, Wilson, & Ann, 2007).

Bullying Non-Specific To LGBQ Identity

It is important to note that LGBQ youth can also be susceptible to bullying non-specific to their LGBQ-identity, which causes other unique mental health disparities. For instance, according to the literature, there appears to be multiple relations between bullying and body image related problems. For instance, body image is a complicated perception of the self that reflects what the individual actually looks like, how others have responded to the person in terms of their body, responses from others towards their body, their cultural values related to body-image and how their body relates to peer relationships and peer acceptance (Brixval, Rayce, Rasmussen, Holstein, & Due, 2012, p. 126). For instance, in Western cultures, males are generally expected to be more muscular than females, while

females are expected to be thin. Those who do not meet these ideals often suffer from lower self-esteem (Brixval et al., p. 126). Brixval et al. investigated the relationship between "weight status and exposure to bullying among 11-, 13-, and 15-year-old Danish children." Regression analyses found that overweight and obese students were significantly more likely to experience bullying than normal weight peers.

The messages and resultant effects of bullying also appear to be different depending on the target's gender. For instance, Fox and Farrow conducted analyses of variance that showed that girls reported more verbal and social/relational forms of bullying and men more physical. For both boys and girls, these reports were elevated when the students were overweight (Fox & Farrow, 2009). Also most bullying aggression appears to be found in same-sex interactions than opposite-sex interactions (Garandeau, Wilson, & Rodkin, 2010). Although aggressive tendencies are found by peers to be un-preferred for both boys and girls, it has been found that relational aggressiveness can lead to especially low levels of social preference for girls (Garandeau, Wilson, & Rodkin; LaFontana & Cillessen, 2002). There is also evidence showing that there are negative correlations between female overt aggressiveness and perceived popularity (Garandeau, Wilson, & Rodkin, 2010; Rose, Swenson, & Walker, 2004). However, there appears to be positive trends between relational aggressiveness and perceived popularity, particularly for girls as early as the sixth grade (Garandeau, Wilson, & Rodkin, 2010).

Effects of Bullying Non-Specific To LGBQ Identity

LGBQ individuals who experience bullying non-specific to their LGBQ identity are shown to suffer from a variety of symptoms. For instance, social anxiety and phobia are common themes in adult survivors of bullying. For those individuals who have self-reported teasing or bullying during their youth, there appears to be a relationship between higher levels of bullying and social phobia in adulthood (McCabe et al., 2003). Additionally, Gladstone et al. (2006), found correlations of high comorbid anxiety (e.g., state anxiety, social phobia, & agoraphobia) in adults who had been bullied in their youth. Carlisle and Rofes (2007) also found that these survivors might have heightened fear, anxiety, and problems with interpersonal relationships. Elliot and Shenton (1999) surveyed 828 participants who were bullied in school. In this study, participants related that they believed being bullied in their youth affected their adulthood by leading to feelings of distrust, decreased self-esteem, difficulties making friends, and continued victimization experiences later in education or in their place of employment. Carlisle and Rofes (2007) found that survivors believed that being bullied during their youth had a range of consequences on their adulthood including: introversion, symptoms of obsessive-compulsive disorder, lack of confidence and self-esteem, shame, avoidant relational styles. Avoidance has been shown to be a symptom of long-term bullying (McCabe et al., 2003; Roth, Coles, & Heimburg, 2002). Schafer et al. (2004) surveyed former victims of school bullying and found that they scored

worse than a control group on measures of self-esteem, emotional loneliness, and ability to maintain relationships.

Adult survivors of bullying are shown to be at increased risk of emotional and psychosomatic disorders (Allison et al., 2009). Alison et al. relate that survivors may report symptoms such as nervousness, depression and decreased overall functioning. Further, Lund et al., (2008) found evidence of elevated levels of depressive symptoms in this population. Ttofi et al., (2011) conducted a meta-analysis that indicated bullying during youth could lead to depression in adults. Although a range of demographic factors (e.g., gender, income, employment status, and marital status) have all been shown to be factors influencing overall mental health outcomes, school bullying has been shown to be a significant predictor of these symptoms in adults who recall bullying during their youth, even when controlling for the effects of other demographic factors (Alison et al., 2009). Meltzer et al. (2011) have even pointed out a correlation between being bullied earlier in life and suicide attempts in adulthood.

Rivers (2004) conducted a three-year retrospective mixed method survey of self-identified LGB individuals who had recounted school-bullying experiences and asked them to describe the impact that they believed those experiences had on their lives. Several themes emerged. For instance, approximately one-quarter (26%) of respondents indicated that recall of bullying experiences caused them distress either presently or in the past. Twenty-one percent of participants reported distressing or intrusive memories of bullying,

and 26% indicated that they experienced psychological distress when recalled such experiences.

Self-perceived body image may be a mediator in the relationship between weight status and exposure to bullying. That is, the more that a person deviates from societal rules about what it means to be physically attractive, the greater risk they have of being bullied. Furthermore, as a person who is bullied for their body type, "It could be that this psychological vulnerability is then communicated to their peers through their behavior, making them susceptible to being targeted for bullying" (Fox & Farrow, 2009, p. 1298). Another notable finding is that female students in one study typically had poor body image when they thought they were "too fat," whereas boys thought this to be so when they thought they were "too thin." In that same study, a factor analysis indicated that measures of victim-status were "negatively correlated with global self-worth and self-esteem for physical appearance and positively correlated with body dissatisfaction." (Fox and Farrow, 2009, p. 1294).

In addition to associations between bullying and overweight-related body image, Wolke and Sapouna (2007) administered the muscle dysmorphic inventory (MDI) to 100 adult male body builders and using structural equation modeling (SEM) found evidence that childhood bullying and muscle dysmorphia (MD) are related to "concurrent, depressive and obsessive-compulsive symptoms and low self-esteem" later in life (p. 1).

Because the current literature on the long-term effects of bullying on *any* subgroup is

limited, there are few empirically supported treatments designed specifically to alleviate the symptoms that LGBQ adult survivors (or non-LGBQ survivors, for that matter) experience. Although limited research has been conducted on the treatment of the long-term impacts of bullying, mindfulness is an eastern-based approach that has been integrated into many modern psychotherapy interventions to address many of the same symptoms that adult survivors of anti-LGBQ bullying exhibit.

Mindfulness As A Possible Intervention

As shown by Rivers (2006), some survivors of anti-LGBQ bullying experiences express lasting posttraumatic stress symptoms such as avoidance of emotions, thoughts, and situations. Mindfulness has recently been found to help individuals develop approach-oriented coping strategies to decrease experiential avoidance. Mindfulness can help individuals become willing to work through trauma-related emotions and cognitions (Vujanovic et al., 2013). By doing so, trauma victims can learn how to regulate their mood in an adaptive manner (Brown & Ryan, 2003; Vujanovic et al., 2013). Self-regulation of mood occurs as a product of increasing sensitization to bodily cues of danger (Vujanovic et al., 2013).

Mindfulness may also be helpful in addressing the impacts of IH. A recent dissertation study showed that anxiety related to race-related victimization might be associated with internalized racism experiences (Graham, 2013, p. vii). The study showed that mindfulness can help participants decrease anxious symptomology related to these

experiences. Although this study highlighted internalized racism, IH is another form of internalized stigma, which makes mindfulness a worthwhile intervention to use with the LGBQ population. A recent multiple-baseline study implemented Acceptance Commitment Therapy (ACT) to treat LGBQ individuals suffering from self-stigma related to sexual orientation (Yadavaia & Hayes, 2012). Participants in the study showed positive changes in self-report measures of IH, depression, anxiety, stress, quality of life, and perceived social support. Although ACT is a complex approach that incorporates a combination of different techniques, mindfulness is the key ingredient in the study that helped participants detach themselves from their anti-LGBQ self-evaluations. Only by cultivating a mindful "awareness," can participants in any ACT intervention move towards committed action steps, congruent with their values (e.g., engaging in romantic/sexual partnerships that are in alignment with their same-sex attractions).

As previously stated, victims of ongoing LGBQ bullying and adult survivors of bullying broadly, are shown to be more likely to engage in high-risk behavior such as increased reactivity, aggression, and drug-use. A literature review conducted by Borders, Earleywine, and Jajodia (2010) suggests that rumination may drive aggressive behaviors. The authors define rumination as repetitive thoughts that "focus on current feelings, related causes, consequences, and potential solutions," and that rumination could exacerbate feelings of "anger, hostility, and aggression." (p. 28). The authors created an intervention to evaluate the utility of mindfulness in alleviating aggression and hostility, fueled by

ruminative cognitions. Their study utilized two different samples and both provided statistical support for the use of mindfulness in reducing verbal and physical behavioral aggression. Enhancing a person's emotional regulation may be another pathway of reducing behavioral aggression, making mindfulness an effective approach (Vujanovic et al., 2013).

Mindfulness is widely supported by the existing literature to decrease substance use across multiple populations. For instance, the approach has been shown to decrease heavy alcohol use by increasing experiential awareness of cognitions responsible for risky drinking behaviors (Fernandez, Wood, Stein, & Rossi, 2010). Mindfulness meditation has also been effective in decreasing drug use (e.g., marijuana and crack cocaine; Bowen et al., 2006).

Recent studies have begun to craft a variety structured mindfulness interventions, typically lasting approximately 8 to 10 sessions. For instance, a study conducted by Lee and Bang (2009), was designed to alleviate many of the psychological effects of the stressors that mid-life Korean women encounter. This intervention was based upon a previously constructed existing MBCT protocol (Segal et al., 2002). The intervention was organized into eight 2.5-hr thematic sessions. Results indicated that post-treatment psychological symptoms scores were significantly lower than the baseline scores. Another study conducted by Perez-Blasco, Viguer, and Rodrigo (2013) adapted mindfulness-based stress reduction (MBSR) and MBCT protocols (Germer, 2009; Kabat-Zinn, 1990; Neff, 2011; Segal et al., 2002) to evaluate the effects of a mindfulness-based intervention on psychological distress, well-being, and maternal self-efficacy in breast-feeding mothers. Treatment was divided into

between eight sessions. Participants in the study indicated that they experienced increased maternal self-efficacy, being able to engage in a greater number mindfulness skills, and experienced heightened self-compassion, as compared to control group participants. A recent dissertation study proposed an MBSR-based intervention study to address the negative effects that bullying has on LGB high school students (Ernould, 2013). The proposed intervention would take place over 10 90-min thematic group sessions. Although this study is propositional in nature, it justifies and provides direction in crafting and implementing a mindfulness-based intervention for LGB individuals who are have been or currently are bullied.

Given the multi-symptom effectiveness of mindfulness interventions across various populations, researchers have also begun to experiment with internet applications that would make such interventions accessible to large groups of people at one given time. Results from these studies have been promising. For instance, a study was conducted by Boettcher et al. (2014); this intervention was composed of nine instructive audio-based modules. Prior to engaging in the modules, participants were presented with a 2-min video that described the act of mindfulness, its benefits, and outline of the modules to follow. Each module was comprised of psychoeducational and written tasks. A control group design was used and individuals in the mindfulness group were compared to participants engaged in an online discussion forum control group. Treatment time was 16 hours, over eight weeks. The Beck Anxiety Inventory, Beck Depression Inventory-II, and Quality of Life Inventory were used

to measure participants' anxiety and depression outcomes. Participants showed significant pre-post improvements on anxiety and depressive symptoms and improvements were frequently seen at 6-month follow-up.

Mindfulness-Based Stress Reduction

Kabat-Zinn et al. (1992), designed Mindfulness-Based Stress Reduction (MBSR) as an eight-week group program to treat and tolerate anxiety and generalized symptoms of distress. Their research showed that panic symptoms amongst participants were significantly reduced post-treatment. MBSR utilizes a variety of mindfulness, basic yoga, and other stress reduction techniques to help participants become mindful of the present moment and reduce and tolerate other emotional/cognitive tensions.

Mindfulness-Based Cognitive Therapy

MBCT was developed as a cognitive behavioral adaptation to MBSR (Segal et al., 2002). This adaptation infuses mindfulness and cognitive behavioral techniques to alleviate the symptoms of depressed people. Staying faithful to the MBSR session count, MBCT was designed to be an eight-week group program, with four follow-up classes. The term "classes" is used to denote the fact that the intervention is a structured psychoeducational form of delivery. Although MBSR classes typically hold 30 or more students, the cognitive behavioral techniques in MBCT are believed to be most effective in classes no larger than 12 people. MBCT was designed with four "core aims." The first aim is to help people who have experienced depression develop the skills needed to prevent future depressive episodes.

The second aim is to assist people in developing an awareness of their bodily sensations, feelings, and thoughts in each present moment. The third key aim is to help people develop a "mindful acceptance and acknowledgment" of their unwanted feelings and thoughts. This is particularly important so participants can alter their "habitual, automatic, and preprogrammed routines." Finally, MBCT strives to help participants cultivate the ability to independently select the best skills to alleviate their unpleasant thoughts, feelings, and situations that they encounter on a daily basis.

The structure of MBCT's sessions is parsed out into two foci. *Sessions 1-4* are designed to help participants learn how to "pay attention, on purpose, in each moment, and without judgment" (p. 87). By the end of session four, participants are expected to develop a solid understanding of distressing emotional/cognitive patterns. In *Sessions 5-8* participants are taught to actually *handle* their negative thoughts, emotions, and resultant mood shifts. That is, participants are taught to develop awareness and acknowledge the presence of a thought or feeling in a given moment, move attention to breathing for one-to-two minutes, and then expand this attention to their whole body.

MBCT sessions are centered on six themes. The first theme speaks to decreasing the length of time that unpleasant thoughts remain in the mind. The second theme speaks to the importance of participants developing an awareness of their "old, well-practiced, automatic cognitive routines," that are often ruminative (p. 91). These routines are said to be ineffective strategies to avoiding or escaping unpleasant feelings such as depression. The

third overarching theme to MBCT is to help participants "be mindful, aware, [and able to] let go." (p. 91). "Letting go" is said to be the active ingredient to "freeing oneself to the attachment/aversion driving the [maladaptive] thinking patterns" (p. 91). The fourth theme to MBCT is experiential learning. That is, MBCT posits that "required skills/knowledge can only be acquired through direct experience" (p. 91). The skills and knowledge related to MBCT can only be mastered through repeated experiences and requires that participants take responsibility of their learning, because "99.9% of learning" occurs outside of sessions. Because home-practice and dedication is necessary for MBCT participant success, implementers of MBCT are encouraged to cultivate feelings of empowerment and curiosity amongst their participants.

Participants are expected to learn eight different skills, across each of the eight MBCT sessions. The first skill is *concentration*. "The ability to deploy and maintain attention on a particular focus is central to all other aspects of MBCT" (p. 93). The second skill is that of *awareness/mindfulness of thoughts, emotions/feelings, and bodily sensations.* This important skill is necessary to handle thoughts and feelings, through awareness. The third skill is the ability of *being in the moment*. The fourth skill is the ability of *decentering*. Decentering allows participants to step outside themselves in order to develop a third-person type of awareness to their situation. The fifth skill is *acceptance/nonaversion, nonattachment, and kindly awareness*, since most maladaptive and automatic cognitions are fueled by aversion and desire. The sixth skill is that of *letting go,* to preventing oneself from getting caught up

in distracting cognitions. The seventh skill entails *"being" rather than "doing," non-goal attainment, and the expectation that there is no special state (of relaxation, happiness, peace, etc.) to be achieved.* This skill is important because all of the maladaptive cognitive/emotional patterns described are "variants of a doing/driven mode" (p. 94). For instance, people often live by "should" and "ought" states that may throw them into bouts of depression and anxiety. Finally, the eighth skill in MBCT is *bringing awareness to the manifestation of a problem in the body.* "Bringing awareness to the bodily manifestation of a problem provides a way to withdraw processing resources from the automatic, unhelpful (goal-oriented) routines, while still keeping the problem "in process" (so as not to reinforce aversion)" (p. 94).

Acceptability and Feasibility

When creating a randomized control trial (RCT), it is important to consider factors that can affect the study's internal, external, construct, and statistical validity, as well as the implementation and interpretation of the RCT's results (Shadish, Cook, & Campbell, 2002). The primary purpose of a feasibility study is to ensure that RCT study implementation is practical and that threats to validity are reduced (Tickle-Degnen, 2013, p. 171). F&A studies often include measures that assess participant attitudes regarding the usefulness, value, and technical utility of a given intervention (Dingwall, Puszka, Sweet, & Nagel, 2015; Paiva et al., 2014). For instance, Paiva et al. examined the F&A of a computer-tailored intervention for increasing vaccination of the human papillomavirus amongst college-aged women. In

this study, 243 women completed the intervention, followed by completion of a 14-item scale evaluating experiences of program ease of use, understandability, comfortability, and other acceptability facets of the program. The acceptability questionnaire was shown to be an internally consistent ($\alpha = .95$) measure. In another study, Dingwall et al. evaluated the F&A of an electronic mental health resource for working with Aboriginal and Torres Strait Islander people. In this study, researchers collected data from semi-structured interviews to measure perceived barriers and enablers, acceptability, feasibility, engagement, appropriateness, and other aspects of the intervention. Thematic data analysis was used to develop themes across interviews. In another study, Bentley, O'Connor, Kane, and Breen (2014) measured the F&A of a therapeutic intervention for people with motor neuron disease. The researchers provided an in-person therapeutic intervention. Acceptability of the study was measured using a Participant Feedback Questionnaire consisting of 25-questions using 5-point Likert scales and spaces for brief explanation. Feasibility was measured using data collected about the time taken to conduct the therapy sessions, any special accommodations made in the delivery of the intervention, deviations from the dignity therapy protocol, reasons for non-completion, and reasons for attrition. Although feasibility-based studies are now beginning to increase in popularity, they still remain relatively rare, which makes identifying standardized research typology a challenge (Tickle-Degnen, 2013). Therefore, it is important to continue contributing to the literature regarding the creation and implementation of F&A research.

Drawing from the aforementioned literature, an MBCT-based efficacy study was created and implemented. However, attrition was significantly high, which made interpreting the results difficult. Therefore, an F&A survey was created and administered to efficacy study participants (see Chapter 1) to determine factors and barriers, which led to the high attrition in the intervention. The present dissertation describes the efficacy study, but primarily focuses on the design, implementation, and results of the F&A survey.

Chapter 3 – Method

Participants

In order to be included in the efficacy and F&A studies, participants were required to be at least 18 years of age and identify as male and as gay or attracted to the same-sex (e.g., bisexual). Participants were fluent in written and spoken English, as intervention materials were unavailable in other languages. In order to protect against the history threat to validity, participants were not to be engaged in concurrent psychotherapy, as any other active psychotherapy treatment could contaminate the data. Participants were required to validate that they met these criteria on the pretest measures. An a priori power analysis using the statistical software, G*Power 3 (Faul, Erdfelder, Lang, & Buchner, 2007) indicated that a total sample size of 102 participants would be required (Effect size d = .50; Alpha Error Probability = .05; Power = .80, Number of Groups = 2, Number of Measurements = 3) to test the efficacy of the intervention using a series of one-tailed *t*-tests. Given that the efficacy study was based on Boettcher and colleagues' intervention (2014), which yielded an 8% attrition rate, we decided to recruit approximately 150 participants to account for attrition, and to have enough participants to complete an efficacy study. Participants in the efficacy study sample were contacted post-intervention to participate in the F&A study.

There were two primary participant samples in this study. The first of which is the total number of participants who completed at least some portion of the efficacy study. The other sample is comprised of those participants who elected to complete the F&A survey at

follow-up. In both samples, participants are described in certain analyses in terms of those who completed only the pretests, only session one, and those who completed at least four sessions of the efficacy study. Most participants in both studies identified as White or European American. Ages were similar between the efficacy study sample (M = 27.8 years, SD = 7.1) and F&A sample (M = 29.0 years, SD = 1.3). Participants' socioeconomic circumstances (SES) were also similar between the efficacy study (M = 3.9, SD = 1.3) and F&A (M = 3.97, SD = 1.38) samples (on a scale from 1 as "worst off" to 7 as "best off"). Table 1 describes participant count by retention group (those who completed only the pretest; at least one session, but no more than three; at least four sessions, but fewer than eight; and those who completed all eight sessions) across the efficacy study's intervention and control groups, as well as the F&A study. Additionally, Table 2 describes mental health status (i.e., those with flourishing, moderate, or languishing mental health), bullied status (i.e., those who have not experienced bullying, those who have, and those who have experienced bullying related to their sexual orientation), and whether or not the participant identified with having experienced, on average, a significant amount of internalized homonegativity by retention group.

Efficacy study. In terms of the efficacy study sample, 80 participants completed at least the pretest in the intervention group. Of those participants, 43 participants completed only the pretest, 22 participants completed at least one, but up to three sessions, and 15 participants completed at least four sessions. Specifically, 54 participants (67.5%) in the

efficacy study identified as White or European American. Twenty-one participants in the efficacy study identified as non-White (26.2%), and five participants (6.2%) did not report their ethnicity. Table 3 describes the demographics of the efficacy study in detail.

F&A study. In terms of those who also participated in the F&A study, 13 participants completed only the pretest questionnaires, 13 completed at least one session, but up to three sessions, and 15 participants completed at least four sessions. Twenty-eight participants (68.3%) in the F&A study identified as White or European American. Nine participants (21.9%) identified as non-White. Four participants (9.7%) did not report their ethnicity. Table 4 describes the demographics of the F&A sample in detail.

Measures

Demographic questionnaire. This measure was administered at pretest during the efficacy study to assess participants' age, sex, gender identity, sexual orientation, socioeconomic status (SES), education level, immigration status, and current mental health treatment. In order to measure SES, an adapted version of the Subjective Socio-Economic Status Scale (SSS; Adler, Epel, Castellazzo, & Ickovics, 2000) was used. The SSS was developed because Wilkingson (1999) argued that it is inequality associated with subjective social standing that is associated to negative mental health outcomes. Indeed, it has been shown that subjective social standing, rather than absolute levels of SES, may be stronger predictors of health. (e.g., Cohen et al., Goldman, Cornman, & Chang, 2002; Ostrove et al., 2000; Wright & Steptoe, 2005). Furthermore, asking people to describe themselves in terms

of their income level has been shown to have the potential to trigger stereotype threat (Croizet & Claire, 1998). The adapted measure in this study asked participants to subjectively rate themselves on a 7-point "ladder," comparing themselves in social standing with others, while taking into account multiple dimensions of SES and social standing. The full questionnaire can be found in Appendix A.

F&A questionnaire. The questionnaire is comprised of both quantitative and qualitative items, and can be found in Appendix B. The first set of questions is based on a study evaluating the acceptability and feasibility of a computer-tailored intervention aimed at increasing knowledge of a Human Papillomavirus vaccination among young adult women (Paiva, Lipschitz, Fernandez, Redding, & Prochaska, 2014). Fourteen items are rated on a 4-point scale, ranging from 1 = *strongly disagree* to 4 = *strongly agree*. These items are comprised of questions assessing the ease of use, overall utility, appropriateness for the population, and acquisition of new knowledge. The scale has demonstrated excellent internal consistency ($\alpha = .95$), both with its original sample (Paiva et al., 2014) and again with the F&A sample. The scale was developed from the National Cancer Institute's Educational Materials Review Form and the evaluation scale used by Rimer, Orleans, Fleisher, and Cristinzio (1994). Because systematic F&A research is still in an early stage, 10 other questions were created based upon on specific aspects of the efficacy study. For instance, it was deemed necessary to assess the amount of incentives, session count, and session length that participants preferred, which may have led to higher retention rates. Other questions

inquired about barriers unique to the efficacy study and Amazon Mechanical Turk (MTurk) technology. These items were analyzed with item-by-item descriptive statistics, and were not incorporated into analysis of the scale. Qualitative items were also developed to allow participants to subjectively indicate which aspects they liked most and liked least of the efficacy study.

Bullying questionnaire. An adapted version of the *Olweus Bully/Victim Questionnaire* (OB/VQ; Olweus, 1993) and items from the *2007 National School Climate Survey* (Kosciw et al., 2008) were given at the efficacy study's pre-test to capture retrospective bullying experiences. The OB/VQ was originally intended to capture all three main elements of the definition of bullying: the intention to harm the victim, the repetitive nature of bullying, and the imbalance of power between the victim" (McVie, p. 42-23; Solberg & Olweus, 2003). The adapted version contained two subscales to detect perpetration and victimization behaviors, on behalf of the respondent. Because the efficacy study was interested in victimization experiences, only the victimization measure was used. Participants were first provided the following definition of bullying: "We say a student is being bullied when another student or several other students:

1. say mean and hurtful things or make fun of him or her or call him or her mean and hurtful names
2. completely ignore or exclude him or her from their group of friends or leave him or her out of things on purpose

3. hit, kick, push, shove around, or threaten him or her tell lies or spread false rumors about him or her or send mean notes and try to make other students dislike him or her and do other hurtful things like that.

These things may take place frequently, and it is difficult for the student being bullied to defend himself or herself. It is also bullying when a student is teased repeatedly in a mean and hurtful way. But we don't call it bullying when the teasing is done in a friendly and playful way. Also, it is not bullying when two students of about the same strength or power argue or fight." Participants were then asked, "Given this definition, thinking back on your grade school and high school years, would you consider yourself to have experienced bullying?" If participants endorsed yes, they were asked how often the following happened to them by someone they knew, during the worst month of their life: "how often did you feel ignored on purpose, or left out of things?," "was told nasty things, hit, or called names," "threatened to be hurt, or "was hit, spat, or thrown objects at." These items were given on a 4-point scale, (3 = most days, 2 = at least once a week, 1 = less than once a week, or 0 = never). In one study, these measures were shown to have Cronbach alpha levels ranging from .79-.81, when used with youth ages 13-16. To assess for LGBQ-specific bullying, participants were also asked, "What do think these experiences were related to?" Respondents were provided with the following check-off options: sexual orientation, gender nonconformity, weight, ethnicity, SES, and "something else," with the option of providing a qualitative response. Participants who endorsed bullying related to their sexual orientation or

gender nonconformity were intended to be included in the anti-gay bullied group. Drawing upon the 2007 National School Climate Survey (Kosciw, Diaz, & Greytak, 2008), participants who endorsed bullying experiences related to sexual orientation, were provided with the following items: "How often did you hear the expression "That's so gay," or "You're so gay" in school?," "How often have you heard other homophobic remarks used in school (such as "faggot," "dyke," "queer," etc.)?," and "How often did you hear these homophobic remarks from other students?" These items were given on the original 4-point scale, (4 = frequently, 3 = often, 2 = sometimes, 1 = rarely, or 0 = never). The full measure can be found in Appendix C.

Mental health continuum short-form. This measure was implemented during the efficacy study's pre- and post-tests to measure multiple dimensions of well being. Derived from the MHC-Long Form, the SF is comprised of 14 items that evaluate emotional well being, Ryff's (1989) six dimensions of psychological well being, and the five facets of Keyes' (1998) social well being. On the SF, three items (happy, interested in life, and satisfied) represent emotional well being, six items represent psychological well being, and five items for social well being. The SF measures experiences of positive mental health, which is shown to provide enough sensitivity to measure "flourishing," "languishing," and "moderate" mental health. Scores are summed up to make categorical diagnoses. This measure has been shown to have strong internal consistency (>.80) and discriminant validity in adolescents, and adults in the United States, Netherlands, and in South Africa (e.g.,

Keyes, 2005, 2006; Keyes et al., 2008 Lamers, Westerhof, Bohlmeijer, ten Klooster, & Keyes, 2011; Westerhof & Keyes, 2009). In terms of the SF's test-retest reliabilities, have been averaged at .68 during successive three-month periods and .65 over 9 months (Lamers et al., 2011). Additionally, the three factor structure (i.e., emotional well being, psychological well being, and social well being have been supported with use with diverse populations (Gallagher, Lopez & Preacher, 2009; Robitschek & Keyes, 2009; Keyes, 2005, 2009). The full measure can be found in Appendix D.

Internalized homonegativity inventory (IHNI). The IHNI (Mayfield, 2001) is a systematic measure of internalized homonegativity. The inventory was implemented during the efficacy study's pre- and post-tests. The inventory was originally comprised of 42 items with three subscales: personal homonegativity, gay affirmation, and morality of homosexuality. For purposes of the efficacy study, only the first 11-item subscale of personal homonegativity were used. This subscale was designed to capture "…attitudes that gay men possess about their own homosexual feelings, desires, and behaviors. Attitudes about sexual attraction to men, sexual behavior with men, affectional feelings towards men, and intimate relationships with men are included in this category." (p. 60), and had an internal consistency of $\alpha = .93$. Items used a 6-point scale (1 = *strongly disagree, 6 = strongly agree)*. Items were created such that, higher scores are indicative of elevated levels of internalized homonegativity. In regards to convergent validity, the IHNI appears to have a

strong correlation (r = .85), with a similar measure, the Nungesser Homosexuality Attitudes Inventory (NHAI; Nungesser, 1983). The full measure can be found in Appendix E.

Procedure

Participants were recruited through the online labor system, MTurk. All participants were required to register for an MTurk account. Through MTurk, they participated in each aspect of the study as a "Human Intelligence Task" (HIT). HITs refer to the fact that participants complete individual tasks for reimbursement. For instance, the pretest and each individual session were administered as a separate HIT. MTurk respondents are an online community of individuals who self-select to engage in small tasks for pay, generally related to business, marketing, and social science research (Bohannon, 2016). MTurk has been shown to produce reliable results, and effect sizes do not appear to show significant differences from other samples (Goodman, Cryder, & Cheema, 2012). Research has shown that MTurk respondents are typically diverse in terms of age, education levels, and socioeconomic status (Casler, Bickel, & Hackett, 2013; Ross, Irani, Silberman, Zaldivar, & Tonlinson, 2010). Given that this study was designed for same-sex attracted men, MTurk's keyword function was utilized. MTurk participants can enter keywords to identify tasks that are most relevant and interesting to them. Keywords associated with the efficacy study were "mindfulness," "psychotherapy," "LGBTQ," "gay," "bisexual," "queer," "wellbeing," "mental health," "anxiety," "depression," "stress," and "happiness." Furthermore, the initial informed consent and pretest HIT was refreshed several times, in order to appear at the top

of MTurk's "available HIT" list. The informed consent materials made it clear that this study was designed for gay and same-sex attracted men.

Efficacy study. Participants who elected to participate in the efficacy study received a link to the pretest measures on Qualtrics, where the measures were provided. Upon completion, participants received unique participant reimbursement codes, which they needed to subsequently input on MTurk to signal their completion of the pretest, and receive their compensation. Once participants completed the pretests, participants were randomly assigned to the mindfulness treatment group (MTG), or the waitlist control group (CG), by an online true random assignment service (Urbaniak & Plous, 2013). Upon assignment, those in the treatment group were provided with a link to a website where they were given access to the mindfulness intervention on a specified date. Those placed in the waitlist CG were informed of another date when the intervention became available to them. Each week during the intervention, participants were emailed the link to the respective session HIT. They were then forwarded to Qualtrics to complete each session. Sessions were presented in survey format, with the psychoeducational materials, media, and tasks being displayed on separate pages. When participants completed each session and inputted their reimbursement code into the respective MTurk HIT page, they received compensation and were enrolled to participate in the subsequent session, the following week.

F&A study. Participants were eligible for the F&A study if they completed at least the initial efficacy study pretests. The data in the current study were captured from

participants in the MTG. Forty-one out of the 80 participants who completed some segment of the efficacy study responded to the follow-up F&A questionnaire through MTurk, and were asked how much of the study they completed (i.e., pretests only, at least Session 1, or at least Session 4). Because some questions were only appropriate for participants who dropped out, survey flow technology on Qualtrics was utilized to ensure that participants only received questions that were relevant to them. Questions #1-14 and #18 on the F&A Questionnaire (Appendix B) were provided to the 13 participants who completed only one full efficacy study session and elected to participate in the F&A study. Items #15-17 were provided to the 13 respondents who dropped-out of the efficacy study after the pretest and elected to participate in the F&A study. Table 5 outlines each question with their corresponding survey item number, which were asked of each retention group (i.e., those who completed only the pre-test, those who completed 1-3 sessions, and those who completed at least four sessions).

Regarding participant recruitment and retention, incentives can generate larger response rates, as compared to control groups (Laguilles, Williams, & Saunders, 2010). Incentives can increase initial participation in longitudinal studies, which can lead to indirect motivational effects onto at least four "waves" (Göritz & Wolff, 2007). The four waves in the aforementioned study took place over the course of two years. Because the efficacy study was conducted via eight weekly sessions, it was inferred from the Göritz and Wolff study, that a lottery is only necessitated at Session 1. However, for good measure,

participants were entered in a lottery upon completion of the first and eighth efficacy study sessions. At each lottery point, participants were entered into a drawing to win one of two Amazon.com gift cards for $50.00. In accordance with MTurk standards, MTurk participants received small $1.00 incentives per session. In terms of the F&A study, participants received $3.00 for completing the follow-up survey.

Intervention

Internet-based mindfulness treatment. At the core of the internet-based mindfulness efficacy study are concepts taught in MBCT (Segal et al., 2013). Because mindfulness activities are typically population-unspecific and are aimed at addressing symptomology, material content were not adapted to specifically address sexual orientation, per say. Participants engaged in one of eight thematic weekly modules. Each module began with an audio introduction by the author to explain the session's theme, and an outline of the remainder of the session. Audio files and handouts were used from the original MBCT protocol. The appropriate copyright permissions were obtained from Guilford Publications, Inc. Each session was approximately 50 to 90 minutes. Participants were also directed to the public domain resources, University of California, Los Angeles – Mindfulness Awareness Research Center (UCLA-MARC; 2016), University of California, San Diego – Center for Mindfulness (2016), and a private psychologist's mindfulness meditation (O'Grady, 2015) to complete some tasks. In terms of the actual MBCT techniques taught, the modules were cumulative in nature and often revisited previously taught interventions to encourage regular

at-home practice. Participants were given weekly homework assignments to support their practice. In terms of intervention fidelity, participants were required to enter a code given to them at the end of the previous week's session. A detailed description of each session can be found in Appendix F. Specific activities and their sources can be found on Appendix G.

Waitlist control condition. Participants placed in the waitlist control condition were provided a date at which they were able to access the intervention. Waitlist participants were asked to complete the same measurements simultaneously as the participants in the intervention group. Participants were also given incentives on a weekly basis during the waitlist period.

Chapter 4 – Results

Because F&A studies are exploratory in nature and typically do not have large sample sizes, they are not expected to utilize power-based statistical null hypothesis testing (Arain, Campbell, Cooper, & Lancaster, 2010; Shanyinde, Pickering, & Weatherall, 2011). Therefore, such studies are commonly and best measured with "descriptive statistics, qualitative analysis, and the compilation of basic data related to administrative and physical infrastructure" (Tickle-Degnen, 2013, p. 172). Given this information, below are the F&A study's primary questions with their respective means of analyses. Where statistical analyses were conducted, data were screened to ensure that all assumptions of the respective analyses used were met. Because assumptions of the respective tests were met, no data transformations were made.

What would be needed to recruit and retain an adequate sample of participants to conduct an efficacy study of a multi-session, online mindfulness training?

Which participant characteristics are associated with retention in the efficacy study? A multinomial logistic regression was conducted to predict categorical retention rates (those who completed only the pretests, those who completed only one session, and those who completed at least four sessions) with a continuous age independent variable. Using a Box-Tidwell Test, a linear relation was found between the continuous age variable and its logit variable. No significant outliers were found. The analysis was not statistically

significant, indicating that age does not reliably predict retention rates, χ^2 = (N = 80, df = 2) = .420, p = .811, therefore, age does not appear to be related to retention rates.

A multinomial logistic regression was conducted to examine categorical retention rates with a continuous socioeconomic status (SES) independent variable, comprised of a 7-point Likert scale with 1 indicating that participants felt they were "worst off" and 7 indicating that they are "best off." All assumptions for this type of analysis were met. Using a Box-Tidwell Test, a linear relationship was found between the continuous SES variable and its logit variable. No significant outliers were found. The analysis was not statistically significant, indicating that socioeconomic circumstances was not reliably associated retention rates, χ^2 = (N = 55, df = 2) = 2.92, p = .232), therefore, SES does not appear to be related to retention rates.

A chi-square test of independence was performed to predict retention rates from a dichotomous White and non-White ethnicity identity variable. The relationship between these variables were not significant, χ^2 =(N = 75, df = 2) = .37, p = .830, $\boldsymbol{\Phi_{Cramer}}$ = .83. Although the result was not significant, a large effect size indicated that a greater number of participants may lead to a statistically significant result. Inspection of descriptive data suggests that non-White participants may have been more likely than White participants to drop out of the study prior to session 4 of the intervention. Specific data can be found on Table 3.

Posttest descriptive findings showed that most participants in all retention groups had experienced some form of bullying in their past. Furthermore a considerably larger percentage of participants who had been bullied for their perceived sexual orientation completed some amount of sessions, compared to those who had not been bullied. A chi-square test of independence was performed to predict retention rates from bullying status. The relationship between these variables were not significant, χ^2 =(N = 80, df = 2) = 2.61, p = .272, $\boldsymbol{\Phi_{Cramer}}$ = .18. Therefore, bullying status does not appear to be related to retention rates.

A multinomial logistic regression was conducted to predict retention rates from IH levels. Participants responded to IH items on a six-point scale, indicating their agreement or disagreement with the items (i.e., strongly disagree, disagree, somewhat disagree, somewhat agree, agree, and strongly disagree). Total sum scores and their averages were calculated as one scale to determine individual participants' IH scores. The analysis was not statistically significant, indicating that IH levels were not reliably associated retention rates, χ^2 = (N = 54, df = 2) = 2.94, p = .230). Therefore, IH does not appear to be related to retention rates. Descriptive data can be found in Table 2, in which participants were described as to whether or not they disagreed with most of the IH statements (i.e., low IH) or agreed with the statements (i.e., high IH).

What level of incentives would be required? In order to assess for the potential impact of incentives, the following question was asked of participants who only completed the pretest, (N = 13) "How much of an incentive per session would it have taken you to try out even one mindfulness session?" Participants responded on a 5-point continuous scale, from $1.00 to $5.00 ($M$ = $3.23, SD = $1.01), with the median and mode incentive that participants preferred being $3.00. Using the same scale, participants who completed between one and three sessions (N = 13) were asked, "How much of an incentive per session would it have taken you to try and complete at least four sessions of the mindfulness program?" The median incentive that participants preferred was $4.00, and the mode incentive was $5.00 ($M$ = $4.08, SD = $1.38). One participant reported that they did not know what their preferred incentive would be, and another participant reported that they were content with the $1.00 incentive, but that work and school is what prevented them from completing additional sessions.

What barriers prevented participants from staying engaged in the efficacy study? The following items were designed to ascertain barriers from staying engaged in the efficacy study. The first set of questions were only given to participants who completed at least one session: Twenty-eight (68.3%) participants responded to four questions, implemented on a four-point Likert scale, with a rating of 1 indicating that participants strongly disagreed and 4 indicating that they strongly agreed with each statement. Bar charts can be found on Figures 1-4. On average participants agreed with statements indicating that

technology and practice space was not a barrier: “I was able to view the videos” (*M* = 3.2, *SD* = 0.7); “I was able to download the documents (e.g., homework assignments)” (*M* = 3.4, *SD* = 0.7); “I was able to find an adequate space where I could complete all the activities in the session” (*M* = 3.11, *SD* = 0.1); and “I was able to receive the weekly reminder emails (*M* = 3.3, *SD* = 0.7). All F&A participants were also asked to rank-order specific barriers that, where applicable, prevented them from completing all sessions of the efficacy study. Data for participants’ top two ranked ordered endorsements can be found on Table 6. Nine participants (27.3%) reported that they thought the tasks were not enjoyable, six (20%) thought that the tasks were too difficult. Of particular note is that while some participants indicated that they did not have trouble with aspects of the technology on the previous items (i.e., were able to watch the videos or download the homework files), 13 participants (39.4%) endorsed difficulty with the technology on the rank-ordering items. There was overlap between participants who earlier denied having difficulty with the technology and who endorsed technology as an issue in the latter items. It may be that these participants had difficulty with technological aspects of the training that we did not ask about.

How likely are gay and same-sex attracted men on Amazon Mechanical Turk to participate in multi-session online mindfulness training? Thirteen participants (31.7%) who only completed the pretests responded to the following three items. The first item asked participants to respond either yes or no to the question, “Have you completed multi-session Amazon Mechanical Turk Human Intelligence Tasks (HITs)?” Nine participants indicated

that they had, and four participants stated that they had not. The following two items were implemented on a four-point Likert scale, with a rating of 1 indicating that participants strongly disagreed and 4 indicating that they strongly agreed with each statement. On average participants agreed with the statements, "I am willing to complete multi-week HITs." (M = 3.5, SD = 0.7) and, "I am willing to engage in HITs longer than 45 minutes." (M = 3.0, SD = 1.1). Bar graphs for these two items can be found on Figures 5-6.

What participant characteristics, recruitment processes, and characteristics of the intervention would yield enough participants to have sufficient statistical power, which is at least 51 participants (see power analysis in prospective participant section)? The data did not support the possibility that there are specific participant demographic characteristics that would lead to increased retention rates. In terms of incentives, at least seven participants (who completed at least one session) indicated that they would have completed at least four sessions for $4.00 dollars per session. An additional four participants would have remained in the study for four sessions at $5.00 per session.

In terms of characteristics of the intervention, of the aforementioned rank-ordered barriers data, six of the F&A participants thought the tasks were too difficult. Thirteen of these participants indicated having difficulty with the technology, and several participants indicated that the intervention was not optimized for mobile devices. All participants were also asked, "What would be the ideal number of sessions for you to complete a mindfulness training?" Responses were on an eight-point scale, ranging from one session to eight

sessions (M = 4.4, SD = 0.3), with the median and mode both being 4.0. In terms of those who completed at least one session, four participants indicated that four sessions would be an ideal session count. As for those who completed at least four sessions, another four participants indicated that four was the preferred session count. Although the average participant who only took the pretest indicated that they would be willing to complete HITs longer than 45-minutes, evidence from Qualtrics participant completion data showed that those who did complete some portion of the sessions rarely engaged in sessions for that length of time. The most engaged participants partook in each session for approximately 20-30 minutes, with many participants partaking in each session for approximately 10-15 minutes for each session.

In order to gain a better understanding of participant characteristics who completed some of the sessions but not enough to complete a four-session mindfulness intervention, analyses were conducted to observe differences amongst participants who completed at least two sessions, and those who completed at least four sessions, respectfully. There were several differences between those who completed Session 4 and Session 2. In terms of those who completed Session 4, 11 participants (73.3%) completed the homework assignments in their entirety, two participants (13.3%) completed a partial amount of homework, and another two participants did not do their home practice. This is in comparison to Session 2, in that 12 (52.2%) of participants indicated that they completed the homework assignments in their entirety, five participants (21.7%) completed a partial amount of homework, and six

participants (26.1%) did not do their home practice. Thus, while those who were motivated to engage in the efficacy study for at least four sessions were likely to complete the homework assignments, those who dropped out of the study before this point may have preferred easier or shorter tasks to complete between sessions, once they actually completed some of the sessions.

Based on the present information, it can be inferred that by increasing incentive rates to $4.00 per session, we would presumably need to recruit 371 total participants at pretest to have 51 participants complete the training. Likewise, by increasing incentive rates to $5.00 per session, we would presumably need to recruit 316 total participants at pretest to have at least 51 participants complete the training. Screening out participants who do not have access to a computer and who are not willing to engage in home practice would likely increase the consistent engagement of these participants. Furthermore, although difficult to ascertain how many participants would be retained if following actions were taken, we know from the above data that by making sessions shorter than 45-minutes, tasks easier, ensuring that technology is easy to use, shortening study session count to four sessions, and decreasing overall session length, even more participants would presumably be retained.

How valuable do gay same-sex attracted men find multi-session online mindfulness training?

Which aspects of the efficacy study did participants find most and least enjoyable? All participants were asked to list up to four aspects that they liked most about

the efficacy study. Data were analyzed with a qualitative content analysis approach (Crowe, Inder, & Porter, 2015). Descriptive codes (e.g., participant thought the study was easy to use) were generated to describe each unit of relevant raw data. Category codes (e.g., training format) were created to broadly describe related sets of descriptive codes. Once the initial descriptive and category codes were established, Tania Israel, a doctor of counseling psychology and professor at the University of California, Santa Barbara audited the codes. Dr. Israel has expertise in both qualitative methods and sexual minority research. Adjustments to the first set of descriptive and category codes were made. At that point, one more round of auditing occurred, before the final descriptive and category were established.

In terms of what participants liked about the efficacy study, four primary category codes were created. The most common category code describes instances in which participants enjoyed some aspect of the training content ($N = 28$). For instance, some thought that the content was pleasant or enjoyable. Others enjoyed the selection and diversity of mindfulness techniques used (e.g., interchange of audio and video media). Some participants appreciated that the intervention was designed for gay and same-sex attracted men. Some participants described the training as interesting. Others appreciated that they received materials to print out and reference to between sessions. Some participants thought that the mindfulness training could be useful to others. Appreciation was shown by some participants for the purpose of the study, as well as the follow-up F&A survey. A few

participants related that they thought the materials were clear, up to date, and exhibited few technical flaws.

The second favorable category code described the ways in which participants believed the training had a positive impact on them ($N = 22$). For instance, some participants felt relaxed on account of the training. Others acquired mindfulness and other psychological skills or knowledge. Other participants enjoyed simply working on a task. Some participants indicated that their anxiety or stress decreased. Others reported understanding themselves more as a person. This code was also used when participants reported "feeling good" after partaking in the training, and when individuals reported increased confidence levels. Other themes included participants reporting improved closeness with others, increased motivation, and wanting more information about the study,

The third favorable category code described ways in which participants enjoyed an aspect of the training format ($N = 11$). For instance, some participants reported that they thought the format was easy to use, others appreciate the interface of the training (e.g., visual aspects of the sessions). Some reported that they felt the sessions were steadily progressed from week to week. Another theme included the ways in which each session was structured.

The last favorable category code described experiences in which participants enjoyed an aspect of participating in the study, not directly related to session content ($N = 7$). The most commonly cited experience were that participants appreciated receiving monetary

compensation for their participation in each session. Others appreciated simply being able to contribute to psychological research.

Table 7 describes the favorable qualitative data in greater detail. Of particular note are 28 participants (68.3%) enjoyed an aspect of the training content, and 22 participants (53.6%) experienced a positive impact from participating in the training. No considerable differences were found between retention groups.

All participants were also asked to list up to four aspects that they liked least about the efficacy study. Data were analyzed with the same strategy as the "liked most" codes. The first category code amongst the "liked least" section described experiences in which participants disliked aspects of the training content ($N = 23$). For instance, some participants thought that the material was "boring." Others reported feeling that the material did not have much value in the context of their lives. Another experience was one in which participants were unsure how their sexuality would be treated, given that the study focused its attention on gay and same-sex attracted men. Other concerns were related to characteristics of the training. For instance, some believed that the material were "too common sense," repetitive, too hard, "draining," or that the media was "not soothing." Some did not appreciate the home practice was labeled "homework," another participant disliked specific questions. Also, not everyone enjoyed the video segments.

The second most commonly used category code described those incidents in which participants did not like the time commitment that was required of them ($N = 17$). Such

experiences included those who felt eight sessions were too many, that the length of each session was too long, that the pacing was too slow (e.g., it is assumed this refers to the weekly wait time from session to session).

In terms of the final two unfavorable category codes, the third described those who simply did not feel that they were paid enough for their participation ($N = 7$). The fourth unfavorable category code describes incidents in which participants did not like aspects of the training's logistics ($N = 4$). For instance, to some of these participants, the sessions did not feel personal, the technology caused disruptions, the required materials were not available to the participants at the time of engaging in a session (i.e., having raisins available for the raisin exercise), and that the sessions were not mobile friendly.

Specific data regarding unfavorable category codes can be found on Table 8. Of particular note are that 23 participants (56.1%) did not like an aspect of the training's content, and 17 (41.5%) participants did not like the time commitment that was required of them. Another highlight was that a disproportionate number of participants who only completed the pretest ($N = 14$, 60%) did not like an aspect of the training content, as compared to those who completed at least one session, but less than four ($N = 4$, 17.4%), and compared to those who completed at least four sessions ($N = 4$, 17.4%). Furthermore, four participants (57.1%) who only completed the pretest indicated that they did not believe the study paid enough, as compared to one participant (14.3%) who completed at least one session, but less than three, and compared to the two participants (28.6%) who completed at

least four sessions. It may be that perception of training content and monetary compensation are factors which influence whether or not participants choose to engage in a longtitudinal study.

To what extent do they perceive mindfulness as something that will benefit their mental health? The following four items were implemented on a four-point Likert scale, with a rating of 1 indicating that participants strongly disagreed and 4 indicating that they strongly agreed with each statement. Twenty-seven participants (65.9%) responded to the item, "The program could help me be healthier." On average participants agreed with this statement ($M = 2.8$, $SD = 0.8$). Twenty-eight participants (68.3%) responded to the item, "The program could help me make changes." On average participants agreed with this statement ($M = 3.2$, $SD = 0.9$).

To what extent do they perceive mindfulness training as worth the effort commit to the mindfulness practices? Forty participants (97.6%) responded to the following two items: On average participants agreed with the statement, "practicing mindfulness would be helpful to me" ($M = 3.3$, $SD = 0.6$). On average participants disagreed with the statement "learning how to practice mindfulness is too hard" ($M = 2.3$, $SD = 1.0$). Spread for this item was wide, as 10 (24.4%) participants strongly disagreed with this statement, 14 (34.1%) disagreed, 10 (24.4%) agreed, and six (14.6%) strongly agreed with this statement. Bar graphs for these items can be found on Figures 9-10.

What was the overall acceptability of the efficacy study? The acceptability and feasibility scale (Paiva et al., 2014) was built upon 14 items designed to capture attitudes related to acceptability and feasibility. These items were rated on a 4-point scale, ranging from 1 being strongly disagreed to 4 representing that they strongly agreed. These 14 items were administered only to participants who completed at least one full session of the intervention. Twenty-five participants, (89.3% of all participants who received the items) completed all 14 items and were included in the analysis. On average, participants agreed with most statements, and thus felt positively about the F&A of the intervention ($M = 3.0$, $SD = 0.7$).

Chapter 5 – Discussion

Main Findings

The present study is the first of its kind to evaluate an 8-week online mindfulness-based intervention for gay and same-sex attracted men. It was unique in that it was conducted using the online crowdsourcing service, Amazon Mechanical Turk (MTurk). Because there were few models upon which to base the efficacy study, specific study limitations may have led to high attrition rates. The F&A survey sought to acquire data that would uncover factors that may have contributed to attrition. These findings can be used towards effective design and implementation of future online mindfulness-based trainings for gay and same-sex attracted men.

High attrition rates were a significant issue for the efficacy study. Participant dropout made it impossible to conduct statistical analyses for the efficacy study, and therefore, its original foci were not evaluated. That is, not only were attrition rates high, but many participants minimally committed to participating, as evidenced by non-participation after the pretest and Session 1. Furthermore, given that the project drew exclusively from the MTurk participant pool, sample bias may have been a threat to the efficacy study's recruitment That is, although the literature indicates that MTurk participants are demographically diverse (Casler et al., 2013; Ross, Irani et al., 2010), there may be characteristics unaccounted for in regards to the those who participate in MTurk studies, compared to those who do not.

The literature has shown main effects for MTurk compensation and survey length (Buhrmester, Kwang, & Gosling, 2011). These are particularly important to consider, because information gathered from the F&A survey provided evidence that participants required increased incentive rates per session, and that there were issues with the efficacy study's length. For some participants, individual sessions were too lengthy; there were too many sessions, and the pacing (i.e., participants having to wait one week between sessions) was too "spaced out." While it is likely that participants did not continue their engagement with the efficacy study due to poor compensation and overall session length, the literature indicates that once participants feel they are paid enough for the task at hand, they will complete the tasks effectively and thoroughly, and that incentives do not have a main effect for quality of participation (Buhrmester et al.)

Over recent years, online health applications have increasingly begun to utilize mobile technology (Jones & Moffitt, 2016). Mobile technology includes phones, tablets (e.g., iPads), and portable computers, which "can be used to promote emotional, psychological, and physical well-being and growth" (Jones & Moffitt, p. 155). Because many individuals access the Internet through their mobile devices, it can be beneficial for any online training or psychotherapy program to be mobile-optimized. This was a limitation in the efficacy study, as some participants reported having challenges with accessing the online sessions using their mobile devices. Additionally, F&A quantitative data indicated that 13 (31.7%) out of all F&A participants who completed at least one session of the

efficacy study indicated that they had trouble with the technology. Because the sessions relied on video and audio media, significant sections of the sessions may have been made unavailable due to mobile technology issues. Use of mobile technology may have also made it difficult for participants to download the required homework practices for each session. These technology issues were also validated through the qualitative data.

Mindfulness training is typically conducted in a group format, which can provide support when participants experiences challenges (Segal, Williams, & Teasdale, 2002). When conducted online, participants lack direct support and interpersonal didactics from the providers, which can increase a sense of session difficulty. Indeed, session difficulty was another limitation to the study. While on average, participants indicated that they disagreed that the intervention was too difficult; some participants still agreed or strongly agreed that it was too difficult. Some individuals also reported through the qualitative data that they did not like the course materials, because they thought it was too hard.

While quantitative data showed that the average individual who completed the F&A study related that they found the efficacy study acceptable and enjoyable, a primary unfavorable qualitative theme was that some participants thought that some aspect of the training content was not enjoyable.

A small portion of participants indicated that they did not like that the efficacy study sometimes conveyed concepts through clinical language (i.e., labeling the efficacy study as an "intervention"), which may have miscommunicated the study's purpose of increasing

overall well-being. Additionally, one participant thought this type of language represented an anti-gay sentiment, and another participant reported feeling unsure how their sexuality would be treated. Indeed, much of the session content borrowed closely from the MBCT trainers' manual, which was designed for mental health practitioners, which may have made some of the language used in the sessions unapproachable.

Limitations

The F&A study had several limitations. First, given the small sample size, inferences that can be generalized to gay and same-sex attracted men are limited. Sample bias was also a threat in that there may have been characteristics that were different amongst participants who elected to provide feedback about the efficacy study through the F&A survey.

In terms of research design, the questions regarding rank ordering of barriers from completing the efficacy study lacked a "completed all sessions" option. This was problematic, because there were participants who responded to this item, both who had completed and who had not completed the efficacy study, even though the question was designed specifically for those who dropped out. Because the F&A study was created in response to the efficacy study's poor attrition rates, it may have missed opportunities to collect a greater quantity of data. That is, data collection would have likely benefitted, if F&A items were administered simultaneously with the efficacy study. Furthermore, it would have been helpful to acquire pre-efficacy study data in regards to preferred incentive rates, session counts, and information related to understanding which types of devices participants

would complete the study with. Such data may have been beneficial while designing and implementing the efficacy study.

As mentioned, the present efficacy study was based upon an 8-session online-based mindfulness treatment for anxiety disorders (Boettcher et al., 2014). Recruitment for the efficacy study was based on the referenced study's 8% attrition rates. However, the present efficacy study exhibited significantly greater attrition rates. There may have been several reasons for this. Boettcher and colleagues' study was based in Sweden, and their materials were written in the Swedish language. There may be different regional attitudes between Swedish and American participants towards mindfulness and mental health treatments. Furthermore, participants in the Swedish study were recruited and self-selected from regional and national advertisements. Participants also identified with having been diagnosed with a primary diagnosis of social anxiety disorder, panic disorder with or without agoraphobia, generalized anxiety disorder, or anxiety disorder not otherwise specified. Therefore, participants in the Swedish study were likely more clinically self-motivated to participate in a mental health treatment, than the incentive-motivated MTurk efficacy study sample.

Implications for Research

Although the MBCT protocol was built upon an 8-session format, other similar mindfulness treatments have ranged 4-10 sessions in length, while exhibiting limited effect sizes and correlations for overall number of sessions and individual session length (Carmody

& Baer, 2009). Given this information, and that on average, participants in the F&A study indicated that they would have been more likely to complete the intervention if it were only four sessions, there exists the rationale for modifying the current efficacy study to a four-session format. Furthermore, evidence from participant completion data shows that participants who dropped out prior to Session 4 often did not complete the homework assignments in their entirety. Therefore, research on online mindfulness training could investigate which aspects may make homework easier or more palatable for participants. Given that the literature currently lacks evidences exhibiting the efficacy of briefer online mindfulness sessions, future research should address this gap of knowledge.

In regards to our previous discussion regarding incentive rates, if future versions of the efficacy study maintain a similar format, the researchers should consider providing participants with at least $4.00 in incentives per mindfulness training session. This amount has been explicitly validated as preferred by F&A participants, and is considerably higher than the originally offered efficacy study $1.00 compensation rate.

While the efficacy study was designed to affirm and increase positive attitudes about one's own sexuality, future versions of this study would likely benefit by adopting more positive and accessible language such as "training," "well-being activities," and "mindfulness education." Doing so might make the sessions more relatable, easier to understand, and affirming.

Future efficacy studies with larger sample sizes should evaluate whether ethnicity predicts retention rates, given the moderately strong effect size of our chi-square analysis of efficacy study data. If a significant relation exists, it could be that certain ethnicities may have a range of favorable impressions of mindfulness concepts.

The efficacy and F&A studies also contribute to the burgeoning literature on the effectiveness of online mindfulness trainings, compared to in-person trainings. For instance, one study found that online psychotherapeutic interventions are equally effective to those completed in person (Barak, Hen, Boniel-Nissim, & Shapira, 2008). However, some mindfulness-based intervention-specific literature has shown that online mindfulness interventions may have lower effect sizes than in-person mindfulness interventions (Cavanagh et al., 2015; Spijkerman, Pots, & Bohlmeijer, 2016).

Another area of research is evaluating selection bias of individuals who would participate in an online mindfulness study. Individuals who seek in-person mindfulness training may be intrinsically motivated to engage in the practices. Therefore, future research should further assess participant characteristics, which could provide information as to why the retention rates in the efficacy study and its F&A follow-up were so poor.

Another important area of future research may be in simply showing the effectiveness and ethics of conducting social science and psychological research on MTurk (Bohannon, 2016). For instance, MTurk participants are accustomed to poor compensation rates, especially when compared to compensation rates of social science research elsewhere

(e.g., university psychology departments). Although researchers can try and make participation as anonymous as possible, it is possible to connect MTurk user ID numbers, with sensitive Amazon.com user profile information. In terms of MTurk participant diversity, research shows that the diversity on the platform may be less diverse than originally measured, as MTurk participants may be younger, more liberal, urban, and martially singly, than the average population. Furthermore, it appears that the MTurk participant pool may quickly change, with there being a new batch of participants every seven months, making regular assessment of MTurk participants important for research (Bohannon, 2016).

The present study also demonstrates implications for mindfulness intervention research with sexual minority men. As mentioned, sexual minority men experience heightened levels of minority stress, peer victimization, and other forms of stigmatization, which can lead to negative mental health outcomes later in life. Therefore, a strong rationale exists for developing unique treatments to alleviate these issues. While mindfulness interventions have been shown to do this, the results from this study may demonstrate that mindfulness training may only be palatable for certain types of individuals. Cognitive Behavioral Therapy (CBT) has been shown to effectively address minority stress-related symptoms for gay and bisexual men (Pachankis, Hatzenbuehler, Rendina, Safren, & Parsons, 2015). Improvements in anxiety and depressive symptoms were found, and follow-ups showed participants maintained some of these improvements. According to Panchankis

and colleagues' review of the literature, CBT can help individuals replace negative cognitive, affective, and behavioral stress responses, and may serve as an alternative online treatment to address minority stress concerns for sexual minority men. Furthermore, there is burgeoning support for CBT online-adaptions to aid anxiety and depressive symptoms (Berger, Boettcher, & Caspar, 2014; Eells, Barrett, Wright, & Thase, 2014). Future research can test the efficacy and attractiveness of mindfulness versus CBT online training for sexual minority men. This scholarship will also contribute to the growing body of work demonstrating the impact of clinical interventions to increase psychological well-being (Weiss, Westerhof, & Bohlmeijer, 2016).

In terms of implications for F&A research specifically, it may be useful to identify creative means in which F&A measures can be implemented prior to and during an efficacy study. Doing so could help researchers adjust their program in an effort to retain participants from a particular sample. Given the mixed data in the current study showing that the same participants indicated that they did not have trouble with specific technological aspects asked about, but reported having difficulty with technology elsewhere, a future version of the F&A survey should provide more detailed questions regarding technological aspects of the efficacy study.

Implications for Practice

Due to technological advances, online mindfulness training interventions can use media to provide beneficial mindfulness experiences, while being easy to design and use for

researchers and participants alike. However, evidence-based online mindfulness training is still in an early stage, and has yet to demonstrate evidence that it can be equally as beneficial as in-person mindfulness treatments. The MBCT protocol was designed for in-person contexts (e.g., campuses and hospitals), and has not often been tested using online formats. In-person treatments offer the distinct advantage of face-to-face contact with mental health providers, which offers participants flexible training, that can be adapted to their unique struggles with the content. These trainings are typically conducted in group therapy formats, which can also increase participant motivation and participation. There may also be specific participant characteristics that would explain why they sought the mindfulness treatment. In order for online mindfulness training to be successful, it should be considered how online MBCT could adequately emulate in-person treatments. Furthermore, if online mindfulness training proves to be therapeutically beneficial, MTurk may not be an ideal system for delivery, because this population expects to be paid for their engagement, even if they benefit positively from their participation.

Given the feedback from the F&A participants, future online efficacy mindfulness training should be easy to use, clearly articulate mindfulness concepts in a way that is easy to understand, consider how to assist participants who find the training too difficult, offer participants a diverse range of learning materials, and identify ways how to make delivery of the training of pleasant to use. Online training should also be as succinct and brief as

possible, to help participants remain engaged and incorporate mindfulness practices in the context of their everyday lives.

Conclusion

Findings from the F&A study outline the barriers, which may hinder continued mindfulness-based trainings on MTurk. However, given the information provided by F&A participants, future research may be improved to support this line of study. Evidence from the pre-existing literature and the F&A data show that mindfulness can improve well-being across a range of issues. While the present efficacy study experienced limitations leading to high attrition rates, it may have benefitted from shortening session duration and overall training length, utilizing more accessible and affirming language, and increasing monetary compensation. It would have also been strengthened through optimization of mobile technology, and providing additional means of assisting and encouraging participants who thought the practices were too difficult. Last, by conducting an F&A survey prior to the efficacy study, and then again mid-intervention, the efficacy study might have been able to be modified earlier to increase retention in the present samples.

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Appendix A

Demographic Questionnaire

1. Age _____
2. What sex were you assigned at birth?
   _____ female
   _____ male
   _____ intersex
   _____ other (please specify) _____
3. What is your current gender identity/expression (check all that apply)?
   ____ Woman/girl
   ____ Man/boy
   ____ Transgender
   ____ Genderqueer
   ____ MTF (male-to-female)
   ____ FTM (female-to-male)
   ____ Other (please specify) _____
4. What is your sexual orientation or sexual attraction?
   _____ Gay/Lesbian
   _____ Bisexual
   _____ Queer
   _____ Pansexual
   _____ Heterosexual, and I am not attracted to other men
   _____ Heterosexual, and I am attracted to other men
   _____ No or other label, but I am attracted to other men
   _____ other (please specify) _____
5. Think of the below slider as representing how well-off people are. The top of the scale (7) represents those who are the best off -- those who have the most money, the most education, and the most respected jobs. At the bottom of the scale (1) are those who have the least money, least education, and the least respect jobs, or having no jobs. The higher up you are on this scale the, closer you are to the people at the top. The lower you are, the closer you are to the people at the very bottom.
   Please slide the scale to where you would place yourself in comparison to others.
   ____ 7
   ____ 6
   ____ 5
   ____ 4
   ____ 3

____ 2
____ 1

6. Level of education
   ____ less than high school diploma
   ____ completed high school or GED
   ____ completed trade/vocational school
   ____ some college, no degree
   ____ completed Associates degree
   ____ completed Bachelors degree
   ____ some graduate school
   ____ completed graduate or professional degree
   ____ other (please specify) _____
7. What is your U.S. Citizenship status?
   ____ U.S. citizen
   ____ documented immigrant
   ____ undocumented immigrant

8. Are you currently engaged in outside psychotherapy?
   ____ Yes
   ____ No

Appendix B

Feasibility and Acceptability Questionnaire

How much of the intervention did you complete?

- Only the initial questionnaires. I did not complete any sessions.
- Only one session.
- At least four sessions

The following items are based on the Acceptability Questionnaire by Paiva et al. (2014). They are rated on a 4-point scale, ranging from 1 = strongly disagree to 4 = strongly agree. These 14 items will only be implemented for participants who completed at least one full session of the intervention.

1. The program was easy to use
2. The ideas and skills were easy to understand
3. I would feel comfortable recommending this program to others
4. The homework instructions were easy to understand
5. The program gave me something new to think about
6. I like the way the program looked
7. The program was designed for people like me
8. I enjoyed using the program
9. The program was useful
10. The program gave sound advice
11. The program could help me be healthier
12. The program could help me make changes
13. The program was easy to navigate
14. I learned new information by using this program

Except for item #15, the following items are on a rated on a 4-point scale, ranging from 1 = strongly disagree to 4 = strongly agree. Item #18 will only be implemented for participants who completed at least one full session of the efficacy study. Items #15-17 will only be given to individuals who dropped out after pretest.

15. Have you completed multi-session Amazon Mechanical Turk Human Intelligence Tasks (HITs) (i.e., committing to taking separate but related tasks over several weeks) before this study?
    a. Yes
    b. No
16. I am willing to complete multi-week HITs.
17. I am willing to engage in HITs longer than 45 minutes.
18. I was able to:
    a. View the videos
    b. Download documents
    c. Find an adequate space where I could complete all the activities in the session.
    d. Receive the weekly reminder emails
19. I can define what mindfulness is.
20. Practicing mindfulness would be helpful to me.
21. Learning how to practice mindfulness is too hard.

---

22. How did the fact that this intervention was for same-sex attracted men affect your participation?
    a. Made me:
        i. Very interested, interested, did not matter, un-interested, very un-interested
    b. Other (please specify)
23. If you haven't completed all of the sessions, why not? Check all that apply, and then rank-order your top two.
    a. The study asked for too much of a time commitment.
    b. The HITs did not pay enough for what was being asked.
    c. The tasks were not enjoyable.
    d. The tasks were too difficult.
    e. I had difficulty with the technology
    f. Other (Please specify)

24. How much of an incentive per session would it have taken you to try out even one mindfulness session? (For those who only completed the pretest)
    a. 1.00
    b. 2.00
    c. 3.00
    d. 4.00

e. 5.00
f. Other (please specify)

25. How much of an incentive per session would it have taken you to try complete at least four sessions of the mindfulness program? (For those who only completed at least one, but less than four sessions)
    a. 1.00
    b. 2.00
    c. 3.00
    d. 4.00
    e. 5.00
    f. Other (please specify)
26. What motivated you to remain engaged in the sessions for at least four weeks? Check all that apply. (For those who completed at least four sessions)
    a. Usefulness of the sessions
    b. Enjoyment of the sessions
    c. Monetary compensations
    d. Acquisition of new skills
    e. Other (please specify)
27. How many sessions do you think would be optimal to attract participants?
    a. 1
    b. 2
    c. 3
    d. 4
    e. 5
    f. 6
    g. 7
    h. 8
    i. Other (please specify)

28. Please list up to four aspects that you liked most about this study:
    a.
    b.
    c.
    d.
29. Please list up to four aspects that you liked least about this study:
    a.
    b.
    c.
    d.

Appendix C

Efficacy study measure: An adapted version of the *Olweus Bully/Victim Questionnaire* (OB/VQ; Olweus, 1993).

We say a student is being bullied when another student or several other students:

- say mean and hurtful things or make fun of him or her or call him or her mean and hurtful names
- completely ignore or exclude him or her from their group of friends or leave him or her out of things on purpose
- hit, kick, push, shove around, or threaten him or her tell lies or spread false rumors about him or her or send mean notes and try to make other students dislike him or her and do other hurtful things like that.

These things may take place frequently, and it is difficult for the student being bullied to defend himself or herself. It is also bullying when a student is teased repeatedly in a mean and hurtful way. But we don't call it bullying when the teasing is done in a friendly and playful way. Also, it is not bullying when two students of about the same strength or power argue or fight.

1. Given this definition, thinking back on your grade school and high school years, would you consider yourself to have experienced bullying?

____ Yes
____ No

If you answered yes to the previous questions, thinking back on the worse month of your life, answer the following questions:

2. How often did you feel ignored on purpose, or left out of things?

0	1	2	3
Never	Less than once a week	At least once a week	Most days

3. How often were you told nasty things or called names?

0	1	2	3
Never	Less than once a week	At least once a week	Most days

4. How often were you threatened to be hurt?

0	1	2	3
Never	Less than once a week	At least once a week	Most days

5. How often were you hit, spat, or thrown objects at?

0	1	2	3
Never	Less than once a week	At least once a week	Most days

6. What do you think these experiences were primarily related to (e.g., sexual orientation, weight, gender nonconformity, ethnicity)?
   - ____ sexual orientation
   - ____ gender non conformity
   - ____ weight
   - ____ ethnicity
   - ____ SES
   - ____ something else please specify:_____

If these experiences were related to sexual orientation, please answer the following question:

7. How often did you hear the expression "That's so gay," or "You're so gay" in school?

0	1	2	3	4
Never	Rarely	Sometimes	Often	Frequently

8. How often have you heard other homophobic remarks used in school (such as "faggot," "dyke," "queer," etc.)?

0	1	2	3	4
Never	Rarely	Sometimes	Often	Frequently

9. How often did you hear these homophobic remarks from other students?

0	1	2	3	4
Never	Rarely	Sometimes	Often	Frequently

Appendix D

Efficacy study measure: Adult MHC-SF (ages 18 or older)

Please answer the following questions are about how you have been feeling during the past two weeks. Place a check mark in the box that best represents how often you have experienced or felt the following:

During the past two weeks, how often did you feel …	NEVER	ONCE OR TWICE	ABOUT ONCE A WEEK	ABOUT 2 OR 3 TIMES A WEEK	ALMOST EVERY DAY	EVERY DAY
1. happy						
2. interested in life						
3. satisfied						
4. that you had something important to contribute to society						
5. that you belonged to a community (like a social group, or your neighborhood)						
6. that our society is becoming a better place for people like you						
7. that people are basically good						
8. that the way our society works makes sense to you						
9. that you liked most parts of your personality						
10. good at managing the responsibilities of your daily life						
11. that you had warm and trusting relationships with others						
12. that you had experiences that challenged you to grow and become a better person						
13. confident to think or express your own ideas and opinions						

14. that your life has a sense of direction or meaning to it						

Appendix E

Efficacy study measure: Adapted *Internalized Homonegativity Inventory* (Personal homonegativity scale; Mayfield, 2001)

The following items use the word "homosexuality." For purposes of this study, please consider this language to simply mean, "attracted to other men."

All Items will use a 6-point scale.

- 1=strongly disagree
- 2=somewhat disagree
- 3=disagree
- 4=somewhat agree
- 5=agree
- 6=strongly agree

ITEMS:

1. I feel ashamed of my homosexuality.
2. When I think of my homosexuality, I feel depressed.
3. Sometimes I feel that I might be better off dead than gay.
4. I sometimes feel that my homosexuality is embarrassing.
5. I am disturbed when people can tell I'm gay.
6. I sometimes resent my sexual orientation.
7. When people around me talk about homosexuality, I get nervous.
8. When I think about my attraction towards men, I feel unhappy.
9. Sometimes I get upset when I think about being attracted to men.
10. I believe it is unfair that I am attracted to men instead of women.
11. I wish I could control my feelings of attraction toward other men.

Appendix F

Session 1 included a lecture on the importance of developing an awareness of one's cognitive and emotional patterns, and explained the tendency for people to be stuck in cognitive "automatic pilot" patterns, to learn how to step out of automatic pilot to be present in each given moment. Participants were taught a mindful eating activity; a body scan practice, and a 2-3 minute focus on the breath. The theme of *Session 2* was learning how to avoid becoming ruminative over unpleasant experiences. Participants were taught to "simply acknowledge" the realities of their situation, without trying to "judge, fix, or want things to be other than they are." (p.148). *Session 3* focused on helping participants become less distracted in their mindfulness practice and daily tasks. Participants were encouraged to continue using their breath and bodily sensations to mindfully reconnect with the current moment, whenever they found their minds becoming distracted. Participants were taught a 5-minute "seeing" (or "hearing") exercise, and a longer (30-minute) sitting meditation. *Session 4* taught participants to recognize aversion, that is, "the mind's habitual reaction to unpleasant feelings and sensations, driven by the need to not have these experiences." (p. 215). Participants were taught a 30 to 40 min sitting meditation, and a mindful walking activity. *Session 5* emphasized the importance of not eliminating unpleasant experiences, but "allowing" them to exist for what they are, and relating to them in a different way. No new material was taught this session, rather previously taught concepts were expanded upon. *Session 6* focused on the tendency for negative experiences to create distorted thoughts.

Participants were taught that these "thoughts are not facts," and to develop an awareness of how these thoughts are created. Participants were taught how their moods and thoughts are interrelated and to develop alternative ways of thinking. *Session 7* encouraged participants to identify activities that will help them best take care of themselves. Participants were asked to explore the relationship between their activities and mood. Participants were therefore encouraged to schedule positive activities when their moods threatened to overwhelm them. Finally, *Session 8* encouraged participants to maintain and extend their newfound mindfulness practices, and review all main concepts taught during the 8-week treatment period.

Appendix G

Session activity outline with sources

Session	Session activities	Sources
1	Psychoeducational information about awareness	Segal, Williams, & Teasdale, 2013
	Mindful eating activity	Segal, Williams, & Teasdale, 2013
	3-minute body scan	UCLA-MARC, 2016
	Handouts and homework assignments	Segal, Williams, & Teasdale, 2013
2	Psychoeducational information about body scans, emotional awareness, and home practice	Segal, Williams, & Teasdale, 2013
	3-minute body scan	UCLA-MARC, 2016
	20-minute body scan	UCSD, 2016
	10-minute sitting meditation	Segal, Williams, & Teasdale, 2013
	Handouts and homework assignments	Segal, Williams, & Teasdale, 2013
3	Psychoeducational information about breathing meditations, working through difficulties, and setting up an unpleasant experience calendar	Segal, Williams, & Teasdale, 2013
	3-minute mindful breathing	Segal, Williams, & Teasdale, 2013
	10-minute sitting meditation	Segal, Williams, & Teasdale, 2013
	Handouts and homework assignments	Segal, Williams, & Teasdale, 2013

4	Psychoeducational information about how to recognize emotional and cognitive aversion	Segal, Williams, & Teasdale, 2013
	20-minute seated meditation	Segal, Williams, & Teasdale, 2013
	3-minute breathing space (responsive version)	Segal, Williams, & Teasdale, 2013
	Handouts and homework assignments	Segal, Williams, & Teasdale, 2013
5	Psychoeducational information about how to allow difficult experiences "to be"	Segal, Williams, & Teasdale, 2013
	25-minute working with difficulty practice	Segal, Williams, & Teasdale, 2013
	"The Guest House" poem	Barks & Moyne, 1997
	Handouts and homework assignments	Segal, Williams, & Teasdale, 2013
6	Psychoeducational information regarding "thoughts are not facts"	Segal, Williams, & Teasdale, 2014
	10-minute sitting meditation	Segal, Williams, & Teasdale, 2013
	Thoughts as a waterfall activity	O'Grady, 2015
	Handouts and homework assignments	Segal, Williams, & Teasdale, 2013
7	Psychoeducational information regarding engaging in pleasurable activities	Segal, Williams, & Teasdale, 2013
	3-minute breathing space	Segal, Williams, & Teasdale, 2013
	Handouts and homework assignments	Segal, Williams, & Teasdale, 2013
8	Psychoeducational information about how to continue progress attained from the training	Segal, Williams, & Teasdale, 2013
	Handouts	Segal, Williams, & Teasdale, 2013

Table 1

Participant frequencies by study and retention group

Sessions Completed	Efficacy Study – Intervention Group	F&A Study	Efficacy Study – Control Group
Total	80	41	75
Pretest only	42 (52.5%)	13 (31.7%)	53 (70.7%)
At least one, but less than four	22 (27.5%)	13 (31.7%)	10 (13.3%)
At least four, but less than eight	7 (8.75%)	7 (17.1%)	3 (4.0%)
All eight	8 (10.0%)	8 (19.5%)	9 (12.0%)

Table 2

Mental health, bullying, and internalized homonegativity profiles across each retention group

		Number of sessions participant completed		
Variables	Total participants	Pretest only	1-3 sessions	4-8 sessions
N	80	43 (53.7%)	22 (27.5%)	14 (17.5%)
Quality of mental health	--	--	--	--
Flourishing	21 (26.2%)	14 (32.5%)	5 (22.7%)	2 (14.3%)
Moderate	47 (58.7%)	23 (53.5%)	16 (72.7%)	8 (57.1%)
Languishing	11 (13.7%)	6 (13.9%)	1 (4.5%)	4 (28.6%)
Bullying status	--	--	--	--
Not bullied	24 (80.0%)	16 (37.2%)	4 (18.2%)	4 (28.6%)
Bullied	56 (70.0%)	27 (62.8%)	18 (81.8%)	11 (78.6%)
Bullied for sexual orientation	28 (35.0%)	11 (25.6%)	10 (45.4%)	7 (50.0%)
Internalized homonegativity (IH)	--	--	--	--
Low IH	53 (66.2%)	31 (72.1%)	14 (63.6%)	8 (57.1%)
High IH	25 (31.2%)	11 (25.6%)	8 (36.4%)	6 (42.9%)

Table 3

Demographics for Efficacy Study

		Number of sessions participant completed		
Variables	Total participants	Pretest only	1-3 sessions	4-8 sessions
N	80	43 (53.8%)	22 (27.5%)	15 (18.7%)
Age	--	*M* = 28.14, *SD* = 8.63, Median = 25.00	*M* = 28.14, *SD* = 8.05, Median = 25.50	*M* = 28.87, *SD* = 4.03, Median = 27.00
Ethnicity	--	--	--	--
European American/White	54 (67.5%)	29 (67.4.7%)	14 (63.6%)	11 (73.3%)
Non-White	21 (26.2%)	12 (27.9%)	6 (27.3%)	3 (20.0%)
Latino/a or Hispanic	10 (12.5%)	5 (11.6%)	3 (13.6%)	2 (13.3%)
African American Or Black	2 (2.5%)	0 (0.0%)	2 (9.1%)	0 (0.0%)
American Indian	1 (1.25%)	0 (0.0%)	0 (0.0%)	1 (6.7%)
Asian American	4 (5.0%)	3 (7.0%)	1 (4.5%)	0 (0.0%)
Middle Eastern	1 (1.25%)	1 (2.3%)	0 (0.0%)	0 (0.0%)
Multi-Ethnic	3 (3.75%)	3 (7.0%)	0 (0.0%)	0 (0.0%)
Education	--	--	--	--
Less than High School Ed.	1 (1.25%)	0 (0.0%)	1 (4.5%)	0 (0.0%)
High School or GED Ed.	7 (8.75%)	3 (7.0%)	1 (4.5%)	3 (20.0%)
Trade or Vocational Ed.	1 (1.25%)	1 (2.3%)	0 (0.0%)	0 (0.0%)
Some College – No Degree	22 (27.5%)	17 (39.5%)	3 (13.6%)	2 (13.3%)
Associates Degree	13 (16.2%)	5 (11.6%)	3 (13.6%)	5 (33.3%)
Bachelors Degree	25 (31.2%)	13 (27.9%)	8 (36.4%)	4 (26.7%)
Graduate or Professional Degree	12 (15.0%)	5 (11.6%)	6 (27.3%)	1 (6.7%)

Socio-Economic Status (SES)	--	--	--	--
SES - 1 out of 7 - Worst Off	2 (2.5%)	2 (4.6%)	0 (0.0%)	0 (0.0%)
SES - 2 out of 7	10 (23.75%)	6 (14.0%)	2 (9.1%)	2 (13.3%)
SES - 3 out of 7	10 (23.75%)	5 (11.6%)	2 (9.1%)	3 (20.0%)
SES - 4 out of 7	10 (23.75%)	5 (11.6%)	3 (13.6%)	2 (13.3%)
SES - 5 out of 7	19 (23.75)	10 (23.2%)	7 (31.9%)	2 (13.3%)
SES - 6 out of 7	4 (5.0%)	1 (2.3%)	2 (9.1%)	1 (6.7%)
SES - 7 out of 7 - Best Off	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

Table 4

Demographics for Acceptability and Feasibility Study

		Number of sessions participant completed		
Variables	Total participants	Pretest only	1-3 sessions	4-8 sessions
N	41	13 (31.7%)	13 (31.7%)	15 (36.6%)
Age	--	*M* = 30.15, *SD* = 6.41, Median = 28.00	*M* = 30.08, *SD* = 10.40, Median = 25.00	*M* = 26.93, *SD* = 4.06, Median = 27.00
Ethnicity	--	--	--	--
European American/White	28 (68.3%)	8 (72.7%)	8 (72.7%)	12 (80.8%)
Latino/a or Hispanic	4 (9.7%)	0 (0.0%)	2 (18.2%)	2 (13.3%)
African American Or Black	1 (2.5%)	1 (9.1%)	0 (0.0%)	0 (0.0%)
American Indian	1 (2.5%)	0 (0.0%)	0 (0.0%)	1 (6.7%)
Asian American	3 (7.3%)	2 (18.2%)	1 (9.1%)	0 (0.0%)
Middle Eastern	1 (2.5%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Multi-Ethnic	3 (7.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Education	--	--	--	--
Less than High School Ed.	1 (2.5%)	0 (0.0%)	1 (7.7%)	0 (0.0%)
High School or GED Ed.	3 (7.3%)	0 (0.0%)	1 (7.7%)	2 (13.3%)
Trade or Vocational Ed.	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Some College – No Degree	8 (19.5%)	2 (15.4%)	3 (23.1%)	3 (20.0%)
Associates Degree	10 (24.4%)	3 (23.1%)	3 (23.1%)	4 (26.7%)
Bachelors Degree	12 (29.3%)	5 (38.5%)	3 (23.1%)	4 (26.7%)
Graduate or Professional Degree	7 (17.1%)	3 (23.1%)	2 (15.4%)	2 (13.3%)

Socio-Economic Status (SES)	--	--	--	--
SES - 1 out of 7 - Worst Off	1 (2.5%)	1 (8.3%)	0 (0.0%)	0 (0.0%)
SES - 2 out of 7	3 (7.3%)	1 (8.3%)	1 (10.0%)	1 (11.1%)
SES - 3 out of 7	7 (17.1%)	2 (16.7%)	2 (20.0%)	3 (33.3%)
SES - 4 out of 7	8 (19.5%)	3 (25.0%)	2 (20.0%)	3 (33.3%)
SES - 5 out of 7	9 (21.9%)	4 (33.3%)	4 (40.0%)	1 (11.1%)
SES - 6 out of 7	3 (7.3%)	1 (8.3%)	1 (10.0%)	1 (11.1%)
SES - 7 out of 7 - Best Off	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

Table 5

Feasibility and Acceptability items asked of each retention group

Pretest only	1-3 sessions	4-8 sessions
Have you completed multi-session HITs before? (#15)	Acceptability scale items (#1-14)	--
I am willing to complete multi-week HITs (#16)	"I was able to…" items (#18)	"I was able to…" items (#18)
I am willing to engage in HITs longer than 45 minutes. (#17)	I can define what mindfulness is (#19)	I can define what mindfulness is (#19)
--	Practicing mindfulness would be helpful to me. (#20)	Practicing mindfulness would be helpful to me. (#20)
How much incentive would it have taken to try out even one session? (#24)	How much of an incentive would it have taken to complete at least four sessions? (#25)	What motivated you to remain engaged for at least four weeks? (#26)

Table 6

Ranked One and Two Barriers Preventing Participants From Completing the Efficacy Study

					Number of sessions participant completed		
Variables	Total Frequency	%	Rank One	Rank Two	Pretest Only	1-3 Sessions	4-8 Sessions
The study asked for too much of a time commitment.	13	31.7	6	7	4 (30.8%)	4 (30.8%)	5 (33.3%)
The HTS did not pay enough for what was being asked.	10	24.4	3	7	4 (30.8%)	2 (15.4%)	4 (26.7%)
The tasks were not enjoyable.	9	22.0	4	5	4 (30.8%)	2 (15.4%)	3 (20.0%)
The tasks were too difficult.	6	14.6	2	4	0 (0.0%)	2 (15.4%)	2 (13.3%)
I had difficulty with the technology.	13	31.7	8	5	7 (58.7%)	4 (30.8%)	2 (13.3%)
Other - Was not in the mood.	1	2.4	0	1	0 (0.0%)	0 (0.0%)	1 (6.7%)
Other - Seemed anti-gay.	1	2.4	0	1	1 (7.7%)	0 (0.0%)	0 (0.0%)

Table 7

Qualitative themes from the item, "Please list up to four aspects that you liked most about this study."

			Number of sessions participant completed		
Categories	Total Frequency	%	Pretest only	1-3 sessions	4-8 sessions
Training content	28	68.3	10 (35.7%)	9 (32.1%)	9 (32.1%)
Positive impact of training on participant	22	53.6	10 (45.4%)	9 (40.9%)	9 (40.9%)
Training format	11	26.8	3 (27.2%)	5 (45.4%)	3 (27.2%)
Participation in the study	7	17.0	2 (28.6%)	2 (28.6%)	3 (42.8%)

Table 8

Qualitative themes from the item, "Please list up to four aspects that you liked least about this study."

			Number of sessions participant completed		
Categories	Total Frequency	%	Pretest only	1-3 sessions	4-8 sessions
Training content	23	56.1	14 (60.9%)	4 (17.4%)	4 (17.4%)
Time commitment	17	41.5	7 (41.2%)	6 (35.3%)	4 (23.5%)
Not enough pay	7	17.1	4 (57.1%)	1 (14.3%)	2 (28.6%)
Training logistics	4	9.7	2 (50.0%)	1 (25.0%)	1 (25.0%)

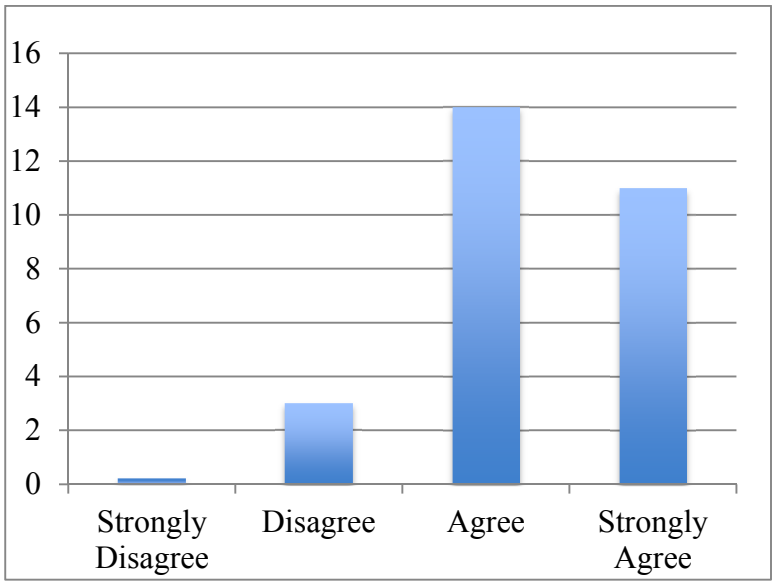

Figure 1. Agreement with Feasibility and Acceptability Item, "I was able to view the videos."

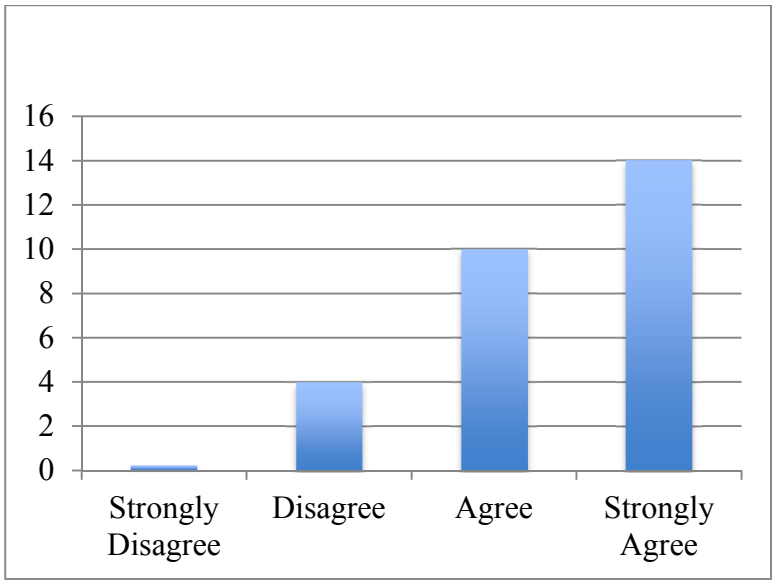

Figure 2. Agreement with Feasibility and Acceptability Item, "I was able to download the documents."

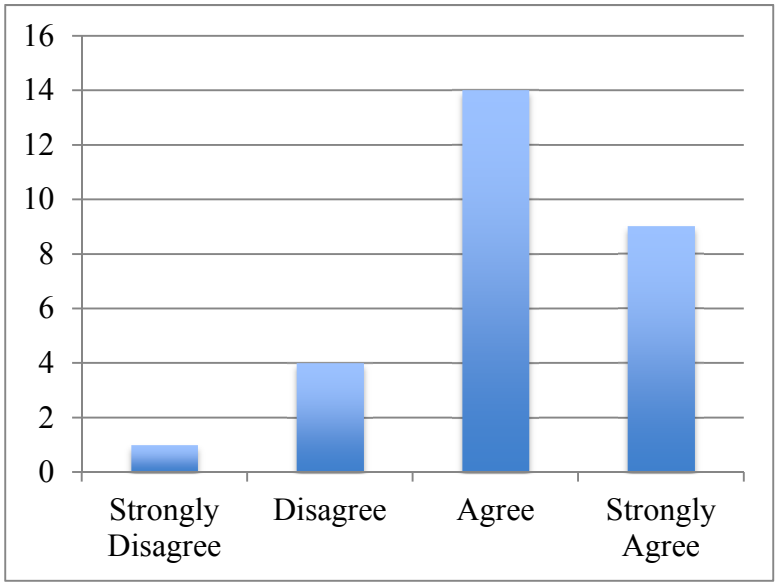

Figure 3. Agreement with Feasibility and Acceptability Item, "I was able to find an adequate space where I could complete all of the activities in the session."

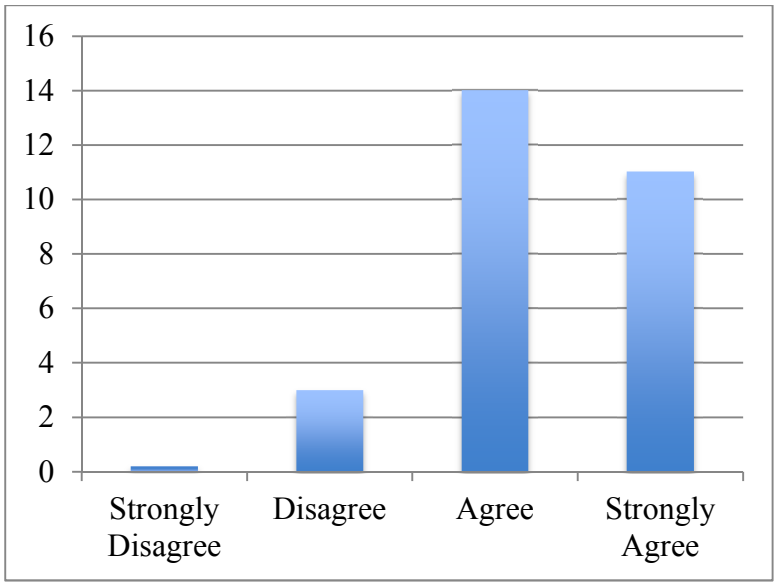

Figure 4. Agreement with Feasibility and Acceptability Item, "I was able to receive the weekly reminder emails."

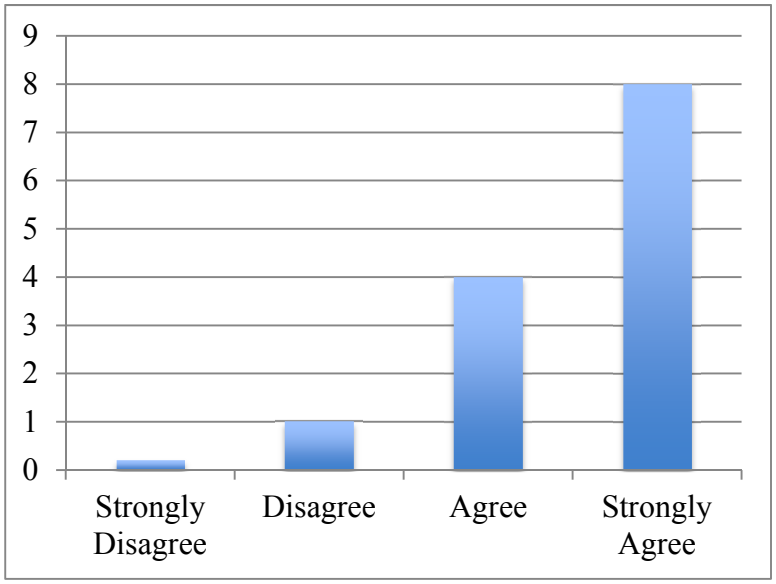

Figure 5. Agreement with Feasibility and Acceptability Item, "I am willing to complete multi-week HITs."

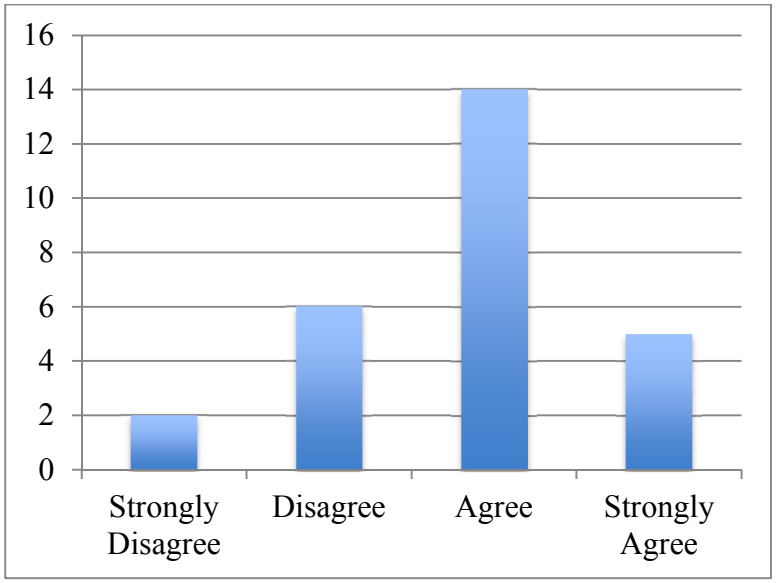

Figure 6. Agreement with Feasibility and Acceptability Item, "I am willing to engage in HITs longer than 45 minutes."

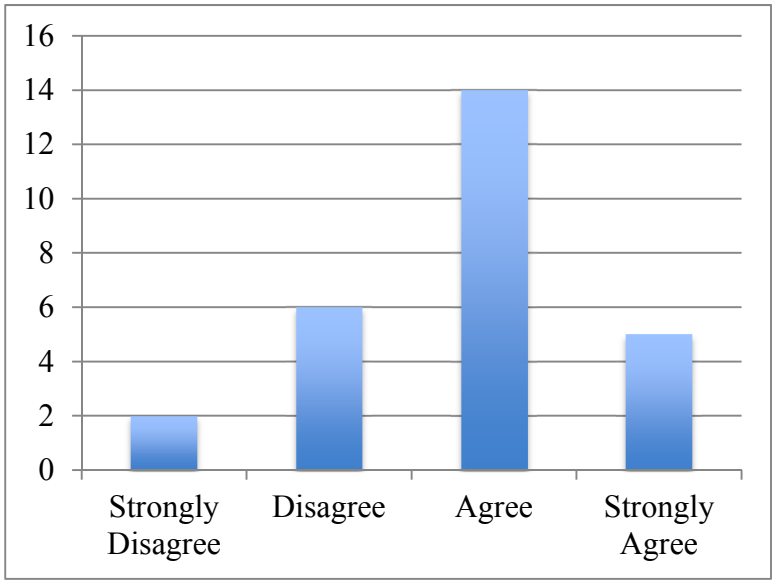

Figure 7. Agreement with Feasibility and Acceptability Item, "The program could make me healthier."

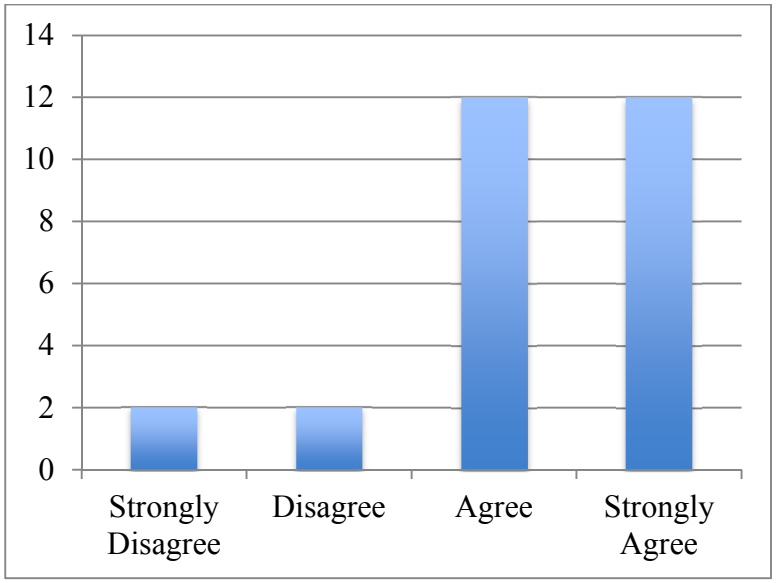

Figure 8. Agreement with Feasibility and Acceptability Item, "The program could help me make changes."

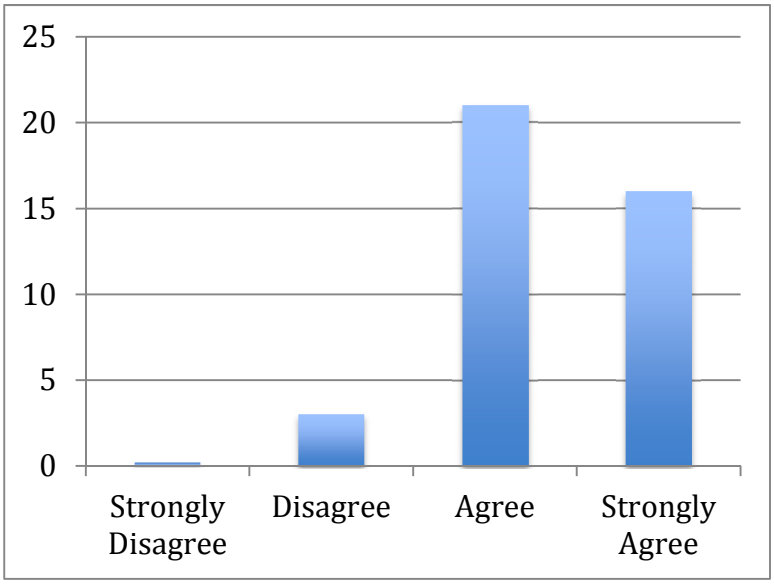

Figure 9. Agreement with Feasibility and Acceptability Item, "Practicing mindfulness would be helpful to me."

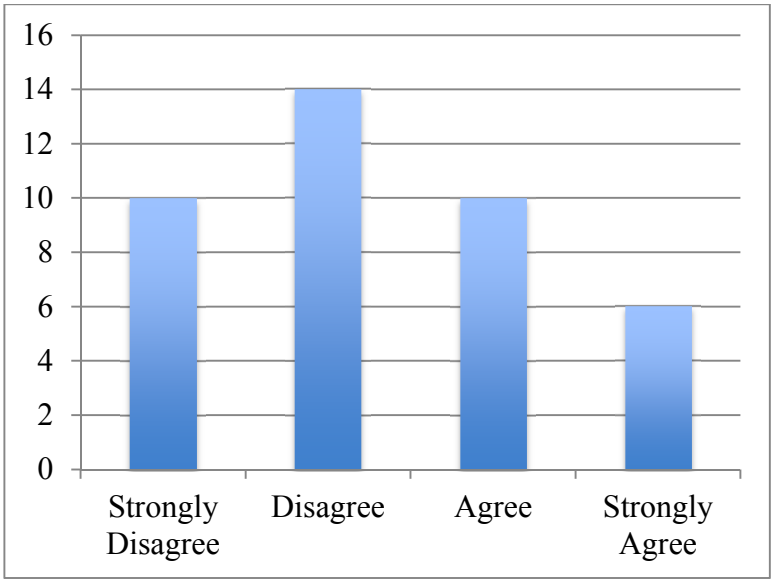

Figure 10. Agreement with Feasibility and Acceptability Item, "Learning how to practice mindfulness is too hard."