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Moderating Effect of Music Activity on the Relationship Between Religious Struggles and Social Anxiety

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Abstract

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by

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MS, Capella University, 2018

BS, Liberty University, 2015

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Adults living in the U.S. participate in religious groups to find a sense of community, purpose, and structure, yet over time, struggles involving perceived indoctrination, loss of personal freedom and/or self-identity, mind-control, and religious/spiritual abuse can cause individuals to experience fear of judgment, negative self-beliefs, and social anxiety. Social anxiety is the sixth leading cause of disability in the U.S. and is associated with unemployment, suicidal ideation, learning difficulties, truancy, behavioral difficulties, and financial burdens. Music activity used by individuals to help regulate their emotions may potentially mitigate social anxiety. The purpose of this quantitative study was to examine whether music activity moderated the relationship between religious struggles and social anxiety. The emotion regulation theory was used to describe how individuals use music to attempt to control their emotions and served as the theoretical framework for this study. A nonexperimental correlational design with online surveys was administered via SurveyMonkey to English-speaking adults between 25 and 65 living in the U.S. A standard multiple regression with moderation analysis did not find support for the predicted moderation effect. While results indicated that music activity for emotion regulation significantly predicted social anxiety, it was not in the predicted direction. Although results from this study did not find support for hypotheses, there is sufficient evidence to warrant the potential for music activity to mitigate symptoms of social anxiety (e.g., stress, depression). Musical activity is not only an outlet for physical energy, but can facilitate emotional regulation, giving those who listen and/or play something to look forward to and upon which they can focus mental energy.

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Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction to the Study

The increase in social anxiety among adults living in the United States (U.S.) is a significant concern (Leichsenring & Leweke, 2017). Social anxiety is the sixth leading cause of disability, and is associated with unemployment, poor quality of life, and suicidal ideation, creating psychological and financial burdens on individuals and society (Yuan et al., 2021). Social anxiety is also associated with behavioral difficulties, school dissatisfaction, social exclusion, truancy, learning difficulties, and decreased educational aspirations (Jystad et al., 2021). The prevalence of social anxiety in U.S. adults is estimated to be 7.1%, while 12.1% of adults experience social anxiety disorder at some time in their lives, and it is the third most common mental disorder behind substance use disorder and depression and is the most common anxiety disorder (Rose & Tadi, 2021). While it is estimated that 33.7% of the adult population in the U.S. are affected by an anxiety disorder during their lifetime (Bandelow & Michaelis, 2022), and 13% of adults currently suffer from social anxiety to the point of requiring medical attention (Leichsenring & Leweke, 2017). Social anxiety rates increased from 5.12% in 2008 to 6.68% in 2018 among adults in the U.S. and 15% in young adults between 18 and 25 (Goodwin et al., 2020). The upward trend of social anxiety rates and its impact on wellbeing is a significant social problem (Leichsenring & Leweke, 2017).

Religious trauma or religious struggles may be a contributing factor in the increase in social anxiety (McBeath & Greenlees, 2016). Many people involved in religious practice experience varying degrees of general fear and are led to adopt conditional beliefs (i.e., the idea that if one does not follow religious doctrine, they will

be punished); such beliefs have been linked to negative self-beliefs and social anxiety (Fennell, 1997; Heeran et al., 2020). For many, religion provides a sense of community, purpose, and structure and routine to people's lives, yet over time and in varying sects, congregants may experience struggles in their religion such as perceived loss of personal freedom and/or self-identity due to mind control via religious indoctrination or religious abuse (Lewis & Bromley, 1987). These religious struggles often result in prolonged social anxiety, which is an issue of increasing social concern (Wentling & Behrens, 2018).

While traditional treatment has involved psychotherapy, antidepressants, and cognitive behavioral therapy (Bruffaerts et al., 2022), there is potential benefit of alternative therapeutic options that are holistic as well as cost-effective, such as playing music. The act of creating music, or music activity has been found to improve mental health (Rohilla et al., 2018). Whether singing or playing an instrument, making music has been significantly correlated with improved quality of social exchanges among children recovering from trauma (Wentling & Behrens, 2018), as well as increased social functioning and creative exploration (Landis-Shack et al., 2017), decreased anxiety (Le Danseur et al., 2019), decreased symptoms of PTSD (Landis-Shack et al., 2017), and increased cognitive and socioemotional development among abused children (Wentling & Behrens, 2018). Music has also been shown to increase resilience by helping victims of trauma reestablish a sense of normalcy in their lives following a traumatic experience. This is a direct predictor of posttraumatic healing and growth or positive change after suffering from a traumatic event (Landis-Shack et al., 2017). Making music is linked to

reduced cortisol (stress) levels and increased dopamine levels, along with a sense of connectedness to one's community (Landis-Shack et al., 2017).

Addressing the moderating effect of musical activity on the relationship between religious struggles and social anxiety may lead to positive social change by providing insights regarding how engaging with music may help to mitigate social anxiety symptoms, which can then be used by mental health providers to educate people about its ameliorative potential.

Chapter 1 includes a brief overview of the literature and the gap in research that justifies the need for the proposed study. The research problem, research questions and hypotheses, operational definitions of variables, and nature of the study are also addressed. A brief discussion of the theoretical framework is presented along with assumptions, scope, limitations, and significance of the study.

Background

Social anxiety is the result of the tendency to engage in evaluating social comparisons and social hierarchies (Parsons et al., 2021). In addition to a heightened sense of awareness about one's social status or standing, Henricks et al. (2021) discovered preoccupation with likeability and popularity also affect individuals with social anxiety. Social anxiety is largely the result of self-judgments compared to internalized social standards that are idealized and mostly unattainable (Goodman et al., 2021).

One factor that predicts social anxiety is religious trauma or religious struggles which can cause traumatic effects during or even after involvement in a particular

religious practice (Cashwell & Swindle, 2018; Oakley & Kinmond, 2014). Organized religion is a type of social structure that impacts people's emotional and mental development and therefore these religious struggles can predict traumatic effects (Schnabel, 2018).

The country is predominantly religious with 83% of all adults living in the U.S. claiming a religious affiliation (Brink & Bekhuis, 2023). Religious struggles are also a common experience to active members. According to Oakley and Kimmond (2014), based on a sample of 502 adults living in the U.S., 74% between 18 and 70 reported having had a damaging experience in their lives: 17% felt they were made to feel shame or blame in their current church, 84% felt manipulated by their current church leadership, 71% felt unable to ask questions, 49% of ex-members felt they were made to feel shame or blame, 84% at their previous church and 45% felt that scripture was used to control behavior by their current church and previous church leadership, respectively (Oakley & Kinmond, 2014). Some of these religious struggles take the form of abuse as religious or spiritual leaders take advantage of their influence over others by using tactics such as information control, spiritual bullying, spiritual neglect, punishment, and relational control (Kessler & Kessler, 2021). Religious leaders have thus often been described as spiritual bullies who use intimidation, rejection, and manipulation to gain and maintain control over others (Oakley & Kinmond, 2014).

Ex-members of religion confirm the immense weight of religious struggles as they talk of the elusive nature of many religious tactics such as fear-based doctrines or use of guilt tactics to pressure congregants to give, serve, or behave in a certain way;

some believe religion to be a form of mind control, leading them to fear potential judgments, rejection, or even condemnation should they leave the religion, although for many these religious struggles are reason enough to leave the religion (Cashwell & Swindle, 2018). Perceived indoctrination, loss of self, misuse of power, religious abuse, and mind control have also been reported as reasons for leaving churches or religious practice (Cashwell & Swindle, 2018, 2016; McBeath & Greenlees; Nobakht & Yngvar-Dale, 2018).

Even after leaving religion individuals still experience lingering self-doubt, shame, and a sense of spiritual harm, with symptoms akin to PTSD (e.g., memory impairment, self-shame, social anxiety, and feelings of social inadequacy; McBeath & Greenlees, 2016).

Music has been described as therapeutic for victims of trauma not just because of its cost-effectiveness, but because it is especially useful for facilitating posttraumatic growth (Landis-Shack et al., 2017). Music can help ground in the present moment and distract from stressors and challenges, and can allow opportunities for individuals to connect with their communities (Landis-Shack et al., 2017).

Music as a form of therapy has also been found to be effective for treating stroke patients (Sumakul et al., 2020), anxiety (Bibb et al., 2019), coronary artery bypass patients after surgery (Wang-Sheng et al., 2020), children's anxiety during dental treatment (Alkahtani et al., 2020), patients during anesthesia induction (Giordano et al., 2020), hemodialysis patients receiving standard care (Burrai et al., 2020), female surgical patients (Xu et al., 2021), individuals who struggle with specific phobias, obsessive-

compulsive disorder, generalized anxiety disorder, and PTSD (Dragulin et al., 2019), polytraumatized patients admitted to resuscitation units (Contreras-Molina et al., 2021), men undergoing prostate biopsy (Dell, 2021), and patients undergoing cesarean delivery (Weingarten et al., 2021). Additionally, musical activity is an effective treatment method for helping comatose patients regain consciousness, leading to decreased symptoms of PTSD (Landis-Shack et al., 2017), as well as socioemotional/cognitive improvement among children who have suffered from abuse (Wentling & Behrens, 2018).

While music therapy, which traditionally involves listening, has been found Musical activity (i.e., the act of playing music or singing) has been shown to activate cognitive and motor function regions of the brain (Schneider et al., 2019). Ploukou and Panagopoulou (2018) found that playing music helped reduce anxiety, depression, and psychosomatic among in nurses who deal with high levels of stress in the workplace. Cognitive-behavioral music therapy was found to increase positive emotion regulation strategies among the elderly (Valizadeh et al., 2021).

Findings from the proposed study will promote positive social change by providing insights regarding the potential for music activity to address social anxiety often associated with religious struggle. These insights may provide information for future research and can be used by mental health professionals to develop evidence-based preventive strategies in order to combat mental health problems related to religious struggles.

Problem Statement

Religious trauma is not novel to the discipline of psychology. Many religions are patriarchal and have historically been associated with practices such as self-shaming, mind control, and judgment, which are factors which lead to social phobia and anxiety (McBeath & Greenlees, 2016). Fear of being judged poorly by others is one of the lingering effects among people who have participated in organized religions such as Christianity (Leichsenring & Leweke, 2017). Given that 83% of all adults living in the U.S. claim to be religious, there is merit in looking at the long-term psychological consequences of religious involvement (Brink & Bekhuis, 2023).

Participating in organized religion has been associated with struggles that impact mental health, such as feeling punished or abandoned by an angry God, guilt over not being able to live up to religious standards, and questioning whether life has any real meaning (Leichsenring & Leweke, 2017). McBeath and Greenlees (2016) described impacts of religious struggles on psychological and emotional wellbeing, stating that for many, religion leaves lasting psychological impacts such as dissociation, projection, reaction formation, poor receptivity to normal social cues (e.g., irony and humor), and repression of common human emotions such as anger or sadness that they have been conditioned to believe are evil or sinful. Religious struggles have been associated with religious trauma syndrome, which, like PTSD, causes individuals to avoid seeking help due to their feelings of judgment, fear, shame, and doubt; they are often unable to fully recognize traumatic effects of their experience until spending time in counseling and psychotherapy (Stone, 2013). The result of religious struggles is a general emotional

disturbance and stunted capacity for healthy socialization and maintenance of relationships (Landis-Shack et al., 2017).

One consequence of religious struggle is social anxiety, characterized by an intense fear of social situations where the person experiences physiological and cognitive responses to the fear of being evaluated negatively (Leichsenring & Leweke, 2017). Social anxiety presents several maladaptive thought patterns such as a lingering sense of fear/impending doom, negative self-perceptions, paranoia, perceptions of judgment, fear of social interaction, fear of public speaking, obsessive self-analysis/criticism, and decreased self-regulation (Aslan & Bilgin, 2020). It has also been associated with persistent pessimism (Leichsenring & Leweke, 2017). If untreated, it can lead to depression, substance use disorder, and continued socioemotional deficits (McBeath & Greenlees, 2016). Due to the alienating effects of social anxiety, victims are resistant to seeking help, thus perpetuating social exclusion and fear (McBeath & Greenlees, 2016).

Religious struggle also impedes the ability to regulate one's emotions effectively, negatively impacting relationships and personal/professional goals (Aslan & Bilgin, 2020; Gross, 1998; Landis-Shack et al., 2017). The inability to regulate one's emotions effectively has been associated with mental illness, decreased wellbeing, and decreased quality of social relationships (Nolen-Hoeksema & Morrow, 1993). Emotional dysregulation can also lead to anger, fear, suffering, missed opportunities, and inability to find joy in social interactions (Wells & Papageorgiou, 1998). In extreme cases, emotion dysregulation has been associated with antisocial behavior and even sexual offending (Cole et al., 1994). Cognitive reappraisal is an alternative form of emotion regulation that

involves allowing for a reassessment of variables of interest in a social situation so as to mitigate anxiety or other negative symptoms. Cognitive reappraisal as an emotion regulation style, in contrast to expressive suppression, has been associated with improvements in PTSD symptoms (Sun et al., 2020), emotional growth, wellbeing, and social support (Kline & Reed, 2020).

Music is a viable option for improving mental health, mindfulness, social connection, physiological benefits, coping with suffering, pain, and distress, as well as reductions in stress, depression, and anxiety (Moss, 2019). Music therapy has been linked with improved emotion regulation strategies (Valizadeh et al., 2021), decreased symptoms of PTSD (Landis-Shack et al., 2017), socioemotional/cognitive improvement in children who have suffered from abuse (Wentling & Behrens, 2018), and mitigated symptoms of social anxiety in adolescents (Egenti et al., 2019).

Musical activity, whether singing or playing an instrument, has been found to activate multiple areas in the brain that are responsible for cognitive, emotional, and motor functions, leading to improved physical, emotional, and social health (Schneider et al., 2019). Regular musical activity, specifically with others, has been linked to significant reductions in anxiety, depression, and psychosomatic symptoms among individuals with high levels of stress (Ploukou & Panagopoulou, 2018). Music therapy, significantly improves emotion regulation through increased cognitive reappraisal (Valizadeh et al., 2021). This proposed study will advance existing literature by examining the potential for music activity to moderate the relationship between religious struggles and social anxiety among adults living in the U.S.

Purpose of the Study

The purpose of this quantitative survey study is to determine if music activity moderates the relationship between religious struggles (IV) and social anxiety (DV). Findings from this research can increase understanding of factors that predict social anxiety and its associated psychological consequences.

Research Questions and Hypotheses

RQ1: Does religious struggle, as measured by the Religious and Spiritual Struggles (RSS-14) scale, predict social anxiety, as measured by the Social Anxiety Questionnaire (SAQ), among adults living in the U.S.?

$H_0$1: Religious struggle does not predict social anxiety.

H_a1: Religious struggle does predict social anxiety.

RQ2: Does musical activity, as measured by the Music USE (MUSE) questionnaire predict social anxiety, as measured by the SAQ, among adults living in the U.S.?

$H_0$2: Musical activity does not predict social anxiety.

H_a2: Musical activity does predict social anxiety.

RQ3: Does musical activity, as measured by the MUSE questionnaire, moderate the relationship between religious struggle, as measured by the RSS-14 scale, and social anxiety, as measured by SAQ among adults living in the U.S.?

$H_0$3: Musical activity does not moderate the relationship between religious struggle and social anxiety.

H_a3: Musical activity does moderate the relationship between religious struggle and social anxiety.

Theoretical Framework

Gross' emotion regulation theory was the theoretical framework for this study. Originating in the study of psychoanalysis, the emotion regulation theory involves stress management and coping in terms of how humans regulate maladaptive emotions to function and accomplish goals (Gross, 1999). The theory is based on the evolutionary principle that filtering social information is necessary for survival and accomplishing goals. As such, maladaptive emotion regulation skills, such as expressive suppression (e.g., censoring or modifying one's physiological reactions like facial expressions/body language according to emotional stimuli), result in negative consequences, including depression, anxiety, eating pathologies, and substance abuse (Gross, 1999).

Deficits in emotion regulation predicts mood and emotional disturbances, reductions in happiness and wellbeing, decreased quality of social relationships (Nolen-Hoeksema & Morrow, 1993), and antisocial behavior and sexual offending (Cole et al., 1994). Emotion regulation can either mitigate or perpetuate traumatic symptoms (Christ et al., 2021; Haselgruber et al., 2021; Sun et al., 2020). Deficits in emotion regulation caused by trauma manifest as social anxiety (McBeath & Greenlees, 2016). Chapter 2 includes a comprehensive review of the emotion regulation theory and justification for its use in the proposed study.

Nature of the Study

For this study, I used a cross-sectional quantitative survey design to determine the extent to which music activity (IV) moderated the relationship between religious struggles (IV) and social anxiety (DV). A nonexperimental design is used when variables of interest have already occurred and cannot be manipulated by the researcher (Kraska, 2010). Using online surveys, data were collected at one point in time to determine relationships between variables. The online survey design also allowed for a diverse population to participate in this study.

The population of the study was adults living full-time in the U.S. between 18 and 65. 83% of the adult U.S. population are or have been involved in a religious group (Brink & Bekhuis, 2023). Many have reported religious-based struggles, such as feeling manipulated, guilted, shamed, unable to ask questions, and controlled via use of scripture (Oakley & Kinmond, 2014). This trauma typically results in social anxiety (McBeath & Greenlees, 2016), which is of particular concern given that it is the third most common mental disorder, sixth leading cause of disability, and most common anxiety disorder in the U.S. (Yuan et al., 2021). This study involved using an Internet-based survey via the SurveyMonkey research platform; participants were recruited through the SurveyMonkey participant pool. A convenience sampling strategy was used where participants who met inclusion criteria were invited to participate. Data were analyzed using the Statistical Package for Social Sciences (SPSS) version 27.0. Descriptive statistics and a standard multiple regression analysis were completed to determine the extent to which music activity moderated the relationship between religious struggles and social anxiety. A

standard multiple regression analysis was an effective method for examining relationships among multiple variables and also examining moderation.

Definitions

Cognitive reappraisal: Act of adjusting one's perspective to adapt to or reconsider stressful situations (Gross, 1999).

Emotion regulation: Ability to process complex social interactions and regulate emotions effectively, whether through cognitive reappraisal or expressive suppression (Gross, 1998).

Expressive suppression: Act or attempt to disguise one's emotions, or hide, inhibit, or reduce one's behavioral response to a stressful or traumatic event (Gross, 1999).

Musical activity: The act of creating music, whether singing, or playing an instrument, which is considered to be an effective treatment for anxiety, stress, pain, managing emotions, and improving mental health (Rohilla et al., 2018; Schneider et al., 2019; Wentling & Behrens, 2018).

Religious struggles: Ensuing and lingering traumatic effects of having spent time in an organized religion due to perceptions of indoctrination, misuse of power, religious abuse, mind control, fear-based doctrine, pressure to give, serve, or behave in specific ways, and use of guilt tactics (Lewis & Bromley, 1987). Religious struggles result in feeling trapped, loss of one's identity, living in fear of judgment/rejection, and general social anxiety (McBeath & Greenlees, 2016).

Social anxiety: Resulting stress and anxiety caused by the tendency to engage and even obsess over evaluating social comparisons and subsequent awareness of or fixation on social hierarchies (Parsons et al., 2021)

Assumptions

There were a number of assumptions in this study. First, it was assumed that participants would follow the instructions for completing the surveys accurately. Second, it was assumed that participants would be truthful and accurate with their answers. Due to the mental health stigma and fear of appearing weak, participants may have been disinclined to disclose their social anxiety symptoms and religious struggles. Participants were reminded that the online survey was anonymous and there was no identifying information requested, with the hopes that this would ensure participants feel comfortable answering the social anxiety and religious struggles questions honestly.

Scope and Delimitations

The goal of the study was to examine the potential for music activity to moderate the relationship between religious struggles and social anxiety in U.S. English-speaking adults. The sample was limited to adults ages 18 years or older, currently living in the United States.

Although there could be cross-cultural similarities among adults in the U.S., the examination of cultural differences among adults in the U.S. was beyond the scope of this study. English-speaking adults were chosen because of the prevalence of religious involvement and the prevalence of social anxiety in adults living in the United States (Brink & Bekhuis, 2023; Cashwell & Swindle, 2018, 2016; McBeath & Greenlees;

Nobakht & Yngvar-Dale, 2018)

The emotion regulation theory was chosen for the proposed study in order to explain the potential for music activity to influence emotional responses to social stimuli, in this case, an anxiety response to religious struggle. Because the emotion regulation theory has been used to address social anxiety, through the use of music activity, through either expressive suppression or cognitive reappraisal, it was best suited to inform the proposed study.

Limitations

Use of a nonrandom convenience sample limited its representativeness and generalizability of study findings. Using an Internet-based survey method also has implications in terms of generalizability of findings; while Internet-based research increases the potential for participant diversity, people who volunteer to participate may differ from those who do not volunteer to participate (Stroebe et al., 2018). Furthermore, Internet survey research is subject to sample bias in that demographic differences may exist between Internet users and nonusers (Best et al., 2001). Another limitation of this study is the likelihood that participants were able and willing to provide accurate estimates of social anxiety. As with other mental health disorders, people tend to underreport their symptoms of social anxiety and phobia. In a study with 1071 community residents in Baltimore, Maryland, 12.6% reported social anxiety, compared to 25.3% who were diagnosed with social anxiety, a 12.7% discrepancy (Takayanagi et al., 2014). One explanation for the tendency to underreport is due to social desirability bias in terms of reducing the inconsistency between how one feels and desire to appear normal

based on perceived societal norms, social expectations, and gender roles (Jystad et al., 2021). Anonymous data collection may help encourage participant honesty.

Significance

Social anxiety is the most common anxiety disorder and third-most common mental disorder, it affects 83% of the U.S. adult population (Brink & Bekhuis, 2023). In addition to associations between social anxiety and deficits in psychological health, adult individuals with social anxiety have also been known to experience school dissatisfaction, learning difficulties, and decreased educational aspirations (Jystad et al., 2021). It was the intent of the proposed study to increase awareness of harmful effects of religious struggles as well as provide insights regarding how music activity can mitigate social anxiety caused by these struggles.

Antidepressants, psychotherapy, and cognitive behavioral therapy are the most common treatments for social anxiety, but can be costly and only temporarily effective (Bruffaerts et al., 2022). Positive social change can be achieved by making mental health professionals aware of music activity as a sound and reasonable therapeutic option for mitigating social anxiety (Landis-Shack et al., 2017).

Summary

Social anxiety is a significant social problem among adults living in the U.S. and is related to religious struggles (Goodwin et al., 2020; Leichsenring & Leweke, 2017; McBeath & Greenlees, 2016). This is problematic because of the prevalence of religion, as 83% of the U.S. population identifies as religious (Brink & Bekhuis, 2021). In a sample of 502 people ages 18 to 70+, representing a wide range of church denominations

from Pentecostal charismatic through to Roman Catholic and Church of England, 70% reported feeling manipulated by church leadership, 50% felt unable to ask questions, 17% felt shamed and blamed for lifestyle choices, and 86% felt that scripture was used to control behavior (Oakley & Kinmond, 2014). These types of religious struggles have been described as religious abuse, which is a form of betrayal trauma which leaves lasting psychological effects, including social anxiety, general phobias, and depression (Cashwell & Swindle, 2018; Fennell, 1997; Heeran et al., 2020). While people use religion to fulfill their social, emotional, and spiritual needs, its use may result in counterintuitive effects, creating a fear of judgment or failure and debilitating anxiety, leading to fear of social interactions (McBeath & Greenlees, 2016). To this end, I used a quantitative nonexperimental cross-sectional survey via the SurveyMonkey platform. Understanding the potential moderating effect of music activity on the relationship between religious struggles and social anxiety can inform policymakers, educators, mental health practitioners, parents, students, religious leaders, members, and ex-members about prevention and intervention strategies to combat social anxiety.

Chapter 2: Literature Review

Social anxiety is an increasingly pervasive social problem that has surpassed depression as the most common mental disorder in the U.S. Social anxiety affects 13% of the U.S. population, or approximately 32.7 million Americans (Leichsenring & Leweke, 2017). Its negative psychological impacts include lingering sense of fear or impending doom, negative self-perceptions, substance addiction, paranoia, perceptions of judgment, anxiousness, fear of social interaction, fear of public speaking, obsessive self-analysis and criticism, and persistent pessimism (Leichsenring & Leweke, 2017). Social anxiety is associated with and predicted by religious struggles (McBeath & Greenlees, 2016; Exline et al., 2021).

The purpose of this quantitative survey study was to determine if music activity moderated the relationship between religious struggles (IV) and social anxiety (DV). Religious struggles were measured using the Religious and Spiritual Struggles (RSS-14) scale. Musical activity was measured via the Music USE (MUSE) questionnaire. Social anxiety was assessed using the Social Anxiety Questionnaire (SAQ).

Social anxiety is a pervasive problem that affects many people throughout their lives, typically begins during adolescence, and results from negative social cognitions, excessive focus or attention on one's self, substandard parental attachment (Yu et al., 2020), and increased fixation on post-event processing (Chiu et al., 2021). Those who experience social anxiety focus on perceived friendship quality, peer rejection, and peer victimization (Chiu et al., 2021); they tend to perceive neutral social events as negative or even catastrophic, leading to developing an immense fear of social interaction (Chen et

al., 2020). People with social anxiety tend to fixate on perceived social threat even if the threat dissipates or resolves due to continued exposure, indicating a processing bias toward negative social perceptions (McGlade et al., 2020). Aslan and Bilgin (2020) found social anxiety is positively associated with a deficiency in self-regulation, either perceived or experienced, such that one lacks the ability to self-regulate in social contexts. Common to social anxiety sufferers is the belief that they have less to contribute to social interactions due to poor sense of humor and being overly serious or less open or willing to self-disclose personal information, which in turn affects their willingness to engage in and express themselves in social contexts; solitary and isolated lifestyles perpetuate the perception of decreased social support, leading consequently to greater social anxiety (Barnett et al., 2021).

Religious struggles are positively linked with social anxiety because of their psychological impacts in terms of dissociation, poor receptivity to normal social cues such as humor or irony, repression of unwanted human emotions like anger or sadness, projection, projective identification, reaction formation, and countertransference (Exline et al., 2022; McBeath & Greenlees, 2016). Fear and conditional beliefs (i.e., if/then thought patterns consisting of demand and consequence) lead to negative self-beliefs and social anxiety (Fennell, 1997; Heeran et al., 2020). Also positively linked with religious trauma is reluctance to engage with others for fear of being judged or assessed poorly (Leichsenring & Leweke, 2017). Religious trauma includes extensive mind control, self-shaming doctrines, and being judged as evil for natural human desires (McBeath & Greenlees, 2016). Many religions are built on strict patriarchal systems with men in

positions of authority exerting control over others, leaving lasting cognitive and emotional damage and fear of power and authority (McBeath & Greenlees, 2016).

The experience of trauma, in any form, will likely impede ability to process complex social interactions, including regulating emotions during and following these experiences (Landis-Shack et al., 2017). Victims of religious struggles are often reluctant to seek help due to feelings of shame, self-judgment, self-doubt, and social fear, and will only acknowledge their symptoms after spending significant time in personal counseling and psychotherapy (Stone, 2013). Emotional or mood disturbances with regard to mood and outlook, which are often very difficult to identify and even more difficult to trace, originate with events associated with religious struggles (Landis-Shack et al., 2017). These long-lasting negative psychological effects such as memory impairment, self-shame, social anxiety, and feelings of social inadequacy can affect both members and nonmembers of churches or religious groups (McBeath & Greenlees, 2016). Religious-based factors include control of information, absence of personal expression and freedom of thought, harsh judgment and/or disciplinary action for any form of noncompliance, and use of imagery of hell to instill a sense of fear and doom (McBeath & Greenlees, 2016).

Effective strategies for addressing social anxiety because of religious struggles have yet to be researched quantitatively. Music activity is a positive intervention, with many benefits observed by researchers since its origin. In a sample of 25 patients in a tertiary care burn unit who were more than 10 years old, conscious, able to respond, and oriented to time, place, and person, there was an observable reduction in anxiety, pain, and opioid use during burn dressing change which were attributed to the experimental

group which participated in patient-selected music intervention (Rohilla et al., 2018). Music therapy has also been found to help promote positive social exchanges for children recovering from trauma (Wentling & Behrens, 2018), supporting language-learning, social functioning, and creative exploration (Landis-Shack et al., 2017), helping comatose patients regain consciousness more rapidly (Sun & Chen, 2015), decreasing anxiety (Le Danseur et al., 2019), and promoting cognitive and socioemotional development in children who have been abused (Wentling & Behrens, 2018). However, studies have not yet determined if music activity has the potential to moderate the relationship between religious struggles and social anxiety.

Chapter 2 includes literature search strategies followed by a discussion of the emotion regulation theory and an exhaustive review of literature related to religious struggles, social anxiety disorder, and musical activity.

Literature Search Strategy

The peer-reviewed literature examined for this study was mainly accessed through the Walden University LIbrary. A large majority of the searches were completed through EBSCOHost. There were a number of databases searched, specifically Thoreau PsycINFO, and PsycARTICLES. In addition, Google Scholar was used periodically to search for further literature pertaining to the topic. The key terms used in the study's literature search included: *social anxiety, social anxiety disorder, social phobia, cognitive reappraisal, emotion regulation, expressive suppression, music activity, moderation of anxiety through music, religion, religious struggles, religious trauma,* and *religious abuse*. Finally, most of the literature found for the study was 2016 to 2023. There was

older literature used for the discussion of the theory on which emotion regulation theory was based.

Theoretical Foundation

Emotion Regulation Theory

Emotion regulation is a vital part of the human experience and has practical applications in people's daily lives. It can assist with the attainment of a goal through increased focus on a particular task and can also work to suppress behavior deemed counterproductive in pursuit of an identified goal (Gross, 1998).

The term emotion is used to describe instinctively provoked mental states that are experienced positively or negatively in varying degrees of intensity, ranging from momentary or fleeting reactions to feelings that linger for extended periods of time (Frijda, 1987). While human emotions can be adaptive, they are not always helpful, and are frequently regulated or modified to fulfill some other objective (Gross, 1999). People are constantly bombarded with potentially arousing stimuli, yet they subconsciously engage in an automatic filtering process, discarding useless information and harvesting germane data that can aid in the pursuit of goals or objectives.

According to Gross (1998), humans have varying degrees of skills in terms of responding to emotions that both serve their interests and are socially acceptable. Gross mentioned the versatility of emotion regulation in that it can allow spontaneous reactions to emotions while delaying or prohibiting other spontaneous reactions based on a given social context in terms of what is likely to be deemed appropriate or acceptable in that setting. Some common methods for regulating one's emotions include instrumental

considerations (i.e., putting one's immediate feelings aside in order to obtain some other long-term goal), situation selection (i.e., engaging in behaviors that increases the odds of experiencing preferable outcomes), modifying the situation (e.g., hiding one's dirty laundry when the in-laws come to visit), attentional deployment (i.e., choosing to shift focus from something less to something more desirable), cognitive change (i.e., reframing an event to be more appealing), and response modulation (i.e., suppression or reappraisal).

Attentional deployment in the form of distraction can be a useful skill for coping with social anxiety as well. Individuals who suffer from social anxiety can adjust their attentional focus toward things that make them feel calm, happy, or grateful (Ekman et al., 1980). A person who is socially anxious at a conference may choose to self-distract by mentally reciting a poem or thinking about what they might do after work or their next summer vacation (Aslan and Bilgin, 2020; Nolen-Hoeksema & Morrow, 1993). Cognitive changes can include other forms of distraction, e.g., thinking of a funny scene from a TV show to divert their attention toward something more momentarily pleasing. If unable to change their situation or change the focus of their attention, individuals may find relief in simply accepting their emotions as physiological responses to a given stimulus, recognizing that these emotions serve a purpose (Kopp & Claire, 1989).

The methods used to regulate one's emotions have an effect on PTSD symptom severity. Christ et al. (2021) examined the relationship between emotion regulation and PTSD severity in a sample of 365 individuals, over the age of 18, living in the United States, and able to speak/read English. Relative to PTSD severity, the authors examined

specific attributes of emotion regulation, including lack of access to effective emotion regulation strategies, lack of emotional clarity, emotional nonacceptance, secondary emotional responding, experiencing emotions as out-of-control, difficulties modulating emotional arousal, and low emotional granularity. The researchers found that emotion regulation predictor variables accounted for approximately 28% and 27% of the variance in PTSD severity in the item- and subscale-level models, respectively (Christ et al., 2021).

In other recent literature on PTSD, emotion regulation has been categorized into two opposing strategies, namely cognitive reappraisal and expressive suppression. Cognitive reappraisal is a process by which an individual attempts to reframe their perception of a traumatic event with a more positive outlook to reduce the impact the event has on their emotional wellbeing, whereas expressive suppression is the process of hiding, inhibiting, or reducing one's behavioral response to a stressful or traumatic event, in a sense, denying the impact of an event on one's emotional state. Research indicates that cognitive reappraisal is the preferred and more adaptive strategy for regulating one's emotions, resulting in decreased symptoms related to stress and trauma (Schlumpf et al., 2019).

Cognitive reappraisal, as a method of emotion regulation has been shown to, in numerous studies, effectively mitigate symptoms of PTSD. Haselgruber et al. (2021), in a sample of 208 Austrian foster children, found that emotion regulation mediated the relationship between trauma exposure and symptom severity such that through cognitive reappraisal individuals could learn to regulate their emotions and decrease incidents of

disturbances in self-organization. In a sample of 188 African American females ages 13-17, who had had vaginal intercourse, researchers found that less functional emotion regulation was negatively related to PTSD symptoms at post-release such that less functional emotion regulation through the use of cognitive reappraisal, was associated with greater PTSD symptoms. Peuchlong et al. (2020) studied the interplay between personality traits and cognitive emotion regulation strategies, and the effect on the intensity of PTSD symptoms in 67 French individuals who had been traumatized by flood destruction. The results indicated that cognitive reappraisal moderated the relationship between flood-based trauma and PTSD, reducing the symptoms over time. Baranczuk (2018), in a sample of 280 white motor vehicle survivors between the ages of 18 and 80 found that greater emotional reactivity was associated with greater negative affect and lower positive affect, whereas greater emotional activity was related to greater positive affect and adaptive emotion regulation. These findings suggest that less emotionally reactive individuals had a more active lifestyle, using adaptive emotion regulation strategies such as cognitive reappraisal, to experience a more positive affect and less-severe PTSD symptoms (Baranczuk, 2018). Schlumpf et al. (2019) also found a positive link between cognitive reappraisal and decreased PTSD symptoms, in a sample of 23 Complex Dissociative Disorder and 21 PTSD patients from two specialized wards at a psychiatric hospital in Switzerland, using an exposure-based cognitive-restructuring trauma therapy, involving individual and group psychotherapy, cognitive stabilization groups, body-oriented movement, occupational therapy, non-verbal therapies (music/art therapy including instrument-playing), and pharmacotherapy. Following the exposure-

based, cognitive-restructuring trauma therapy, patients showed increased functional connectivity in hippocampus and prefrontal cortex, including the frontopolar cortex and rostral anterior cingulate cortex, indicating healthy levels of reappraisal and emotion-regulation functionality, and simultaneously showed decreased amygdala activity, indicating decreased fearful or stress-based responses to traumatic stimuli. Overall patients demonstrated a reduction of negative dissociative PTSD symptoms when using cognitive reappraisal (Schlumpf et al., 2019).

Healthy forms of emotion regulation, such as cognitive reappraisal, facilitate general ongoing happiness, decreasing the likelihood of experiencing negative symptoms such as depression, anxiety, jealousy, and sadness (Gross et al., 2001; Sun et al., 2020). Effective emotion regulation has been found to be linked to attachments formed during the first few years of a human's life. There is evidence that teens who have a secure attachment with one or both parents or caregiver were less likely to display dysfunctional anger and demonstrated decreased levels of avoidance in their problem-solving efforts (Kobak et al., 1993).

Those who are deficient in emotion regulation, tending to use expressive suppression, often experience symptoms of depression, anxiety, eating pathology, and substance abuse, while those who demonstrate comparatively high levels of emotion regulation are likely to show exceptional social competence and an effortless expression of socially appropriate emotions (Gross, 1999). There are other potential consequences of debilitated emotion regulation which can have long-term cognitive or social consequences. Many find themselves sabotaging personal relationships or professional

endeavors due to unmitigated outbursts of anger or other intense emotions. Emotion dysregulation is a common trait in many forms of mental illness and is found to be linked with long-term negative wellbeing and decreased quality of social relationships (Nolen-Hoeksema & Morrow, 1993). It has also been found that individuals who fail to regulate emotions like anger, anxiety, or fear can suffer needlessly, missing opportunities, and failing to find joy in their social interactions (Wells & Papageorgiou, 1998). Emotion dysregulation has also been linked to antisocial behavior and sexual offending (Cole et al., 1994).

Other results indicated that the more cumulative childhood trauma children experienced, the less adaptive emotion regulation they used and that lower rates of adaptive emotion regulation were associated with increased symptomatology. The findings of this study indicate that emotion regulation moderates the association between trauma exposure and PTSD symptom-severity by decreasing the strength of this relationship (Haselgruber et al., 2021).

In sum, emotion regulation through cognitive reappraisal has the capacity to help individuals who suffer from trauma and PTSD-like symptoms. Through stabilization, confrontation, and integration, emotion regulation can be developed (e.g., using cognitive-restructuring therapy, repeated exposure, individual or group psychotherapy, cognitive stabilization groups, movement/activity-based therapy, social support, music/art therapy, and pharmacotherapy) to promote neural functioning which, in turn, supports cognitive reappraisal and functional emotion regulation to minimize trauma symptoms. Individuals who suppress or avoid their emotional disturbance are more likely to

experience maladaptive symptoms associated with PTSD such as anxiety, stress, or cognitive dissonance. Learning to face one's fears, and reassess their situations is critical to finding relief from the pangs of trauma and promoting mental health.

How the Emotion Regulation Theory Relates to the Study

The need to achieve emotional stasis and a sense of internal peace with one's existence is an essential drive that stimulates the internal recognition and regulation of one's emotions (Barrett et al., 2001). People who have suffered from trauma often experience debilitating symptoms of anxiety and stress which can be exacerbated by social interaction due to the inability to filter out irrelevant information or regulating the emotions that arise from social cues (Yuan, et al., 2019). As individuals seek emotional stability in dealing with trauma, they either focus on the response to a stimulus, attempting to mask or meter their reactions based on social context, or they focus on the antecedent, which means they aim to preemptively deal with emotions before they arise, using a method of reappraisal to find stability despite traumatic triggers (Gross, 1998). Regardless of individual personality and temperament differences, it has been found that antecedent-focused emotion regulation is effective for mitigating PTSD symptoms (Baranczuk, 2018). People who have been members of high-demand religious groups often experience symptoms like PTSD and suffer from trauma-like symptoms such as social anxiety (McBeath & Greenlees, 2016). Therefore, emotion regulation theory provides a suitable framework for which to investigate the relationship between religious-based trauma and social anxiety (Barrett et al., 2001, Schlumpf et al., 2019; Gross, 1998; McBeath & Greenlees, 2016).

The goal of the present research was to determine the extent to which playing music moderated the relationship between religious struggles and social anxiety. Emotion regulation theory explains the potential for antecedent-focused emotion regulation to deal with social anxiety associated with religious-based struggles (Heeren et al., 2020; Hur et al., 2020; McBeath & Greenlees, 2016). It has been found that musical activity has the capacity to promote functional emotion regulation by increasing the ability and tendency to reappraise stressful situations versus suppressing or denying their existence (Schlumpf et al., 2019). Utilizing emotion regulation theory provides a means to investigate the extent to which musical activity (IV) moderates the relationship between religious struggles and (IV) social anxiety (DV).

Literature Review Related to Key Variables

Religious Struggles

In 2011, Mary Winell discussed the traumatic effects faced by individuals who have lost their identities to their religions through indoctrination, religious abuse (Lewis & Bromley, 1987), and other religious struggles. According to Exline et al. (2014; 2021), these religious struggles entail the existential tensions, conflicts, and negative emotions around religious/spiritual matters which can manifest in the perception of conflict with God, gods, demons, the devil, interpersonal conflicts with others, inner anxiety about morality, doubts in one's beliefs, or lack of ultimate meaning, purpose, or 'calling' in life.

Religious struggles are typically categorized into the following: divine (felt as though God had abandoned me), demonic (worried of being attacked by a demon or the devil), interpersonal (felt hurt/mistreated by religious/spiritual people/leaders), moral

(wrestled with attempts to follow moral principles), doubt (confused about religious/spiritual beliefs), and ultimate meaning (felt directionless or purposeless; Exline et al., 2014). While many aspects of religious struggles are innate to participating in a religion, other elements may be triggered by religious/spiritual/physical abuse.

Religious Abuse

Religious abuse, which has been defined as the act of an individual in a position of religious leadership/authority to gain power and control over individuals or collective groups, is a subset of betrayal trauma, which is most often caused by a person or institution on whom others are dependent (Cashwell & Swindle, 2018). Religious abuse includes mental, physical, sexual, and/or emotional abuse, occurring within a religious context or setting, with results that are deeply traumatizing to the individual with symptoms similar to PTSD, and possible dissociation ((Nobakht & Yngvar-Dale, 2018). Emotional abuse tends to be the most common type of religious abuse, whereby religious teachings are used, intentionally, to trigger feelings of fear, guilt, and shame, leaving individuals feeling alone, distressed, worthless, neglected or defective, which ultimately harms their self-concept and sense of personal value, resulting in lasting trauma (Novšak et al., 2012).

There are three categories of religious abuse: abuse perpetrated by religious leaders (e.g., pressuring an abused woman to stay in the marriage due to distorted scriptural interpretations against divorce), abuse perpetrated by a religious group or a person representing a religious group (e.g., position taken by a religious community that condones gender discrimination, promotes systemic racism, and/or excludes members of

the gay/lesbian/bisexual/transgender/questioning community), and abuse with a religious or spiritual component (e.g., when a husband justifies domestic violence or marital rape situations, citing religious passages compelling the wife's submission to her husband).

Spiritual Abuse

Spiritual abuse is defined as the mistreatment of a person who needs help, support, or greater spiritual empowerment, resulting in the weakening and undermining of that person's sense of spiritual empowerment. Six themes emerged (i.e., *leadership representing God, spiritual bullying, acceptance via performance, spiritual neglect, manifestation of internal states, and expanding external/internal tension*), suggesting that spiritual abuse is multi-faceted and multi-layered and includes both processes and events that affect an individual's bio/psycho/social and spiritual well-being.

Spiritual abuse is another type of religious abuse where power-seeking leaders use conventions of punishment, information control, coercion, thought control, and relational powers to influence Christians in the name of God through coercion or thought control described as a deeply emotional and personal attack, which often results in emotional and social trauma (Kessler & Kessler, 2021; Stevens et al., 2019; Ward, 2011). Oakley and Humphreys (2018) discussed the findings of a 2017 survey on people's membership experiences in a United Kingdom Christian church. The overarching theme of people feeling "harmed" by the church through thought/behavior control and manipulation (i.e., spiritual abuse) was reported. Religious leaders have at times been described as *spiritual bullies* who used intimidation, rejection, and emotional manipulation to maintain control. In an online survey of 502 people, ages 18 to 70, who had attended or were currently

attending various church denominations, 74% reported an overall personally damaging church experience, 70% felt unable to ask questions, 17% felt they were made to feel shame or blame in their current church, 49% of ex-members felt they were made to feel shame or blame, 70% felt manipulated by their current church leadership, 84% at their previous church, and 45% and 69% felt that scripture was used to control behavior by their current church and previous church leadership, respectively (Oakley & Kinmond, 2014).

Physical Abuse

Sexual abuse, a form of physical abuse, is a problem in some religions. In a recent qualitative review of case studies, Raine and Kent (2019) examined the sexual grooming of children and their caregivers in a variety of religious settings, and found some common grooming practices which include giving of gifts, showing individualized attention, touching, massage, hugging, or praise. The results of sexual abuse by a religious are momentous. In a study of 231 psychology students, ages 17-35, Stevens et al., (2019) found that those who were sexually abused by religious authorities or caregivers were more depressed, and that students who self-identified as having been physically abused by parents were more at risk for sexual abuse by religious authorities than controls and were more likely to separate from their religious communities. Religious parents and other authority figures are also more likely to endorse corporal punishment (Rodriguez & Henderson, 2010).

Social Anxiety Disorder

Perceptions of social status and social comparison are at the core of the experience of social anxiety, along with subtle individual and gender differences in perceptions of social status indicators such as likeability and popularity (Goodman et al., 2021; Henricks et al., 2021). Recent research revealed a negative association between social status and social anxiety such that with increased social status, there would be decreased levels of social anxiety, and that social avoidance and distress were related to being less popular and less liked. Additionally, girls, more than boys, who are seen as less popular by their classmates tend to avoid social situations more frequently, experiencing greater distress and social anxiety symptoms over time (Henricks et al., 2021).

Social anxiety is a form of anxiety where the cause or trigger for the anxiety symptoms is specifically *social*, occurring in various combinations, e.g., with certain people or crowds or in specific social settings (Goodman et al., 2021). Core components of social anxiety include judgments about oneself compared to internalized social standards (Goodman et al., 2021; Parsons et al., 2021). Increased time spent on smartphones consequently results in increased levels of social anxiety (Midgley et al., 2021). Yilmaz et al. (2021) also found that combination of authoritative parental attitudes and deficit emotion regulation strategies positively predicted social anxiety. Other research has pointed to early adversities as predictors of social anxiety, with a significant association between the experience of major adverse childhood events and social anxiety symptoms, especially when an individual had experienced three or more adverse events

(Meng et al., 2021).

Anxiety disorders have been associated with poor quality of life, unemployment, suicidal ideation, causing an immense economic burden to its sufferers. While many people experience subclinical levels of anxiety symptoms in their lifetimes, they still experience significant suffering and impairment. In 2014, anxiety disorders were reported to be the sixth leading cause of disability (Yuan et al., 2021). The pandemic also had an effect on social anxiety levels. Dickey et al. (2021) revealed that emerging adults experienced overall increases in symptoms of depression and anxiety during the pandemic, such that increases in social anxiety were related to chronic interpersonal stress and hyperreactivity to threatening stimuli.

In addition to emotions that had previously been associated with social anxiety, such as shame and embarrassment, loneliness is also experienced at increased levels for individuals with this disorder (Oren-Yagoda et al., 2021). Sleep quality is another variable that can be both a product and maintaining factor of social anxiety, according to Dutcher et al. (2021). These researchers found that poorer sleep quality was significantly related to slower improvement over time and worse social anxiety symptoms at the end of treatment and follow-up. Barber et al. (2021) found that social anxiety may inhibit the positive emotional/interpersonal outcomes for people during one-on-one social interactions, perpetuating symptoms of social anxiety.

Social anxiety also has implications for personal and academic success. Jystad et al. (2021) investigated the relationship between social anxiety and school functioning

(i.e., learning difficulties, truancy, social exclusion, school dissatisfaction, and behavioral difficulties such as hyperactivity and/or attention problems) and educational aspirations (i.e., educational level). Those screening positive for anxiety disorder and who reported social anxiety symptoms had increased rates of behavioral difficulties, school dissatisfaction, social exclusion, truancy, and learning difficulties compared to controls. Additionally, social anxiety symptoms and positive anxiety disorder were negatively associated with educational aspirations.

Strategies to Address Social Anxiety Symptoms

Butler et al. (2021) found that cognitive behavioral therapy helped reduced patients' social anxiety/depressive symptoms and that their quality of life had increased. Cognitive behavior therapy has also been shown to help stimulate cognitive reappraisal as a form of emotion regulation which can help improve social anxiety symptoms (Kivity et al., 2021). In addition to cognitive behavioral therapy, physical activity has been found to improve cognitive functioning, life satisfaction, wellbeing, and has positive effects on mood and anxiety, including social anxiety (Herring et al., 2021). Self-compassion has also been suggested as a remedy for social anxiety. Bates et al. (2021) found that self-compassion significantly predicted decreased symptoms of social anxiety directly, mediated by lower levels of expressive suppression and a significant positive relationship between self-compassion and cognitive reappraisal. Role-reversal may also have the potential to reduce the effects of social anxiety. Using an experimental design, Abeditehrani et al. (2021) found that role-playing followed by role-reversal significantly reduced negative cognitions.

Religious Struggles and Social Anxiety

There has been a history of documentation on the link between religion and anxiety. One of the first examinations indicated a significant positive correlation between Catholic religious affiliation and both depression and anxiety among 760 randomly selected women residing on farms in a mid-western state, with a large effect size of .976, $p < .002$ (Hertsgaard & Light, 1984). Another developmental study with 100 undergraduates at the University of Alabama indicated that religiousness was positively correlated with fearfulness ($r = .33$, $p < .001$), and anxiety ($r = .20$, $p < .05$; Wilson & Miller, 1968). A more recent study with 316 private university undergraduate students revealed moderate, positive associations with depression and anxiety (Exline et al., 2021).

Religious struggles have been described as a variant of PTSD and is associated with higher-than-average mental health problems (Kauffman, 2002). One aspect that might lead to religious struggles is what has been described as a loss of the assumptive world, a conceptualization of the world-ultimate truth, which brings meaning to existence and a promise of what happens to humans after death (Kauffman, 2002). When leaving religion, individuals face a traumatic loss of the assumptive world, meaning that all is lost; there is no hope and there is no concept of future, a state of mind that is intense and overwhelming. The process of leaving is traumatic for people involved in religious groups due to the high demands placed on members. From the outset, people are taught that outsiders are dangerous, evil, and worldly and by departing the church, they are

entering into this dangerous territory, becoming one with the sinners. This comes with severe psychological consequences such as loss of the senses of belonging and purpose. Because many religions are patriarchal, women face compounded burdens, facing thought and behavioral control and generalized subjugation (Weishaupt et al., 1997).

Members of high-demand religious groups tend to struggle with social anxiety due to experiences of dissociation, lack of awareness of normal social cues, repression of human emotions like anger or sadness, perception of psychology as evil, and a sense of inherent defectiveness (McBeath & Greenlees, 2016). The fear and judgment imposed by high-demand religious groups often result in social anxiety due to negative self-beliefs, self-shaming, and fear of being judged by others as sinful. These experiences produce a trauma like PTSD in individuals who have left the church as they are unable to regulate their emotions and experience increased anxiety during complex social interactions (Landis-Shack et al., 2017). Because psychology is taught to be "of the world," these individuals will often avoid getting professional help, ultimately perpetuating their continued struggles (Stone, 2013).

Music Activity

Music is a tool that has the power to provide people with peak moments of joy and exhilaration (Maslow, 1970). It has been said to send its listeners and creators into transformative landscapes of beauty, wonder, and transcendence, especially when suffering ill health or in distress (Moss, 2019). Music activity, especially with others, has been associated with physical, social, and emotional benefits. Singing, especially with others, has been correlated with increased social connection, physical and physiological

benefits (specifically respiratory health), cognitive stimulation, mental health, enjoyment, and transcendence. Singers in choirs describe their experience as uplifting, life affirming; they report a sense of connection at the heart or energy level with an overarching theme of transcendence and meditative or mindful benefits (Moss, 2019). In other testimonials, musicians state that musical activity requires complete concentration and focus, being present and living in the moment, and that is itself a form of mindfulness. Studies indicate that musical activity produces endorphin levels like exercise often leading to reduced stress, depression, and anxiety (Moss, 2019). Paul et al. (2020) found that patients with schizophrenia experienced increased strength, emotional fulfillment, social intimacy and skill, liberation, and creative inspiration when treated with music therapy.

Music therapy has long been researched and noted for its capacity to reduce stress, anxiety, pain, and depression for stroke patients (Sumakul et al., 2020). It has been shown to alleviate burnout and stress in operating room staff (Kacem et al., 2017), and has helped to increased hospital satisfaction compared to standard treatment (Tan et al., 2020). It has also been shown to increased patient satisfaction scores on pain control, emergency department recommendation and staff care of emergency department patients who received music therapy compared to patients who did not receive music therapy services (Mandel et al., 2019).

Combined music therapy treatment, with cognitive behavioral therapy, has been shown to be most effective at reducing levels of depression, with instrumental musical activity reducing levels of depression by 82.6% (Bibb et al., 2019). These researchers studied 13 female participants struggling with eating disorders and found that music

therapy was associated with decreased anxiety after a public social eating challenge. Music has also been shown to be effective in reducing anxiety, measured with the state-trait anxiety inventory in older adults while visiting the emergency department (Belland et al., 2017). Wang-Sheng et al. (2020) pointed to the anxiety/pain/depression-relieving aspect of music therapy in 99 coronary artery bypass grafting patients after surgery, recruited from a cardiac center in China. The results indicated that the music therapy group showed the most significant reductions in pain, anxiety, and depression following the surgical procedure. Music therapy is also an effective treatment for children's anxiety during dental treatment (Alkahtani et al., 2020).

Still other accounts of music therapy reducing anxiety are scattered throughout Reword the literature. Music therapy has been demonstrated to be effective at reducing anxiety in patients during anesthesia induction (Giordano et al., 2020), in hemodialysis patients receiving standard care augmented with music therapy (Burrai et al., 2020), in female surgical patients in an academic hospital in Singapore (Xu et al., 2021), in individuals who struggle with specific phobias, obsessive-compulsive disorder, generalized anxiety disorder, and posttraumatic stress disorder (Dragulin et al., 2019), in poly-traumatized patients admitted to the resuscitation unit of a tertiary level hospital in Spain (Contreras-Molina et al., 2021), in men undergoing prostate biopsy (Dell, 2021), and in patients undergoing cesarean delivery (Weingarten et al., 2021). As a means of reducing anxiety, stress, depression, and pain, music therapy has the potential to help people regulate their emotions more effectively. Using cognitive-behavioral music therapy, a relatively new form of treatment, Valizadeh et al. (2021) found that cognitive-

behavioral music therapy resulted in increased cognitive reappraisal emotion regulation of elderly emotions ($P<0.05$; Valizadeh et al., 2021).

While music listening has been shown to improve mental health and socialization, playing or creating music has been shown to influence brain and cognitive functioning by activating multiple areas of the brain, including cognitive and motor functions, leading to overall increased cognitive ability (Schneider et al., 2019). Ploukou and Panagopoulou (2018) also explored the benefits of playing music among 48 oncology nurses who deal with high levels of stress and found that anxiety, depression, and psychosomatic symptoms significantly decreased for the treatment group while the control group, who received no musical intervention, displayed no significant changes in any of the variables measured. These findings are consistent with other research indicating that the process of engaging in creating music, whether independently or with others, is related to increased mental health and decreased pain among burn patients in a tertiary care burn unit (Rohilla et al., 2018). Another study involving 90 patients with cerebral palsy, concluded that music therapy helped to improve memory, attention, and quality of life. Playing percussive instruments, specifically, led to improved hand functions and dexterity, while salsa/tango dancing helped improve gait and balance in cerebral palsy/stroke patients Siqueira and Villasuso-Lago (2012). Still other research has confirmed the benefits of playing music with 51 children with autism, with the parents of the children in the music group reporting significant improvements in their children's communication skills and family quality of life, higher than those reported for the control group (Sharda et al., 2018). Musical activity has been found to assist in comatose patients regaining

consciousness, as well as decreasing symptoms of PTSD (Landis-Shack et al., 2017), and helps promote socioemotional/cognitive improvement in children who have suffered from abuse (Wentling & Behrens, 2018).

Music Activity and Social Anxiety

Many individuals who suffer from anxiety disorders are treated with pharmacological approaches often leading to numerous side effects, including increased gastrointestinal discomfort, diarrhea, jitteriness, insomnia, and headaches, and thus there has been an increase in attentiveness towards alternative therapeutic treatments (Lu et al., 2021). While the more common alternative treatment for anxiety has been cognitive behavioral therapy; however, 36% of anxiety patients do not show any improvement with cognitive behavioral therapy, and 40% of children with anxiety who discontinued cognitive behavioral therapy experienced a relapse in their symptoms (Lu et al., 2021).

An alternative or a supplemental treatment format would be music therapy or music activity, or the act of creating music, which has been found to be helpful in reducing stress, anxiety and depression. In college students, music activity was significantly associated with an improved sense of self-worth and a desire for the inclusion of others (Feng and Li, 2020). Dingle et al. (2021) also found, assessing the impact of musical activity on 6,975 participants' health and wellbeing, through a review of 63 empirical studies, that playing a musical instrument was correlated with improved cognitive health and wellbeing in school students, older adults, and people with mild brain injuries. In addition, it was discussed that rapping and songwriting had positive effects on social interaction, social and cultural inclusion, connection, self-esteem, and

empowerment; singing in the car improved posture and agitation, and group singing supported cognitive health in older adults with varying physical or mental conditions (Dingle et al., 2021).

Other research has identified the benefit of music therapy for treating generalized anxiety disorder in patients who were under clinical control and receiving pharmacotherapy (i.e., treatment with medication; Gutierrez & Camarena, 2015), data analysis revealing that both active and passive applications of music therapy were effective in significantly reducing anxiety and depression. Another literature review, which included 26 trials and with a total of 1,369 participants, indicated that music activity was significant in helping to reduce stress and anxiety in individuals with coronary heart disease (Bradt et al., 2009). Another study confirmed that music therapy, used in conjunction with yoga, was effective in reducing depression, anxiety, and stress (Vajpeyee et al., 2021). With further interest in the effects of COVID-19 on individuals burdened by the isolation and financial distress, another recent study looked at the impact and role of music activity in the wake of the pandemic on 1,031 adult individuals between May and June 2020 in the US, Spain, and Italy, the three countries most severely affected by the pandemic at that time and where confinement orders were in place, finding that out of the more than forty everyday activities in nine broad categories, music-related activities were rated as the most helpful for coping with the pandemic by most participants which they said also reduced negative psychological symptoms (Herrero, 2020).

Music therapy has recently been used in conjunction with cognitive behavioral

therapy to treat social anxiety. To determine the combined effect of music therapy and cognitive behavioral therapy on social anxiety, Egenti et al. (2019) conducted a randomized controlled trial design with 155 adolescents in secondary schools in southeast Nigeria assigned to either a treatment group or a waitlist control group over a 12-week period. Weekly sessions alternated between music therapy (e.g., opera, rock, pop, classical and folk music relaxation skills, song, and breath control) and cognitive behavioral therapy (e.g., cognitive restructuring, reframing, rhythmic-based skills, attention training, and mood monitoring skills). Participants completed self-report measures of generalized anxiety (Generalized Anxiety Disorder-Child Ages 11-17) and social anxiety (Social Anxiety Scale for Adolescents, Liebowitz Social Anxiety Scale for Children and Adolescents, self-report version). Results indicated that social anxiety decreased significantly over time in the treatment group, whereas the control group showed no significant changes in social anxiety. The follow-up assessment also revealed a significant reduction in social anxiety for the treatment group $t(77)=176.675$, $P<.001$ (Egenti et al., 2019).

Conclusion

My goal was to examine the extent to which musical activity moderated the relationship between religious struggles and social anxiety among adults living in the U.S. Religious struggles can instill fear and self-incrimination, manifesting in social anxiety. The theory of emotion regulation informed the proposed study, as it was used to provide insights regarding the topic. To date, no studies have investigated the potential for emotion-regulating benefits of music activity to reduce social anxiety as experienced

by victims of religion. Findings could inform therapeutic interventions that are made available to mental health professionals whose services are sought by social anxiety sufferers.

Chapter 3 includes the research design, sampling procedure, instruments, and statistical approach used to address the research questions.

Chapter 3: Research Method

The purpose of this quantitative study was to determine the extent to which music activity moderated the relationship between religious struggle and social anxiety. Chapter 3 includes the research design and rationale, population, sampling and sampling procedures, procedures for recruitment, participation, and data collection, instrumentation and operationalization of constructs, data analysis plan, threats to validity, and ethical procedures.

Research Design and Rationale

I used a quantitative nonexperimental correlational design to determine the extent to which music activity (IV) moderated the relationship between religious struggles (IV) and social anxiety (DV). Quantitative research is appropriate for examining statistical relationships among variables. A nonexperimental design was selected as independent variables were not manipulated. Surveys are often used in nonexperimental research for convenience, allowing large populations to be assessed quickly with greater statistical power.

Methodology

Population

The study's target population was full-time U.S. English-speaking adults between 18 and 65. As of 2020, there were 331.4 million people living in the U.S., and of this number, more than 75% were adults older than 18 (Ogunwole et al., 2010). Although home to more than 350 languages, English is most spoken in the U.S., and is used exclusively by 241 million native English speakers (Lufkin, 2018; Lyons, 2017).

Sampling and Sampling Procedures

A nonprobability self-selected convenience sampling technique was used to recruit participants; this is the preferred sampling strategy as it is time- and cost-effective. Nonprobability sampling techniques cannot guarantee a representative sample and may limit generalizability of study findings. The sample was obtained using SurveyMonkey, a cloud-based survey platform that is used for conducting online survey research. SurveyMonkey allows users to email, text, share on social media, or send surveys through a weblink to participants who meet all inclusion criteria. SurveyMonkey allowed me to set inclusion criteria for participation.

A power analysis was performed to calculate sample size using G*Power 3.1 software. . Exline et al. (2021) examined the relationship between religious/spiritual struggles and measures of mental health (i.e., depression, anxiety, satisfaction with life, and meaning in life) and found that effect sizes were moderate to large and all above .40 for the relationships between the six religious struggles subscales (*divine*, *demonic*, *interpersonal*, *moral*, *doubt*, *ultimate meaning*) and mental health. Religiousness is positively correlated with mental issues (Wilson & Miller, 1968). Compared to correlational effect sizes, moderation effect sizes tend to be much smaller; a 30-year review of the size of moderating effects that were assessed using multiple regression revealed the median observed effect size was only .002 (Aguinis et al., 2005). Considering the varying effect sizes the correlational studies on religious struggles and mental health, I used an effect size of .04.

The minimum recommended sample size was calculated using the following parameters for linear multiple regression (fixed model, R^2 increase): an alpha level of .05, power of .80, an estimated effect size of .04 for the moderators (i.e., four subscales of the MUSE - playing, cognitive/emotional regulation, engaged production, and social connextion), four tested predictors (interaction variable), and nine total predictor variables (i.e., religious struggles, four music activity subscales, and the four interaction variables - religious struggles x instrument playing, religious struggles x cognitive/emotional regulation, religious struggles x engaged production, & religious struggles x social connection). This resulted in a recommended sample size of 327.

Procedures for Recruitment, Participation, and Data Collection

Participants were recruited using SurveyMonkey, which is commonly used by students conducting dissertation research. Benefits to using SurveyMonkey compared to traditional surveys include less expense, less time, and greater access to diverse populations. SurveyMonkey provides participants with links directing them to online surveys if they meet inclusion criteria for participation; ineligible respondents are immediately removed from the survey. A brief explanation of the study was provided, and I explained to participants they had the opportunity to decline participation or exit the study at any time without penalty. Informed consent forms were provided on the first page of the survey, which were time stamped by SurveyMonkey with an agree button for participants to select to continue. Informed consent forms included the purpose of the study, its voluntary nature, expectations for participation, privacy assurances, risks, and benefits, and contact information for crisis assistance should participants experience any

discomfort while completing surveys. A five-question demographic questionnaire was completed followed by study instruments in the following order: SAQ, MUSE questionnaire, and RSS-14 scale. Participants were instructed to respond based on how they felt currently, and all data were collected anonymously with no identifying information. There were 49 questions total. Participants had access to Walden University's participant advocate if necessary. The approximate amount of time to complete all survey items was 35 minutes.

Instrumentation and Operationalization of Constructs

Demographic Questionnaire

The demographic questionnaire took less than 5 minutes to complete and included questions about participants' age, gender, race, marital status, and education level.

SAQ

The SAQ is a theoretically and empirically valid measure of social anxiety (Caballo et al., 2010). For this study, a condensed version was used which was developed from the original 2010 version (SAQ-14; Lakuta, 2018). This version, which is in the public domain, consists of 10 items that measure five components of social anxiety: *negative view of the self, self-focused attention, safety behaviors, somatic and cognitive symptoms, and anticipatory/post-event rumination*. The 10 items from the SAQ are rated on a Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The total score ranges from 10 to 50, with higher scores indicating higher levels of social anxiety. The approximate time to complete the SAQ was 10 minutes.

Reliability and Validity. The internal consistency for the SAQ for adults was verified

with a participant pool of 12,144, representing 11 different countries (Caballo et al., 2010a). Cronbach's α was .97 for the total scale and a total average inter-item correlation of .279. In a sample of 249 nonclinical Caucasian/White Polish citizens, 18–52 years (*M* age = 23.47 years; *SD* = 4.57; 76.7%, women; 78.3%, students), Łakuta (2018) found strong internal consistency for the 10-item, 5-factor version of the SAQ, Cronbach's α values were .87, .84, .70, .84, and .83 for *negative view of self*, *self-focused attention*, *safety behaviors*, *somatic and cognitive symptoms*, and *anticipatory/post-event rumination*, respectively, as well as the total social anxiety score, Cronbach's α=.91. Lakuta (2018) also assessed test-retest reliability (*n*=95) across a four-week duration with an intraclass correlation coefficient of .89. Mosarezaee et al. (2020) used Cronbach's α to measure the internal consistency of the total score for SAQ with a sample of 299 Persian students, finding strong internal consistency, Cronbach's α=.92. In another study with 484 Canadian and Belgian non-clinical participants, the internal consistency for Cronbach's *α* was .91 and .94 (social anxiety total score) for Canadian and Belgian samples, respectively (Bravo et al., 2019). These researchers also asked a subsample of the Canadian participants (*n*=54) to complete the SAQ after several weeks, finding that test-retest reliability for the total score was *r*= .79, confirming the temporal stability of the SAQ.

Caballo et al. (2015) found strong evidence for concurrent validity of the SAQ, by assessing the correlations with other widely used questionnaires for measuring social phobia/anxiety including the Social Phobia and Anxiety Inventory (SPAI), the Liebowitz Social Anxiety Scale (LSAS), and the Social Phobia Inventory (SPIN). Concurrent

validity was shown by high correlations with the SPAI (.74), the LSAS (.72), and the SPIN (.69). The 6 factors of the SAQ-AR further showed moderate correlations with these measures, ranging from .44 to .75. Even factors that did not correspond to any of the preexisting questionnaires, such as *Interactions with the Opposite Sex* and *Assertive Expression of Annoyance, Disgust, or Displeasure* showed correlations ranging from .44 to .62, indicating that this scale measured areas of social anxiety that the other scales failed to measure.

Lakuta (2018) also confirmed the convergent validity of the SAQ, using Pearson correlational analysis to explore the association between the SAQ and other criterion measures including *anxiety* (Hospital Anxiety and Depression Scale), *loneliness* (De Jong Gierveld Loneliness Scale), *self-focused rumination* (Rumination Questionnaire), and *self-esteem* (Rosenberg Self-Esteem Scale). SAQ total scores were significantly and positively correlated with loneliness (Pearson $r = .58$, $p < .001$) and ruminative thinking ($r = .60$, $p < .001$) and significantly and negatively correlated with self-esteem ($r = -.73$, $p < .001$). There was also a significant positive correlation between the SAQ and anxiety symptoms ($r = .69$, $p < .001$), between somatic and cognitive symptoms and Hospital Anxiety and Depression Scale ($r = .67$, $p < .001$); anticipatory and post-event rumination was positively correlated with ruminative thinking ($r = .61$, $p < .001$) and negative view of the self was correlated with self-esteem ($r = -.78$, $p < .001$). There were significant correlations with general anxiety symptoms and self-focused attention and safety behaviors ($r = .45$, $p < .001$, respectively) and self-esteem ($r = –.55$, $p < .001$; $r = –.51$, $p < .001$, respectively), and self-focused attention was significantly related to ruminative

thinking ($r = .53$, $p < .001$). These findings constitute strong evidence for the convergent validity of the SAQ (Łakuta, 2018).

Content validity for the shortened, 10-item version of the SAQ was conducted by a panel of six independent expert judges (psychology professors) who assessed: whether the items were consistent with the content of social anxiety, whether the items were suitable and in accordance with the definition and theoretical dimensions, and whether the wording of the items was accurate (Łakuta, 2018). Based on the ratings of the six experts, a Content Validity Index was determined; items with an index score of .83 or above were considered to be acceptable and were retained.

Confirmatory factor analysis indicated a good model fit: $\chi 2/df = 35.34/25$ (the relative chi-square was equal to 1.41), comparative fit index = .99, goodness of fit index = .96, normed fit index = .96, Tucker-Lewis Index = .98, standardized root mean square residual = .031, and root mean square error of approximation = .054 (90% confidence interval = .001 – .090). The standardized factor loadings in the 5-factor model (one factor for each pair of items) ranged from .64 to .96, which suggests that the 5-factor model was robust across all four samples; clinical (n=92) and non-clinical (n=249) in study 1, n=156 in study 2, and n=135 in study 3 (studies 2 and 3 were executed for further validation; Łakuta, 2018). Because the SAQ is in the public domain, permission to use is not required.

MUSE Questionnaire

The MUSE Questionnaire is a 58- or a reduced 32-item format questionnaire, in the public domain, that consists of two sections, with a question in the first section

addressing instrumental playing experience, while section two explores the styles of music engagement (i.e., *cognitive/emotional regulation, engaged production, social connection, dance, and physical exercise*; Chin & Rickard, 2012). For this study, only index 3 (i.e., *music-playing*) and engagement styles 1, 2, and 3 (i.e., *cognitive/emotional regulation, engaged production, social connection*) were used and were scored as independent subscales. Responses to item statements for engagement styles were made on a 5-point Likert scale ranging from 1(*not at all/not applicable*) to 5 (*always/extremely*) for each item. The approximate time to complete the MUSE Questionnaire was 10 minutes. There are 20 questions total that were used. Because the MUSE Questionnaire is in the public domain, it was available for use in research without permission from the authors.

Reliability and Validity. Chin and Rickard (2012) used Cronbach's α to measure the reliability of the MUSE Questionnaire (N = 210) across four engagement styles (i.e., *cognitive/emotional regulation, engaged production, social connection, dance/physical exercise*), with α coefficients ranging from .77 to .95 across all four styles, demonstrating its reliability as a measure of music use. In a later study, Chin and Rickard (2014) again used Cronbach's α to measure the reliability of the MUse Questionnaire (N = 637) with satisfactory results; Cronbach's α ranged from .78 to .87. In this study, dance and physical activity were separated into separate engagement subscales and again found satisfactory results using Cronbach's α; for the five styles of music engagement subscales (i.e., *cognitive/emotional regulation, engaged production, social connection, dance*, and *physical exercise*), Cronbach's α was .76, .92, .81, .82, and .75, respectively. A second

sample was recruited in a second study with the intention of establishing preliminary validity and reliability of the music engagement styles identified in Study 1. The five factors of music engagement demonstrated sufficient reliability, with α coefficients ranging from .78 to .87 (*M* =.82).

Chin and Rickard (2012) used music background indices, styles of music engagement, demographics, the brief Music Experience Questionnaire and the Emotion Regulation Questionnaire to assess the validity of the MUSE Questionnaire. Content validity of final items was verified by discussion with music psychology experts (Chin & Rickard, 2012). The Kaiser Meyer-Olkin (.86) measure verified the sampling adequacy (*N* = 637), and a significant Bartlett's test of sphericity $\chi 2$ (7626) = 24196.52, $p < .001$ indicated that correlations between items, with α coefficients ranging from .78 to .87, were sufficiently large for factor analysis. Based on the scree plot and Horn's parallel analysis, four factors were retained, which when combined explained 46.48% of the variance. Varimax rotation was used for all factor analyses. Partial correlations were used to assess the linear relationship between engaged production and music instrument playing, controlling for years of training. The partial correlation was statistically significant, r (207) = .21, p = .003. After controlling for years of training, 4.4% of the variability in music instrument playing could still be accounted for by engaged production.

Chin and Rickard (2012) used exploratory factor analysis to further establish validity of the MUSE Questionnaire; the Kaiser Meyer-Olkin measure verified the sampling adequacy for this analysis (.76). A significant Bartlett's test of sphericity χ 2

(1225) = 3426.62, $p < .001$, as well as Cronbach's α ranging from .78 to .87, and values for the five styles of music engagement, .76, .92, .81, .82, and .75, respectively, indicated that the correlations between items were sufficiently large for factor analysis. Using Spearman's correlation to examine the relationship between the demographic variables and each of the subscales, they found that males were more likely to engage with music for engaged production, whereas females were more likely to engage with music for dance and physical exercise). There were no significant associations between education, employment status, and the subscales. Overall, their data indicate that the MUSE Questionnaire is a reliable and valid tool for measuring an individual's level of active engagement with music, and that it offers researchers a sensitive approach to exploring benefits of music engagement by assessing both quality and quantity dimensions of music use.

RSS-14

RSS-14 is a 26-item measure that assesses different types of religious struggles (Exline et al., 2014). For the purposes of this study, a condensed version was used which has 14 items that were taken directly from the full Religious and Spiritual Struggles and can be completed in reference to a specific time point (i.e., the past week or month) or a specific event (i.e., health crisis or loss; Exline et al., 2021). There are six subscales that measure different types of spiritual struggles including: *divine* (i.e., felt as though God had abandoned or was punishing oneself), *demonic* (i.e., worried that the problems one was facing was the work of the devil of evil spirits), *interpersonal* (i.e., felt hurt, mistreated, or offended by religious/spiritual people; had conflicts with other people

about religious/spiritual matters), *moral* (i.e., wrestled with attempts to follow moral principles; felt guilty for not living up to moral standards), *ultimate meaning* (i.e., questioned whether life mattered or felt as though life had no deeper meaning), and *doubt* (i.e., felt troubled by doubts or questions about religion or spirituality; felt confused about my religious/spiritual beliefs). Items were rated on a 5-point Likert-type scale ranging from 1 (*not at all/does not apply*) to 5 (*a great deal*). The total score was used, ranging from 14-70, with higher scores (42 and above) indicating greater religious/spiritual struggles. The approximate time to complete the 14-item RSS-14 was 10 minutes.

The RSS-14 exhibited strong internal consistency; Cronbach's α for the total score was .91; the subscales were also positively correlated, with religious struggles scores ranging from .28 to .58 (Exline et al., 2014). Exline et al. (2021; N = 1,141) later found sufficient internal consistency reliability (Cronbach's α) for the condensed, 14-item version (α=.88). Exline et al. (2022; N = 1,141) again found sufficient internal consistency reliability (Cronbach's α) for the six scale factors of the RSS-14 (i.e., *divine*, *demonic*, *interpersonal*, *moral*, *ultimate meaning*, and *doubt*) with α values ranging from .75 to .88.

Exline et al. (2014) established convergent and discriminant validity of the RSS-14 in relation to other indicators of religious/spiritual struggles. They used a 5-item measure of religious belief salience and found a significant positive correlation with religious struggles: $r(1138) = .76$, $p < .01$. Participants who endorsed some belief in a relationship with God (n=1022) completed a 9-item *instability subscale* from the Spiritual Assessment Inventory and again found a significant positive correlation (r = .88).

Participants endorsing some belief in a relationship with God (n = 1022) completed the 4-item *anger/disappointment subscale* of the Attitudes toward God Scale-9 and found a significant positive correlation (r = .91). Overall, the RSS-14 showed good internal consistency and evidence of convergent, discriminant, and predictive validity.

Data Analysis Plan

Once data collection was complete, the data was downloaded from the SurveyMonkey platform to the Statistical Package for Social Sciences version 28.0 for analysis. Standard regression analysis was used to determine the extent to which music activity moderated the relationship between religious struggle and social anxiety. Moderation analysis was used to assess the extent to which the moderating variable moderated the strength of relationships between independent and dependent variables. Moderation occurs when the relationship between two variables (e.g., *religious struggles* and *social anxiety*) strengthens or weakens depending on a third variable (e.g., *music activity*: 5 subscales, including playing, training, cognitive and emotional regulation, engaged production, and social connection). Five interaction terms were created by multiplying each of the five MUSEQuestionnaire subscales by a total score for religious struggles to test the moderation effect. The dependent variable (i.e., social anxiety) was then regressed on the eleven predictor variables (5 MUSE Questionnaire subscales, Religious Struggles total score, and the five interaction terms - each of the five Music Use Questionnaire subscales x religious struggles).

Moderation effects can be challenging to interpret; therefore, a graph was generated to visualize the effect. All multiple regression assumptions were evaluated in

SPSS (i.e., normality, linearity, homoscedasticity, multicollinearity, and independence of residuals). Histograms and Q-Q plots tested for normality, scatterplots tested for linearity, a scatterplot of residuals tested for homoscedasticity, and multicollinearity was tested using Variance Inflation Factor values.

Research Questions and Hypotheses

RQ1: Does religious struggle predict social anxiety?

$H_0$1: Religious struggle does not predict social anxiety.

H_a1: Religious struggle does predict social anxiety.

RQ2: Does musical activity predict social anxiety?

$H_0$2: Musical activity does not predict social anxiety.

H_a2: Musical activity does predict social anxiety.

RQ3: Does musical activity moderate the relationship between religious struggle and social anxiety?

$H_0$3: Musical activity does not moderate the relationship between religious struggle and social anxiety.

H_a3: Musical activity does moderate the relationship between religious struggle and social anxiety.

Threats to Validity

The first threat to validity was self-selection bias. Using a convenience sample rather than random selection limited the sample representativeness, limiting the generalizability of the results (Etikan et al., 2016). Participant self-selection limited sample representativeness as those who chose to participate may have differed

demographically from those who do not (Copas et al., 2020). Individuals interested in participating in research may do so for different reasons. For example, it is likely that individuals experience different levels of social anxiety, where individuals who are more socially anxious may be less inclined to participate. Another threat to validity was non-response bias; however, SurveyMonkey was set up so that participants were not able to skip questions and would not progress until they answered all questions. Participants may have also fallen prey to the social desirability bias, which manifests when participants present themselves more favorably to be viewed by others as appropriate; however, social desirability bias is more prevalent when using interviews as participants may provide answers consistent with social norms, especially when asked about controversial topics (Larson, 2019). Maintaining anonymity and adding confidentiality assurances helped to mitigate social desirability bias.

Ethical Procedures

Before any data were collected, I received approval from Walden University's IRB. Before participants began the survey, they read an informed consent form and if they agreed to participate, they clicked the agree button. Questions about their religious experiences could have triggered painful memories causing participants to experience some discomfort; therefore anyone who experienced discomfort while completing the survey was referred to Mental Health America. The data collected did not include any identifying information and was kept secure on a password protected computer accessible only by me. Moreover, the data will be backed up on OneDrive and will be deleted after five years.

Summary

The purpose of this quantitative study was to address a gap in the literature by examining the extent to which religious struggle predicts social anxiety, the extent to which music activity predicts social anxiety, and what extent music activity moderates the relationship between religious struggles and social anxiety. The study used a cross-sectional quantitative survey design. The sample included individuals who were English-speaking and full-time U.S. citizens between 18 and 65. The survey was administered through the SurveyMonkey survey platform. Data were analyzed using standard multiple regression and moderation analysis. All concerns regarding threats to validity and ethical considerations were discussed as well as plans to address them. Chapter 4 includes a detailed discussion of analysis and results.

Chapter 4: Results

The purpose of this quantitative study was to address a gap in literature by examining the extent to which music activity moderates the relationship between religious struggles and social anxiety in a sample of adults living in the U.S. In this chapter, research questions and hypotheses are restated, and details describing data collection, screening procedures, and recruitment are discussed. A summary of participant demographic data is also provided. Following this, results of descriptive statistics, evaluation of statistical assumptions, and results from standard multiple regression analysis are presented. The chapter ends with a summary.

Research Questions and Hypotheses

RQ1: Does religious struggle predict social anxiety?

$H_0$1: Religious struggle does not predict social anxiety.

H_a1: Religious struggle does predict social anxiety.

RQ2: Does musical activity predict social anxiety?

$H_0$2: Musical activity does not predict social anxiety.

H_a2: Musical activity does predict social anxiety.

RQ3: Does musical activity moderate the relationship between religious struggle and social anxiety?

$H_0$3: Musical activity does not moderate the relationship between religious struggle and social anxiety.

H_a3: Musical activity does moderate the relationship between religious struggle and social anxiety.

Data Collection

Recruitment and data collection was accomplished through a SurveyMonkey audience panel. The anonymous online survey administered through the SurveyMonkey platform began with the informed consent form, which included a description of the purpose of the study, requirements to participate, instructions on how to participate, privacy-related concerns, the voluntary nature of the study, risks and benefits of participating, and a crisis/mental health website link. To participate, individuals had to be between 18 and 65 years old and currently living in the U.S. Individuals who declined participation were directed to close their window or tab, while those who met inclusion criteria and chose to participate were told to click the agree tab at the bottom on the screen to indicate their consent. Following this, participants were directed to demographic questions related to their background, age, race, gender, marital status, and highest level of education. After demographic questions, participants completed the SAQ, MUSE Questionnaire, and RSS-14 survey instruments for social anxiety, music activity, and religious struggles. SurveyMonkey sent the survey to prospective participants. Of those recruited, 467 met inclusion criteria who chose to participate. The sample included 58.0% females, with most in the 35 to 44 (22.34%) and 45 to 54 years old range (24.6%). Of this population, 71.5% were White (71.5%), 59.3% were married, and 29.6% were college graduates. Because a convenience sample was used rather than a random sampling strategy, sample characteristics may not be fully representative of the adult population in the U.S. Therefore, results can be generalized only to adults who participated in SurveyMonkey audience panels and not all U.S. adults (see Table 1).

Table 1

General Demographics of Study Sample

Variable	*N*	*%*
Gender		
Male	191	51.1
Female	271	48.9
Other	3	0.6
Missing	2	0.4
Age		
18 – 24 years old	52	11.1
25 – 34 years old	83	17.8
35 – 44 years old	105	22.5
45 – 54 years old	115	24.6
55-64 years old	59	12.6
65+ years old	53	11.3
Missing	0	0.0
Race		
White/Caucasian	334	71.5
Black/African American	37	7.9
Hispanic/Latino	35	7.5
Asian/Asian American	47	10.1
American Indian/Alaska Native	3	.6
Native Hawaiian/ Other Pacific Islander	3	.6
Another Race	8	1.7

Missing	0	0.0
Marital Status		
Single	134	28.7
Married	277	59.3
Widowed	16	3.4
Divorced	40	8.6
Missing	0	0.0
Education Level		
Did not attend school	2	.4
1st grade	2	.4
2nd grade	2	.4
3rd grade	2	.4
4th grade	1	.2
5th grade	2	.4
6th grade	1	.2
7th grade	2	.4
8th grade	2	.4
9th grade	0	0
10th grade	1	.2
11th grade	4	.9
Graduated from high school	77	16.5
1 year of college	27	5.8
2 years of college	52	11.1
3 years of college	18	3.9
Graduated from college	138	29.6
Some graduate school	19	4.1
Completed graduate school	88	18.8
Missing	27	5.8

Results

Descriptive Statistics

For the predictor variable of music activity playing, 314 participants reported having played or currently playing a musical instrument, while 153 did not play a musical instrument. The following means and standard deviations were calculated for the four other predictor variables: religious struggles (*M* = 29.75, *SD* = 14.74), music activity (cognitive/emotional regulation; *M* = 24.65, *SD* = 6.17), music activity (engaged production; *M* = 20.14, *SD* = 11.42), and music activity (social connection; *M* = 9.52, *SD* = 3.35). Means and standard deviations were also calculated for the outcome variable: social anxiety (*M* = 26.99, *SD* = 9.77). Table 2 displays the means and standard deviations for all study variables, except music activity-playing, as it was dichotomous.

Table 2

Mean, Standard Deviation, and Correlations for Study Variables

Variable	*M*	*SD*	*Min*	*Max*
Religious Struggles	29.74	14.74	16.00	74.00
Music Activity (Cognitive/Emotion	24.64	6.16	7.00	35.00
Regulation)	20.13	11.41	9.00	45.00
Music Activity (Engaged Production)	9.51	3.35	3.00	15.00
Music Activity (Social Connection)	26.99	9.77	10.00	50.00
Social Anxiety				

Based on Table 3, the religious struggles variable was significantly and positively

related to social anxiety, $r(418) = .526$, $p < .001$, $r^2 = .276$, in that higher levels of religious struggles were associated with higher levels of social anxiety.

Music activity-playing was significantly and positively related to social anxiety, $r(418) = .168$, $p < .001$, $r^2 = .028$ which means that people who play an instrument tend to have higher social anxiety. Music activity-cognitive/emotion regulation was also significantly and positively related to social anxiety, $r(418) = .381$, $p < .001$, $r^2 = .145$ which means that increased levels of music activity for the purpose of cognitive/emotional regulation was associated with increased levels of social anxiety. Music activity-engaged production was also significantly and positively related to social anxiety, $r(418) = .398$, $p < .001$, $r^2 = .158$ in that increased levels of music activity-engaged production was associated with increased levels of social anxiety.

Music activity-social connection was also significantly and positively related to social anxiety, $r(418) = .812$, $p < .001$, $r^2 = .659$ which means that increased levels of music activity for the purpose of social connection was associated with increased levels of social anxiety.

The religious struggles variable was significantly and positively related to music activity-playing, $r(418) = .315$, $p < .001$, $r^2 = .099$, meaning that increased levels of religious struggles were associated with playing an instrument. Religious struggles were significantly and positively related to music activity-cognitive/emotion regulation, $r(418) = .348$, $p < .001$, $r^2 = .121$, such that higher levels of religious struggles were associated with higher levels of music activity-cognitive/emotion regulation. Religious struggles were significantly and positively related to music activity-engaged production, $r(418) =$

.591, p <.001, r^2 = .349, in that increased levels of religious struggles were associated with music activity-engaged production. Religious struggles were significantly and positively related to music activity-social connection, $r(418)$ = .812, p <.001, r^2 = .659, indicating that higher levels of religious struggles were associated with higher levels of music activity-social connection (see Table 3).

Table 3

Pearson r Correlations Between Study Variables

Variables	Religious Struggles	Social Anxiety
Religious Struggles		.526
Music Activity (Playing)	.315	.168
Music Activity (Cognitive/Emotion Regulation)	.348	.381
Music Activity (Engaged Production)	.591	.398
Music Activity Social Connection)	.812	.455

Note. p < .001.

Exploratory Data Analysis

Normality

Table 4 provides the results from the tests of normality, skewness values, and kurtosis values. Acceptable values of skewness fall between -3 and +3. Acceptable kurtosis values fall between -10 and +10. While the skewness and kurtosis values were in the acceptable range, the Kolmogorov-Smirnov tests for normality were significant, indicating that the assumption of normality was not met. An examination of the

histograms and normal Q-Q plots suggested that the data were acceptable and are provided in Appendix E.

Table 4

Normality Testing for Study Variables

Variable	Statistic[a]	*df*	*p*	*Skewness*	*Kurtosis*
Music Activity-Playing	.674	466	<.001	-.747	-1.448
Music Activity-Cognitive/ Emotion Regulation	24.611	462	<.001	-.497	.187
Music Activity-Engaged Production	20.645	461	<.001	.626	-.885
Music Activity-Social Connection	9.480	461	<.001	-.285	-.546
Religious Struggles	29.849	431	<.001	1.448	1.378
Social Anxiety	27.211	448	<.001	.452	-.175

[a.] Kolmogorov-Smirnov test of normality.

Assumption Testing for Multiple Regression

To determine if the data met the assumptions for a multiple regression analysis, linearity, multicollinearity, homoscedasticity, and independence of residuals were assessed. Linearity was determined by examining the P-P plots and scatterplots and both showed data that appeared to be linear (see Appendix F). The social anxiety score was regressed onto the religious struggles and music activity variables to examine the

tolerance and VIF statistics. For both the religious struggles and music activity subscale variables, tolerance and VIF statistics were not within acceptable ranges (5-10), as they were all above 10, indicating high levels of multicollinearity among variables. Therefore, the assumption of multicollinearity was not met. The VIF statistics are shown in Table 5.

Table 5

Collinearity Diagnostics for Predictor Variables

Variable	Tolerance	*VIF*
Music activity (playing)	.076	13.151
Music activity (cognitive/emotional regulation)	.090	11.112
Music activity (engaged production)	.072	13.826
Music activity (social connection)	.078	12.859
Religious struggles	.030	33.613

Linearity between independent and dependent variables was examined using scatterplots. Scatterplots demonstrating linear relationships between each independent and dependent variable are provided in Appendix F. Homoscedasticity was examined using a scatterplot of the standardized residual and standardized predicted values for the three regressions. Examination of the scatterplots indicates the variance of residuals is largely constant for all regressions. The assumption of homoscedasticity was met. To assess the independence of residuals, a Durbin-Watson test was completed. The Durbin-Watson statistic was 1.935, meeting the assumption that the residuals were independent,

because the score was close to 2.0, indicating that there was no autocorrelation detected in the sample. Multivariate outliers were examined using Mahalanobis distance. There were no significant multivariate outliers found.

Reliability of Measurements

Cronbach's alpha was computed to test the reliability of the instruments used for the current sample. Table 6 provides the Cronbach's alpha coefficients for each instrument, and each had acceptable internal consistency, ranging from .925 to .959.

Multiple Regression Analysis

To answer the research questions, the five predictor variables (one religious struggle score and four music activity scores) were multiplied by each other to create four interaction variables (religious struggles x music activity-playing, religious struggles x music activity-cognitive/emotion regulation, religious struggles x music activity-engaged production, religious struggles x music activity-social connection). Following this, the social anxiety variable was regressed onto the predictor variables (religious struggles and four music activity scores) and the four interaction variables in a standard multiple regression analysis.

The overall regression model was significant and accounted for 36.8% of the variance of the outcome variable (social anxiety), $F(9,419) = 26.498$, $p < .001$, $R^2 = .368$. Religious struggles were not statistically significant in predicting social anxiety ($b = -.033$, $p = .830$, $sr^2 = .000$); therefore, I failed to reject the null (religious struggle did not predict social anxiety).

The only significant predictor of social anxiety was music activity for the purpose of cognitive/emotional regulation. Music activity for cognitive/emotion regulation was statistically significant and positive in predicting social anxiety and accounted for 10% of the variance in social anxiety (b = .551, p < .008, sr^2 = .010).

The other three music activity subscales (playing, engaged production, and social connection) were not significant in predicting social anxiety. Music activity-playing was not statistically significant and did not contribute to the variance in the model (b = -2.80, p < .339). Music activity-engaged production was not statistically significant and did not contribute to the variance in the model (b = -.185, p < .140). Lastly, music activity-social connection was not statistically significant and did not contribute to the variance in the model (b = -.479, p < .244). These results failed to provide support for a significant relationship; therefore, I failed to reject the null (musical activity did not predict social anxiety).

After controlling for main effects, the interaction/moderator variables were not significant in contributing to the variance in the model. Religious struggles x music activity-playing was not statistically significant and did not contribute to the variance in the model (b =.095, p < .397). Religious struggles x cognitive/emotion regulation was not statistically significant and did not contribute to the variance in the model (b =-.011, p = .130). Religious struggles x music activity-engaged production was not statistically significant and did not contribute to the variance in the model (b = .008 p = .065). Religious struggles x music activity-social connection was not statistically significant and did not contribute to the variance in the model (b =.026, p = .080). Based on these

findings, I failed to reject the null (musical activity did not moderate the relationship between religious struggle and social anxiety).

Table 6

Cronbach's Alpha Coefficients for Study Instruments

Instrument	Alpha
Social Anxiety Questionnaire	.925
MUSE - Engaged Production	.959
MUSE - Social Connection	.898
MUSE – Total	.948
Religious Struggles Survey	.951

Note. MUSE-Cognitive and Emotional Regulation was not included as it is a dichotomous variable.

Table 7

ANOVA Results for Model

Model		*SS*	*df*	*MS*	*F*	*R*	R^2	*p*
1	Regression	14716.827	9	1635.203	26.49	.606	.368	<.001
	Residual	25301.163	410	61.710	84			
	Total	40017.990	419					

Table 8

Coefficients: Prediction of Social Anxiety

Model	*B*	*SE*	B	*t*	*p*	sr^2
Religious Struggles (RS)	-.033	.151	-.049	-.215	.830	.000
MA Playing	-2.800	2.924	-.136	-9.958	.339	.001
MA-Cognitive/Emotion Regulation	.551	.207	.348	2.658	.008	.010
MA-Engaged Production	-.185	.125	-.216	-1.478	.140	.003
MA-Social Connection	-.479	.411	-.164	-1.167	.244	.002
RS*MA-Playing	.095	.112	.199	.847	.397	.001
RS*MA-Cognitive/Emotion Regulation	-.011	.007	-.591	-1.515	.130	.003
RS*MA-Engaged Production	.008	.004	.570	1.851	.065	.005
RS*MA-Social Connection	.026	.015	.620	1.753	.080	.004

Summary

Results of multiple regression analysis revealed that music activity for the purpose of cognitive and emotion regulation was a significant predictor of social anxiety but in the opposite direction of what was expected. Increased music activity for the purpose of cognitive and emotion regulation predicted higher scores for social anxiety. Music activity (playing, cognitive/emotion regulation, engaged production, and social connection) was not significant in terms of moderating the relationship between religious struggles and social anxiety.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this study was to examine the extent to which music activity moderates the relationship between religious struggles and social anxiety in a sample of adults living in the U.S. Social anxiety is the sixth leading cause of disability and associated with unemployment, poor quality of life, and suicidal ideation (Leichsenring & Leweke, 2017; Yuan et al., 2021). Social anxiety is also the third most common mental disorder and most common anxiety disorder (Rose & Tadi, 2021). There is a predictive relationship between religious struggles and social anxiety, specifically among individuals who have departed from a religion, meaning that with increased levels of religious struggles, there would be increased levels of social anxiety (Fennell, 1997; Heeran et al., 2020; McBeath & Greenlees, 2016; Wentling & Behrens, 2018). Because music activity reduces stress and anxiety, especially among trauma victims, I investigated the potential for music activity to influence the relationship between religious struggles and social anxiety.

To answer this study's research questions, a quantitative nonexperimental correlational survey design was used to examine the extent to which religious struggles (IV) predicted social anxiety (DV), the extent to which music activity (IV) predicted social anxiety (DV), and the extent to which music activity (IV) moderated the relationship between religious struggles (IV) and social anxiety (DV). The SurveyMonkey platform was used to administer online surveys to adults between 18 and 65 living in the U.S. Standard multiple regression analysis revealed that only music activity (i.e., listening to music for the purpose of cognitive/emotional regulation) was

significant in terms of predicting social anxiety in that music caused participants to have more anxiety. This is opposite from the prediction of music activity to mitigating these symptoms. Music activity did not moderate the relationship between religious struggles and social anxiety. In this chapter, interpretations of research findings are discussed, followed by limitations of the study, recommendations for future research, and implications for positive social change.

Interpretation of the Findings

Religious Struggles and Social Anxiety

Religious struggle was not a significant predictor of social anxiety. Ano and Vasconcelles (2005) described how religious individuals, while they may experience increased religious struggles, they also use religious coping strategies, such as benevolent religious reappraisals (prayer), and collaborative religious coping (worship), which might mitigate symptoms of social anxiety. They included that many religious individuals view their struggles as pathways on the road toward growth, which is consistent with many religious traditions that struggle is typically followed by and sometimes necessary for growth. That religious struggle is a path toward individual growth, and this study did not measure ex-religious members, might contribute to the explanation as to why I did not find a significant positive relationship between religious struggles and social anxiety.

Music Activity and Social Anxiety

While three of the music activity subscales were not significant in terms of predicting social anxiety (i.e., *playing*, *engaged production*, and *social connection*), music activity for the purpose of cognitive and emotion regulation was significant in

terms of predicting social anxiety, but not in the predicted direction which was to predict decreased levels of social anxiety. This finding, although unexpected, is consistent with other research showing that unhealthy music use, including deleterious music listening behaviors resulted in increased social anxiety and worsening moods (Silverman, 2021). Deleterious music-listening behaviors were common where participants reported unhealthy music use, and for these individuals, listening to music resulted in increased social anxiety. Silverman (2021) noted listening to music may reinforce negative emotions, depending on the type of music that people choose. For some individuals, sad and melancholy music may be a positive coping strategy in certain situations, but for others it may reinforce maladaptive attitudes and beliefs that can lead to or exacerbate feelings of anxiety and depression. That social anxiety levels may increase as a result of type of music being listened to might explain why a positive relationship was observed between listening to music for the purpose of cognitive/emotional regulation and increased social anxiety, however this is conjecture, given that my data did not include music type.

Music activity, while expected to regulate emotions, in certain situations resulted in increased anxiety, especially when coupled with a tendency to use expressive suppression (consciously stifling one's reflexive behavioral expressions of emotions, such as holding back tears or laughter) as a means of emotion regulation (Chin & Rickard, 2014). Additionally, when expectations are unmet, symptoms of anxiety may increase.

In 2023, Zhou observed that expectation correlated moderately with employment anxiety ($r = 0.574$, $p < 0.01$), and that expectation explained 40.03% of the variance in anxiety levels among Chinese vocational art college students ($\gamma = 0.54$, $p < 0.001$). Culatta and Clay-Warner (2021) also found that falling behind one's own expectations is positively associated with anxiety ($b = 0.076$, $p < .05$).

Music Activity as a Moderator of the Relationship Between Religious Struggle and Social Anxiety.

Music activity was not a significant moderator of the relationship between religious struggle and social anxiety.

Theory of Emotion Regulation

Music activity typically results in lower anxiety (Chin & Rickard, 2012; Contreras-Molina et al., 2021). I predicted that music activity would moderate the relationship between religious struggles and social anxiety; however, there was no moderating effect found. There was, however, a significant and positive relationship between music activity (i.e., listening to music for the purpose of cognitive/emotion regulation) and social anxiety. Music listening was positively related to social anxiety, in that increased music listening was associated with increased social anxiety, especially when a person used expressive suppression for emotion control purposes (Chin & Rickard, 2014). Using music in a maladaptive manner with the expectation of emotional control was a significant predictor not only of increased social anxiety, but other negative psychological outcomes such as denial, behavioral disengagement, and self-blame (Culatta & Clay-Warner, 2021; Kroenke & Jackson, 1997; Silverman, 2021; Zhou, 2023).

Limitations of the Study

Using a convenience sampling strategy limited both the representativeness of the sample and the generalizability of the findings. Because this study was limited to U.S. adults living in the U.S. between 18 and 65, results cannot be generalized beyond this population. Using no compensation or incentives may have limited not only the number of participants. Individuals who chose not to participate may have differed demographically and in disposition compared to those who chose to participate, which may have resulted in different findings. Additionally, there is no way to confirm the truthfulness of participant responses to self-report questionnaires, nor can qualification criteria be confirmed. Screening questions were used to minimize these threats. Social desirability bias may limit truthfulness of participants' responses, prompting them instead to present themselves in the most favorable light; this is especially likely when participants are reluctant to disclose sensitive information (Borsari & Carey, 2006; Durkin et al., 2005). To mitigate this, participants were reminded that no identifying information was collected, and all responses are anonymous. Additionally, participants were told that they could exit surveys at any time without penalty. The short amount of time that participants spent to complete the survey may have limited reliability of participant responses; as reported in Chapter 3, it was estimated that surveys collectively took approximately 35 minutes to complete. The actual average time to complete the study was 4 minutes, suggesting that participants moved quickly through responses rather than giving them serious consideration.

Another potential limitation was the focus on religious struggles rather than religious trauma, arguably a different construct entirely. Religious struggles describe the ongoing religious-based issues faced by individuals presently participating in an organized religion (McBeath & Greenless, 2016). These struggles, including feelings of being punished or abandoned by God, guilt over not being able to live righteously enough, questioning the meaning of life, and interpreting basic struggles as the work of the devil, can lead to increased anxiety (McBeath & Greenless, 2016).

Religious trauma syndrome, which was the focus of the chapter 2 literature review, is recognized by some psychologists as a range of symptoms akin to PTSD (Cashwell & Swindle, 2018). Unlike religious struggles, religious trauma is faced by individuals as they leave, or have left, authoritarian religions and includes an array of long-term psychological consequences (e.g., fear, anger, depression, loss of self, and social anxiety (Cashwell & Swindle, 2018; McBeath & Greenlees, 2016; Winell, 2016). Very few studies have described how members of certain high-demand religious groups use fear-based doctrines and guilt tactics to control the minds and thoughts of their congregants, making them susceptible to a form of mind control (Cashwell & Swindle, 2018). Similarly, many ex-members have reported feeling blind to the traumatic effects while practicing their religion, citing a loss of identity and self-doubt that often result in feelings of social anxiety and social inadequacy upon their departure (McBeath & Greenlees, 2016). While religious struggle is a component of religious trauma, the only instrument that measured religious trauma, per the literature review, had not yet been

tested for reliability and validity. Consequently, I used a measure of religious struggles that captured some, but not all, aspects of religious trauma.

And, finally, using an instrument that focused primarily on music activity-listening rather than music activity-playing, may have limited the information I was able to collect. Listening to music, even with the intent to control one's emotions, does not always have the desired effect (Chin & Rickard; 2014; Silverman, 2021). Other research has shown the unique benefits of playing or creating music on anxiety reduction (Schneider et al., 2019). The instrument I used focused primarily on music listening; had more detailed information about music playing been solicited, the relationship to social anxiety may have been different.

Recommendations

Little is known about the potential for music activity to moderate the relationship between religious struggles and social anxiety. This study attempted to address that gap. Given the well-documented benefit of music activity on PTSD symptoms, it would be advantageous to look at the impact of music activity on clinical subpopulations such as combat veterans, refugees, prisoners, victims of war, victims of abuse.

Raine and Kent (2019) described the grooming and brainwashing that some experience while involved in organized religion and that, once they have left, may experience long-term trauma. This lasting trauma produces symptoms like PTSD and is associated with increased mental health problems, including social anxiety (Kauffman, 2002). Because individuals who leave organized religion may experience trauma that manifests in social anxiety, it would be advantageous to focus future research on ex-

religious members rather than those still engaged in religious practice, as studies have found that the nature of their religious struggle may differ (McBeath & Greenlees, 2016). Finally, given that studies have documented the positive influence of music playing on social anxiety, future research may investigate the moderating effect of music playing on the relationship between religious trauma and social anxiety (Dingle et al., 2021; Kauffman, 2002; Raine & Kent, 2019; Sumakul et al., 2020).

Implications for Social Change

Social anxiety continues to pose a significant threat to the social, economic, educational, and emotional well-being of many U.S adults, making the need to address these issues urgent (Leichsenring & Leweke, 2017; Jystad et al., 2021; Yuan et al., 2021). Associated with school truancy, learning difficulties, and unemployment, social anxiety can also impact individuals' career trajectories (Jystad et al., 2021). As the third most common mental disorder, and the most common anxiety disorder (Rose & Tadi, 2021), research suggests that religious trauma (e.g., lingering feelings of doubt, shame, fear, or judgment) may be related to social anxiety (Fennell, 1997; Heeran et al., 2020; McBeath & Greenlees, 2016; Wentling & Behrens, 2018). While traditional treatment options for social anxiety have followed a more traditional approach, using psychotherapy, antidepressants, and cognitive/behavioral therapy (Bruffaerts et al., 2022), recent research suggests that playing an instrument or singing may have unique effects on one's mental health, including the capacity to reduce anxiety, stress, pain, and depression (Landis-Shack et al., 2017; Rohilla et al., 2018; Wentling & Behrens, 2018).

The intent of this study was to determine if music activity influenced the relationship between religious struggle and social anxiety. Although findings from this study did not support that, the current literature documents sufficient evidence to warrant the potential for music activity to mitigate symptoms of social anxiety, stress, and depression associated with religious trauma.

Additional research points to the unique benefits of either playing an instrument or singing on mental health, indicating a capacity for enhancing the recovery process from religious trauma by reducing social anxiety. To effect positive social change, the need to understand the implications of music activity-playing on social anxiety related to religious struggles persists.

Theory of Emotion Regulation

More than 25 years of research has utilized the theory of emotion regulation to explain how individuals regulate their emotions in various settings and with varied stimuli, namely through cognitive reappraisal or expressive suppression. This study failed to extend this body of research. Notwithstanding the failure to find a moderating effect of music activity on the relationship between religious struggles and social anxiety, findings from the current study did indicate that music activity for the purpose of cognitive regulation resulted in increased social anxiety, which is consistent with research showing that music listening may increase social anxiety due to maladaptive music behaviors (e.g., isolating, ruminating, or suppressing), using expressive suppression for emotion control purposes, or to unmet expectations for music providing relief from social anxiety symptoms. Gross (1998) explained that a cognitive reappraisal strategy for emotion

regulation can lead to decreased anxiety and Valizadeh et al. (2021) reported that playing an instrument or singing can improve emotion regulation through a unique cognitive reappraisal process that occurs organically while playing music. To extend what is known about emotion regulation theory, future research should examine the degree to which individual emotion regulation style (cognitive reappraisal vs. expressive suppression), as well as the method (listening vs. playing) and purpose (e.g., to stimulate or calm) of engaging with music may influence symptoms of social anxiety associated with religious trauma.

Conclusion

The purpose of this study was to examine the relationship between religious struggles and social anxiety and the potential moderating effect of music activity on that relationship; this result was not found. The only significant finding was for the relation between music activity (i.e., listening to music for the purpose of cognitive/emotion regulation) social anxiety, but not in the predicted direction. This was likely due to maladaptive music listening behavior, expressive suppression used to control emotions, and/or any unmet expectations for music providing relief from social anxiety.

As social anxiety continues to impact how American adults interact, work, and live, a closer look at the potential for playing music, together with effective emotion control strategies, to mitigate the long-term effects of religious trauma, is warranted.

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Appendix A: Demographic Questionnaire

Demographics: (4 Questions)

D.1 What is your age?
- Responses:
  - 18-25
  - 25-35
  - 35-45
  - 45-65

D.2. What is your gender?
- Responses
  - Male
  - Female
  - Decline to state

D3. What is your marital status?
- Responses
  - Single
  - Married
  - Divorced
  - Widowed

D4. What is your educational level?
- Responses
  - High school
  - Some college
  - Bachelor's
  - Graduate school or beyond

Appendix B: RSS-14

Over the past two weeks, to what extent have you had each of the experiences listed below? Response options are as follows: 1 (not at all/does not apply), 2 (a little bit), 3 (somewhat), 4 (quite a bit), and 5 (a great deal).

Divine

-felt as though God had abandoned me

-felt as though God was punishing me

-felt angry at God

Demonic

-worried that the problems I was facing were the work of the devil or evil spirits

-felt attacked by the devil or by evil spirits

Interpersonal

-felt hurt, mistreated, or offended by religious/spiritual people

-had conflicts with other people about religious/spiritual matters

-felt angry at organized religion

Moral

-wrestled with attempts to follow my moral principles

-felt guilty for not living up to my moral standards

Doubt

-felt troubled by doubts or questions about religion or spirituality

-felt confused about my religious/spiritual beliefs

Ultimate meaning

-questioned whether life really matters

-felt as though my life had no deeper meaning

Appendix C: MUSE Questionnaire

Index of Music Instrument Playing

1. Have you played/do you play a music instrument? (Yes/No)

On a scale ranging from 1(*not at all/not applicable*) to 5 (*always/extremely*), rate the following items:

Music Engagement Style - I (Cognitive and Emotional Regulation)

2. I often listen to music when I'm feeling down
3. Specific types of music make me feel better
4. Music often takes away tension at the end of the day
5. I often listen to new compositions
6. I use a particular type of music to get me through tough times
7. Music is often a source of inspiration for me
8. Certain types of music help me think

Music Engagement Style - II (Engaged Production)

9. Mastering a piece of music gives me greater recognition as a performer
10. I often play challenging pieces
11. Practice helps me improve my music playing skills
12. Performing music is emotionally rewarding for me
13. I often get recognition from my friends for playing in a group
14. I often look forward to attending music practices with my friends
15. Being able to improve whilst playing music gives me a great sense of satisfaction

16. Music performance demonstrates my knowledge of music theory
17. I feel good when my performance is applauded

Music Engagement Style- III (Social Connection)

18. Having a similar taste in music often helps me relate better to my peers
19. I am able to make more friends when we like the same type of music
20. There is a greater connection with my friends when we like the same music

Appendix D: SAQ

The following instruction was used: “Here is a list of statements about how an individual may feel or think, and the perceptions of the self an individual may have in social situations. Please read the statements carefully, consider how well each statement relates to you, and indicate your answer, according to the following scale: 1 = Strongly disagree, 2 = Disagree, 3 = Sometimes disagree, sometimes agree, 4 = Agree, 5 = Strongly agree. There are no “right” or “wrong” answers. Be sure to choose only one answer for each statement”.

1. I think about myself as ineffectual, socially unattractive person
2. I think I’m not interesting enough to be liked by others
3. During social situations, I keep thinking about how I look and try to picture how I appear to others
4. During social interactions, it is often hard for me to stop thinking about what I have just said and how it sounds others
5. In social situations, I avoid eye contact
6. I try not to attract attention for fear of being negatively evaluated by other people
7. In social situations, I am bothered by various unpleasant feelings and experiences, such as feeling hot, sweating, nervous trembling, palpitations, or difficulty concentrating

8. The anxiety which I feel in social situations significantly disrupts my occupational or academic functioning, or social activities or relationships
9. Before meeting people I don't know well, I'm worried about what they can thinking of me and how I will be evaluated
10. I deliberate over social interactions long after they end and think how I acted and whether I was evaluated negatively by others

Appendix E: Histograms and Q-Q Plots

Figure E1

Histogram for Social Anxiety

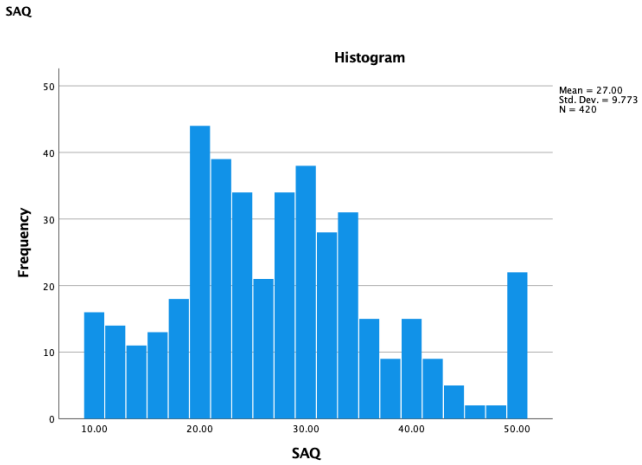


Figure E2

Normal Q-Q Plot of SAQ

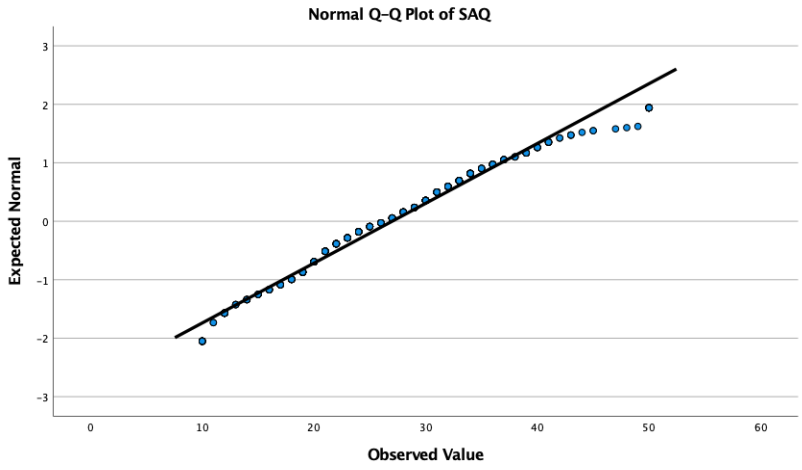


Figure E3

Histogram for Religious Struggles Scores

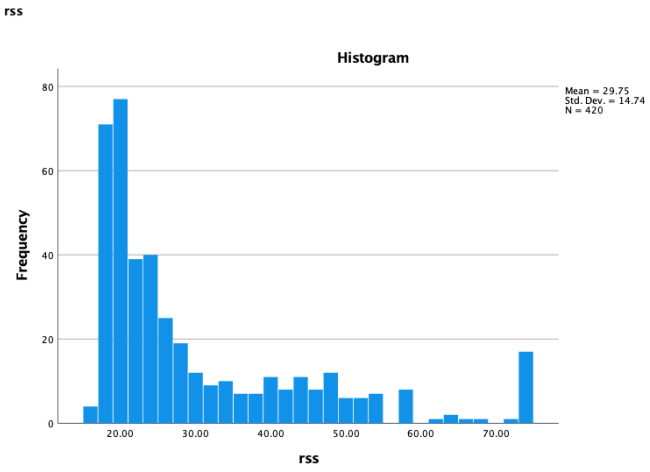


Figure E4

Normal Q-Q plot for Religious Struggles

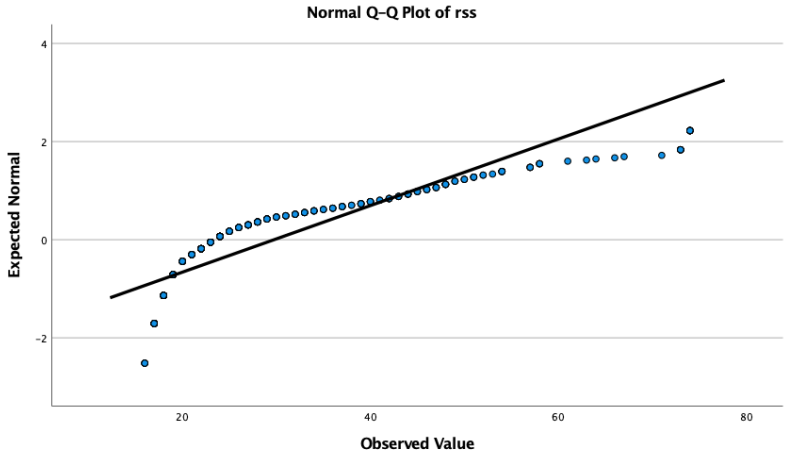


Figure E5

Histogram for Muse.a (playing)

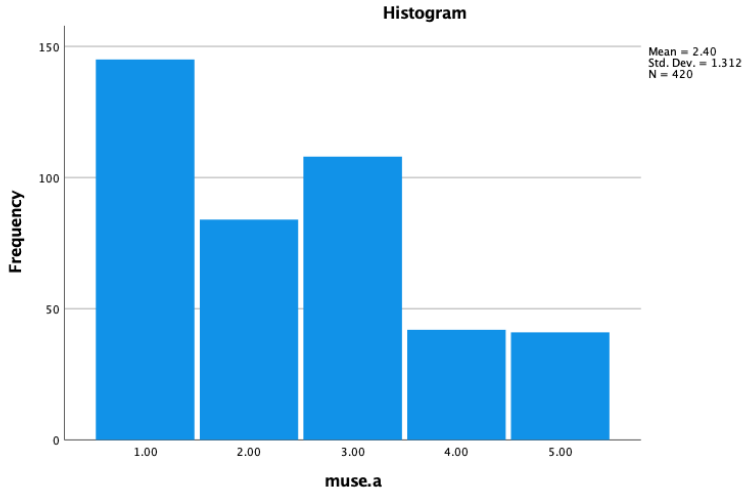


Figure E6

Normal Q-Q Plot for Muse.a (playing)

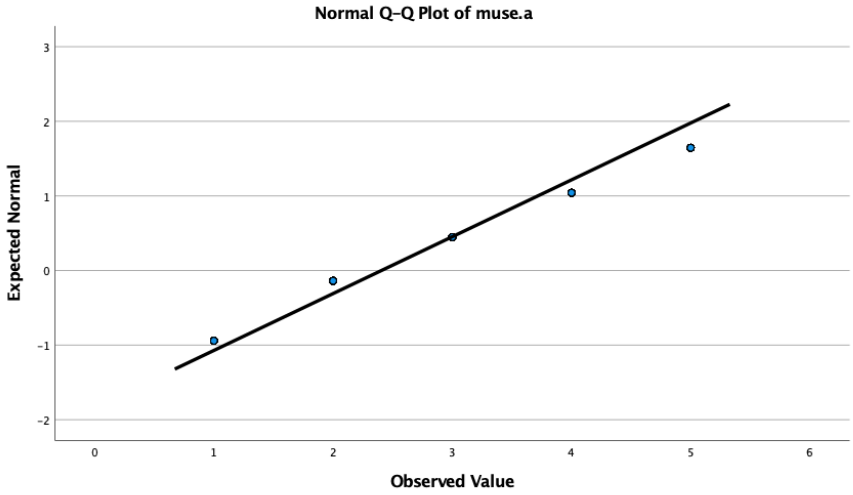


Figure E7

Histogram for Muse.b (cognitive/emotional regulation)

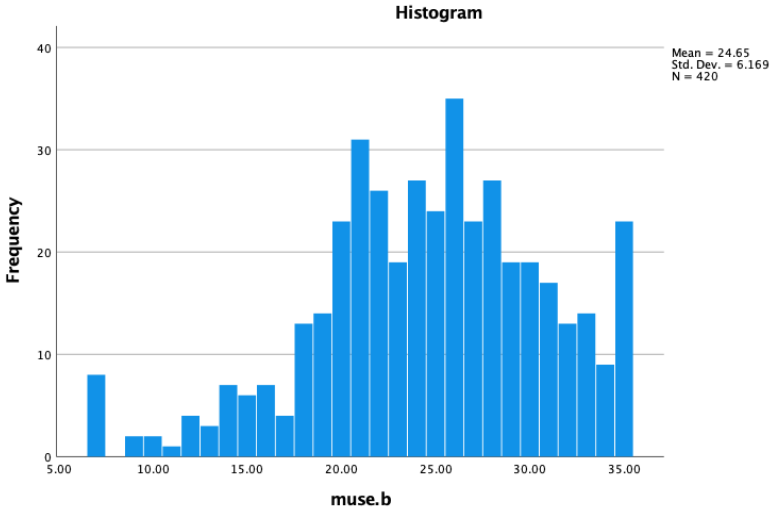


Figure E8

Normal Q-Q Plot for Muse.b (cognitive/emotion regulation)

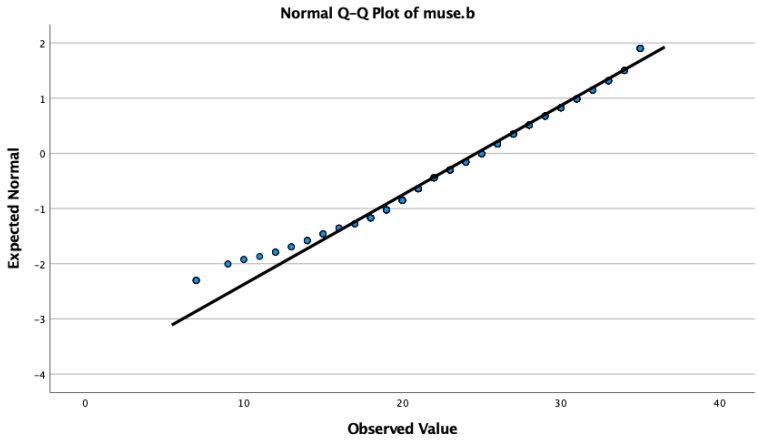


Figure E9

Histogram for Muse.c (engaged production)

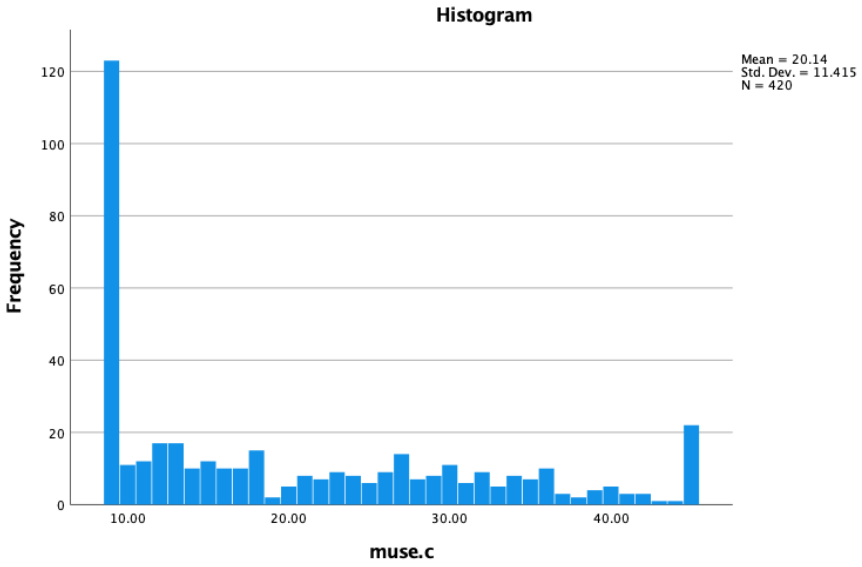


Figure E10

Normal Q-Q for Muse.c (engaged production)

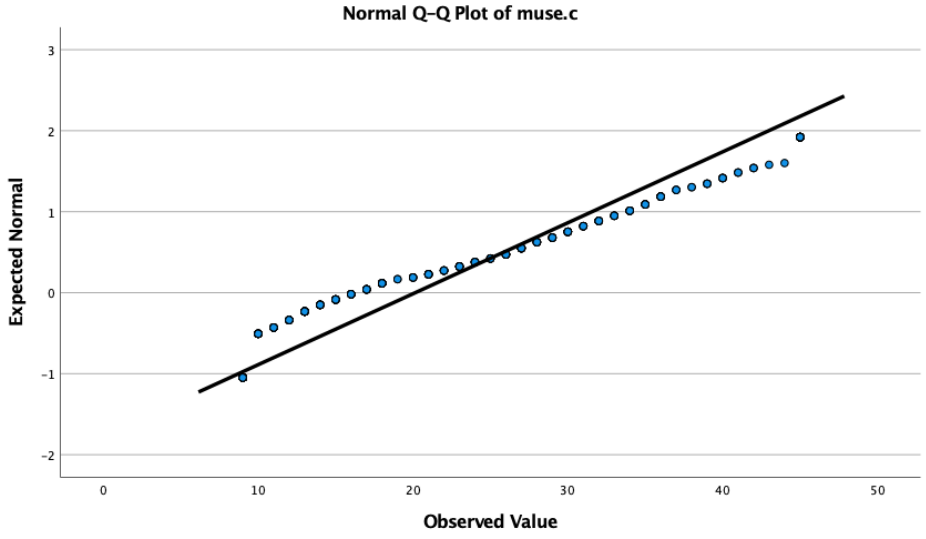


Figure E11

Histogram for Muse.d (social connection)

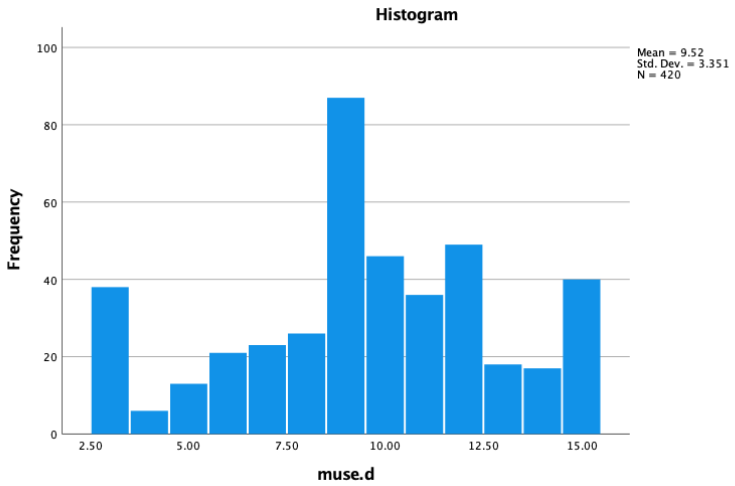


Figure E12

Normal Q-Q Plot for Muse.d (social connection)

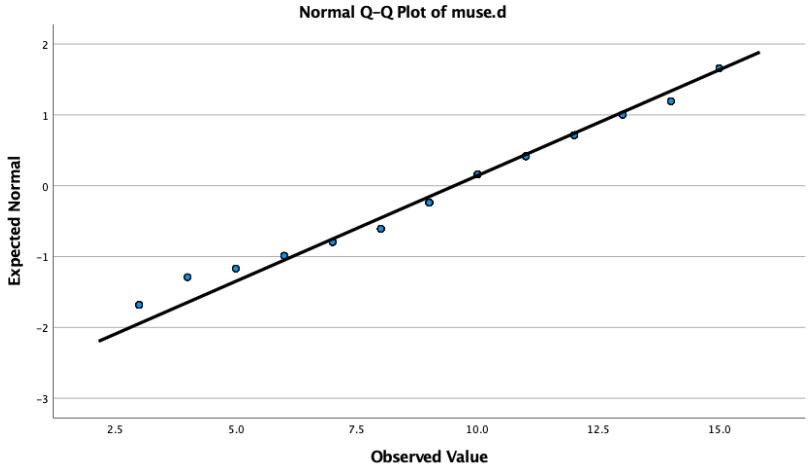
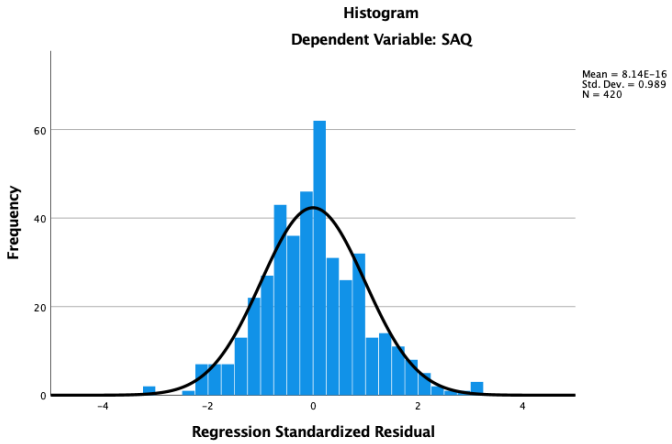


Figure E13

Histogram for the Regression Standardized Residual



Appendix F: P-P Plot and Scatterplot

Figure F1

Normal P-P Plot for Dependent Variable

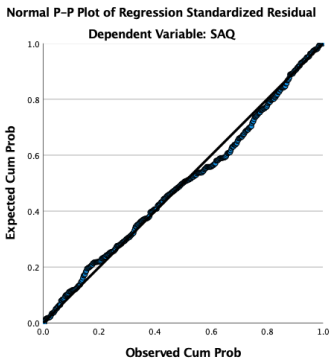


Figure F2

Scatter Plot for Dependent Variable