

Meditation Experience is Related Differently to Two Types of Shame

Dharini Rajaramanan

*This thesis is submitted in partial fulfillment of the Honours degree of Bachelor of
Psychological Science (Honours)*

School of Psychology
The University of Adelaide

October 2019

Word Count: 9484

Table of Contents

Title	1
Table of Contents	2
List of Figures	4
List of Tables.....	5
Abstract	6
Declaration	7
Acknowledgements	8
Introduction	9
1.1 Shame and Types of Shame	9
1.2 Measuring Shame	10
1.3 Shame and Self-Compassion.....	11
1.4 Shame and Mindfulness	13
1.5 Shame and Rumination	16
1.6 Shame, Meditation and Possible Mediators	17
1.7 The Present Study.....	18
Method	19
Participants	19
Procedure.....	20
Measures.....	20
Design and Analysis.....	23

MEDITATION EXPERIENCE AND SHAME

Results	23
Preliminary Data	23
Descriptive Analyses.....	24
Tests of Hypothesis 1: Bivariate Relationships.....	27
Tests of Hypothesis Two: Meditation Experience with Shame Scales.....	28
Tests of Hypothesis Three: Meditation Experience with rumination, self-compassion and mindfulness	30
Tests of Hypothesis Four: Indirect Effects.....	32
Discussion	37
References	45
Appendices	56
Appendix A	56

List of Figures

Figure 1. *The indirect effect of rumination in the relationship between years of meditation and internal shame.* 33

Figure 2. *The indirect effect of mindfulness in the relationship between frequency of meditation and internal shame.* 36

List of Tables

Table 1. *Frequency and percentages of participants in each category of meditation (Years of Meditation, Frequency of Meditation, Minutes of Meditation Session and Type of Meditation) N=168*..... 25

Table 2. *Internal Consistency, Means, Standard Deviations and Confidence Intervals for Measures of External Shame, Internal Shame, Self-Compassion, Rumination and Mindfulness* 26

Table 3. *Summary of Correlations for Scores on OAS, ESS, RRS, SCS-SF and FFMQ (N=168)*..... 28

Table 4. *Means, Standard Deviations and 95% Confidence Intervals for Years of Meditation and Internal Shame* 29

Table 5. *Means, Standard Deviations and 95% Confidence Intervals for Frequency of Meditation and Internal Shame* 30

MEDITATION EXPERIENCE AND SHAME

Abstract

Shame is a debilitating, powerful emotion where one negatively evaluates the self (internal shame) or perceives that others view them negatively (external shame). High levels of shame can lead to mental health problems. Meditation practice is associated with positive mental health, but there is limited evidence concerning the relationship of meditation experience (years of meditation, frequency of meditation and minutes of meditation) with shame. This study explored the relationship of meditation experience with internal and external shame. Self-compassion, mindfulness and rumination were also investigated as possible indirect effects for this relationship. Adult participants recruited from the University of Adelaide first-year Psychology pool and Facebook took part in an online survey measuring meditation experience, internal and external shame, rumination, self-compassion and mindfulness. Measures of external shame and internal shame were positively correlated with rumination and negatively correlated with mindfulness and self-compassion. There was a significant relationship between frequency of meditation and years of meditation with lower internal shame, but not external shame. Mindfulness and rumination, but not self-compassion were indirect effects on the relationship between meditation and internal shame. Although intervention studies are needed, meditation may be a useful tool for reducing internal shame, by increasing mindfulness and reducing rumination.

Declaration

This thesis contains no material which has been accepted for the award of any other degree or diploma in any University, and, to the best of my knowledge, this thesis contains no material previously published except where due reference is made. I give permission for the digital version of this thesis to be made available on the web, via the University of Adelaide's digital thesis repository, the Library Search and through web search engines, unless permission has been granted by the School to restrict access for a period of time.

Dharini Rajaramanan

October 2019

Acknowledgements

I would like to express my sincere gratitude to my supervisor, Dr Michael Proeve for his support, assistance and guidance throughout this year. His passion for this subject inspired me along the way and I am appreciative of his help and patience.

Thank you to my parents, Raj and Shivanthi who have been endlessly supportive, caring and kind this year. I am extremely appreciative of their generosity and help throughout the year. The last four years of study would not have been possible without them.

I would like to give a special mention to my sister Vaishnavi who has not only been a main source of support, but who has also spent hours reading through, and editing, this thesis. I am extremely grateful for her help.

Thank you to my boyfriend Mitch whose patience and love has been an extreme comfort and has helped me throughout the year.

Finally, I would like to thank Dhanya and Emma for their endless encouragement. I am extremely appreciative of all those who have helped me throughout the year.

MEDITATION EXPERIENCE AND SHAME

Shame is a common human emotion, linked to poorer mental health and disorders such as anxiety, depression, eating disorders and post-traumatic stress disorder (PTSD) (Hayes & Fletcher, 2012; Markham, Thompson & Bowling, 2005; Woods & Proeve, 2014). This necessitates the development of relevant strategies to address this issue. Current literature has explored the relationship between meditation, or mindfulness, and mental health; however, limited literature exists concerning mindfulness and meditation in relation to shame. This study addresses this lacuna by investigating the relationship of meditation experience (years, frequency and minutes of meditation) in an adult sample to types of shame. This study also examines potential mediators of the relationship of meditation to shame: self-compassion, mindfulness and rumination. This assists in understanding how meditation practice may potentially influence shame.

1.1 Shame and Types of Shame

Shame is a self-focussed, negative emotion where the self is perceived as failing to adhere to social or moral standards (Boudewyns, Turner & Paquin, 2013; Carabellese, Proeve & Roberts, 2019; Proeve, Anton & Kenny, 2018). The experience of shame requires an all-encompassing negative evaluation of the self, either by oneself or as perceived by others (Tangney, Wagner, Fletcher & Gramzow, 1992; Teroni & Deonna, 2008). This differs from guilt where the person identifies parts of the self that are responsible for a negative action, and the focus is on how others are affected (Tangney, Wagner, Fletcher & Gramzow, 1992; Teroni & Deonna, 2008). Core features of shame include feelings of inferiority, powerlessness and undesirability about the self (Carabellese et al., 2019; Proeve et al., 2018; Vizin, Urbán & Unoka, 2016). Avoidance of one's imperfections is a common behaviour associated with shame (Carabellese et al., 2019; Woods & Proeve, 2014). Shame has previously been positively correlated with a range of negative interpersonal outcomes including irritability,

MEDITATION EXPERIENCE AND SHAME

suspiciousness, resentment, anger and the blaming of others for negative events (Boudewyns et al., 2013; Tangney et al., 1992; Woods & Proeve, 2014).

Shame is associated with a decline in positive mental health and has shown associations with substance abuse (Shim, 2019), body-image disorders and PTSD (Hayes & Fletcher, 2012; Markham, Thompson & Bowling, 2005). As well as predicting anxiety and depression (Cândeia & Szentagotai-Táta, 2018; Kim, Thibodeau & Jorgensen, 2011), shame is related to rumination, a thinking style associated with depression (Cheung et al., 2004). Studies have also found shame to be negatively correlated with self-compassion and mindfulness (Woods & Proeve, 2014).

Internal shame and external shame, two types of dispositional shame, are the focus of this study. Internal shame relates to the way in which one negatively views oneself through one's own eyes. In external shame one perceives that others view them negatively (Gilbert, 2014). Research reveals that these subtypes of shame are strongly correlated; when one sees themselves negatively they are more likely to believe that others view them negatively too (Goss, Gilbert & Allan, 1994). However, it is potentially possible to experience internal shame without external shame and vice versa. External shame showed stronger associations with depressive symptoms and with social anxiety than internal shame in meta-analyses (Cândeia & Szentagotai-Táta, 2018; Kim et al., 2011). Proeve, Anton and Kenny (2014) also found that internal shame, but not external shame, significantly decreased after Mindfulness Based Cognitive Therapy (MBCT). Distinguishing internal shame and external shame as separate constructs may therefore be relevant in identifying strategies to prevent, manage, or reduce shame.

1.2 Measuring Shame

Kim et al. (2011) identified internal shame measures, including the Test of Self-Conscious Affect (TOSCA; Tangney, Wagner, & Gramzow, 1989), Internalized Shame Scale

MEDITATION EXPERIENCE AND SHAME

(Cook, 1994), Personal Feelings Questionnaire (Harder & Zalma, 1990) and the Adolescent Shame Measure (Reimer, 1995), while stating that the Other as Shamer Scale (OAS; Goss et al., 1994) is the only measure of external shame. The items on the OAS focus on how the participant believes that others perceive them (Goss et al., 1994). While the TOSCA is widely used, it may not be the most suitable scale for studying the relationship of shame to mental health as the TOSCA only assesses general shame (Andrews, Qian & Valentine). By comparison, The Experience of Shame Scale (ESS; Andrews et al., 2002) measures different areas of shame, including characterological shame, shame behaviours and bodily shame. Although the scale consists of some external shame items regarding others' perceptions, other content relates to internal shame (Andrews et al., 2002). In addition, the ESS is useful in studying mental health; Andrews et al.'s (2002) study found that the ESS explains more variance in depression scores than the TOSCA. Although both scales predicted depressive symptoms, only the ESS contributed significant variance to depression scores over time. Confirmatory factor analysis (CFA) has also shown that the factor structure of the ESS is adequate in both clinical and non-clinical samples, making it a strong scale (Vizin et al., 2016). Therefore, the ESS is an appropriate scale for measuring internal shame in this study.

1.3 Shame and Self-Compassion

Self-compassion is kindness towards the self when experiencing negative events such as perceived personal failures, flaws or suffering, and is helpful in coping with negative experiences (Germer & Neff, 2013; Neff, 2003). Neff (2003) created the Self-Compassion Scale (SCS), adopting a Buddhist conception of self-compassion. The SCS consists of three main interrelated components: self-kindness vs. self-judgment; common humanity vs. isolation; and mindfulness vs. over-identification (Germer & Neff, 2013; Lalli, 2019; Raes, Pommier, Neff & Van Gucht, 2011). Self-kindness is being empathetic towards the self rather than exercising self-judgment. Common humanity recognises that hardships, perceived imperfections and

MEDITATION EXPERIENCE AND SHAME

painful events are all part of the human condition, whereas isolation refers to feeling alone in one's imperfections. Mindfulness is to remain aware of one's thoughts and emotions rather than to engage in over-identification, which involves over-analysing and exaggerating negative experiences. Neff (2003) stated that for one to completely experience self-compassion, a mindful attitude must be applied. Self-compassion is positively correlated with beneficial outcomes such as overall wellbeing, optimism, life-satisfaction, self-esteem, emotional intelligence and social connectedness (Bluth & Blanton, 2014; Germer & Neff, 2013; Petersen, 2014). Self-compassion is also correlated with lower risk for substance abuse disorder, rumination and self-criticism (Phelps, Panigua, Willcockson & Potter, 2018; Trompetter, Kleine & Bohlmeijer, 2017). It is also a predictor of anxiety and depression (Yamaguchi, Kim & Akutsu, 2014).

Current studies, whilst limited, suggest that self-compassion is negatively correlated with both external shame (OAS;Marta-Simões, Ferreira & Mendes, 2016) and internal shame (Barnard & Curry, 2012). Zhang et al. (2018) also found that self-compassion mediated the relationship between shame (measured by the ESS) and depressive symptoms in a group of African Americans. In a study measuring young women athletes, Mosewich, Kowalski, Sabiston, Sedgwick and Tracy (2011) reported that the SCS negatively correlated with the TOSCA.

Ferreira, Pinto-Gouveia and Duarte (2013) investigated the relationship between shame and body image in clinical and non-clinical samples. Self-compassion had a mediating effect between external shame and a desire to be thin in both samples (Ferreira et al., 2013). Another study identified self-compassion as a moderating variable in the relationship between traumatic memories and central features of shame memories and severity of eating disorders (Ferreira, Matos, Duarte & Pinto-Gouveia, 2014).

Studies have also reported that interventions involving self-compassion can lead to reduced shame. In Johnson and O'Brien's (2013) study, students reporting greater shame-

MEDITATION EXPERIENCE AND SHAME

proneness were instructed to recall an event in which they experienced shame and were then randomly assigned to either write about this experience self-compassionately, express how they felt in writing, or neither. Participants repeated this thrice over one week. Results found that immediately after writing, participants in the self-compassion condition reported lower shame than the expressive writing group (Johnson & O'Brien, 2013).

Similarly, Lucre and Corten (2012) found significant reductions in shame, particularly external shame, in participants with personality disorders who underwent Compassion Focussed Therapy, a self-compassionate approach to shame. De-shaming enabled participants to become more self-compassionate, by allowing them to appreciate that hardships are part of the human condition (Gilbert, 2014; Lucre & Corten, 2012).

1.4 Shame and Mindfulness

Mindfulness is a mental state where one non-judgmentally observes the present moment (Gu et al., 2016; Hofmann, Sawyer, Witt & Oh, 2010). Bishop et al. (2004) suggested that mindfulness comprises self-regulation of attention, where one directs awareness to the present moment and observes thoughts, feelings and sensations, followed by orientation to experience, staying curious and accepting any thoughts, feelings and sensations that occur.

Mindfulness is frequently measured using the Five Facet Mindfulness Questionnaire (FFMQ; Baer, Smith, Hopkins, Krietemeyer & Toney, 2006). The FFMQ measures five facets of mindfulness: Observing, Describing, Acting with Awareness, Non-judging of Inner Experience and Non-reactivity to Inner Experience. Observing is awareness of internal and external experience such as sounds, emotions, thoughts, bodily sensations and smells. The describing facet relates to expressing one's feelings and experiences in words. Acting with awareness involves being present to the current moment. Non-judging of inner experience involves accepting any thoughts and emotions that one experiences, rather than analysing them. Non-reactivity to inner experiences is the ability to detach from thoughts and emotions (Gu et

MEDITATION EXPERIENCE AND SHAME

al., 2016). The FFMQ-15 is a shortened version of the FFMQ, created to minimise participant burden (Baer, Carmody & Hunsinger, 2012; Gu et al., 2016; McAndrews, Richardson & Stopa, 2019). Both scales are strongly correlated, suggesting that they measure the same constructs (Baer et al., 2012).

Studies have shown that for non-meditating participants, the FFMQ is a stronger measure of mindfulness without the observing facet. Baer et al (2008) conducted confirmatory factor analysis on the FFMQ in meditating and non-meditating samples and reported that the observing facet failed to fit an overarching model of mindfulness (Baer et al., 2008). Additional research supports these findings (Baer, Smith & Allen, 2004; Baer et al., 2006; Baer et al., 2008; de Bruin, Topper, Muskens, Bögels, & Kamphuis, 2012; Gu et al., 2016). When examining the factor structure of the FFMQ-15 with the original FFMQ, Gu et al., (2016) also deemed it appropriate to exclude the observe facet from the FFMQ-15. Therefore, when measuring mindfulness in meditating and non-meditating samples it appears appropriate to exclude the observing facet (Gu et al., 2016; Mandal, Arya & Pandey, 2016).

Measures of mindfulness such as the FFMQ are associated with many psychological benefits. In particular, increased mindfulness is correlated with increased emotional wellbeing, self-compassion, and lower levels of depressive symptoms (Baer, Lykins & Peters, 2012; Bluth & Blanton, 2014).

Mindfulness is also associated with shame. Lamont (2019) found that shame was negatively correlated with the describing, acting with awareness, non-judging of inner experience and the non-reactivity to inner experience facets. Similarly, Woods and Proeve (2014) found that participants who scored higher on the FFMQ generally scored lower on shame-proneness, supporting a negative correlation between shame and the mindfulness facets.

Mindfulness-related interventions are associated with better mental health outcomes. Mindfulness Based Stress Reduction (MBSR), a mindfulness intervention, is an 8-week

MEDITATION EXPERIENCE AND SHAME

course teaching mindfulness meditation skills (Davis & Hayes, 2011; Solhaug et al., 2016). One study found that following MBSR training, participants reported decreased scores on self-reported rumination, psychological distress, depression, anxiety, and physical illness (McKim, 2008). Mindfulness-based Cognitive Therapy (MBCT), an intervention based on MBSR, has been linked to decreased depression (Deyo, Wilson, Ong & Cheryl, 2009). Acceptance and Commitment Therapy (ACT), another mindfulness-based intervention, focuses on accepting negative experiences rather than ignoring them (Luoma, Kohlenberg, Hayes & Fletcher, 2012). Studies have reported that the mindfulness awareness component of ACT is linked to decreased experiential avoidance (Hayes, Luoma, Bond, Masuda & Lillis, 2006) and increased psychological flexibility (Kashdan & Rottenberg, 2010). Like ACT, Compassion Focussed Therapy (CFT) includes certain mindfulness exercises amongst other exercises. One study incorporating CFT revealed that this intervention was associated with decreased self-criticism, shame, depression and anxiety (Gilbert & Procter, 2006). In comparison, MBCT and MBSR focus almost exclusively on meditation practice.

Mindfulness interventions are also relevant in reducing shame. Keng and Tan (2017) found decreases in shame when comparing the effects of mindful breathing and loving-kindness meditation (LKM) in persons with high Borderline Personality Disorder traits. The study reported significantly decreased shame from pre-to-post-testing for those in the mindfulness group as opposed to the LKM group. Proeve et al.'s (2018) pilot study investigated the effect that MBCT had on shame, self-compassion and psychological distress in anxious and depressed patients. After taking part in a MBCT programme there were significant decreases in shame-proneness from pre-to-post treatment. However, MBCT did not significantly decrease external shame (Proeve et al., 2018).

Luoma et al.'s (2012) study investigated the impact of ACT on shame in substance users. Participants were randomly assigned to a Treatment as Usual group (TAU) or an ACT

MEDITATION EXPERIENCE AND SHAME

group (Luoma et al., 2012). Participants in the TAU group showed medium to significant improvement in levels of internal shame from pre-to-post treatment, which later dropped in magnitude to small and nonsignificant changes from pretreatment to post-treatment. The ACT group demonstrated small and significant improvements in internal shame from pre-to-post treatment, which increased to medium and significant improvements in the follow up period. Therefore, ACT was linked to reduced internal shame, supporting previous studies.

1.5 Shame and Rumination

Rumination is repeatedly focussing on the origin, symptoms and consequences of one's negative mood (Wolkin, 2015), and typically involves finding reasons for one's distress (Treyner, Gonzalez & Nolen-Hoeksema 2003). The Ruminative Responses Scale (RRS) was originally a 22-item measure of rumination; however, Treyner et al, (2003) constructed a revised RRS, a two-factor model with 10 items measuring reflection and brooding (Treyner et al., 2003). The five reflection items in the RRS all relate to contemplating how one feels, while the five brooding items all relate to "think[ing] anxiously or gloomily" about one's mood (Treyner et al., 2003). Unlike the reflection factor, the brooding factor has been found to be maladaptive; it predicts depressive symptoms and is associated with more severe depression over time (Treyner et al., 2003). Whitmer and Gotlib (2011) reported that all five brooding items load together in all three groups and is a more stable subscale than the reflection component. Therefore, the brooding factor is the most relevant aspect regarding rumination for mental health.

Rumination is a risk factor in the onset of depression, predicting greater depressive symptoms (Cheung, Gilbert, & Irons, 2004; Treyner et al., 2003). Rumination also appears to mediate the gender difference, that women ruminate more than men, in depression (Treyner et al., 2003). One prospective study reported that participants who responded to their depressive

MEDITATION EXPERIENCE AND SHAME

symptoms through rumination were at greater risk of experiencing a major depressive episode over 18 months, rather than those who distracted themselves (Just & Alloy, 1997).

Rumination is negatively correlated with mindfulness interventions and with self-compassion (Deyo et al., 2009; Svendsen, Kvernenes, Wiker & Dundas, 2017; Williams, 2015). One study investigated the effect of MBSR on rumination in a clinical sample of individuals with lifetime mood disorders over an eight-week period (Deyo et al., 2009). Participants who received MBSR training, unlike those in a wait-list sample, reported decreased rumination (Deyo et al., 2009). Another study analysing the effect of MBSR on rumination in an adult community sample demonstrated that those who completed MBSR training experienced significant decreases in rumination (Deyo et al., 2009).

Rumination is also negatively correlated with self-compassion measures. Raes (2010) found that the brooding factor of rumination (as measured by the RRS) mediates the relationship between self-compassion (as measured by the SCS) and depression.

Further, rumination is positively correlated with external and internal shame (Cheung et al., 2004). One study reported that the RRS was significantly positively correlated with the OAS and the ESS (Cheung et al., 2004). Orth, Berking and Simone (1999) considered the effect that shame, guilt and rumination had on depression amongst parents who had experienced a family breakup. The results suggested that rumination mediates the relationship of shame to depression (Orth et al., 1999).

1.6 Shame, Meditation and Possible Mediators

Meditation practice is associated with a number of positive outcomes such as decreased psychological and physical problems (Monk-Turner, 2003; West, 1987). Meditation has also been found to reduce rumination (Hemo & Lev Ari, 2015; Jain et al., 2007), and to increase mindfulness and self-compassion (Baer et al. 2008; Baer et al., 2012).

MEDITATION EXPERIENCE AND SHAME

Further, evidence suggests that meditation is associated with reduced shame. Woods and Proeve (2014) investigated the relationship between meditation frequency and shame-proneness. Lower shame scores were found in participants who meditated at least once a month (Woods & Proeve, 2014). Additionally, this study found that participants who meditated once per month or more had higher scores on the FFMQ and SCS than those who meditated less frequently (Woods & Proeve, 2014).

The relationship between meditation and shame may exist because it is mediated by mindfulness and self-compassion. Self-compassion and mindfulness have been identified as mediators in the impact of meditation on happiness. Campos et al., (2015) found that the observing and awareness facets in the FFMQ and the self-kindness and common humanity facets in the SCS-SF partially mediated the positive relationship between meditation and happiness.

Research also identifies rumination as a possible mediator of meditation on positive outcomes (Wolkin, 2015). This systematic review supported previous research that mindfulness meditation (MM) leads to psychological wellbeing through decreased rumination.

1.7 The Present Study

Proeve et al. (2018) suggested that MBCT, which employs meditation techniques, may affect internal but not external shame. In order to test the relevance of this finding to meditation experience, the first aim of the present study is to examine the relationship of meditation experience (frequency, duration and type of meditation) with internal and external shame. The second aim is to examine the role of possible mediators (rumination, self-compassion and mindfulness). Hyman (1955) suggested that mediation analysis requires a time-ordered relationship, where the predictor variable should come first, followed by the mediator and then the outcome. This study approaches this standard through what Tate (2015) labels a conceptual time-ordered relationship. Although this study collected all measures at one time, asking

MEDITATION EXPERIENCE AND SHAME

participants to recount the number of years, minutes and frequency of their meditation practice enabled the assumption that the predictor (meditation experience) preceded the possible mediators (mindfulness, self-compassion and rumination).

Based on previous research, Hypothesis 1 is that rumination is positively correlated with both internal and external shame, and mindfulness and self-compassion will negatively correlate with both types of shame. Hypothesis 2 is that there is a relationship between greater meditation experience and lower internal shame, but not external shame. Hypothesis 3 is that there is a relationship of meditation experience with lower rumination and greater mindfulness and self-compassion. As meditation is associated with increased mindfulness, self-compassion and reduced rumination, which are associated with shame, the final hypothesis (Hypothesis 4) is that meditation experience will have indirect relationships with shame, through self-compassion, mindfulness and rumination.

Method

Participants

The sample comprised of 230 participants who took part in the study, of which 62 withdrew early. With the incomplete responses excluded, the final sample was 168 participants. Of these, there were 115 females (68.5%), 51 males (30.4%), 1 who preferred not to disclose the gender (.6%) and 1 who did not specify (.6%). Participants' ages ranged from 18-74 ($M = 32.93$, $SD = 15.18$), and 13 did not specify their age. Participants' highest level of formal education ranged from currently in high school ($N=4$), graduated high school ($N=43$), completing TAFE or another technical diploma ($N=10$), finishing their undergraduate degree ($N=59$) or completing a postgraduate degree ($N=46$). Participants mostly spoke English as their first language 153 (91.1%), and others reported Chinese ($N=1$), Dutch ($N=1$), French ($N=1$), Hindi ($N=2$), Mandarin ($N=1$), Punjabi ($N=1$), Spanish ($N=1$), Tamil ($N=2$), Telugu ($N=1$), Urdu ($N=1$) and Vietnamese ($N=2$) as their first language.

MEDITATION EXPERIENCE AND SHAME

A priori analysis indicated that a sample size of 159 would be sufficient to detect a significant effect with 1 predictor using a power of .8, an alpha of .05 and an effect size of .05.

Procedure

The study was approved by The Human Research Ethics Sub-Committee, School of Psychology at the University of Adelaide. Participants were recruited from the University of Adelaide first-year Psychology pool or Facebook. Participants completed an online survey via SurveyMonkey and were informed that participation in the study was voluntary and of their right to withdraw their participation at any time. Participants were eligible if they had a good command of English and were aged at least 18 years. This was checked by the investigator.

The survey took approximately 15 minutes to complete. After participants consented to participation, they reported demographic information (age, gender, highest education level, first language, country of birth) and completed self-report measurements of meditation experience, internal shame, external shame, self-compassion, mindfulness and rumination.

Measures

Meditation Experience Questions

Meditation experience was collected through a short questionnaire. The meditation experience questions assessed the duration of meditation, frequency of meditation, minutes of meditation and type of meditation. Duration of meditation was measured as a categorical variable: “*How long have you practiced meditation*” with response options ranging from “*Never*” to “*More than 10 years*”. Frequency was measured as a continuous variable by identifying the number of meditation sessions per week. Minutes of meditation was measured as a continuous variable and type of meditation was measured as a categorical variable.

Experience of Shame Scale (ESS; Andrews, Qian & Valentine, 2002).

MEDITATION EXPERIENCE AND SHAME

Constructed using a previous interview measure, the ESS is a 25-item self-report questionnaire consisting of eight properties of shame: four areas of characterological shame (personal habits, manner with others, sort of person [you are] and personal ability), three areas of behavioural shame (doing something wrong, saying something stupid, and failure in competitive situations) and bodily shame (feeling ashamed of [your] body or any part of it). Participants rate each item on a 4-point Likert-type scale, which ranges from 1 (*not at all*) to 4 (*very much*). Participants rate each item based on their attitude in the last year, e.g. “*Have you tried to cover up or conceal any of your personal habits?*”. The ESS has high internal consistency (Cronbach’s alpha = .92), and test-retest reliability over a period of 11 weeks ($r = .83$) and has also demonstrated good construct validity on characterological, behavioural and bodily shame. (Vizin, Urbán, & Unoka, 2016).

Other as Shamer Scale (OAS; (Goss, Gilbert & Allan, 1994).

Originally taken from the Internalised Shame Scale (ISS), the OAS is an 18-item scale that measures levels of external shame (Balsamo et al., 2014). The OAS asks participants to rate items based on how they believe others perceive them. Items are rated on a 5-point Likert-type scale, where participants are asked to rate from 0 (*never*) to 4 (*almost always*) based on the frequency that they experience particular events (Goss, Gilbert & Allan, 1994). For example, one item asks participants to what extent they feel “*Other people see [them] as small and insignificant*” (Balsamo et al., 2014). The scale has a high Cronbach’s alpha ($\alpha = .94$) (Goss, Gilbert & Allan, 1994). Confirmatory factor analysis represents a hierarchical model with OAS as a second-order factor and inferiority, emptiness and mistake as three-first order factors (Balsamo et al., 2014).

Self-Compassion Scale Short Form (SCS-SF; (Raes, Pommier, Neff, & Van Gucht, 2011).

MEDITATION EXPERIENCE AND SHAME

The SCS-SF is a 12-item short form comprised from Neff's 26-item Self Compassion Scale (Neff, 2003). Both versions measure six components of self-compassion; self-kindness, self-judgment, common humanity, isolation, mindfulness and over-identification (Raes et al., 2011). Participants are asked to rate on a Likert-type scale, ranging from 1 (*almost never*) to 5 (*almost always*) how they typically treat themselves in difficult circumstances, e.g. "*I try to be understanding and patient towards those aspects of my personality I don't like*" The shortened version demonstrates a strong correlation with the full version ($r \geq .97$) (Raes et al., 2011). CFA shows that the SCS-SF possesses the same higher order factor structure as the SCS. The SCS-SF has adequate internal consistency (Cronbach's alpha = .86) (Raes et al., 2011).

15-item Five-Facet Mindfulness Questionnaire. (FFMQ-15; Baer, 2012).

The FFMQ-15 is a shortened scale of the original 39-item FFMQ. Both scales include five facets of mindfulness; Observing, Describing, Acting with Awareness, Non-judging of inner experience, and Non-reactivity to inner experience (Baer, Carmody & Hunsinger, 2012). The FFMQ-15 is a Likert-type scale, where participants rate how true they find a statement on a scale of 1 (*never or very rarely true*), to 5 (*very often or always true*) (Baer, Carmody & Hunsinger, 2012). Items include, "*I have trouble thinking of the right words to express how I feel about things*" (Baer, Carmody & Hunsinger, 2012). The FFMQ-15 consists of three items per facet which were determined based on their factor loadings and content. The FFMQ-15 and the FFMQ-39 report significant correlations between the total facet scores, suggesting that both versions measure the same constructs (Gu et al., 2016). Gu et al., (2016) proposed that the internal consistency for the FFMQ-15 was adequate ranging from .60-.80 prior to mindfulness-based cognitive therapy (MBCT) and .69-.83 after MBCT, and deemed

MEDITATION EXPERIENCE AND SHAME

the FFMQ-15 a reliable and valid measure. This study excluded the observing facet because non-meditators were included in the study.

Ruminative Response Scale (Treynor, Gonzalez & Nolen-Hoeksema, 2003); *Brooding Sub-scale* (BSS) (Whitmer & Gotlib, 2011).

The Ruminative Response Scale (RRS) is a 22-item self-report Likert-type scale measuring levels of rumination in participants (Treynor, Gonzalez & Nolen-Hoeksema, 2003). The RRS contains two components of rumination; reflection and brooding (Whitmer & Gotlib, 2011). Studies indicate that the five items consisting of brooding is a stronger sub-scale than reflection (Whitmer & Gotlib, 2011) and therefore only this scale was used (Treynor, Gonzalez & Nolen-Hoeksema, 2003). Participants report how they tend to respond to situational questions such as “*why do I always react this way*” on a scale of 1 (*almost never*) to 4 (*almost always*). The coefficient alpha for the Brooding sub-scale was .77 at Time 1 and test-retest correlation was $r = .62$ (Treynor, Gonzalez & Nolen-Hoeksema, 2003).

Design and Analysis

This was a correlational study. IBM Statistical Package for the Social Sciences (SPSS) Statistics 25 was used to perform data analysis. Pearson’s correlations were conducted to test hypotheses, and one-way ANVOAS were used to assess the effects of meditation experience. Finally, mediation analysis was conducted using PROCESS 2.16.

Results

Preliminary Data

Analysis of histograms and skew revealed that the OAS, ESS, SCS-SF, RRS and FFMQ-15 were all normally distributed. Visual inspection of scatterplots determined that they were linearly related. Outliers were assessed using the labelling rule where the Interquartile

MEDITATION EXPERIENCE AND SHAME

range is multiplied by 1.5 and added to the upper quartile or subtracted from the lower quartile. Scores that lie above the upper value or below the lower value are considered outliers (Hoaglin & Iglewics, 1987; Tukey, 1977). The upper value of the OAS as determined by the labelling rule was 51.5. There were four outliers for the OAS (66, 59, 55 and 53). The 66, 59 and 55 values were removed from analysis as they deviated too far from the upper value. However, the 53 value did not deviate too far from a normal distribution so was changed to 51.5 to fit within a normal distribution while still being extreme. Similarly the FFMQ-15 had two values (314 and 304) which resided above the upper value (302). The 314 value was excluded from the data as it was too far from the upper value, but the 304 value changed to 302 as it was the most extreme value that still fit within a normal distribution.

Descriptive Analyses

Table 1 shows the number of participants and percentages in each category of meditation. Frequency of meditation and minutes of meditation were changed from continuous variables to categorical variables due to the limited number of meditators. Most commonly, participants had not meditated (51.2%) or had meditated less than 1 year (24.4%). Meditating participants most frequently meditated less than once a month (14.9%) and from 1-10 minutes (19.6%). The most common form of meditation used was mindfulness meditation (31.5%).

MEDITATION EXPERIENCE AND SHAME

Table 1

Frequency and percentages of participants in each category of meditation (Years of Meditation, Frequency of Meditation, Minutes of Meditation Session and Type of Meditation)

N=168

Years of Meditation	<i>N</i>	%
Never	86	51.2
Less than 1 year	41	24.4
1-5 years	22	13.1
6-10 years	10	6.0
More than 10 years	9	5.4
Frequency of Meditation Practice		
Never	91	54.2
Less than once a month	25	14.9
At least once a month but not weekly	20	11.9
1-2 times a week	10	6.0
3-6 times a week	14	8.3
Daily or more	8	4.8
Minutes of Meditation Session		
0	96	57.1
1-10	33	19.6
11-19	16	9.5
20-29	12	7.1
30 or more	11	6.5
Type of Meditation		

MEDITATION EXPERIENCE AND SHAME

Centering Prayer	1	.6
Concentrative Meditation	21	12.5
Mindfulness Meditation	53	31.5
Other	8	4.8

Table 2 shows descriptive statistics for measures used in the study. There was moderate to high internal consistency as shown in Table 2.

Table 2

Internal Consistency, Means, Standard Deviations and Confidence Intervals for Measures of External Shame, Internal Shame, Self-Compassion, Rumination and Mindfulness

Measures	A	Mean	SD	95% Confidence Interval for Mean	
				Lower Bound	Upper Bound
OAS	.94	21.54	11.40	19.81	23.28
ESS	.97	53.93	17.04	51.33	56.52
SCS-SF	.84	3.09	.65	2.99	3.19
RRS	.86	10.73	3.58	10.18	11.27
FFMQ-15	.78	38.48	6.37	37.51	39.45

Notes: OAS = Other as Shamer Scale, ESS = Experience of Shame Scale, SCS-SF = Self-Compassion Scale Short-Form, RRS = Ruminative Responses Scale (brooding component), FFMQ-15 = 15-item Five Facet Mindfulness Questionnaire

MEDITATION EXPERIENCE AND SHAME

Independent samples *t*-tests of gender differences across measures showed no significant differences for the OAS, ESS, RRS, SCS-SF and FFMQ-15 (shown in Appendix A).

Age was negatively correlated with the OAS ($r = -.39$), ESS ($r = -.43$) and the RRS ($r = -.39$), and was positively correlated with the SCS-SF ($r = .30$) and the FFMQ-15 ($r = .38$).

With greater levels of education, shame and rumination decrease, and mindfulness and self-compassion increase. One-way ANOVAS revealed that as education level increased, scores for OAS $F(4, 160) = 5.73, p < .001$, ESS $F(4, 160) = 5.06, p = .001$, and RRS $F(4, 160) = 10.61, p < .001$ levels significantly decreased, while the SCS-SF $F(4, 160) = 3.27, p = .013$ and FFMQ-15 $F(4, 160) = 8.6, p < .001$, levels increased. Tukey's HSD determined that the OAS contained significant differences between being a High School Graduate ($M = 32.75, SD = 12.3$) and completing a Postgraduate degree ($M = 11.3, SD = 9.02$); the ESS showed significant differences being between completing High School ($M = 61.86, SD = 14.48$) and finishing a Postgraduate degree ($M = 47.08, SD = 13.76$); the RRS had significant differences between being a High School Graduate ($M = 13.09, SD = 3.48$) compared with those who have completed their Undergraduate degree ($M = 9.75, SD = 3.03$) or their Postgraduate degree ($M = 9.48, SD = 2.96$); significant differences in the SCS-SF between a High School Graduate ($M = 2.83, SD = .71$) and completing a Postgraduate degree ($M = 3.26, SD = .63$); and for the FFMQ-15 between High School Graduates ($M = 34.72, SD = 5.43$) and having an Undergraduate degree ($M = 39.4, SD = 6.33$) or completing a postgraduate degree ($M = 41.19, SD = 6.03$).

Tests of Hypothesis 1: Bivariate Relationships

As anticipated, rumination was positively correlated with internal shame ($r = .74$) and external shame ($r = .68$), while self-compassion was negatively correlated with internal shame ($r = -.66$) and external shame ($r = -.58$) and mindfulness was also negatively correlated with

MEDITATION EXPERIENCE AND SHAME

internal shame ($r = -.61$) and external shame ($r = -.59$). Table 3 shows the correlations for the OAS, ESS, RRS, SCS-SF and FFMQ-15.

Table 3

Summary of Correlations for Scores on OAS, ESS, RRS, SCS-SF and FFMQ (N=168)

	1	2	3	4	5
1. OAS					
2. ESS	.77**				
3. RRS	.68**	.74**			
4. SCS-SF	-.58**	-.66**	-.67**		
5. FFMQ-15	-.59**	-.61**	-.65**	.65**	

Notes: OAS = Other as Shamer Scale, ESS = Experience of Shame Scale, SCS-SF = Self-Compassion Scale Short-Form, RRS = Ruminative Responses Scale (brooding component), FFMQ-15 = 15-item Five Facet Mindfulness Questionnaire

** $p < 0.01$

Tests of Hypothesis Two: Meditation Experience with Shame Scales

Those who had meditated for *6 years* and for *10 years or more* were combined into one category (*6+ years*) due to limited numbers of meditators within each group. For external shame, one-way ANOVAs showed a non-significant effect for years of meditation, $F(3, 164) = 2.35$, $\eta^2 = .04$, $p = .07$, and minutes of meditation sessions $F(4, 163) = 1.25$, $\eta^2 = .03$, $p = .29$, on OAS. Although a one-way ANOVA suggested that as frequency of meditation increases, external shame decreases $F(5, 162) = 2.35$, $\eta^2 = .07$, $p = .04$, no significant differences were found between the groups with post-hoc comparisons (Tukey's HSD).

With greater years of meditation and frequency of meditation practice, internal shame decreases. For internal shame, years of meditation practice $F(3, 164) = 4.12$, $\eta^2 = .07$, $p = .01$, and frequency of meditation practice $F(5, 162) = 4.30$, $\eta^2 = .12$, $p = .001$, but not minutes of

MEDITATION EXPERIENCE AND SHAME

meditation sessions, $F(4, 163) = 2.26$, $\eta^2 = .05$, $p = .06$, had statistically significant effects on the ESS. Post-hoc comparisons (Tukey's HSD) showed significant differences between those who had meditated *less than 1 year* and those who had meditated for *6+ years*, as can be observed in Table 4.

Table 4

Means, Standard Deviations and 95% Confidence Intervals for Years of Meditation and Internal Shame

			95% Confidence Interval for Mean	
	Mean	SD	Lower Bound	Upper Bound
Never	53.95	16.89	50.33	57.57
Less than 1 year	60.15	16.98	54.79	65.5
1-5 years	49.77	12.7	44.1	55.36
6-10 or 10+ years	45.26	18.17	36.5	54.02
Total	53.99	17.04	51.33	56.52

For frequency of meditation, Tukey's HSD showed significant differences between those who meditated *3-6 times per week* compared with those who meditated *less than once a month, at least once a month but not weekly*, and between those who meditated *1-2 times a week*. Those who *never* meditated obtained lower scores on internal shame, but not significantly lower, than those who meditated less than *3-6 times a week*. Table 5 shows means and standard deviations for frequency of meditation and internal shame.

The results support Hypothesis 2, as meditation experience (frequency of meditation and years of meditation) is associated with decreased internal shame, but not with external shame.

MEDITATION EXPERIENCE AND SHAME

Table 5

Means, Standard Deviations and 95% Confidence Intervals for Frequency of Meditation and Internal Shame

	Mean	SD	95% Confidence Interval for Mean	
			Lower Bound	Upper Bound
Never	53.47	16.69	50	56.95
Less than once a month	59.28	13.39	53.75	64.81
At least once a month but not weekly	60.05	18.25	51.51	68.6
1-2 times a week	61	19.66	46.94	75.06
3-6 times a week	41	10.02	35.21	46.79
Daily or more	40.88	18.26	25.61	56.14
Total	53.93	17.04	51.33	56.52

Tests of Hypothesis Three: Meditation Experience with rumination, self-compassion and mindfulness

A one-way ANOVA revealed that for more years of meditation there was less overall rumination $F(3, 164) = 4.18, \eta^2 = .07, p = .01$. Tukey's HSD revealed significant differences between those who had meditated *less than 1 year* ($M = 12.07, SD = 4.07$) and those who meditated *1-5 years* ($M = 9.18, SD = 2.77$).

Frequency of meditation also showed significant decreases in rumination $F(5, 162) = 3.48, \eta^2 = .10, p = .01$. Post-hoc comparisons revealed significant differences on rumination levels between those who meditated *3-6 times a week* ($M = 7.79, SD = 2.33$) compared with those who *never* meditated ($M = 10.69, SD = 3.4$), those meditating *less than once a month*

MEDITATION EXPERIENCE AND SHAME

($M = 11.24$, $SD = 2.82$), those who meditated *at least once a month but not weekly* ($M = 12.15$, $SD = 4.04$) and those who meditated *1-2 times a week* ($M = 12.2$, $SD = 4.96$).

A one-way ANOVA found that for greater years of meditation, self-compassion increases $F(3, 164) = 4.96$, $\eta^2 = .08$, $p = .01$. Tukey HSD revealed that there were significant differences between self-compassion levels for those who meditated *less than once a month* ($M = 2.84$, $SD = .64$) and those who have meditated *6+ years* ($M = 4.36$, $SD = .69$).

Greater frequency of meditation also showed increased self-compassion levels $F(5, 162) = 6.47$, $\eta^2 = .17$, $p < .001$. Those who meditate *3-6 times a week* ($M = 3.82$, $SD = .52$) had significantly greater self-compassion compared with those who *never* meditated ($M = 3.10$, $SD = .65$), meditated *less than once a month* ($M = 2.74$, $SD = .5$), meditated *at least once a month but not weekly* ($M = 2.95$, $SD = .59$), and those who meditated *1-2 times a week* ($M = 2.9$, $SD = .33$).

More minutes in a meditation session showed greater self-compassion scores $F(4, 163) = 2.79$, $\eta^2 = .06$, $p = .028$ as determined by a one-way ANOVA. Tukey's HSD showed a significant difference in self-compassion scores between those who meditated for *1-10 minutes* ($M = 2.89$, $SD = .73$) and those who meditated for *11-19 minutes* ($M = 5.51$, $SD = .59$).

Following this, the relationship of meditation experience to mindfulness was measured and it was revealed that for greater years of meditation and frequency of meditation, mindfulness increases. A one-way ANOVA showed the significant effect that years of meditation has on mindfulness $F(3, 164) = 3.33$, $\eta^2 = .06$, $p = .021$. Post-hoc comparisons identified a significant difference in mindfulness levels between those who meditated *less than 1 year* ($M = 36.46$, $SD = 5.45$) and those who meditated for *6+ years* ($M = 41.53$, $SD = 7.11$).

Frequency of meditation had a significant effect on mindfulness $F(5, 162) = 4.36$, $\eta^2 = .12$, $p = .001$. Tukey's HSD revealed significant differences in mindfulness between those who meditate *3-6 times a week* ($M = 44.14$, $SD = 4.91$) compared to those who *never* practice

MEDITATION EXPERIENCE AND SHAME

($M = 38.24$, $SD = 6.54$), those who practice *less than once a month* ($M = 37.2$, $SD = 3.94$), those who practice *at least once a month but not weekly* ($M = 37.7$, $SD = 5.66$) and those who practice *1-2 times a week* ($M = 34.3$, $SD = 4.69$). Hypothesis 3 was therefore supported.

Tests of Hypothesis Four: Indirect Effects

Because years of meditation and frequency of meditation showed significant differences on the ESS, only these measures of meditation were used in mediation analysis. The *never* group of meditators were excluded as the analysis was designed to test the relationships between meditation *practice*, shame, and possible mediators. To test the impact of ascending doses of meditation the years of meditation variable was reduced to three categories; *less than 1 year*, *1-5 years* and *6+ years*. This was because ANOVA revealed that *6+ years* of meditation was significantly different to *less than 1 year* for internal shame. *1-5 years* of meditation was a midway point between *less than 1 year* and *6+ years* and therefore three categories were made. Frequency of meditation was reduced to two groups (*2 times a week or less* and *3+ times a week*). This was due to the finding that participants who meditated *3-6 times a week* had significantly lower internal shame than those who meditated less. Categories were also combined due to limited meditators in some groups.

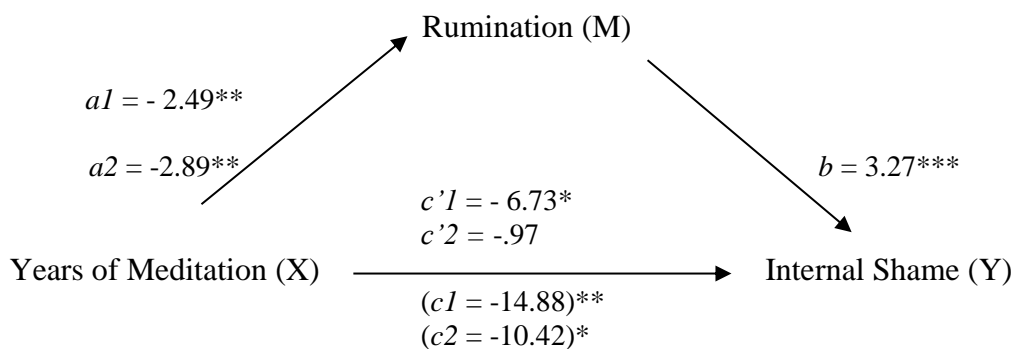
Linearity, homoscedasticity, normality of estimation error and independence of observations were met. Linearity and homoscedasticity were checked through visual inspection of scatterplots and the normality of estimation error assumption was checked using a P-P plot. When testing for independence of observations the tolerance and variance inflation factor (VIF) of collinearity was inspected. The tolerance was 1, as was the VIF, indicating independence of observations.

The first simple mediation analysis showed that years of meditation is indirectly related to internal shame (ESS) through its relationship with rumination, using PROCESS with 10,000 resamples and bias corrected and accelerated confidence intervals. Figure 1 shows that

MEDITATION EXPERIENCE AND SHAME

those who have meditated for 6+ years reported less internal shame (ESS) than those who meditated less than 1 year ($c = -14.88$, 95% CI $-23.86, -5.91$) and those who have meditated for 1-5 years reported less internal shame (ESS) than those who meditated less than 1 year ($c = -10.42$, 95% CI $-18.97, -1.87$). Rumination in those who had meditated 6+ years was lower than in those who had meditated less than 1 year ($a = -2.49$, 95% CI $-4.48, -.50$), and those who had meditated for 1-5 years reported less rumination than those who meditated less than 1 year ($a = -2.89$, 95% CI $-4.79, -1.00$). The model also shows that respondents who ruminate more have greater internal shame ($b = 3.27$, 95% CI $2.57, 3.96$). When rumination was included in the model, the direct effect of years of meditation on ESS was no longer significant for those who meditated for 1-5 years, ($c' = -.97$, 95% CI $-7.24, 5.30$), but the direct effect for those who meditated 6+ years remained significant, ($c' = -6.73$, 95% CI $-13.21, -.26$). The indirect effect for 6+ years of meditation ($ab = -8.15$) was below zero (-14.94 to -1.66), as was the indirect effect for 1-5 years of meditation ($ab = -9.45, -16.03$ to -4.18).

*Figure 1: The indirect effect of rumination in the relationship between years of meditation and internal shame. Notes: * $p < .05$, ** $p < 0.01$, *** $p < .001$; $a1$ is effect of 6+ years of meditation on rumination; $a2$ is the effect of 1-5 years of meditation on rumination; b is the effect of rumination on internal shame; $c'1$ is direct effect of 6+ years of meditation on internal shame; $c'2$ is the direct effect of 1-5 years of meditation on internal shame; $c1$ is total effect of 6+ years of meditation on internal shame; $c2$ is total effect of 1-5 years of meditation on internal shame.*



MEDITATION EXPERIENCE AND SHAME

Results from a second simple mediation analysis show that there was not an indirect effect through self-compassion of the relationship between years of meditation and internal shame (ESS). The indirect effect for *6+ years* of meditation ($ab = .01$) contained zero (-1.12 to 1.59), as did the indirect effect for *1-5 years* of meditation ($ab = .25$, -1.32 to 2.82), using bias-corrected and accelerated confidence intervals determined by 10,000 bootstrap samples.

Results from a third simple mediation analysis showed that years of meditation was indirectly related to internal shame (ESS) through its relationship with mindfulness. Those who have meditated for *6+ years* reported less internal shame (ESS) than those who meditated *less than 1 year* ($c = -14.88$, 95% $CI - 23.86, - 5.91$) and those who have meditated for *1-5 years* reported less internal shame (ESS) than those who meditated *less than 1 year* ($c = -10.42$, 95% $CI -18.97, - 1.87$). Mindfulness in those who had meditated *6+ years* was higher than in those who had meditated *less than 1 year* ($a = 5.06$, 95% $CI 1.85, 8.28$), and those who had meditated for *1-5 years* reported greater mindfulness than those who meditated *less than 1 year* ($a = 3.45$, 95% $CI .39, 6.51$). The model also shows that respondents who reported greater mindfulness had less internal shame ($b = -1.74$, 95% $CI -2.23, -1.25$). When mindfulness was included in the model, the direct effect of years of meditation on ESS was no longer significant for those who meditated for *1-5 years*, ($c' = -4.42$, 95% $CI -11.36, 2.52$), or for those who meditated *6+ years*, ($c' = -6.07$, 95% $CI -13.56, 1.42$). The indirect effect for *6+ years* of meditation ($ab = -8.81$) was below zero (-16 to -3.19), as was the indirect effect for *1-5 years* of meditation ($ab = -6$, -11.48 to -1.23). Therefore, increased years of meditation is associated with lower internal shame through mindfulness.

A simple mediation analysis showed that frequency of meditation practice indirectly related to internal shame (ESS) through its relationship with rumination. Those who meditated for *3+ times a week* reported less internal shame (ESS) than those who meditated any less ($c = -18.92$, 95% $CI - 26.65, - 11.18$). Rumination in those who had meditated *3+ times a week*

MEDITATION EXPERIENCE AND SHAME

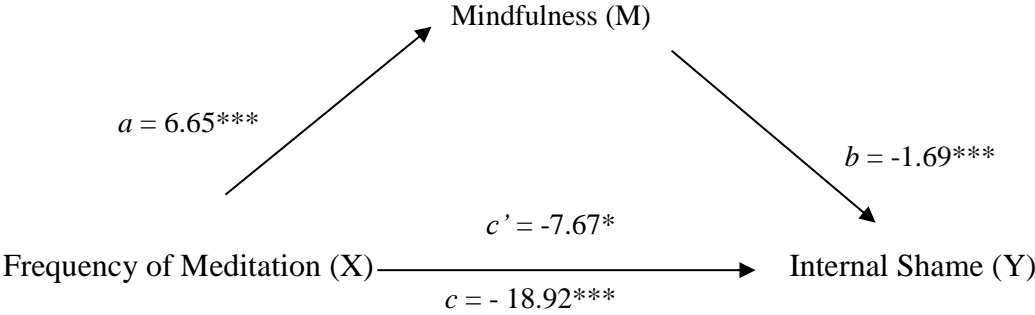
was lower than those who had meditated less than this ($a = -3.43$, 95% CI -5.18, -1.68). The model also shows that respondents who ruminate more have greater internal shame ($b = 3.05$, 95% CI 2.31, 3.79). When rumination was included in the model, the direct effect of frequency of meditation practice on ESS remained significant, ($c' = -8.46$, 95% CI -14.64, -2.29). The indirect effect for meditation frequency ($ab = -10.45$) was below zero (-15.79 to -5.92), using bias-corrected and accelerated confidence intervals determined by 10,000 bootstrap samples. Therefore increased frequency of meditation is associated with lower internal shame through rumination.

There was not a significant indirect effect through self-compassion on the relationship between frequency of meditation practice and internal shame (ESS). The indirect effect for frequency of meditation practice ($ab = .08$) contained zero (-.57 to 2.38).

The final simple mediation analysis suggested that frequency of meditation practice is indirectly related to internal shame (ESS) through its relationship with mindfulness. Figure 2 shows that those who have meditated for *3+ times a week* reported less internal shame (ESS) than those who meditated less ($c = -18.92$, 95% CI -26.65, -11.18). Mindfulness in those who had meditated *3+ times a week* was higher than in those who had meditated less ($a = 6.65$, 95% CI 3.92, 9.37). The model also shows that respondents who are higher in mindfulness have decreased internal shame ($b = -1.69$, 95% CI -2.22, -1.17). When mindfulness was included in the model, the direct effect of years of meditation on ESS remained significant, ($c' = -7.67$, 95% CI -14.84, -.51). The indirect effect for frequency of meditation practice ($ab = -11.25$) was below zero (-18.76 to -6.01), using bias-corrected and accelerated confidence intervals determined by 10,000 bootstrap samples.

MEDITATION EXPERIENCE AND SHAME

Figure 2: The indirect effect of mindfulness in the relationship between frequency of meditation and internal shame. Notes: * $p < .05$, ** $p < 0.01$, *** $p < .001$; a is effect of frequency of meditation on mindfulness; b is the effect of mindfulness on internal shame; c' is direct effect of frequency of meditation on internal shame; c is total effect of frequency of meditation on internal shame



Comparing mindfulness and rumination to see if one had a stronger indirect effect on the relationship between frequency of meditation and internal shame revealed no significant difference (2.75, -2.83 to 8.97). The indirect effect of mindfulness and rumination could not be compared for the relationship between years of meditation and internal shame because years of meditation was multi-categorical.

To investigate reasons for the lack of indirect effect of self-compassion, three separate self-compassion facets were computed from relevant items: mindfulness, self-kindness, and common humanity. Three separate simple mediation analyses were conducted. Only the *mindfulness facet* of self-compassion had a significant indirect effect for the relationship between frequency of meditation and internal shame ($ab = -3.93, -9.17$ to $-.11$), and for the relationship between years of meditation and internal shame, for *6+ years* of meditation ($ab = -3.03, -7.81$ to $-.54$), and for *1-5 years* of meditation ($ab = -2.57, -7.13$ to $-.40$).

As predicted, mindfulness and rumination were indirect effects the relationship between meditation experience and internal shame, but self-compassion was not. Therefore Hypothesis 4 was partially supported.

Discussion

This study investigated the relationship of meditation experience with internal shame and external shame. Hypothesis 1, that measures of self-compassion and mindfulness would be negatively correlated with measures of external shame and internal shame, while the rumination measure would be positively correlated, was fully supported.

The relationship between self-compassion on external shame and internal shame supports previous findings that these types of shame are negatively correlated with the SCS. However the correlations between internal and external shame on self-compassion measures was stronger in the current study, which used the SCS-SF (Marta-Simões et al., 2016; Barnard & Curry, 2012). As self-compassion requires kindness and understanding towards the self, especially in negative situations (Neff, 2003) it is directly opposite to shame, where one is critical and judgmental of the whole self (Mosewich et al., 2011). The self-kindness component in self-compassion conflicts with the negative self-evaluation aspect of shame (Mosewich et al. (2011). Similarly, the common humanity component in self-compassion opposes the self-focus behaviours aligned with shame. Finally, the mindfulness component of self-compassion conflicts with the over-identifying with thoughts about oneself aspect of shame. This explains why both internal shame and external shame negatively correlate with self-compassion.

Similarly, the relationship between the FFMQ-15 and internal shame follows previous findings that a negative correlation exists between mindfulness measures on internal shame scales (Woods & Proeve, 2014). The current study showed greater correlations between the FFMQ-15 and internal shame than Woods & Proeve's (2014) study. The results also found that those higher in the FFMQ-15 scored less on the OAS. The non-judging of inner experience and non-reactivity to inner experience facets of mindfulness contrast with shame. The non-judging of inner experience, which focuses on acceptance rather than focussing on one's

MEDITATION EXPERIENCE AND SHAME

negative thoughts directly contrasts with internal shame where one is critical of the self. Similarly the non-reactivity to inner experience facet requires one to detach from thoughts and emotions that arise, opposing the thoughts and beliefs that revolve around feeling undesirable and inferior, either through their own eyes or as perceived through the eyes of others.

Cheung et al. (2004) previously found that the RRS is positively correlated with the OAS and ESS; this was confirmed in the present study. The current study found greater correlations between the RRS and both types of shame than that seen in the study by Cheung et al., (2004). This may be because Cheung et al.'s (2004) study included the reflection items of the RRS, whereas this study included only the brooding items.

The second hypothesis was also supported, as meditation experience showed significant decreases in internal shame, but nonsignificant effects on external shame. For increased years of meditation and frequency of meditation, but not minutes of meditation there were significant decreases in the ESS. Those who had meditated for *6+ years* had significantly lower levels of internal shame than those who had been meditating for *less than a year*. In addition, those who meditated *3-6 times a week* had significantly decreased levels of internal shame compared with those who meditated *less than once a month, at least once a month but not weekly* and those who meditated *1-2 times a week*. These findings relate to previous research suggesting that those who meditate more regularly appear to experience less shame (Woods & Proeve, 2014).

Although these differences were nonsignificant, this study interestingly found that those who had *never* meditated had less internal shame than those who meditated *1-2 times a week* or less. Woods and Proeve's (2014) study similarly found that the *never* group of meditators had less shame-proneness than those who meditated *less than once per month*. This may be because people in the *never* group do not (feel the) need to meditate. In comparison those who

MEDITATION EXPERIENCE AND SHAME

do meditate, but infrequently may already struggle with areas of their life and attempt meditation in the hope it will help. Therefore they may already have greater shame than the *never* group, who does not perceive a need for meditation. What may also contribute to this finding is that one must meditate frequently to experience the positive effects of meditation. Therefore those who meditate for mental health may be under the impression that any dose of meditation will lead to immediate effects, and therefore people who meditate infrequently potentially become more aware of their negative feelings, resulting in greater shame. Meditation might also strengthen one's observing skills and therefore meditators may become more aware of the shame they experience, whereas people who never meditate may not be aware of their shame levels.

Meditation experience was associated with internal shame, not external shame, supporting previous research conducted by Proeve et al. (2018) which tested differences in shame after MBCT training (a mindfulness-based treatment incorporating meditation techniques). These findings indicate that meditation practice is suitable for addressing internal shame but not external shame. Meditation has a large internal focus, encouraging introspection, and hence there is reason to believe it may reduce internal shame. However meditation, as an internal process, may not cultivate the right skills needed to modulate external shame wherein one criticises themselves due to their belief on how they are perceived through an external environment. Further research is needed to explore strategies or practices directed to reducing external shame.

Hypothesis 3, namely that meditation experience is related to reduced rumination and increased mindfulness and self-compassion, was supported by the present study. Increased meditation experience was related to increases in the FFMQ-15 and the SCS-SF, as previously found by Woods and Proeve (2014). The results suggested that meditating for 6+ years,

MEDITATION EXPERIENCE AND SHAME

for *3-6 times a week*, and/or *11-19 minutes* per session results in higher levels of self-compassion. Mindfulness scores were also greater in those who had meditated for *6+ years* and in those who meditated *3-6 times a week*. In addition *1-5 years* of meditation was associated with less rumination, as was meditating *3-6 times a week*. These findings support previous research that increased meditation practice is associated with more mindfulness and self-compassion, and less rumination (Baer et al., 2012; Baer et al., 2008; Neff, 2003; Woods & Proeve, 2014; Wolkin, 2015).

Finally, the fourth hypothesis, that rumination, self-compassion and mindfulness would have an indirect effect on the relationship between meditation experience and internal shame was partially supported. Rumination and mindfulness were both indirect effects on the relationship between years and frequency of meditation on internal shame, however self-compassion was not. Increased years and frequency of meditation showed less rumination leading to lower internal shame. This finding supports Wolkin's (2015) study that mindfulness meditation results in better psychological wellbeing through decreased rumination. Similarly, those who meditated for longer and more often showed greater mindfulness and therefore less internal shame, aligning with Campos et al.'s (2015) study which found that mindfulness had a mediating effect on the relationship between meditation and happiness. When comparing rumination and mindfulness to see if one had a stronger indirect effect on the relationship between frequency of meditation and internal shame, it was revealed that neither was a stronger predictor and that both work independently of one another to reduce internal shame. Self-compassion did not have an indirect effect for either years of meditation or frequency of meditation on internal shame. However, when the mindfulness, self-kindness and common humanity components of self-compassion were tested the results showed that the mindfulness component was the only one that had an indirect effect on the relationship between meditation frequency and internal shame.

MEDITATION EXPERIENCE AND SHAME

The first major finding of the current study is that greater years of meditation and more frequent meditation, but not the number of minutes meditated, may decrease internal shame, but not external shame. This suggests that meditating over a long period and more often can be a useful tool in reducing internal shame, as previously suggested by Woods and Proeve (2014). This finding also implies that meditation, an internal process, is of limited utility in decreasing external shame.

The second major finding is that mindfulness and rumination, but not self-compassion have an indirect effect on the relationship between years of meditation and frequency of meditation on internal shame. This suggests that future interventions aiming to decrease internal shame should be directed to mindfulness and rumination. This finding suggests that meditation experience predominantly cultivates mindfulness skills but does not do the same for self-compassion. However, the sample is largely made up of meditators who participate in mindfulness meditation (63.1%), so it is possible that other types of meditation or interventions will also strengthen self-compassion skills and correspondingly reduce internal shame as found in previous studies (Proeve et al., 2018). Using this logic may help to explain why mindfulness and rumination, but not self-compassion were indirect effects on the relationship between meditation experience and internal shame. However, the current study's findings relate to Keng and Tan's (2017) which found that mindful breathing, a key component of mindfulness meditation, showed significant decreases in shame from pre-to-post testing compared to LKM (meditation involving compassion to the self and others) in patients with Borderline Personality Disorder.

A major implication is that unless one is prepared to meditate frequently and over long periods of time, it may be better to never meditate. Results consistently showed that those who meditated in smaller amounts or for less years than others had increased internal shame

MEDITATION EXPERIENCE AND SHAME

than the non-meditators. This suggests that little meditation practice may actually increase internal shame, which may be due to infrequent meditators being more aware of their negative emotions leading to increased internal shame. It may also be that the *never* group of meditators find no need to meditate as their levels of shame are already low.

There were several limitations to this study. First, this study used a convenience sample, recruited through the University of Adelaide first-year Psychology students and Facebook. Therefore, with a few exceptions the sample in this study mainly consisted of Australian participants (N=83.9%). This raises issues as to how representative the current sample is and hence potentially limits how the findings may be more broadly interpreted, particularly in other countries. Future studies should aim for diversity as meditation may be less effective in reducing internal shame in other nationalities.

Secondly, the sample consisted of a limited range of meditators. Although almost half of the sample had experience with meditation, only 11.5% of these had meditated for 6+ years. Only 8.3% of participants meditated 3-6 times per week. Therefore, decreased shame in these groups may be due to other factors. For example, many of the participants who meditated for 6+ years tended to be older and more educated. Therefore, age and education may have been confounding variables. In future a larger sample of meditators at the higher ends of the scale for years of meditation and frequency of meditation would be useful to confirm this link between meditation and shame. However, the sample was nevertheless a strength as it compared meditators with non-meditators. By including both of these groups and different categories of meditators, the study showed important differences between meditators and non-meditators.

Third, the majority of meditators undertook mindfulness meditation. Therefore, the link between meditation experience and types of shame may vary depending on the type of meditation practiced. However, this is also a strength of this study, as it provides stronger support

MEDITATION EXPERIENCE AND SHAME

that mindfulness meditation assists in reducing internal shame and can therefore be applied in future interventions seeking to combat this issue.

It is arguable that this study does not follow the time-ordered relationship needed for mediation analysis because all measures were collected at one time (Hyman, 2955). However if conceptual timing has occurred then mediation analysis is still applicable (Tate 2015). The retrospective approach used for the meditation questions assumes that the predictor (meditation experience) preceded the indirect effects (mindfulness and rumination), overcoming this issue.

To understand how mental health plays a role in the relationship between meditation and shame, future research should consider running a serial mediation. Because shame is a predictor of depression, it may be that increased meditation experience leads to greater mindfulness and less rumination, which decreases shame and may ultimately decrease depression. Therefore a serial mediation should be conducted with mindfulness, rumination and shame as mediators in the relationship between meditation experience and depression. Alternatively researchers could ask participants their reasons for meditating. These ideas would help to clarify the current theory that those who attempt meditating, but are infrequent, may be doing it to aid their mental health, therefore showing higher scores on types of shame than non-meditators.

As this study suggests that increased meditation will reduce shame, future research could include an intervention-based program investigating how different types of meditation influence shame. Groups could include a loving-kindness meditation group and a control group. This will help to identify whether different types of meditations have different effects on types of shame as well as how these meditations are associated with self-compassion, mindfulness and rumination respectively.

MEDITATION EXPERIENCE AND SHAME

This study provided further evidence that mindfulness is an indirect effect in the relationship between years of meditation and frequency of meditation on internal shame. Firstly, mindfulness came up as an indirect effect in the meditation analysis. However, more evidence was provided when only the mindfulness component of self-compassion came up as an indirect effect for the relationship between the meditation variables on internal shame. This provides increased confidence that mindfulness has an indirect effect on the relationship and therefore requires specific attention when looking to reduce internal shame.

The overall findings are important as they suggest that years of meditation and the frequency of meditation are two important components in reducing internal shame through its relationship with decreased rumination and increased mindfulness. The evidence also suggests that both types of shame are related to rumination, mindfulness and self-compassion. With meditation experience being an effective approach to reduce internal shame this may by extension help to decrease depression and anxiety, or other mental health problems that have previously been linked to shame. The implied positive impact that meditation experience has on reducing internal shame deserves further attention, as does other forms of meditation to potentially reduce external shame.

References

- Alsubaie, M., Abbott, R., Dunn, B., Dickens, C., Keil, T. F., Henley, W., & Kuyken, W. (2017). Mechanisms of action in mindfulness-based cognitive therapy (MBCT) and mindfulness-based stress reduction (MBSR) in people with physical and/or psychological conditions: A systematic review. *Clinical Psychology Review, 55*, 74-91. doi:10.1016/j.cpr.2017.04.008
- Andrews, B., Qian, M., & Valentine, J. D. (2002). Predicting depressive symptoms with a new measure of shame: The Experience of Shame Scale. *British Journal of Clinical Psychology, 41*(1), 29-42. doi:10.1348/014466502163778
- Baer, R. A., Carmody, J., & Hunsinger, M. (2012). Weekly Change in Mindfulness and Perceived Stress in a Mindfulness-Based Stress Reduction Program. *Journal of Clinical Psychology, 68*(7), 755-765. doi:10.1002/jclp.21865
- Baer, R. A., Lykins, E. L. B., & Peters, J. R. (2012). Mindfulness and self-compassion as predictors of psychological wellbeing in long-term meditators and matched nonmeditators. *The Journal of Positive Psychology, 7*(3), 230-238. doi:10.1080/17439760.2012.674548
- Baer, R. A., Smith, G. T., & Allen, K. B. (2004). Assessment of Mindfulness by Self-Report: The Kentucky Inventory of Mindfulness Skills. *Assessment, 11*(3), 191-206. doi:10.1177/1073191104268029
- Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using Self-Report Assessment Methods to Explore Facets of Mindfulness. *Assessment, 13*(1), 27-45. doi:10.1177/1073191105283504

MEDITATION EXPERIENCE AND SHAME

- Baer, R. A., Smith, G. T., Lykins, E., Button, D., Krietemeyer, J., Sauer, S., . . . Williams, J. M. G. (2008). Construct Validity of the Five Facet Mindfulness Questionnaire in Meditating and Nonmeditating Samples. *Assessment, 15*(3), 329-342.
doi:10.1177/1073191107313003
- Balsamo, M., Macchia, A., Carlucci, L., Picconi, L., Tommasi, M., Gilbert, P., & Saggino, A. (2014). Measurement of External Shame: An Inside View. *Journal of Personality Assessment, 97*(1), 1-9. doi:10.1080/00223891.2014.947650
- Barnard, L. K., & Curry, J. F. (2012). The relationship of clergy burnout to self-compassion and other personality dimensions. *Pastoral Psychology, 61*, 149–163.
- Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., . . . Devins, G. (2004). Mindfulness: A Proposed Operational Definition. *Clinical Psychology: Science and Practice, 11*(3), 230-241. doi:10.1093/clipsy.bph077
- Bluth, K., & Blanton, P. (2014). Mindfulness and Self-Compassion: Exploring Pathways to Adolescent Emotional Well-Being. *Journal of Child and Family Studies, 23*(7), 1298-1309. doi:10.1007/s10826-013-9830-2
- Boudewyns, V., Turner, M. M., & Paquin, R. S. (2013). Shame-Free Guilt Appeals: Testing the Emotional and Cognitive Effects of Shame and Guilt Appeals. *Psychology & Marketing, 30*(9), 811-825. doi:10.1002/mar.20647
- Campos, D., Cebolla, A., Quero, S., Bretón-López, J., Botella, C., Soler, J., . . . Baños, R. M. (2016). Meditation and happiness: Mindfulness and self-compassion may mediate the meditation–happiness relationship. *Personality and Individual Differences, 93*, 80-85.
doi:10.1016/j.paid.2015.08.040
- Cândeia, D.-M., & Szentagotai-Táta, A. (2018). Shame-proneness, guilt-proneness and anxiety symptoms: A meta-analysis. *Journal of Anxiety Disorders, 58*, 78-106.
doi:10.1016/j.janxdis.2018.07.005

MEDITATION EXPERIENCE AND SHAME

- Carabellese, D. J., Proeve, M. J., & Roberts, R. M. (2019). Relationship of patient shame to working alliance and satisfaction: a preliminary investigation. *The Journal of Mental Health Training, Education and Practice*, *14*(4), 251-263. doi:10.1108/JMHTEP-10-2017-0059
- Cheung, M. S. P., Gilbert, P., & Irons, C. (2004). An exploration of shame, social rank and rumination in relation to depression. *Personality and Individual Differences*, *36*(5), 1143-1153. doi:10.1016/S0191-8869(03)00206-X
- Cook, D. R. (1994). *Internalized Shame Scale: Professional manual*. Menomonie, WI: Channel Press.
- Davis, D. M., & Hayes, J. A. (2011). What Are the Benefits of Mindfulness? A Practice Review of Psychotherapy-Related Research. *Psychotherapy*, *48*(2), 198-208. doi:10.1037/a0022062
- de Bruin, E. I., Topper, M., Muskens, J. G. A. M., Bögels, S. M., & Kamphuis, J. H. (2012). Psychometric Properties of the Five Facets Mindfulness Questionnaire (FFMQ) in a Meditating and a Non-meditating Sample. *Assessment*, *19*(2), 187-197. doi:10.1177/1073191112446654
- Deyo, M., Wilson, K. A., Ong, J., & Koopman, C. (2009). Mindfulness and Rumination: Does Mindfulness Training Lead to Reductions in the Ruminative Thinking Associated With Depression? *Explore: The Journal of Science and Healing*, *5*(5), 265-271. doi:10.1016/j.explore.2009.06.005
- Ferreira, C., Matos, M., Duarte, C., & Pinto-Gouveia, J. (2014). Shame Memories and Eating Psychopathology: The Buffering Effect of Self-Compassion. *European Eating Disorders Review*, *22*(6), 487-494. doi:10.1002/erv.2322

MEDITATION EXPERIENCE AND SHAME

- Ferreira, C., Pinto-Gouveia, J., & Duarte, C. (2013). Self-compassion in the face of shame and body image dissatisfaction: implications for eating disorders. *Eating behaviors, 14*(2), 207. doi:10.1016/j.eatbeh.2013.01.005
- Germer, C. K., & Neff, K. D. (2013). Self-Compassion in Clinical Practice. *Journal of Clinical Psychology, 69*(8), 856-867. doi:10.1002/jclp.22021
- Gilbert, P. (2014). The origins and nature of compassion focused therapy. *British Journal of Clinical Psychology, 53*(1), 6-41. doi:10.1111/bjc.12043
- Gilbert, P., & Procter, S. (2006). Compassionate mind training for people with high shame and self-criticism: overview and pilot study of a group therapy approach. *Clinical psychology & psychotherapy, 13*(6), 353-379. doi:10.1002/cpp.507
- Goldsmith, R. E., Gerhart, J. I., Chesney, S. A., Burns, J. W., Kleinman, B., & Hood, M. M. (2014). Mindfulness-Based Stress Reduction for Posttraumatic Stress Symptoms: Building Acceptance and Decreasing Shame. *Journal of Evidence-Based Complementary & Alternative Medicine, 19*(4), 227-234. doi:10.1177/2156587214533703
- Goss, K., Gilbert, P., & Allan, S. (1994). An exploration of shame measures—I: The other as Shamer scale. *Personality and Individual Differences, 17*(5), 713-717. doi:10.1016/0191-8869(94)90149-X
- Gu, J., Strauss, C., Bond, R., & Cavanagh, K. (2015). How do mindfulness-based cognitive therapy and mindfulness-based stress reduction improve mental health and wellbeing? A systematic review and meta-analysis of mediation studies. *Clinical Psychology Review, 37*, 1-12. doi:10.1016/j.cpr.2015.01.006
- Gu, J., Strauss, C., Crane, C., Barnhofer, T., Karl, A., Cavanagh, K., & Kuyken, W. (2016). Examining the Factor Structure of the 39-Item and 15-Item Versions of the Five Facet Mindfulness Questionnaire Before and After Mindfulness-Based Cognitive Therapy

MEDITATION EXPERIENCE AND SHAME

for People With Recurrent Depression. *Psychological Assessment*, 28(7), 791-802.

doi:10.1037/pas0000263

Harder, D. W., & Zalma, A. (1990). Two promising shame and guilt scales: A construct validity comparison. *Journal of Personality Assessment*, 55, 729–745.

doi:10.1207/s15327752jpa5503&4_30

Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and Commitment Therapy: Model, processes and outcomes. *Behaviour Research and Therapy*, 44(1), 1-25. doi:https://doi.org/10.1016/j.brat.2005.06.006

Hemo, C., & Lev Ari, L. (2015). Focus on Your Breathing: Does Meditation Help Lower Rumination and Depressive Symptoms? *International journal of psychology and psychological therapy*, 15(1), 349-359.

Hoaglin, D. C & Iglewicz, B. (1987). Fine tuning some resistant rules for outlier labelling, *Journal of the American Statistical Association*, 82, 1147 -1149.

Hofmann, S. G., Sawyer, A. T., Witt, A. A., & Oh, D. (2010). The Effect of Mindfulness-Based Therapy on Anxiety and Depression: A Meta-Analytic Review. *Journal of Consulting and Clinical Psychology*, 78(2), 169-183. doi:10.1037/a0018555

Hyman, H. (1955). *Survey design and analysis: Principles, cases and procedures*. Glencoe, IL: The Free Press.

Jain, S., Shapiro, S., Swanick, S., Roesch, S. C., Mills, P., Bell, I., & Schwartz, G. (2007). A randomized controlled trial of mindfulness meditation versus relaxation training: Effects on distress, positive states of mind, rumination, and distraction. *Ann. Behav. Med.*, 33(1), 11-21.

Johnson, E., & O'Brien, K. (2013). Self-Compassion Soothes the Savage EGO-Threat System: Effects on Negative Affect, Shame, Rumination, and Depressive Symptoms.

MEDITATION EXPERIENCE AND SHAME

Journal of Social and Clinical Psychology, 32(9), 939-963.

doi:10.1521/jscp.2013.32.9.939

Just, N., & Alloy, L. B. (1997). The Response Styles Theory of Depression: Tests and an Extension of the Theory. *Journal of Abnormal Psychology*, 106(2), 221-229.

doi:10.1037/0021-843X.106.2.221

Kashdan, T. B., & Rottenberg, J. (2010). Psychological flexibility as a fundamental aspect of health.

Clinical Psychology Review, 30(7), 865-878. doi:10.1016/j.cpr.2010.03.001

Keng, S.-L., & Tan, J. X. (2017). Effects of brief mindful breathing and loving-kindness meditation on shame and social problem solving abilities among individuals with high borderline personality traits. *Behaviour Research and Therapy*, 97, 43-51.

doi:10.1016/j.brat.2017.07.004

Kim, S., Thibodeau, R., & Jorgensen, R. S. (2011). Shame, Guilt, and Depressive Symptoms: A Meta-Analytic Review. *Psychological Bulletin*, 137(1), 68-96.

doi:10.1037/a0021466

Lalli, F. (2019). Self-Compassion, Internal, and External Shame in Women at Risk of Developing an Eating Disorder. In K. Yi, A. E. Card, & A. Paul (Eds.): ProQuest Dissertations Publishing.

Lamont, J. (2019). The Relationship of Mindfulness to Body Shame, Body Responsiveness, and Health Outcomes. *Mindfulness*, 10(4), 639-649. doi:10.1007/s12671-018-1020-2

Lucre, K. M., & Corten, N. (2013). An exploration of group compassion-focused therapy for personality disorder. *Psychology and Psychotherapy: Theory, Research and Practice*, 86(4), 387-400. doi:10.1111/j.2044-8341.2012.02068.x

MEDITATION EXPERIENCE AND SHAME

- Luoma, J. B., Kohlenberg, B. S., Hayes, S. C., & Fletcher, L. (2012). Slow and Steady Wins the Race: A Randomized Clinical Trial of Acceptance and Commitment Therapy Targeting Shame in Substance Use Disorders. *Journal of Consulting and Clinical Psychology, 80*(1), 43-53. doi:10.1037/a0026070
- Mandal, S., Arya, Y., & Pandey, R. (2016). Validation of the factor structure of the five facet mindfulness questionnaire. *Indian Journal of Health and Wellbeing, 7*(1), 61-66.
- Markham, A., Thompson, T., & Bowling, A. (2005). Determinants of body-image shame. *Personality and Individual Differences, 38*(7), 1529-1541.
doi:<https://doi.org/10.1016/j.paid.2004.08.018>
- Marta-Simões, J., Ferreira, C., & Mendes, A. L. (2016). Exploring the effect of external shame on body appreciation among Portuguese young adults: The role of self-compassion. *Eating behaviors, 23*, 174-179. doi:10.1016/j.eatbeh.2016.10.006
- McAndrews, Z., Richardson, J., & Stopa, L. (2019). Psychometric properties of acceptance measures: A systematic review. *Journal of Contextual Behavioral Science, 12*, 261-277. doi:10.1016/j.jcbs.2018.08.006
- McKim, R. D. (2008). Rumination as a mediator of the effects of mindfulness: Mindfulness-based stress reduction (MNSR) with a heterogeneous community sample experiencing anxiety, depression, and/or chronic pain. Dissertation Abstracts International: Section B: The Sciences and Engineering, 68, 7673
- Monk-Turner, E. (2003). The benefits of meditation: experimental findings. *The Social Science Journal, 40*(3), 465-470. doi:10.1016/S0362-3319(03)00043-0
- Mosewich, A., Kowalski, K., Sabiston, C., Sedgwick, W., & Tracy, J. (2011). Self-Compassion: A Potential Resource for Young Women Athletes. *Journal of sport & exercise psychology, 33*, 103-123. doi:10.1123/jsep.33.1.103

MEDITATION EXPERIENCE AND SHAME

- Neff, K. D. (2003). The Development and Validation of a Scale to Measure Self-Compassion. *Self and Identity, 2*(3), 223-250. doi:10.1080/15298860309027
- Orth, U., Berking, M., & Burkhardt, S. (2006). Self-Conscious Emotions and Depression: Rumination Explains Why Shame But Not Guilt is Maladaptive. *Personality and Social Psychology Bulletin, 32*(12), 1608-1619. doi:10.1177/0146167206292958
- Petersen, L. E. (2014). Self-compassion and self-protection strategies: The impact of self-compassion on the use of self-handicapping and sandbagging. *Personality and Individual Differences, 56*(C). doi:10.1016/j.paid.2013.08.036
- Phelps, C. L., Paniagua, S. M., Willcockson, I. U., & Potter, J. S. (2018). The relationship between self-compassion and the risk for substance use disorder. *Drug and Alcohol Dependence, 183*, 78-81. doi:10.1016/j.drugalcdep.2017.10.026
- Proeve, M., Anton, R., & Kenny, M. (2018). Effects of mindfulness-based cognitive therapy on shame, self-compassion and psychological distress in anxious and depressed patients: A pilot study. *Psychology and psychotherapy, 91*(4), 434. doi:10.1111/papt.12170
- Raes, F. (2010). Rumination and worry as mediators of the relationship between self-compassion and depression and anxiety. *Personality and Individual Differences, 48*(6), 757-761. doi:10.1016/j.paid.2010.01.023
- Raes, F., Pommier, E., Neff, K. D., & Van Gucht, D. (2011). Construction and factorial validation of a short form of the Self-Compassion Scale. *Clinical psychology & psychotherapy, 18*(3), 250. doi:10.1002/cpp.702
- Reimer, M. (1995). *The Adolescent Shame Measure (ASM)*. Philadelphia, PA: Temple University Press.

MEDITATION EXPERIENCE AND SHAME

- Shim, J. Y. (2019). How do the dynamics of shame influence smartphone addiction of Korean Christian adolescents? A study based on external and internal shame. *Mental Health, Religion and Culture*, 22(3), 293-304. doi:10.1080/13674676.2019.1618804
- Solhaug, I., Eriksen, T., de Vibe, M., Haavind, H., Friberg, O., Sørli, T., & Rosenvinge, J. (2016). Medical and Psychology Student's Experiences in Learning Mindfulness: Benefits, Paradoxes, and Pitfalls. *Mindfulness*, 7(4), 838-850. doi:10.1007/s12671-016-0521-0
- Svendsen, J. L., Kvernenes, K. V., Wiker, A. S., & Dundas, I. (2017). Mechanisms of mindfulness: Rumination and self-compassion. *Nordic Psychology*, 69(2), 71-82. doi:10.1080/19012276.2016.1171730
- Tangney, J. P., Wagner, P., Fletcher, C., & Gramzow, R. (1992). Shamed into anger: The relation of shame and guilt to anger and self-reported aggression. , 62, 669–675. Treynor, W., Gonzalez, R., & Nolen-Hoeksema, S. (2003). Rumination Reconsidered: A Psychometric Analysis. *Cognitive Therapy and Research*, 27(3), 247-259. doi:10.1023/A:1023910315561
- Tangney, J. P., Wagner, P., & Gramzow, R. (1989). *The Test of Self-Conscious Affect*. Fairfax, VA: George Mason University.
- Tate, C. U. (2015). On the Overuse and Misuse of Mediation Analysis: It May Be a Matter of Timing. *Basic and Applied Social Psychology*, 37(4), 235-246. doi:10.1080/01973533.2015.1062380
- Teroni, F., & Deonna, J. A. (2008). Differentiating shame from guilt. *Consciousness and Cognition*, 17(3), 725-740. doi:10.1016/j.concog.2008.02.002
- Treynor, W., Gonzalez, R., & Nolen-Hoeksema, S. (2003). Rumination Reconsidered: A Psychometric Analysis. *Cognitive Therapy and Research*, 27(3), 247-259. doi:10.1023/A:1023910315561

MEDITATION EXPERIENCE AND SHAME

- Trompetter, H., Kleine, E., & Bohlmeijer, E. (2017). Why Does Positive Mental Health Buffer Against Psychopathology? An Exploratory Study on Self-Compassion as a Resilience Mechanism and Adaptive Emotion Regulation Strategy. *Cognitive Therapy and Research*, 41(3), 459-468. doi:10.1007/s10608-016-9774-0
- Tukey, J. W. (1977) *Exploratory Data Analysis*. Reading, MA: Addison-Wesley.
- Vizin, G., Urbán, R., & Unoka, Z. (2016). Shame, trauma, temperament and psychopathology: Construct validity of the Experience of Shame Scale. *Psychiatry Research*, 246, 62-69. doi:https://doi.org/10.1016/j.psychres.2016.09.017
- Wendling, H. (2012). The relation between psychological flexibility and the Buddhist practices of meditation, nonattachment, and self-compassion. In C. A. Reynolds (Ed.): ProQuest Dissertations Publishing.
- West, M. A. (1987). *The psychology of meditation*. Oxford: Clarendon.
- Whitmer, A., & Gotlib, I. (2011). Brooding and Reflection Reconsidered: A Factor Analytic Examination of Rumination in Currently Depressed, Formerly Depressed, and Never Depressed Individuals. *Cognitive Therapy and Research*, 35(2), 99-107. doi:10.1007/s10608-011-9361-3
- Williams, E. (2015). Self-Compassion and Self-Forgiveness as Mediated by Rumination, Shame-Proneness, and Experiential Avoidance: Implications for Mental and Physical Health. In J. R. Webb (Ed.): ProQuest Dissertations Publishing.
- Wolkin, J. (2015). Cultivating multiple aspects of attention through mindfulness meditation accounts for psychological well-being through decreased rumination. *Psychology Research and Behavior Management*, 8, 171-180. doi:10.2147/PRBM.S31458
- Woods, H., & Proeve, M. (2014). Relationships of Mindfulness, Self-Compassion, and Meditation Experience With Shame-Proneness. *Journal of Cognitive Psychotherapy*, 28(1), 20-33. doi:10.1891/0889-8391.28.1.20

MEDITATION EXPERIENCE AND SHAME

Yamaguchi, A., Kim, M.-S., & Akutsu, S. (2014). The effects of self-construals, self-criticism, and self-compassion on depressive symptoms. *Personality and Individual Differences, 68*(C), 65-70. doi:10.1016/j.paid.2014.03.013

Zhang, H., Carr, E., Garcia-Williams, A., Siegelman, A., Berke, D., Niles-Carnes, L., . . .

Kaslow, N. (2018). Shame and Depressive Symptoms: Self-compassion and Contingent Self-worth as Mediators? *Journal of Clinical Psychology in Medical Settings, 25*(4), 408-419. doi:10.1007/s10880-018-9548-9

Appendices

Appendix A

T-tests of Gender Differences on Measures

Independent sample *t*-tests used to indicate significant gender differences on the various measures reported nonsignificant differences between males and females on the OAS $t(164) = .16, p = .88$, the ESS $t(164) = -.36, p = .72$, the RRS $t(164) = 1.43, p = .15$, the FFMQ-15 $t(164) = -.31, p = .76$ and the SCS-SF $t(164) = -1.01, p = .32$.