HAIGAZIAN UNIVERSITY

Obsessive Compulsive Symptoms and their association with Guilt, Religiosity, Self-Esteem, Anger, and different Coping Strategies

Maysam Alameddine

A Thesis submitted to the Faculty of Social and Behavioral Sciences in partial fulfillment of the requirements for the Master of Arts in Psychology – Emphasis: Clinical Psychology at Haigazian University

Beirut-Lebanon

May, 2014

Thesis Release Form

I, Maysam Alameddine,

□ authorize Haigazian University to supply copies of my thesis to libraries or individuals upon request.

□ do not authorize Haigazian University to supply copies of my thesis to libraries or individuals for a period of two years starting with the date of the thesis defense.

HAIGAZIAN UNIVERSITY

Obsessive Compulsive Symptoms and their association with Guilt, Religiosity, Self-Esteem, Anger, and different Coping Strategies

Maysam Alameddine

Approved by:

Dr. Marwan Gharzeddine, Ph.D, Advisor

_____

Dr. David Tawil, Ph.D., Reader

_____

Dr. Hanine Hout, Ed.D., Reader

_____

DEDICATION

I would like to dedicate this thesis to my family and friends

who were continuously supportive throughout this process.

ACKNOWLEDGEMENTS

I would like to thank Dr. Hanine Hout for her continuous support and encouragement throughout this thesis.

I would also like to thank Dr. Marwan Gharzeddine and Dr. David Tawil for their time and support, as well as their help in the data analysis.

Table of Content

List of Tables

Abstract

The present study examined the relationship between severity of obsessive compulsive (OC) symptoms and guilt, anger, religiosity, and self-esteem. A non-clinical sample of 129 adults completed the Obsessive-Compulsive Inventory, the Rosenberg Self-Esteem Scale, the Guilt Inventory, the Multidimensional Anger Inventory, and the Brief COPE scale. Results showed a weak positive correlation between OCD and religiosity, with no difference in OCD by type of religion. OC symptoms correlated negatively with self-esteem and positively with trait and state guilt as well as stricter moral standards. Under high religiosity, OCD correlated with state guilt which did not reach significance under low religiosity. There were moderate positive associations between OCD and different anger dimensions, even after controlling for self-esteem. For those with stricter moral standards, the relationship between OCD and anger arousal, hostile outlook, and anger-in was higher. Adaptive coping strategies, which associated with lower guilt and anger and better self-esteem, were self-distraction and positive reframing; whereas, the maladaptive coping strategies were denial, behavioural disengagement, religion, and self-blame.

Introduction

Obsessive-compulsive disorder (OCD), characterized by either or both, recurrent obsessions and compulsions, can greatly impede a person's overall functioning and quality of life and place him/her in a vicious cycle of distressing thoughts and behaviours (Halgin & Whitbourne, 2009). Obsessions are persistent and intrusive ideas, impulses, thoughts, or images; while compulsions are repetitive behaviours performed to decrease the anxiety that accompany the obsessions (Halgin & Whitbourne, 2009). Examples of obsessions include those related to contamination, hoarding/saving, religion, aggression, sexual, somatic, need for symmetry or exactness, and other miscellaneous obsessions. On the other hand, compulsions usually involve repeating a certain behaviour (e.g. washing, cleaning, counting, ordering items, checking, or asking for reassurance) (Halgin & Whitbourne, 2009). For instance, someone with an obsession about leaving the gas stove on would feel an overwhelming urge to check the stove several times before leaving the house.

Although an individual with OCD may realize that his/her obsessions and compulsions are irrational and cause him/her great distress, yet they are unable to control their behaviours or thoughts (Halgin & Whitbourne, 2009). There are different perspectives explaining OCD, biological ones that relate OCD to neurochemical abnormalities in the brain, a behavioural perspective which attributes the establishment of OCD symptoms to conditioning whereby the behaviour becomes associated with momentary anxiety relief, and a cognitive-behavioral perspective which stresses maladaptive thought patterns as leading to symptoms' development and maintenance (Halgin & Whitbourne, 2009). Treatments for OCD include both biological/ medical and psychological interventions. This study aims to address the relationship between OCD symptoms and an individual's guilt, religiosity, self-esteem, anger, and different coping strategies.

Background of the Study

OCD and self-esteem

In a self-reported survey among members of the Danish OCD association to assess for quality of life of those living with OCD, 70% of respondents reported shame, low self-esteem, and humility with regards to the symptoms, as well as fear of the future because of how the symptoms might continue to affect them (Sørensen, Kirkeby, & Thomsen, 2004). In another exploratory study, participants with OCD were compared with non-anxious controls and participants with other anxiety disorders, to check for self-esteem variations among the different groups (Ehntholt, Salkovskis, & Rimes, 1999). People with OCD and other anxiety disorders had significantly lower overall self-esteem measurements compared to the control group (Ehntholt, Salkovskis, & Rimes, 1999). Particularly, OCD individuals, as opposed to anxious participants, were more likely to associate their self-worth to other people's opinions and their relationships with them, and fear others' criticism (Ehntholt, Salkovskis, & Rimes, 1999). In this study, a similar association is hypothesized between OCD and self-esteem among the Lebanese population.

OCD and guilt and religion

Mancini & Gangemi (2004) proposed that OCD symptoms are maintained because of the fear of guilt from behaving irresponsibly, and this contributes to the anxious and fearful nature of OCD individuals. In a study comparing the guilt of normal and OCD participants, the latter scored significantly higher on both trait guilt and state guilt as measured by the guilt inventory (Shafran, Watkins, & Charman, 1996). Kugler and Jones (1992) defined trait guilt as "a continuing sense of guilt beyond immediate circumstances" and state guilt as "present guilty feelings based on current or recent transgressions". Similarly, another study showed that OCD features were significantly correlated with trait guilt ratings, whereby trait guilt was associated with the total and subscale scores of the

Padua inventory, which assesses for obsessive-compulsive behaviour specifically impulses, checking, washing, rumination, and precision (Mancini, Gangemi, Perdighe, & Marini, 2008).

When examining the relationship between OCD, guilt, and religion, participants with OCD were not significantly more religious than other participants with anxiety disorders (Steketee, Quay, & White, 1991). Severity of OCD symptoms did correlate positively with guilt and religiosity, the latter defined as how religious do you consider yourself to be. There were no significant differences between OCD subjects and others by type of religion, whether Catholic, Protestant, or Jewish. Greater religious devotion was positively correlated with guilt among OCD participants; this relationship did not appear with other anxiety-disordered participants (Steketee, Quay, & White, 1991).

Among the Lebanese population, it is also hypothesized that OCD severity correlates with trait and state guilt, stricter moral standards ("the degree of subscription to a set of moral principles"), and religiosity. However, given the presence of different religions in Lebanon, this study can further explore and add to the previous literature on whether OCD severity and guilt differ by religion (between Muslims and Christians) and by sect. As well, my second hypothesis is that the relationship between OCD and guilt is affected by religiosity. So this study can add to the above by exploring whether the relationship between OCD and guilt remains significant under low religiosity.

OCD and anger

Anger has been shown to consist of three different forms: (a) anger in, which is anger suppressed inwards whereby people experience strong angry feelings but suppress them instead of exhibiting them, (b) anger out, which is anger expressed toward others manifested in aggressive physical or verbal behaviour such as slamming doors or offending others, and (c) anger control which is the capability to control expressed anger

(Spielberger, 1988 in Whiteside & Abramowitz, 2005). The latter involves the effort needed to control angry feelings whereby those high in anger control spend a lot of energy in monitoring and avoiding the outward expression and manifestation of anger.

The relationship between anger experience and expression was examined across different anxiety disorders, whereby patients with OCD, social phobia, and panic disorder experienced greater anger and scored significantly higher on the hostility subscale than controls (Moscovitch et al., 2008). However, when comorbid depression was controlled for, the relationship between increased anger and OCD, social phobia, and panic disorder disappeared (Moscovitch et al., 2008). Similarly, OCD patients, compared to college students, had higher levels of anger, yet this difference was accounted for by the general distress experienced by OCD individuals (Whiteside & Abramowitz, 2005). Anger expression, anger-in, and anger control correlated significantly with the Obsessive-Compulsive Inventory-Revised (OCI-R) total scores, an inventory which measures distress associated with OCD symptoms (Whiteside & Abramowitz, 2005).

This study will examine the following dimensions of anger: anger-arousal, range of anger-eliciting situations, hostile outlook, and modes of anger expression (anger-in and anger-out) and their association with OCD severity, taking into account one's self-esteem and different coping strategies. The above literature studied the relationship between anger, OCD, and depression. In addition, it aims to assess whether the relationship between OCD and anger is affected by one's moral standards, whereby individuals with stricter moral guidelines are likely to experience more anger.

OCD and coping strategies

There are different ways that a person may resort to in order to cope or deal with obsessive compulsive symptoms. A study showed that effective mental techniques to control unwanted, intrusive thoughts are focused distraction (focusing attention on

something other than the intrusive thought) and acceptance (increased willingness to experience distressing thoughts), both of which led to a reduction in distress, while attempts to suppress unwanted thoughts proved to be ineffective and linked to distress (Najmi, Riemann, & Wegner, 2009). Another study examining the relationship between obsessive compulsive symptoms and coping styles showed that positive beliefs about worry (e.g. 'worrying helps me to cope') was associated with maladaptive coping styles (avoidance) whereas distraction thought strategies were related to adaptive coping styles (having a positive attitude and accepting reality) (Sica et al., 2007).

Social support is another strategy one may resort to for coping with distress. In a study to assess the effect of social support on OCD and treatment outcomes, empathy and positive interactions between OCD patients and significant others led to maintenance of treatment outcomes after a 9 months follow-up period (Steketee, 1993). On the other hand, negative family interactions, specifically clients who perceived significant others as being critical of them and reacted angrily towards their OCD symptoms, displayed worse outcomes at follow-up. In addition, clients with relatives who thought that they are able to control their symptoms, in contrast to empathic family members, were more likely to relapse (Steketee, 1993).

Individuals distressed by blasphemous thoughts and/or other morality concerns often resort to prayer as a coping strategy (Himle, Chatters, Taylor, & Nguyen, 2011). At first, these individuals experience relief after praying aimed at confessing and gaining forgiveness; however, soon more and more prayer is needed to reach that sense of relief. They feel they have to keep repeating a certain prayer, or to perform it in a certain manner without any disruptions, and may often question whether they have prayed adequately which drives them even further into compulsive praying (Himle et al., 2011).

This study uses the Brief COPE, an inventory that has been administered with different populations and not specific to OCD. It assesses for the following possible ways of coping: positive reframing, planning, active coping, use of emotional support, use of instrumental support, acceptance, religion, humor, venting, denial, substance use, behavioural disengagement, self-distraction, and self-blame. Based on the above literature, this study expects that self-distraction, acceptance, use of emotional support, positive reframing, planning, active coping, humor, and use of instrumental support to be adaptive ways of coping and will be associated with lower guilt and anger and higher self-esteem. On the other hand, religion, venting, denial, substance use, behavioural disengagement, and self-blame are expected to be maladaptive coping strategies. This study can add valuable knowledge to the available literature as it addresses various coping strategies which have not been covered in the literature and these can prove to be important in coping and decreasing the effects of OC symptoms. It will also show us whether the adaptive coping strategies mentioned above are associated with lower guilt and anger and higher self-esteem, a new addition to the previous literature as well.

A Statement of the Problem

The present study aims to explore the relationship between OCD severity and guilt, anger, and self-esteem. It also explores the role of different coping strategies in mitigating the effects of OCD on guilt, anger, or self-esteem. The hypotheses under study are the following:

1. Increased OCD severity is positively correlated with religiosity
2. Increased OCD severity is positively correlated with trait and state guilt as well as stricter moral standards
3. The relationship between OCD and guilt is affected by religiosity

4. Increased OCD severity is positively correlated with increased anger, even after controlling for self-esteem

5. The relationship between OCD and anger is affected by one's moral standards

6. Increased OCD severity is negatively correlated with self-esteem

7. Adaptive coping (self-distraction, acceptance, use of emotional support, positive reframing, planning, active coping, humor, and use of instrumental support) is associated with lower guilt and anger and better self-esteem among individuals with OC symptoms

In addition, the current study provides an opportunity to examine how all these variables interplay together and which correlate more strongly with OCD symptoms. In previous studies, these variables (guilt, self-esteem, and anger) have been examined separately in relation to OCD.

Significance of Research

It is important to study the relationship between OCD symptoms and self-esteem, guilt, and anger as these affect the wellbeing of an individual and should be intervention goals for therapy. OCD can affect all areas of functioning including social relationships. Thus, when an individual with OCD comes for therapy, the clinician should inquire about his self-esteem, guilt, and anger and check their effect on his/her life and what can be done to mitigate their influence. Moreover, this study will help in identifying which of the coping strategies suggested above is associated with better outcomes (higher self-esteem and reduced guilt and anger symptoms).

The prevalence and factors associated with mental disorders in Lebanon is highly understudied, so this study can add to the scarce literature already present. One nationally representative psychiatric survey, carried out between 2002-2003, showed that the 12-month prevalence of OCD was 0.1% (Karam et al., 2006). The authors could not explain

the low number of OCD cases in their study, as anecdotal evidence indicates higher rates. Accordingly, much needed research is required to explore prevalence rates and factors associated with OCD among the Lebanese population.

Overview of Methodology

A non-clinical sample of 130 adults aged 18 and above and fluent in English were selected based on convenience sampling and willingness to complete the survey. The questionnaire included some demographic questions followed by four scales: the revised version of the Obsessive-Compulsive Inventory (OCI-R) to assess for distress associated with OCD symptoms; the Rosenberg Self-Esteem Scale to assess for global self-worth/ self-esteem; the Guilt Inventory which assesses trait guilt, state guilt, and moral standards; the Multidimensional Anger Inventory (MAI) which measures anger-arousal, range of anger-eliciting situations, hostile outlook, anger-in, and anger-out; and the Brief COPE to assess for different effective and ineffective coping strategies. Correlational analyses and one-way analysis of variance (ANOVA) were used for data analyses.

Definition of Key Terms

OCD: An anxiety disorder whereby the individual experiences recurrent obsessions or compulsions. Obsessions are unwanted thoughts, words, phrases, or images; whereas, compulsions are the repetitive behaviours performed (Halgin & Whitbourne, 2009).

Religiosity: refers to how religious an individual considers himself to be (Steketee, Quay, & White, 1991).

Trait/ state guilt and moral standards: Kugler and Jones (1992) defined trait guilt as "a continuing sense of guilt beyond immediate circumstances", state guilt as "present guilty feelings based on current or recent transgressions", and moral standards as "subscription to a code of moral principles".

Self-esteem: is a positive or negative view of oneself; an overall evaluation of one's worth or value (University of Maryland, 2014).

Coping: refers to the strategies or efforts, whether behavioral or psychological, that people resort to in order to deal with or decrease the stress associated with events (Taylor, 1998).

CHAPTER 2

Literature Review

People with OCD experience either obsessions or compulsions or both and may realize that the latter are excessive or unreasonable. These obsessions or compulsions cause them great anxiety or distress, are time-consuming, and significantly disrupt their life, level of functioning, or social activities/ relationships (Halgin & Whitbourne, 2009). Obsessions are characterized by the presence of recurrent and persistent thoughts, impulses or images that are intrusive and inappropriate; obsessions are not excessive worries about real-life issues; and the person realizes that they are a result of his own mind. Compulsions, on the other hand, are characterized by repetitive behaviours (e.g., hand-washing, ordering items, checking) or mental acts (e.g., counting, silently repeating words) that the person does as a reaction to an obsession or based on firm rules, and are meant to prevent or reduce distress or to stop a feared event from occurring (Halgin & Whitbourne, 2009).

OCD symptoms can also revolve around religion through compulsive prayer, hypermorality (strict moral conduct and questioning whether their actions and thoughts adhere to it), repetitive and intrusive blasphemous thoughts related to religious themes, touching and repeating rituals, repetitive reassurance seeking, and cleaning/washing rituals (Himle, Chatters, Taylor, & Nguyen, 2011). Most of these rituals are done to atone sinful thoughts and actions (Himle et al., 2011).

People with obsessions attempt to ignore or suppress intrusive thoughts or to neutralize them by doing or thinking about something else (Halgin & Whitbourne, 2009). Psychological interventions include thought stopping for obsessional thinking, while exposure can help in situations that trigger compulsive rituals or obsessions whereby the client may be requested to implement response prevention, that is to cease carrying out the

compulsive behaviours either gradually or abruptly (Halgin & Whitbourne, 2009). Medication has also been shown to be effective in decreasing obsessive compulsive symptoms. This study attempts to explore the relationship between obsessive compulsive symptoms and one's self-esteem, guilt, religiosity, and anger, while taking into consideration different coping strategies.

Self-esteem and its relationship to OCD

As has been mentioned above, OCD has been associated with lower self-esteem. In the self-reported survey among members of the Danish OCD association to assess for quality of life of those living with OCD, 72% reported that their OCD symptoms affected their social functioning, 55% to 72% said it affected their daily life functioning (bath, getting dressed, cooking, shopping etc.), 5% reported social isolation, 62% have had suicidal thoughts, and 11% attempted suicide (Sørensen, Kirkeby, & Thomsen, 2004). Disrupted work attendance or school attendance have been reported by 52.5% and 57.1% of participants respectively, 8.2 % have been unable to work (> 10 years), 26% were fired as a result of their OCD, and for those who attend school, 8% have repeated a class, and for 25% it obstructed them from taking exams. The majority of respondents (70%) reported shame, low self-esteem, and humility with regards to their OC symptoms, as well as fear of the future because of how the symptoms might continue to affect them (Sørensen, Kirkeby, & Thomsen, 2004).

Similarly, an exploratory study showed that participants with OCD and other anxiety disorders, when compared with non-anxious controls, had significantly lower overall self-esteem measurements and believed that emotions and weaknesses need to be hidden from others in order to appear worthwhile to others (Ehntholt, Salkovskis, & Rimes, 1999). Both clinical groups focused on enhancing their weaknesses as opposed to stressing their positive attributes or successes (Ehntholt, Salkovskis, & Rimes, 1999).

In an investigation on self-ambivalence among OCD individuals defined as "a state of uncertainty and preoccupation about conflicting beliefs about one's moral virtues and about one's self-worth in general", individuals with OCD were significantly more self-ambivalent about their self-worth and morality compared to non-clinical participants (Bhar & Kyrios, 2007). However, they did not differ significantly from other patients with anxiety disorders. Furthermore, OCD individuals who gave more importance to their negative intrusive thoughts were more likely to be self-ambivalent as opposed to individuals who were secure about their identity and self-worth and disregarded these negative thoughts (Bhar & Kyrios, 2007).

In this study, a negative correlation is hypothesized between OCD and self-esteem among the Lebanese population. Since a non-clinical population will be used, it will show us how self-esteem varies along a spectrum from low obsessive compulsive symptoms to more severe cases.

OCD and guilt

Mancini & Gangemi (2004) proposed that OCD symptoms are maintained because of the fear of guilt from behaving irresponsibly which triggers the anxiety, while lack of perceived responsibility in obsessive patients is associated with a decrease in anxiety, which could occur, for example, by shifting the responsibility of harm from the patient to another individual. Another illustration would be, for example, of a surgeon who believes that he will act according to professional standards, compared to another surgeon who pessimistically predicts that his/her behaviour will not fall under his/her moral standards, or that there is a possibility that she/he may act unfairly in a situation. In the latter case, fear of guilt that stems from perceived irresponsibility is linked to anxiety (Mancini & Gangemi, 2004). Thus, an individual with OCD may be experiencing excessive fear of not

behaving in a way concordant with his/her standards of fairness, and hence experience fear of guilt from behaving irresponsibly and/or not behaving responsibly.

In an experiment by Mancini, D'Olimpio & Cieri (2004) in Mancini & Gangemi (2004), normal participants who were placed in a group with instructions that intended to increase participants' perceived responsibility and guilt over the outcome exhibited more obsessive-like behaviours compared to the other groups. Mancini & Gangemi (2004) proposed that a heightened fear of guilt from acting irresponsibly and believing that there is a causal relationship between one's action/inaction and the unjust outcome might explain why obsessive patients tend to oppose reassuring information, their repetitive and persistent behaviours to prevent, neutralize, or avoid danger, their focus on unlikely danger hypotheses and increased threat perception, all contributing to the long-term maintenance of OCD.

In a study comparing the guilt of normal and OCD participants, the latter scored significantly higher on trait guilt, state guilt, and moral standards as measured by the guilt inventory (Shafran, Watkins, & Charman, 1996). Trait guilt significantly predicted obsessive compulsive complaints, even after controlling for anxiety and depression (Shafran, Watkins, & Charman, 1996). The guilt may be a result of inflated perceived responsibility over negative events and consequently trigger compulsive checking, whereby depression may act to increase this responsibility and exaggerate the possible harm of the event (Shafran, Watkins, & Charman, 1996).

Comparable findings were found among subclinical obsessive compulsives, categorized as students who are not currently seeking treatment but scored above the cut-off criteria on screening measures for obsessive compulsive behaviour (Frost, Steketee, Cohn, & Griess, 1994). They were significantly more risk-aversive, perfectionistic, and guilt-ridden compared to non-compulsives, whereby those with greater symptoms were

more likely to avoid taking risks and had higher guilt scores. The greater risk aversion characteristic of subclinical obsessive compulsives may be linked to guilt whereby the avoidance of risk will decrease the possibility of having guilt feelings as a result of error or harm to others, so they tend to avoid the situation all together. In addition, they were more perfectionistic, morally rigid, worried about making mistakes, doubted their actions, and put higher standards for their own behaviour (Frost et al., 1994).

OCD and guilt and religion

The relationship between OCD, guilt, and religion was studied by Steketee, Quay, & White (1991) whereby participants with OCD were not significantly more religious or experienced more guilt than other participants with anxiety disorders. The authors attributed the latter result by potentially being a result of the inventory used to measure guilt which did not include questions particular of OCD, such as inflicting harm on others. Greater OCD symptoms correlated positively with guilt and religiosity, while there were no significant differences between OCD subjects and others by type of religion, whether Catholic, Protestant, or Jewish. For example, Catholic OCD participants did not exhibit significantly more guilt than non-Catholics. Religiosity was associated with religious obsessions; whereas, guilt was not associated with any type of obsession (sexual, aggressive, or religious); and the former correlated positively with guilt among OCD participants (Steketee, Quay, & White, 1991).

The authors propose that individuals who might be especially vulnerable to the development of OCD symptoms are those who were raised by parents and religious teachers who preach "thinking is the same as doing", where sexual and aggressive thoughts and urges are considered sinful and can and should be controlled. These teachings, if coincided with perfectionistic and extremely religious homes, may push the development of OCD symptoms further (Steketee, Quay, & White, 1991). Thus, as the

authors suggest, the role of guilt in OCD needs to be addressed as it might be interfering with the individual's functioning.

Similarly, Sica, Novara, & Sanavio (2002) examined the relationship between degree of religiosity and obsessive-compulsive (OC) symptoms. After controlling for anxiety and depression, those with a high and medium degree of religiosity had higher scores on measures of obsessionality, overimportance of thoughts, perfectionism and responsibility, compared to individuals with a low degree of religiosity. Catholic Italian nuns and friars represented the highly religious group; individuals who regularly went to church, practiced Catholicism and spent most of their free time on religious activities represented the group with a medium degree of religiosity; while, individuals not interested at all in religious practices were considered of low religiosity. Consequently, religiosity is linked to OCD and the authors suggest that more research is needed to know which aspects of religious teachings are associated with OC symptoms (Sica, Novara, & Sanavio, 2002).

The above studies showed conflicting results on whether OCD individuals actually experience more guilt than others. In the current study, it is hypothesized that OCD severity correlates with trait and state guilt, stricter moral standards, and religiosity. However, given the presence of different religions in Lebanon, it will further explore the presence of obsessive compulsive symptoms and guilt across different religions (between Muslims and Christians), and whether the relationship between OCD and guilt is affected by religiosity.

OCD and anger

Patients with OCD, social phobia (SOC), and panic disorder (PD) were examined in terms of anger experience and expression across different anxiety disorders (Moscovitch et al., 2008). Participants' ages ranged from 18 up to 65 years old. The comparison group

consisted of volunteers who did not meet criteria for any mental disorder. The PD, OCD and SOC groups had significantly higher anger levels than the comparison group as measured by the Reaction Inventory which gives an anger score that "reflects an individual's propensity for anger arousal". As well, patients with PD, OCD, and SOC all reported significantly higher on the hostility subscale, "which measures a tendency to be mistrustful and bitter", relative to controls, with no significant differences across them. There were no differences between the OCD group and control with respect to anger expression (exhibited aggression); whereas, patients with PD had significantly higher levels of anger aggression relative to both controls and patients with OCD. When depression was controlled for in the analysis, there were no group differences in anger experience, that is the relationship between elevated anger and the different diagnostic groups disappeared. Yet in terms of anger expression, even after controlling for depression, patients with PD still had significantly higher anger expression compared to OCD whereas patients with SOC still had significantly lower verbal anger expression compared to healthy controls.

Similarly, anger expression was examined between OCD patients, at an outpatient anxiety disorders clinic, and nonclinical college students matched for gender (Whiteside & Abramowitz, 2005). To measure anger expression, the authors used the Stait-Trait Anger Expression Inventory-Research Edition (STAXI), which consists of three subscales: anger-in (anger suppression), anger-out (anger expressed outwardly), and anger-control, and gives a composite scale of anger expression which reflects the frequency of anger expression and computed as a composite score from the three subscales. People scoring high on this composite score experience strong angry feelings that they either suppress, express outwards, or both. Patients with OCD had higher levels of anger expression. However, this difference was a result of the general distress/ anxiety experienced by OCD

individuals and not due to OCD per se, which became evident after they controlled for general distress in the analysis.

To assess for the relationship between anger and OCD severity, correlational analysis was performed (Whiteside & Abramowitz, 2005). The STAXI subscales did not correlate significantly with the Yale-Brown Obsessive Compulsive Scale which assesses for different dimensions of OCD symptom severity. On the other hand, anger expression, anger-in, and anger control, excluding anger-out, correlated significantly with OCI-R total scores, a questionnaire measuring distress associated with OCD symptoms.

Correlational coefficients were also computed to check which OCD symptoms are more likely to be associated with anger expression (Whiteside & Abramowitz, 2005). OCD ordering symptoms correlated with all STAXI subscales and the total composite score. Washing symptoms correlated with anger-out and the composite score, whereas obsessional symptoms correlated with anger-in, and checking symptoms did not correlate with any anger sub-scale. These correlations between the different OCD symptoms and anger out, anger in, or the total score are positive, whereas it is negative with anger control so, for example, increased ordering symptoms are associated with less anger control.

In a previous study by the same authors as the study mentioned above, similar findings were obtained from a nonclinical sample of 131 undergraduates (Whiteside & Abramowitz, 2004). Participants were categorized into two groups based on whether they self- reported, on the Maudsley Obsessional-Compulsive Inventory (MOCI), high or low OC symptoms. Similar to the study above, participants with greater OC symptoms experienced more anger, were more likely to internalize it by suppressing it inwards, and faced a hard time in controlling their anger compared to those with low OC symptoms. Yet, depressive symptoms found in individuals high in OC symptoms accounted for these relationships and these associations disappeared after controlling for depression. The group

with high OC symptoms experienced significantly greater depressive symptoms than the low OC symptoms group. However, there was no significant difference between the two groups in the anger-out sub-scale.

When the means of the high and low OC symptoms groups were compared with the means from the STAXI normative sample, the high OC group exhibited greater anger expression and anger-in scores and lower anger-control scores than around 75%, 80%, and 70–75% of the normative sample respectively (Whiteside & Abramowitz, 2004). The group with low OC symptoms had scores for anger-expression and anger-control around the 50th percentile of the normative sample and 60th percentile for anger-in. The study also examined the relationship between the subscales of the MOCI and anger (Whiteside & Abramowitz, 2004). There was a positive but moderate correlation between checking, washing, and doubting sub-scales with anger-expression and anger-in and a negative correlation with anger-control. After controlling for depressive symptoms, only checking remained correlated with anger-expression and anger-in scales but weakly. Accordingly, anger might be more strongly correlated with checking than other OC symptoms, contrary to the study by Whiteside & Abramowitz (2005).

In a study to examine anger among compulsive checkers, OCD participants, specifically compulsive checkers, reported more trait anger but not greater anger expression compared to undergraduate students (Radomsky, Ashbaugh, & Gelfand, 2007). Among OCD checkers and not among students, perfectionism and intolerance of uncertainty beliefs were positively associated with greater anger expression and trait anger. Contrary to previous studies, even after controlling for depression, these correlations remained significant. In addition, inflated sense of responsibility, among compulsive checkers, was associated with increased anger expression (Radomsky, Ashbaugh, & Gelfand, 2007).

This study will allow us to see whether anger experience and expression changes along a continuum of obsessive compulsive symptoms. It will examine the following dimensions of anger: anger-arousal, range of anger-eliciting situations, hostile outlook, and modes of anger expression (anger-in and anger-out) and their association with OCD severity, taking into account one's self-esteem and different coping strategies. In addition, it will check whether the relationship between OCD and anger is affected by the strength of one's moral standards.

OCD and coping strategies

As will be discussed below, different strategies can be used to cope with obsessive compulsive symptoms. Although suppression is commonly used, evidence has shown that it is ineffective in dealing with obsessions and the thoughts frequently return (Najmi, Riemann, & Wegner, 2009). The latter authors compared different mental techniques (suppression, focused distraction, and acceptance) in terms of which best manages unwanted intrusive thoughts in OCD. Among individuals with OCD, distress after using suppression was significantly higher than distress following focused distraction and acceptance. Thus, although individuals with OCD resort to suppression to alleviate the anxiety accompanying OCD symptoms, the study showed that it actually led to an increase in distress. Both acceptance and focused distraction resulted in a decrease in distress; however, for acceptance, there was no decrease in the frequency of intrusions.

OCD individuals use maladaptive strategies to try to manage unpleasant thoughts including worry and punishment (something bad will occur because of the thoughts) (Abramowitz, Whiteside, Kalsy, & Tolin, 2003). On the other hand, non-patients rarely resort to these strategies. As well, OCD individuals discussed less often their thoughts with their friends than did non-patients which might perpetuate the obsessional problems because one is not receiving another counter-opinion about them. After completing

cognitive behavioural therapy though, OCD individuals reported more use of distraction and less use of punishment. This change led to a decrease in obsessional symptoms (Abramowitz et al., 2003).

Social support is another coping strategy that can be helpful in dealing with OCD. Following an intensive behavioural treatment program, at a 9 months follow-up, empathy and positive interactions with significant others resulted in having the gains sustained (Steketee, 1993). This can either be by giving clients further reinforcement when resisting their rituals or by distracting them from their obsessive worries until their urges go away. In comparison, significant others' belief that clients can control their symptoms and negative family interactions, particularly criticism and anger, were associated with relapse (Steketee, 1993). It is likely that criticism and anger foster negative emotional reactions in the client, for example guilt, anger, frustration, and resentment and the latter reactions become linked to the presence of the significant person. This in turn increases the client's anxiety and his/her urges to ritualize to decrease this unfavourable emotional state, and thus criticism may lead to an increase in ritualistic activities. In addition, significant others who believe that clients can control their symptoms likely do not comprehend the compelling quality of obsessions and compulsions, and this belief is associated with anger and criticism towards the client and less expressed empathy. As well, clients with household members who urge them to face their obsessive fears led to a poorer outcome. Better outcome was correlated with those who have relatives that do not participate or help the client in his/her rituals, rather ignore the symptoms (Steketee, 1993).

With regards to seeking religion as a coping strategy, clinical experience has shown that some people with OCD start off with limited distress when initially having blasphemous thoughts but as the latter become more elaborate, their distress increases (Himle et al., 2011). Others experience heightened distress as soon as they have negative

religious thoughts because it is sinful and should be controlled. Individuals troubled by these thoughts and other morality concerns often resort to prayer for coping with the distress (Himle et al., 2011). Initially, prayers carried out for confession and forgiveness from blasphemous thoughts and other morality issues, help the individual. However, after some time, more and more prayer is needed to achieve relief from their worries which can be through repetitive prayer until a certain number is reached, or till the prayer is done without having any blasphemous thought, or until they are sure that they performed the prayer sincerely with full attention, and strictly adhering to prayer standards or rules (Himle et al., 2011).

Individuals with religious obsessions may often question whether their prayer was up to the needed standard, even if done perfectly, which promotes even further compulsive praying (Himle et al., 2011). When they feel that they can no longer deal with their religious obsessions, they may look for reassurance from others, for example, from family members, friends, and particularly clergy in order to decrease their anxiety and need for compulsive prayer (Himle et al., 2011). Similar to other rituals, these consultations start with a request for reassurance but then individuals start needing recurrent and repetitive reassurance to reach that sense of relief.

Clinically, some individuals with OCD may resort to substance use and develop substance use disorders (SUD) in an attempt to deal with OCD symptoms but later realize that it is an ineffective coping strategy (Mancebo, Grant, Pinto, Eisen, & Rasmussen, 2009). This study showed that most participants with OCD and SUD had OCD prior to the development of SUD which supports the hypothesis that individuals with anxiety disorders may resort to medication to decrease their anxiety and self-medicate (Mancebo et al., 2009).

This study uses the Brief COPE to assess for the following coping strategies and hypothesizes that self-distraction, acceptance, use of emotional support, positive reframing, planning, active coping, humor, and use of instrumental support are adaptive ways of coping and will be associated with lower guilt and anger and higher self-esteem. However, religion, venting, denial, substance use, behavioural disengagement, and self-blame are expected to be maladaptive coping strategies. By addressing these various coping strategies, we can know which are associated with better outcomes and reduce the negative impact of OC symptoms.

The above literature shows the impact of OCD on one's self. This study aims to explore the relationship between OCD severity and guilt, anger, and self-esteem among the Lebanese population. It predicts a positive correlation between OCD and guilt/ anger and a negative association with self-esteem. As well, it hypothesizes that increased OCD severity is positively correlated with anger even after controlling for self-esteem and that the relationship between OCD and anger is affected by one's moral standards. Given that religiosity has been shown to play a role, this study predicts that increased OCD is positively correlated with religiosity and that the relationship between OCD and guilt is influenced by how religious a person is. In addition, it examines the role of different adaptive coping strategies in mitigating the effects of OCD on guilt, anger, and self-esteem.

CHAPTER 3

Method

Participants

The sample consisted of 130 adults aged 18 and above and fluent in English in order to be able to complete the survey. Their ages ranged from 18 to 80 with a mean (*M*) of 29.9 and a standard deviation (*SD*) of 13.9. There were 103 (79.2%) females and 27 (20.8%) males, with 70 (53.8%) currently enrolled in university and 76 (58.5%) hold jobs. Highest educational level attained ranged from a high school degree to an MD/ phD or doctorate level. Their respective religions consisted of 67 (53.2%) Muslim, 48 (38.1%) Christians, 8 (6.3%) Druze, and the remaining 2.4% were atheists. Religiosity ranged from 0 to 4 (zero being not religious at all), with a mean of 2.1 and an SD of 1.2.

Materials

Obsessive-Compulsive Inventory- Revised (OCI-R)

To assess for distress associated with OCD symptoms, the revised version of the Obsessive-Compulsive Inventory (OCI-R) was used (Foa et al., 2002). It consists of 18 items which factor into six subscales (washing, obsessing, hoarding, ordering, checking, and neutralizing), three items each. The items are scored from 0 to 4, with "0 = Not at all" to "4 = Extremely". Participants have to respond to statements by indicating the number that best describes how much that experience has distressed or bothered them during the past month (e.g. "I have saved up so many things that they get in the way"). The OCI-R has good internal consistency for the full scale ($\alpha = .90$) and six subscales (Washing = .88, Checking = .83, Ordering = .90, Obsessing = .88, Hoarding = .90, Neutralizing = .83), and discriminates well between individuals with and without OCD (Appendix D).

Rosenberg Self-Esteem Scale

The Rosenberg Self-Esteem Scale consists of 10 items that assess global self-worth/ self-esteem by asking about positive and negative feelings about oneself, specifically self-confidence and self-deprecation (Rosenberg, 1989). Items are scored from 0 to 3, ranging from strongly agree to strongly disagree. Cronbach's alpha ranges from .77 to .88 (Appendix E).

Guilt Inventory

The Guilt Inventory consists of 3 subscales, trait guilt, state guilt, and moral standards, in total adding up to 45 items (Jones, Schratter, & Kugler, 2000). Trait guilt, is defined as "an enduring propensity to feel guilty, remorseful, and regretful" and reflects how a person generally or usually feels; whereas state guilt is "the immediate experience of guilt presumably based on the recent violation of one's moral code", thus how one is currently feeling; and moral standards as "the degree of subscription to a set of moral principles" and their importance to the person (Jones & Kugler, 1993). Each item is scored using a five-point Likert scale that ranges from 1 "strongly agree" to 5 "strongly disagree", whereby higher scores represent greater guilt or moral standards. Examples of items from each subscale include for state guilt "Lately, I have felt good about myself and what I have done", for moral standards "I believe in a strict interpretation of right and wrong", and for trait guilt "I have made a lot of mistakes in my life". Cronbach's alpha ranged from .81 for moral standards, to .83 for state guilt, and .89 for trait guilt (Kugler & Jones, 1992) (Appendix F).

The Multidimensional Anger Inventory (MAI)

Factor analyses of the MAI showed that it measures the following dimensions: anger-arousal (e.g. "I tend to get angry more frequently than most people"), range of

anger-eliciting situations (e.g. “I get angry when people are unfair”), hostile outlook (e.g. “Some of my friends have habits that annoy me very much”), anger-in (e.g. “I harbour grudges that I don’t tell anyone about”), and anger-out (e.g. “When I am angry with someone, I let that person know”) (Siegel, 1986). The latter two reflect mode of anger expression. There are 38 statements to which respondents rate how descriptive each item is of them, with responses ranging from completely undescriptive (1) to completely descriptive (5). The alpha coefficients of the different subscales are the following: Anger-arousal (α = .83), Range of Anger-Eliciting Situations (α = .80), Hostile Outlook (α = .70), Anger-in (α = .72), and Anger-out (α = .51) (Appendix G).

Brief COPE

The Brief COPE has been developed as a short version of the full COPE inventory in order to minimize participant response burden and designed to measure effective and ineffective coping (Carver, 1997). The Brief COPE is made up of 14 scales, two items each, and inquires about how a person generally feels or what he does when confronted with stressful events. All scales had acceptable internal reliabilities. Response options range from 1- “I usually don’t do this at all” to 4- “I usually do this a lot”.

The 14 scales are the following with their respective alpha reliabilities: active coping (e.g. “I concentrate my efforts on doing something about the situation I'm in”; α = .68), positive reframing (e.g. “I try to see it in a different light, to make it seem more positive”; α = .64), planning (e.g. “I try to come up with a strategy about what to do”; α = .73), use of emotional support (e.g. “I get emotional support from others”; α = .71), use of instrumental support (e.g. “I try to get advice or help from other people about what to do”; α = .64), acceptance (e.g. “I accept the reality of the fact that it has happened”; α = .57), religion (e.g. “I try to find comfort in my religion or spiritual beliefs”; α = .82), humor (e.g. “I make jokes about it”; α = .73), venting (e.g. “I say things to let my unpleasant

feelings escape"; α = .50), denial (e.g. "I say to myself "this isn't real""; α = .54), substance use (e.g. "I use alcohol or other drugs to make myself feel better"; α = .90), behavioural disengagement (e.g. "I give up trying to deal with it"; α = .65), self-distraction (e.g. "I turn to work or other activities to take my mind off things"; α = .71), and self-blame (e.g. "I criticize myself"; α = .69) (Appendix H).

Procedure

Nonclinical samples, those not recruited from psychiatric facilities or mental health centers, have been used in anxiety disorders research and increasingly as an analogue to clinical populations (Gibbs, 1996). Participants in this study constituted a nonclinical population selected based on convenience sampling and willingness to complete the survey. Oral consent was obtained and anonymity and confidentiality of participants' responses was assured in order to get accurate responses to potentially perceived sensitive issues. Demographic questions included age, gender, educational level, employment, religion/ sect, and religiosity (Appendix C).

Initially, a pilot study on a sample of 20 participants was carried out to check for the scales' reliabilities in Lebanon, a different context than where they were developed. The internal reliabilities for the different scales and subscales were all in the acceptable range except for two subscales (neutralizing and anger-in) that had coefficients less than 0.5. However, since the pilot study was implemented on a very small sample size, these subscales were maintained. In order to reduce the time needed to complete the whole questionnaire, as time turned out to be an issue in the pilot, 13 items from the MAI inventory were removed as they do not factor into any subscale and are not needed for the results section, so only 25 of the 38 items were used for this study.

Data collection extended from November 2013 to March 2014 and it was entered into SPSS. In order to analyse the results, correlational analysis was performed to examine

the different associations. The scatter plots from the different correlations, however, revealed one outlier and this participant had to be removed. Accordingly, the results reported below are based on 129 participants. One-way ANOVA was used to assess for group differences.

CHAPTER 4

Results

Reliability Testing

To determine the internal consistency of the different scales and subscales used, cronbach's alpha was calculated. In the table below, the current and previous reliability coefficients are reported (see table 1). Since the following subscales (anger-out, active coping, and venting) have reliabilities below .5, they have been removed from further analyses.

Table 1

Cronbach's Alpha for the OCI-R, Rosenberg Self-Esteem Scale, Guilt Inventory, MAI, and Brief COPE

	Previous Cronbach's alpha	Current Cronbach's alpha
OCI-R	.90	.88
Rosenberg Self-Esteem Scale	.77 to .88	.89
Guilt Inventory		
State Guilt	.83	.87
Moral Standards	.81	.79
Trait Guilt	.89	.87
MAI		
Anger-arousal	.83	.84
Range of Anger-Eliciting Situations	.80	.83
Hostile Outlook	.70	.67
Anger-in	.72	.71
Anger-out	.51	.45
Brief COPE		
Self-distraction	.71	.58
Active coping	.68	.28
Denial	.54	.66

Substance use	.90	.93
Use of emotional support	.71	.83
Use of instrumental support	.64	.82
Behavioral disengagement	.65	.53
Venting	.50	-.17
Positive reframing	.64	.76
Planning	.73	.57
Humor	.73	.86
Acceptance	.57	.60
Religion	.82	.90
Self-blame	.69	.70

Hypothesis Testing

Hypothesis 1: Increased OCD severity is positively correlated with religiosity

The results showed a significant weak positive correlation between OCD severity and religiosity (r = .22, p = .03). Participants were further divided into 3 groups based on their religiosity whereby those who scored 0 or 1 constituted the group with low religiosity (n= 29), those who scored 2 were the group with medium religiosity (n= 31), and those who scored 3 or 4 constituted the highly religious group (n= 46). Table 2 shows the mean OCD across different degrees of religiosity and table 3 shows the post-hoc comparisons. A one-way ANOVA indicated that OCD means differed significantly across the 3 levels of religiosity, F (2, 103) = 4.43, p = .014. There was a significant difference in mean OCD between the group with low religiosity against both high and medium religiosity. On the other hand, no significant difference appeared between the mean OCD of the medium religiosity group with the highly religious one.

Table 2

Mean OCD across Different Religious Groups

	N	Mean	Std. Deviation
Low religiosity	29	18.00	11.622
High religiosity	46	25.39	11.230
Medium religiosity	31	25.32	11.282
Total	106	23.35	11.718

Table 3

Post-hoc Bonferroni Comparisons of Mean OCD across Different Degrees of Religiosity

(I) Grouped religiosity	(J) Grouped religiosity	Mean Difference (I-J)	Sig.	95% Confidence Interval	
				Lower Bound	Upper Bound
High religiosity	low religiosity	7.391*	.021	.84	13.94
	medium religiosity	.069	1.000	-6.35	6.49
Medium religiosity	low religiosity	7.323*	.042	.18	14.46
	high religiosity	-.069	1.000	-6.49	6.35

*. The mean difference is significant at the 0.05 level.

Additional analyses revealed that OCD severity did not differ by religion, F (3, 121) = .081, p = .97). Actually, Muslims (M = 23.5, n= 66) and Christians (M = 23.6, n= 48) almost had the same OCD means.

Hypothesis 2: Increased OCD severity is positively correlated with trait and state guilt as well as stricter moral standards

Using the Pearson correlation coefficient, moderate significant positive correlations were found between increased OCD and trait and state guilt (r = .38, p < .01 and r = .33, p < .01, respectively). A weak significant positive correlation was found between increased

OCD and moral standards (r = .25, p < .01). This supports the above hypothesis (see Table 4).

Table 4

Correlation Matrix for OCD Severity with Trait Guilt, State Guilt, and Moral Standards

		State Guilt	Moral Standards	Trait Guilt
OCI-R total	Pearson Correlation	.325**	.251**	.375**
	Sig. (2-tailed)	.000	.004	.000
	N	128	128	128

**. Correlation is significant at the 0.01 level (2-tailed).

Additional analysis to find differences in guilt based on OCD severity was done. OCD scores were categorized into 3 groups based on the mean OCD ± SD (M = 23.6, SD = 11.9, N = 129). A one-way ANOVA showed that the variations in state guilt/ trait guilt and moral standards differed significantly across the three OCD groups, F (2, 125) = 10.11, p = .000 (for state guilt), F (2, 125) = 14.61, p = .000 (for trait guilt), F (2, 125) = 4.97, p = .008 (for moral standards). Bonferroni post-hoc comparisons of the three groups indicated that the high OCD group experiences significantly greater state guilt, trait guilt, and moral standards, than the low OCD group (p = .000, p = .000, p = .014), respectively. When compared to the medium OCD group, the high OCD group experiences only significantly greater moral standards (p = .019). On the other hand, the medium OCD group has significantly higher state and trait guilt than the low OCD group (p = .001, p = .000), respectively. Table 5 shows the means for state/ trait guilt and moral standards across the different OCD groups, followed by Table 6 which shows the post-hoc comparisons.

Table 5

Means for State/ Trait Guilt and Moral Standards across the Three OCD Groups

		N	Mean	Std. Deviation
State Guilt	Low OCD	22	20.23	5.273
	Medium OCD	82	26.68	7.475
	High OCD	24	29.08	6.827
	Total	128	26.02	7.519
Moral Standards	Low OCD	22	44.77	8.355
	Medium OCD	82	46.32	7.693
	High OCD	24	51.13	5.597
	Total	128	46.95	7.703
Trait Guilt	Low OCD	22	44.32	8.357
	Medium OCD	82	56.52	11.150
	High OCD	24	59.58	9.717
	Total	128	55.00	11.540

Table 6

Post-hoc Bonferroni Analysis for Group Comparisons

Dependent Variable	(I) OCD grouped	(J) OCD grouped	Mean Difference (I-J)	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
State Guilt	Medium OCD	Low OCD	6.456*	.001	2.36	10.55
	High OCD	Low OCD	8.856*	.000	3.82	13.89
		Medium OCD	2.400	.432	-1.56	6.36
Moral Standards	Medium OCD	Low OCD	1.544	1.000	-2.81	5.90
	High OCD	Low OCD	6.352*	.014	1.00	11.70
		Medium OCD	4.808*	.019	.60	9.02
Trait Guilt	Medium OCD	Low OCD	12.206*	.000	6.10	18.31
	High OCD	Low OCD	15.265*	.000	7.76	22.77
		Medium OCD	3.059	.632	-2.84	8.96

*. The mean difference is significant at the 0.05 level.

Hypothesis 3: The relationship between OCD and guilt is affected by religiosity

To assess whether there are differences by religiosity, the correlation between OCD and guilt was examined under low and high religiosity. Under low religiosity (n= 29), OCD was only significantly correlated with trait guilt (r = .44, p = .017). Under high religiosity (n= 46), OCD was correlated with state guilt and trait guilt, r = .35 (p = .016) and r = .36 (p = .015), respectively. Thus, the relationship between OCD and guilt is influenced by religiosity whereby a positive correlation appeared between OCD and state guilt only in highly religious individuals and did not reach significance under low religiosity.

Hypothesis 4: Increased OCD severity is positively correlated with increased anger, even after controlling for self-esteem

Using the Pearson correlation coefficient, moderate significant positive correlations were found between increased OCD and anger arousal (r = .41, p < .01), range of anger-eliciting situations (r = .40, p < .01), hostile outlook (r = .38, p < .01), and anger-in (r = .43, p < .01), as shown in Table 7.

Table 7

Correlation Matrix for OCD Severity with Anger arousal, Range of anger-eliciting situations, Hostile outlook, and Anger-in

		Anger Arousal	Range of Anger- Eliciting Situations	Hostile Outlook	Anger-in
OCI total	Pearson Correlation	.407**	.396**	.384**	.432**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	129	129	129	129

**. Correlation is significant at the 0.01 level (2-tailed).

When controlling for self-esteem, through a partial correlation, OCD remained significantly positively correlated with all dimensions of anger (table 8), which supports my hypothesis.

Table 8

Correlation Matrix for OCD Severity with Anger arousal, Range of anger-eliciting situations, Hostile outlook, and Anger-in, after Controlling for Self-Esteem

Control Variables			Anger Arousal	Range of Anger-Eliciting Situations	Hostile Outlook	Anger-in
Self-Esteem	OCI total	Correlation	.328	.342	.343	.301
		Sig. (2-tailed)	.000	.000	.000	.001
		Df	125	125	125	125

**. Correlation is significant at the 0.01 level (2-tailed).

Additional analysis to find differences in anger based on OCD severity was done. A one-way ANOVA showed that all anger dimensions differed significantly across the three OCD groups, F (2, 126) = 9.41, p = .000 (for anger arousal), F (2, 126) = 11.76, p = .000 (for range of anger-eliciting situations), F (2, 126) = 8.72, p = .000 (for hostile outlook), and F (2, 126) = 11.85, p = .000 (for anger-in). Bonferroni post-hoc comparisons of the three groups indicated that the high OCD group experiences significantly more anger across the different dimensions compared to the low OCD group ($p < .01$ for all) and compared to the medium OCD group ($p < .05$ for all). On the other hand, the medium OCD group has significantly higher anger arousal, range of anger eliciting situations, and anger in (excluding hostile outlook) than the low OCD group. The largest mean difference appeared between the high and low OCD groups with respect to anger arousal and range of anger-eliciting situations. Table 9 shows the means for anger across the different OCD groups, followed by Table 10 which shows the post-hoc comparisons.

Table 9

Means for Anger Arousal, Range of Anger-Eliciting Situations, Hostile Outlook, and Anger-in across the Three OCD Groups

		N	Mean	Std. Deviation
Anger Arousal	Low OCD	22	13.82	4.328
	Medium OCD	83	17.94	5.842
	High OCD	24	21.50	7.656
	Total	129	17.90	6.385
Range of Anger-Eliciting Situations	Low OCD	22	20.55	6.131
	Medium OCD	83	23.72	4.802
	High OCD	24	27.63	4.392
	Total	129	23.91	5.381
Hostile Outlook	Low OCD	22	10.00	2.795
	Medium OCD	83	11.48	3.217
	High OCD	24	13.83	3.384
	Total	129	11.67	3.369
Anger-in	Low OCD	22	9.55	2.773
	Medium OCD	83	12.35	3.694
	High OCD	24	14.79	4.170
	Total	129	12.33	3.949

Table 10

Post-hoc Bonferroni Analysis for Group Comparisons

Dependent Variable	(I) OCD grouped	(J) OCD grouped	Mean Difference (I-J)	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Anger Arousal	Medium OCD	Low OCD	4.122*	.015	.63	7.61
		High OCD	-3.560*	.035	-6.94	-.18
	High OCD	Low OCD	7.682*	.000	3.38	11.98
		Medium OCD	3.560*	.035	.18	6.94
Range of Anger-Eliciting Situations	Medium OCD	Low OCD	3.177*	.026	.28	6.07
		High OCD	-3.902*	.003	-6.70	-1.10
	High OCD	Low OCD	7.080*	.000	3.51	10.65
		Medium OCD	3.902*	.003	1.10	6.70
Hostile Outlook	Medium OCD	Low OCD	1.482	.163	-.37	3.33
		High OCD	-2.351*	.005	-4.14	-.56
	High OCD	Low OCD	3.833*	.000	1.55	6.11
		Medium OCD	2.351*	.005	.56	4.14
Anger-in	Medium OCD	Low OCD	2.804*	.005	.68	4.93
		High OCD	-2.442*	.014	-4.50	-.39
	High OCD	Low OCD	5.246*	.000	2.63	7.86
		Medium OCD	2.442*	.014	.39	4.50

Hypothesis 5: The relationship between OCD and anger is affected by one's moral standards

Participants were divided into two groups based on the median score for moral standards (median= 47). Those who scored below the median were considered to possess more lenient moral standards than those who scored above the median. Pearson correlations between OCD and anger were assessed in both groups (table 11). The correlation between OCD and anger arousal, hostile outlook, and anger-in increased

among individuals with stricter moral standards except for range of anger-eliciting situations which decreased.

Table 11

Correlation Matrix for OCD Severity with Anger arousal, Range of anger-eliciting situations, Hostile outlook, and Anger-in, under Low and High Moral Standards

			Anger Arousal	Range of Anger- Eliciting Situations	Hostile Outlook	Anger-in
Under low moral standards	OCI total	Pearson Correlation	.374**	.417**	.294*	.388**
		Sig. (2-tailed)	.005	.001	.028	.003
		N	56	56	56	56
Under high moral standards	OCI total	Pearson Correlation	.389**	.349**	.384**	.455**
		Sig. (2-tailed)	.001	.003	.001	.000
		N	72	72	72	72

**. Correlation is significant at the 0.01 level (2-tailed).

Hypothesis 6: Increased OCD severity is negatively correlated with self-esteem

A moderate significant negative correlation was found between increased OCD and self-esteem (r = -.39, p < .01), which supports the above hypothesis. Further analyses to assess for differences in self-esteem across the 3 OCD groups showed that there is a significant difference in the means of self-esteem across the OCD groups , F (2, 125) = 9.17, p = .000 (table 12 and table 13). Mean self-esteem was highest in the low OCD group and significantly different than the means in the medium and high OCD group. Similarly, the mean self-esteem in the medium OCD group was significantly greater than the high OCD group and significantly less than the low OCD group.

Table 12

Means for Self-Esteem across the Three OCD Groups

	N	Mean	Std. Deviation
Low OCD	22	25.09	4.275
Medium OCD	82	22.06	4.633
High OCD	24	19.21	5.047
Total	128	22.05	4.945

Table 13

Post-hoc Bonferroni Analysis for Group Comparisons

(I) OCD grouped	(J) OCD grouped	Mean Difference (I-J)	Sig.	95% Confidence Interval	
				Lower Bound	Upper Bound
Low OCD	Medium OCD	3.030*	.023	.32	5.74
	High OCD	5.883*	.000	2.55	9.22
Medium OCD	Low OCD	-3.030*	.023	-5.74	-.32
	High OCD	2.853*	.028	.23	5.47

*. The mean difference is significant at the 0.05 level.

Hypothesis 7: Adaptive coping (self-distraction, acceptance, use of emotional support, positive reframing, planning, active coping, humor, and use of instrumental support) is associated with lower guilt and anger and better self-esteem among individuals with OC symptoms

Participants were divided into two groups based on the median score for OCD (median= 23). Those who scored 23 and above (n= 65) were considered for the following correlations in order to assess which coping strategies are associated with better outcomes among individuals with OCD. Table 14 includes the coping strategies that have at least one significant correlation with either self-esteem, anger, or guilt (also Appendix A). The coping strategies which did not show any significance with any of the latter variables were

not included in the table. Self-distraction and denial were negatively correlated with moral standards and self-esteem, respectively. Behavioral disengagement was negatively correlated with self-esteem and positively associated with anger-arousal and trait guilt. Positive reframing was positively correlated with self-esteem and negatively associated with anger-in, state and trait guilt. Planning turned out to be positively correlated with self-esteem and range of anger-eliciting situations although it is considered to be an adaptive coping strategy. Use of religion as a coping strategy is positively associated with stricter moral standards. Finally, self-blame was negatively correlated with self-esteem, and positively associated with anger arousal, range of anger-eliciting situations, hostile outlook, state and trait guilt. Thus, the following coping strategies turned out to be associated with better outcomes among individuals with OCD mainly self-distraction, positive reframing, and planning. The other coping strategies mentioned above were significantly correlated with worse outcomes in relation to self-esteem, guilt, and anger.

Table 14: *Correlation Matrix for Coping Strategies with Self-Esteem, Anger, and Guilt*

		Self-Esteem	Anger Arousal	Range of Anger-Eliciting Situations	Hostile Outlook	Anger-in	State Guilt	Moral Standards	Trait Guilt
Self distraction	Pearson Correlation							-.312*	
	Sig. (2-tailed)							.012	
	N							64	
Denial	Pearson Correlation	-.269*							
	Sig. (2-tailed)	.031							
	N	64							
Behavioral disengagement	Pearson Correlation	-.306*	.321**						.302*
	Sig. (2-tailed)	.014	.009						.015
	N	64	65						64
Positive reframing	Pearson Correlation	.354**				-.259*	-.371**		-.450**
	Sig. (2-tailed)	.005				.040	.003		.000
	N	62				63	62		62
Planning	Pearson Correlation	.296*		.352**					
	Sig. (2-tailed)	.018		.004					
	N	64		65					
Religion	Pearson Correlation							.329**	
	Sig. (2-tailed)							.009	
	N							62	
Self-blame	Pearson Correlation	-.463**	.276*	.299*	.349**		.511**		.510**
	Sig. (2-tailed)	.000	.026	.016	.004		.000		.000
	N	64	65	65	65		64		64

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Further analyses showed that the three OCD groups differed only with respect to three coping strategies: denial (F (2, 126) = 6.85, p = .002), humor (F (2, 124) = 5.05, p = .008), and self-blame (F (2, 126) = 3.85, p = .024). All other coping strategies did not differ significantly across the OCD groups. Post-hoc comparisons showed that the high OCD group resort to significantly more denial than the medium and low OCD groups (table 15). As well, the high OCD group use significantly more self-blame than the low OCD group, both considered non-adaptive coping strategies. On the other hand, the low OCD group use significantly more humor compared to the medium group (Appendix B for table of means).

Table 15

Post-hoc Bonferroni Analysis for Group Comparisons

Dependent Variable	(I) OCD grouped	(J) OCD grouped	Mean Difference (I-J)	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Denial	Medium OCD	Low OCD	.678	.130	-.13	1.48
		High OCD	-.826*	.034	-1.61	-.05
	High OCD	Low OCD	1.504*	.001	.51	2.50
		Medium OCD	.826*	.034	.05	1.61
Humor	Low OCD	Medium OCD	1.406*	.008	.29	2.52
		High OCD	.727	.632	-.68	2.13
	Medium OCD	Low OCD	-1.406*	.008	-2.52	-.29
		High OCD	-.679	.426	-1.79	.44
Self-blame	Medium OCD	Low OCD	.520	.563	-.43	1.47
		High OCD	-.795	.115	-1.72	.13
	High OCD	Low OCD	1.314*	.022	.14	2.49
		Medium OCD	.795	.115	-.13	1.72

*. The mean difference is significant at the 0.05 level.

CHAPTER 5

Discussion

The internal consistency of the different scales and subscales used were good except for the following subscales (anger-out, active coping, and venting) which had reliabilities below .5. This can be attributed to the latter subscales consisting of two items each which can result in a low cronbach alpha. Carver (1997) considered that all the Brief COPE subscales have acceptable internal reliabilities given that their subscales are made of two items each and possess a cronbach alpha of at least .5 regarded as minimally acceptable (Nunnally, 1978 in Carver, 1997). Thus, only three subscales were removed from the analyses.

Results showed that increased OCD severity is positively correlated with religiosity despite being a weak association and that individuals with low religiosity have significantly lower OCD than those with medium or high religiosity. Additional analyses revealed that OCD severity did not differ by religion whereby Muslims and Christians almost had the same OCD means. Analysis by sect was not performed due to small sample size per sect. These results are in parallel with previous research which found that severity of OCD symptoms correlated with religiosity but did not differ by type of religion (Sica, Novara, & Sanavio, 2002; Steketee, Quay, & White, 1991). However, Yorulmaz, Gencoz, & Woody (2009) found that Turkish Muslims experienced significantly more OCD symptoms than Canadian Christians but for both, the highly religious group had more obsessional thoughts and checking symptoms. Although Islam may have more strict guidelines to adhere by e.g. for prayer, yet no significant difference appeared in our sample between Muslims and Christians which might be attributed to the scale itself which does not specifically target religious obsessions or to the relatively small sample sizes or there is actually no difference in terms of OCD. Further research is needed to clarify this matter.

This study also showed moderate yet significant positive correlations between increased OCD and trait and state guilt, and a weak positive association with moral standards. Additional analysis to find differences in guilt based on OCD severity gave similar results. Significant differences in guilt appeared across the three OCD groups with the largest mean difference between the high and low OCD groups, the former experiencing significantly greater state guilt, trait guilt, and moral standards. These results are in parallel with previous studies that highlighted the positive association between guilt and OCD (Mancini et al., 2008; Shafran, Watkins, & Charman, 1996). Mancini & Gangemi (2004) explained that fear of guilt from behaving irresponsibly and not living up to one's moral standards promotes and maintains obsessive compulsive behaviours such as checking. On the other hand, lack of perceived responsibility is generally associated with a decrease in anxiety.

When studying the relationship between OCD and guilt based on degree of religiosity, the difference between participants with low and high religiosity turned out to be in state guilt whereby the latter was correlated with OCD under high religiosity only. On the other hand, trait guilt was correlated with OCD under high and low religiosity. This can be attributed to religion increasing the association between OCD and state guilt among religious individuals as they believe in stricter religious obligations and guidelines to abide by and which if not met will increase one's state guilt. As well, obsessive compulsive symptoms will aggravate their doubts of whether they are behaving up to their moral and religious standards which will worsen the guilt.

With regards to self-esteem, the study showed that there is a moderate negative correlation between increased OCD and self-esteem. Further analyses revealed that the low OCD group had significantly higher self-esteem compared to the medium and high OCD groups and the latter had the lowest self-esteem. This result is in parallel with previous

literature by Sørensen, Kirkeby, & Thomsen (2004) and Ehntholt, Salkovskis, & Rimes (1999) whereby individuals with OCD had significantly lower overall self-esteem measurements. Given the negative interference and damaging impact of symptoms on one's academic, social, and work life, it is expected that OCD would negatively influence one's self-esteem and result in 26% of OCD individuals in the study by Sørensen, Kirkeby, & Thomsen (2004) being dissatisfied with their quality of life. Bhar & Kyrios (2007) showed that individuals who disregarded their negative intrusive thoughts were more secure about their identity and self-worth than those who gave them importance.

In addition, increased OC symptoms were positively correlated with all anger dimensions, even after controlling for self-esteem. Differences in anger were significant across the three OCD groups. The high OCD group experienced significantly more anger arousal, range of anger-eliciting situations, hostile outlook, and anger-in compared to both, the low and medium OCD groups. Whiteside & Abramowitz (2004) showed that anger correlated with OCD; however, when co-morbid depression was controlled for, those with high and low OC symptoms did not differ significantly with respect to anger. In this study, when self-esteem was controlled for, the correlation between OCD and anger remained significant. Thus, self-esteem does not appear to play a significant role as depression in the relationship between OCD and anger. One reason, proposed by Whiteside & Abramowitz (2004) as to why participants high in OC symptoms tend to suppress their anger is because they fear that this anger might lead to harm or disastrous consequences and by internalizing it, this probability is reduced. Since anger-out was excluded from the analyses, the association between OCD and the outward expression of anger could not be studied.

Radomsky, Ashbaugh, & Gelfand (2007) attributed anger to perfectionism, intolerance of uncertainty beliefs, and an inflated sense of responsibility because they were

positively associated with greater anger expression among OCD individuals, specifically compulsive checkers. Rachman and Hodgson (1980) in Radomsky, Ashbaugh, & Gelfand (2007), proposed that compulsive checking, which involves doubts and repeated attempts to check if an action has been done properly, is associated with anger because of the frustration that the doubts raise and never vanish by checking.

In order to assess whether the relationship between OCD and anger is influenced by one's moral standards, participants were divided into two groups based on the median score. The correlation between OCD and anger arousal, hostile outlook, and anger-in increased among individuals with stricter moral standards except for range of anger-eliciting situations. Those with high moral standards follow strict ethical guidelines and experience more anger as a result, because they get easily frustrated from their own and other people's behaviours when it does not meet their own moral rules. In other words, their perception of the morality of their own behaviour and others is important to them. The presence of OC symptoms exacerbates their strict adherence to these principles and aggravates their frustration and anger. This explains the lower correlation between OCD and anger arousal, hostile outlook, and anger-in among individuals with more lenient moral standards. There is no clear reason as to why the correlation between anger and range of anger-eliciting situations is higher under low moral standards which expectedly should have followed the same trend.

Only participants who scored above the median on OCD were included to assess for correlations between coping strategies and guilt, anger, and self-esteem. The adaptive coping strategies will be discussed first. Positive reframing was positively correlated with self-esteem and negatively associated with anger-in, state and trait guilt. Positive reframing which involves looking at things from a more positive perspective and seeing the good in what is happening, can lower your anger and guilt and enhance the way you view yourself,

and thus positively affect your self-esteem. Through positive reframing, negative thoughts are consciously and intentionally disrupted and replaced with more positive thoughts and the latter will uplift your emotions (University of the Sunshine Coast, 2014). Self-distraction negatively correlated with moral standards, which can be related to distraction helping an individual with OCD get things off his mind by doing or thinking about something else. By getting distracted, the rigidity or "obsession" in making sure that you are following certain moral rules will lessen. Focused distraction has been shown to lead to a reduction in distress and in the frequency of intrusions among individuals with OCD (Najmi, Riemann, & Wegner, 2009). Finally, planning was positively correlated with self-esteem and range of anger-eliciting situations although it is considered to be an adaptive coping strategy. However, for individuals with OCD, planning can become bothersome and when things do not go as planned, it might trigger anger and explain the positive association with range of anger-eliciting situations.

With respect to maladaptive coping strategies, the results showed that denial was correlated with lower self-esteem. Behavioral disengagement, (giving up to deal or cope with a situation), was negatively correlated with self-esteem and positively associated with anger-arousal and trait guilt. Use of religion as a coping strategy was positively associated with stricter moral standards and self-blame was the worst maladaptive coping strategy as it correlated with lower self-esteem and higher anger arousal, range of anger-eliciting situations, hostile outlook, state and trait guilt. So individuals with OCD who blame or criticize themselves for what happened have the worst outcomes in terms of self-esteem, anger, and guilt. The above results indicate that individuals with OC symptoms should resort to acceptance as opposed to denial or self-blame, face situations they find stressful as opposed to giving up, and religion can exacerbate their adherence to a set of moral standards. Acceptance (increased willingness to experience distressing thoughts) was

shown to reduce distress (Najmi, Riemann, & Wegner, 2009). Another way to reduce OC symptoms is through exposure to stressful situations which trigger the obsessions or compulsions and then preventing these responses (Halgin & Whitbourne, 2009). As for seeking prayer and comfort in religion as a coping strategy, this does not occur among OCD individuals as it may turn into compulsive prayer and increased distress from morality concerns (Himle et al., 2011), which turns religion into a non-adaptive coping strategy.

Further analyses by OCD severity showed that individuals high in OC symptoms use significantly more denial and self-blame than the low OCD group although both of these strategies resulted in worse outcomes as discussed above. OCD individuals might think that if they deny the situation, that it might go away. Although previous literature does not address denial in relation to OCD, but it has shown that thought suppression, commonly used by OCD individuals, is ineffective in dealing with obsessions and the thoughts frequently return, in addition to leading to an increase in distress (Najmi, Riemann, & Wegner, 2009). The group with high OCD also had significantly higher self-blame which can be explained by the inflated perceived responsibility over negative events, OCD individuals experience, which triggers compulsive behaviour, in addition to the exaggerated perception of harm that might result from the event (Shafran, Watkins, & Charman, 1996).

Clinical Implications

Clinically this study has shown that OC symptoms are negatively correlated with self-esteem and positively associated with guilt and anger. This information is important because it helps guide the treatment approach. Therapists need to ask about their clients' self-esteem and work on ways to boost it by changing the way clients perceive themselves, their behaviour/ intrusive thoughts, and by stressing on their positive attributes and

achievements. Similarly, individuals with higher OC symptoms experience more guilt, thus therapists need to work on modifying faulty cognitions about their responsibility in the outcome of events. Therapists need to decrease their inflated perceived responsibility and the heightened perception of harm OCD individuals experience. When they can accurately perceive situations and remove the responsibility from them, OCD individuals will experience both less guilt and obsessive compulsive behaviours. Since anger turned out to be correlated with OCD, therapists need to assess also for anger symptoms when a client with OCD presents him/herself, and if so provide him/her with anger control strategies. This will aid the person in better coping with situations that trigger his/her anger. The erroneous appraisal of harm that might result if they expressed their anger needs to be addressed as this will decrease the harmful internalization of anger among OCD individuals. Moreover, the therapist needs to check for co-morbid depression as the literature has shown that anger is related to depressive symptoms in OCD.

In addition, this study showed which coping strategies are associated with better outcomes in terms of self-esteem, guilt, and anger. The adaptive coping strategies were positive reframing and self-distraction. Therapists can teach their clients on how to use these strategies to manage and deal with unwanted intrusive thoughts and the associated distress. The maladaptive coping strategies were denial, behavioral disengagement, religion, and self-blame. Through psychoeducation, clients can learn about their negative effects, and therapists can teach them about acceptance as a coping strategy whereby they actually experience distressing thoughts rather than try to suppress them. This will lead to a decrease in distress. For religious clients, psychoeducation about how religion can turn into a maladaptive coping strategy and worsen their outcome might be helpful. Since individuals with OCD have an inflated sense of responsibility, this contributes to the self-blame for the occurrence of certain events. By decreasing this perceived responsibility,

self-blame would decrease and we can simultaneously work on increasing the use of adaptive coping strategies.

Limitations

The limitations of this study are the following: participants were selected based on convenience sampling and were a relatively small sample size. The participants did not constitute a clinically diagnosed population but the results showed that participants' OCI scores ranged from low to high so the study included individuals across the spectrum. Moreover, the scales used are not standardized to the Lebanese context which might affect their validity. The Brief COPE scale was made up of 14 subscales, 2 items each, which contributed to their low internal reliability. Given the shortness of each subscale, this might explain why certain coping strategies which have been shown to be beneficial in the literature such as acceptance and social support did not appear in the results of this study. A more extensive coping scale would be needed for further research and one that specifically targets strategies that individuals with OCD resort to. Further research into coping strategies and treatment for OCD is needed, as well as useful techniques to work on self-esteem, guilt, and anger. Also, it would be interesting to find out whether guilt predisposes an individual into developing obsessive compulsive behaviours or whether guilt is a feature of OCD.

References

Abramowitz, J.S., Whiteside, S., Kalsy, S.A., & Tolin, D.F. (2003). Thought control strategies in obsessive-compulsive disorder: a replication and extension. *Behaviour Research and Therapy, 41*, 529-540.

Bhar, S. S., & Kyrios, M. (2007). An investigation of self-ambivalence in obsessive-compulsive disorder. *Behaviour Research and Therapy, 45*, 1845-1857.

Carver, C.S. (1997). You want to measure coping but your protocol's too long: Consider the Brief COPE. *International Journal of Behavioral Medicine, 4*, 92-100.

Ehntholt, K.A., Salkovskis, P.M., & Rimes, K.A. (1999). Obsessive-compulsive disorder, anxiety disorders, and self-esteem: an exploratory study. *Behaviour Research and Therapy, 37*, 771-781.

Foa, E.B., Huppert, J.D., Leiberg, S., Langner, R., Kichic, R., Hajcak, G., & Salkovskis, P.M. (2002). *Psychological Assessment, 14*, 485-496.

Frost, R.O., Steketee, G., Cohn, L., & Griess, K. (1994). Personality traits in subclinical and non-obsessive-compulsive volunteers and their parents. *Behav. Res. Ther., 32*, 47-56.

Gibbs, N.A. (1996). Nonclinical populations in research on obsessive-compulsive disorder: A critical review. *Clinical Psychology Review, 16*, 729-773.

Halgin, R. P., & Whitbourne, S. K. (2009). *Abnormal psychology: Clinical perspectives on psychological disorders* (6th ed.). McGraw-Hill.

Himle, J.A., Chatters, L.M., Taylor, R.J., & Nguyen, A. (2011). The relationship between obsessive-compulsive disorder and religious faith: Clinical characteristics and implications for treatment. *Psychology of Religion and Spirituality, 3*, 241-258.

Jones, W.H., & Kugler, K. (1993). Interpersonal correlates of the guilt inventory. *Journal of personality assessment, 61*, 246-258.

Jones, W.H., Schratter, A. K., & Kugler, K. (2000). The guilt inventory. *Psychology reports, 87*, 1039-1042.

Karam, E.G., Mneimneh, Z.N., Karam, A.N., Fayyad, J.A., Nasser, S.C., Chatterji, S., & Kessler, R.C. (2006). 12-Month prevalence and treatment of mental disorders in Lebanon: A national epidemiological survey. *Lancet, 367*, 1000-1006.

Kugler, K., & Jones, W. H. (1992). On conceptualizing and assessing guilt. *Journal of personality and social psychology, 62*, 318-327.

Najmi, S., Riemann, B.C., & Wegner, D.M. (2009). Managing unwanted intrusive thoughts in obsessive-compulsive disorder: Relative effectiveness of suppression, focused distraction, and acceptance. *Behaviour Research and Therapy, 47*, 494-503.

Mancini, F., & Gangemi, A. (2004). Fear of guilt from behaving irresponsibly in obsessive-compulsive disorder. *Journal of Behavior Therapy and Experimental Psychiatry*, *35*, 109-120.

Mancebo, M.C., Grant, J.E., Pinto, A., Eisen, J.L., & Rasmussen, S.A. (2009). Substance use disorders in an obsessive compulsive disorder clinical sample. *Journal of Anxiety Disorders*, *23*, 429-435.

Mancini, F., Gangemi, A., Perdighe, C., & Marini, C. (2008). Not just right experience: Is it influenced by feelings of guilt? *Journal of Behavior Therapy and Experimental Psychiatry*, *39*, 162-176.

Moscovitch, D.A., McCabe, R.E., Antony, M.M., Rocca, L., & Swinson, R.P. (2008). Anger experience and expression across the anxiety disorders. *Depression and Anxiety*, *25*, 107-113.

Radomsky, A.S., Ashbaugh, A.R., & Gelfand, L.A. (2007). Relationships between anger, symptoms, and cognitive factors in OCD checkers. *Behaviour Research and Therapy, 45*, 2712-2725.

Rosenberg, M. (1989). *Society and the Adolescent Self-Image*. Revised edition. Middletown, CT: Wesleyan University Press.

Shafran, R., Watkins, E., & Charman, T. (1996). Guilt in obsessive-compulsive disorder. *Journal of Anxiety Disorders, 10*, 509-516.

Sica, C., Novara, C., & Sanavio, E. (2002). Religiousness and obsessive-compulsive cognitions and symptoms in an Italian population. *Behaviour Research and Therapy, 40*, 813-823.

Sica, C., Steketee, G., Ghisi, M., Chiri, L. R., & Franceschini, S. (2007). Metacognitive beliefs and strategies predict worry, obsessive-compulsive symptoms and coping styles: A preliminary prospective study on an Italian non-clinial sample. *Clin. Psychol. Psychother, 14*, 258–268.

Siegel, J.M. (1986). The multidimensional anger inventory. *Journal of Personality and Social Psychology*, *51*, 191-200.

Sorensen, C.B., Kirkeby, L., & Thomsen, P.H. (2004). Quality of life with OCD. A self-reported survey among members of the Danish OCD Association. *Nord J Psychiatry*, *58*, 231-236.

Steketee, G., Quay, S., & White, K. (1991). Religion and guilt in OCD patients. *Journal of Anxiety Disorders, 5*, 359-367.

Steketee, G. (1993). Social support and treatment outcome of obsessive compulsive disorder at 9-month follow-up. *Behavioural Psychotherapy, 21*, 81-95.

Taylor, S. (1998, July). *Coping Strategies*. Retrieved from http://www.macses.ucsf.edu/research/psychosocial/coping.php

University of Maryland (n.d.). *Rosenberg Self Esteem Scale*. Retrieved from http://www.socy.umd.edu/quick-links/rosenberg-self-esteem-scale

University of the Sunshine Coast. (2014). Reframing your Thinking. In *Self-help resources and links.* Retrieved from http://www.usc.edu.au/community/health-and-sport/counselling-centre/self-help-resources-and-links

Whiteside, S.P., & Abramowitz, J.S. (2004). Obsessive-compulsive symptoms and the expression of anger. *Cognitive Therapy and Research, 28*, 259-268.

Whiteside, S.P., & Abramowitz, J.S. (2005). The expression of anger and its relationship to symptoms and cognitions in obsessive-compulsive disorder. *Depression and Anxiety, 21*, 106-111.

Yorulmaz, O., Gencoz, T., & Woody, S. (2009). OCD cognitions and symptoms in different religious contexts. *Journal of Anxiety Disorders, 23*, 401-406.

Appendix A

Correlation Matrix for Coping Strategies with Self-esteem, Anger, and Guilt

		Self-Esteem	Anger Arousal	Range of Anger-Eliciting Situations	Hostile Outlook	Anger-in	State Guilt	Moral Standards	Trait Guilt
Self distraction	Pearson Correlation	-.152	-.191	.010	-.029	-.034	-.045	-.312*	-.117
	Sig. (2-tailed)	.229	.128	.937	.818	.788	.724	.012	.355
	N	64	65	65	65	65	64	64	64
Denial	Pearson Correlation	-.269*	.134	-.030	.129	-.036	.230	-.047	.160
	Sig. (2-tailed)	.031	.289	.814	.306	.773	.067	.712	.206
	N	64	65	65	65	65	64	64	64
Behavioral disengagement	Pearson Correlation	-.306*	.321**	-.030	.135	.149	.132	.105	.302*
	Sig. (2-tailed)	.014	.009	.814	.282	.237	.299	.409	.015
	N	64	65	65	65	65	64	64	64
Positive reframing	Pearson Correlation	.354**	-.185	-.023	-.195	-.259*	-.371**	-1.00	-.450**
	Sig. (2-tailed)	.005	.146	.859	.126	.040	.003	.439	.000
	N	62	63	63	63	63	62	62	62
Planning	Pearson Correlation	.296*	.107	.352**	.193	.032	.050	.090	-.172
	Sig. (2-tailed)	.018	.398	.004	.123	.801	.692	.481	.175
	N	64	65	65	65	65	64	64	64
Religion	Pearson Correlation	-.029	.106	.196	.124	-.057	-.001	.329**	.130
	Sig. (2-tailed)	.825	.409	.124	.333	.657	.996	.009	.313
	N	62	63	63	63	63	62	62	62
Self-blame	Pearson Correlation	-.463**	.276*	.299*	.349**	.195	.511**	.231	.510**
	Sig. (2-tailed)	.000	.026	.016	.004	.119	.000	.066	.000
	N	64	65	65	65	65	64	64	64

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix B

Means for Denial, Humor, and Self-blame across the Three OCD Groups

		N	Mean	Std. Deviation
Denial	Low OCD	22	2.45	1.101
	Medium OCD	83	3.13	1.395
	High OCD	24	3.96	1.574
	Total	129	3.17	1.448
Humor	Low OCD	22	5.45	2.041
	Medium OCD	83	4.05	1.717
	High OCD	22	4.73	2.453
	Total	127	4.41	1.977
Self-blame	Low OCD	22	4.23	1.445
	Medium OCD	83	4.75	1.703
	High OCD	24	5.54	1.560
	Total	129	4.81	1.673

Appendix C

Demographics

Age: ____ years

Gender: _____

Religion and sect: _____

How religious do you consider yourself to be at present on a scale from 0 to 4, with 0 being not religious at all:

Are you currently enrolled in a university? ____ Yes _____ No

If yes, which major/ faculty/ undergraduate or graduate degree?_____

What's the highest level of education you've achieved so far (Bachelor, Masters or MD/ phD):_____

Do you currently hold a job? ____ Yes _____ No

Appendix D

Obsessive-Compulsive Inventory- Revised (OCI-R)

The following statements refer to experiences that many people have in their everyday lives. Circle the number that best describes **HOW MUCH** that experience has **DISTRESSED or BOTHERED you during the PAST MONTH.** The numbers refer to the following verbal labels: (Highlight the number that applies)

0- Not at all

1- A little

2- Moderately

3- A lot

4- Extremely

1. I have saved up so many things that they get in the way. 0 1 2 3 4
2. I check things more often than necessary. 0 1 2 3 4
3. I get upset if objects are not arranged properly. 0 1 2 3 4
4. I feel compelled to count while I am doing things. 0 1 2 3 4
5. I find it difficult to touch an object when I know it has been touched by strangers or certain people. 0 1 2 3 4
6. I find it difficult to control my own thoughts. 0 1 2 3 4
7. I collect things I don't need. 0 1 2 3 4
8. I repeatedly check doors, windows, drawers, etc. 0 1 2 3 4
9. I get upset if others change the way I have arranged things. 0 1 2 3 4
10. I feel I have to repeat certain numbers. 0 1 2 3 4
11. I sometimes have to wash or clean myself simply because I feel contaminated. 0 1 2 34
12. I am upset by unpleasant thoughts that come into my mind against my will. 0 1 2 3 4
13. I avoid throwing things away because I am afraid I might need them later. 0 1 2 3 4
14. I repeatedly check gas and water taps and light switches after turning them off. 0 1 234
15. I need things to be arranged in a particular way. 0 1 2 3 4
16. I feel that there are good and bad numbers. 0 1 2 3 4
17. I wash my hands more often and longer than necessary. 0 1 2 3 4
18. I frequently get nasty thoughts and have difficulty in getting rid of them. 0 1 2 3 4

Appendix E

Rosenberg Self-Esteem Scale

Instructions: Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle (highlight) **SA**. If you agree with the statement, circle (highlight) **A**. If you disagree, circle (highlight) **D**. If you strongly disagree, circle (highlight) **SD**.

1.	On the whole, I am satisfied with myself.	SA	A	D	SD
2.	At times, I think I am no good at all.	SA	A	D	SD
3.	I feel that I have a number of good qualities.	SA	A	D	SD
4.	I am able to do things as well as most other people.	SA	A	D	SD
5.	I feel I do not have much to be proud of.	SA	A	D	SD
6.	I certainly feel useless at times.	SA	A	D	SD
7.	I feel that I'm a person of worth, at least on an equal plane with others.	SA	A	D	SD
8.	I wish I could have more respect for myself.	SA	A	D	SD
9.	All in all, I am inclined to feel that I am a failure.	SA	A	D	SD
10.	I take a positive attitude toward myself.	SA	A	D	SD

Appendix F

The Guilt Inventory

(SA) strongly agree, (A) agree, (UN) undecided, (D) disagree, and (SD) strongly disagree.

1. I believe in a strict interpretation of right and wrong.	SA	A	UN	D	SD
2. I have made a lot of mistakes in my life.	SA	A	UN	D	SD
3. I have always believed strongly in a firm set of moral-ethical principles.	SA	A	UN	D	SD
4. Lately, I have felt good about myself and what I have done.	SA	A	UN	D	SD
5. If I could do certain things over again, a great burden would be lifted from my shoulders.	SA	A	UN	D	SD
6. I have never felt great remorse or guilt.	SA	A	UN	D	SD
7. My goal in life is to enjoy it rather than to live up to some abstract set of moral principles.	SA	A	UN	D	SD
8. There is something in my past that I deeply regret.	SA	A	UN	D	SD

9. Frequently, I just hate myself for something I have done.	SA	A	UN	D	SD
10. My parents were very strict with me.	SA	A	UN	D	SD
11. There are only a few things I would never do.	SA	A	UN	D	SD
12. I often feel “not right” with myself because of something I have done.	SA	A	UN	D	SD
13. My ideas of right and wrong are quite flexible.	SA	A	UN	D	SD
14. If I could live my life over again, there are a lot of things I would do differently.	SA	A	UN	D	SD
15. There are many things I would just never do because I believe they are wrong.	SA	A	UN	D	SD
16. I have recently done something that I deeply regret.	SA	A	UN	D	SD
17. Lately, it hasn't been easy being me.	SA	A	UN	D	SD
18. Morality is not as "black and white" as many people would suggest.	SA	A	UN	D	SD
19. Lately, I have been calm and worry-free.	SA	A	UN	D	SD
20. Guilt and remorse have been a part of my life for as long as I can recall.	SA	A	UN	D	SD
21. Sometimes, when I think about certain things I have done, I almost get sick.	SA	A	UN	D	SD
22. In certain circumstances, there is almost nothing I wouldn't do.	SA	A	UN	D	SD

23. I do not believe that I have made a lot of mistakes in my life.	SA	A	UN	D	SD
24. I would rather die than commit a serious act of wrongdoing.	SA	A	UN	D	SD
25. I feel a strong need to live up to my moral values.	SA	A	UN	D	SD
26. I often have a strong sense of regret.	SA	A	UN	D	SD
27. I worry a lot about things I have done in the past.	SA	A	UN	D	SD
28. I believe that you can't judge whether something is right or wrong without knowing the motives of the people involved and the situation in which they are acting.	SA	A	UN	D	SD
29. There are few things in my life that I regret having done.	SA	A	UN	D	SD
30. If I could relive the last few weeks or months, there is absolutely nothing I have done that I would change.	SA	A	UN	D	SD
31. I sometimes have trouble eating because of things I have done in the past.	SA	A	UN	D	SD
32. I never worry about what I do; I believe life will take care of itself.	SA	A	UN	D	SD
33. At the moment, I don't feel particularly guilty about anything I have done.	SA	A	UN	D	SD
34. Sometimes I can't stop myself from thinking about things I have done which I consider to be wrong.	SA	A	UN	D	SD
35. I never have trouble sleeping.	SA	A	UN	D	SD
36. I would give anything if, somehow, I could go back and rectify some things I have recently done wrong.	SA	A	UN	D	SD
37. There is at least one thing in my recent past that I would like to change.	SA	A	UN	D	SD
38. I am immediately aware of it when I have done something morally wrong.	SA	A	UN	D	SD
39. What is right or wrong depends on the situation.	SA	A	UN	D	SD
40. Guilt is not a particular problem for me.	SA	A	UN	D	SD
41. There is nothing in my past that I deeply regret.	SA	A	UN	D	SD
42. I believe that moral values are absolute.	SA	A	UN	D	SD
43. Recently, my life would have been much better if only I hadn't done what I did	SA	A	UN	D	SD
44. If I had my life to begin over again, I would change very little, if anything.	SA	A	UN	D	SD
45. I have been worried and distressed lately.	SA	A	UN	D	SD

Appendix G

Multidimensional Anger Inventory

Instructions: Everybody gets angry from time to time. A number of statements that people have used to describe the times that they get angry are included below. Read each statement and write the number that best describes you. There are no right or wrong answers.

If the statement is completely undescriptive of you, write 1.
If the statement is mostly undescriptive of you, write 2.
If the statement is partly undescriptive and partly descriptive of you, write 3.
If the statement is mostly descriptive of you, write 4.
If the statement is completely descriptive of you, write 5.

Please answer every item.

1. I tend to get angry more frequently than most people.
3. I harbor grudges that I don't tell anyone about.
4. I try to get even when I am angry with someone.
6. It is easy to make me angry.
7. When I am angry with someone, I let that person know.
9. Something makes me angry almost every day.
10. I often feel angrier than I think I should.
12. When I am angry with someone, I take it out on whoever is around.
13. Some of my friends have habits that annoy and bother me very much.
14. I am surprised at how often I feel angry.
17. At times, I feel angry for no specific reason.
19. Even after I have expressed my anger, I have trouble forgetting about it.
20. When I hide my anger from others, I think about it for a long time.
21. People can bother me just by being around.
22. When I get angry, I stay angry for hours.
26. I get so angry, I feel like I might lose control.
29. It’s difficult for me to let people know I’m angry.
30b. I get angry when people are unfair.
30c. I get angry when something blocks my plans.
30d. I get angry when I am delayed.
30e. I get angry when someone embarrasses me.
30f. I get angry when I have to take orders from someone less capable than I.
30g. I get angry when I have to work with incompetent people.
30h. I get angry when I do something stupid.
30i. I get angry when I am not given credit for something I have done.

Appendix H

Brief COPE

We are interested in how people respond when they confront difficult or stressful events in their lives. There are lots of ways to try to deal with stress. This questionnaire asks you to indicate what you generally do and feel, when you experience stressful events. Obviously, different events bring out somewhat different responses, but think about what you usually do when you are under a lot of stress.

Then respond to each of the following items, using the response choices listed just below. Please try to respond to each item separately in your mind from each other item. Choose your answers thoughtfully, and make your answers as true FOR YOU as you can. There are no "right" or "wrong" answers, so choose the most accurate answer for YOU--not what you think "most people" would say or do. Indicate what YOU usually do when YOU experience a stressful event.

1 = I usually don't do this at all
2 = I usually do this a little bit
3 = I usually do this a medium amount
4 = I usually do this a lot

Please write the number that applies beside each statement.

1. I turn to work or other activities to take my mind off things.
2. I concentrate my efforts on doing something about the situation I'm in.
3. I say to myself "this isn't real".
4. I use alcohol or other drugs to make myself feel better.
5. I get emotional support from others.
6. I give up trying to deal with it.
7. I take action to try to make the situation better.
8. I refuse to believe that it has happened.
9. I say things to let my unpleasant feelings escape.
10. I get help and advice from other people.
11. I use alcohol or other drugs to help me get through it.
12. I try to see it in a different light, to make it seem more positive.
13. I criticize myself.
14. I try to come up with a strategy about what to do.
15. I get comfort and understanding from someone.
16. I give up the attempt to cope.
17. I look for something good in what is happening.
18. I make jokes about it.
19. I do something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.
20. I accept the reality of the fact that it has happened.
21. I express my negative feelings.

22. I try to find comfort in my religion or spiritual beliefs.
23. I try to get advice or help from other people about what to do.
24. I learn to live with it.
25. I think hard about what steps to take.
26. I blame myself for things that happened.
27. I pray or meditate.
28. I make fun of the situation.