

The Pennsylvania State University

The Graduate School

College of Education

**THE INFLUENCE OF OBSESSIVE COMPULSIVE (OC) BEHAVIORS
ON SCHOOL FUNCTIONING AND HELP SEEKING INTENTIONS
OF HIGH SCHOOL STUDENTS**

A Dissertation in

Counselor Education

by

Terry Lynn Pertuit

© 2009 Terry Lynn Pertuit

Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Doctor of Philosophy

August 2009

The dissertation of Terry L. Pertuit was reviewed and approved* by the following:

Jerry G. Trusty
Professor of Counselor Education
Dissertation Advisor
Chair of Committee

Brandon Hunt
Professor of Counselor Education

JoLynn Carney
Associated Professor of Counselor Education

Robert Stevens
Professor of Educational Psychology

Spencer G. Niles
Professor of Counselor Education
Department Head, Counselor Education, Counseling Psychology,
and Rehabilitation Services

*Signatures are on file in the Graduate School.

ABSTRACT

Obsessive compulsive disorder (OCD) is a relatively common disorder among adolescents with lifetime prevalence rates between 2-4% (Rapaport & Inoff-Germain, 2000). Like symptoms of anxiety, obsessive compulsive symptoms are also present to some degree in most people. Epidemiologic studies have consistently shown that .7-19% of the general population, world-wide, meet diagnostic criteria for obsessions and/or compulsions (Apter et al., 1996; Valleni-Basile et al., 1994; 1996; Zohar et al., 1992). Yet, there has been little systematic investigation of the presentation of adolescent OC behavior in the school settings and very little is known about how varying degrees of obsessive compulsive traits affect psychosocial functioning of school-aged youth. In addition, research has also suggested that people who experience obsessions and compulsions and that young people in general, rarely seek professional mental health services to relieve their obsessive compulsive symptoms. Thus, the purpose of this study was to examine the influence of OC behaviors on school functioning and help seeking practices in a general population of high school students. Participants included 1,098 high school students, ranging in age 13-20 years. The findings from these data suggest that a majority of adolescents in a large suburban high school experience obsessive compulsive behaviors. The results of this investigation parallel clinical observations in that obsessive compulsiveness is associated with significant and relatively pervasive impairments in functioning and influence help seeking behaviors of non-referred youth (Goodwin, Koenen, Hellman, Guardino, & Struening, 2002; Placentini, Bergman, Keller, & McCracken, 2003; Valderhaug, & Ivansson, 2005). Implications of findings, study limitations, and directions for future research are also discussed.

TABLE OF CONTENTS

LIST OF TABLES	xii
ACKNOWLEDGEMENTS	xiii
Chapter 1: INTRODUCTION	1
Statement of the Problem	1
Justification for the Study	6
Purpose Statement	9
Research Questions	11
Significance of the Study	12
Limitations and Delimitations	13
Definition of Terms and Treatment of Data	15
Socio-demographic Characteristics	15
Obsessive Compulsive Behaviors	15
School Functioning	16
Help-seeking	16
Chapter 2: LITERATURE REVIEW	18
Understanding Obsessive Compulsive Disorder	19
Prevalence	19
Phenomenology	20
Obsessions	21
Compulsions	22
Symptoms and Sub-types	22
Conditions Associated with OCD Symptoms	24

Obsessive Compulsive Phenomenon in Community Studies	28
OCD in the School Setting	31
OCD in Youth	31
Subtypes and Manifestations of OC Behavior at School	33
Washing/Cleaning	34
Checking	35
Repeating	36
Ordering/Arranging	37
Hoarding	38
Avoidance	41
Neutralizing	42
OCD Impairment Literature	44
OCD and Functional Impairment Studies with Youth	46
Help-Seeking Literature	50
Youth with Mental Health Concerns and Help-Seeking Behavior	51
Help-Seeking Defined	53
Themes and Factors in Help-Seeking Behavior	54
Demographic Differences and Patterns of Help-Seeking	55
Obsessive Compulsive Behaviors and Help-Seeking	57
The Theoretical Models	64
Influences of Socio-demographic, Characteristics, OC Behaviors, and Severity Level on School Functioning	65
Model One	67

Influences of Socio-demographic Characteristics, OC Behaviors, Severity Level, and School Functioning on Help-Seeking Behavior	68
Influences of Socio-demographic Characteristics	70
Gender Influences	70
Age Influences	71
Race and Ethnic Influences	71
Economic Level Influences	72
OC Behavior Influences.....	73
Severity Level Influences	74
School Functioning Influences	75
Model Two	77
Chapter 3: METHODS	79
Participants	79
Procedures	81
Pilot Study of Procedures	82
Instruments	83
Demographic Questionnaire (DQ)	83
Obsessive Compulsive Inventory, Revised (OCI-R)	84
Rationale for the OCI-R	84
Psychometrics	86
Child Obsessive Compulsive Impact Scale, Revised (COIS-R)	88
Rationale for the COIS-R	89
Psychometrics	89

General Help-Seeking Questionnaire (GHSQ)	91
Rationale for the GHSQ	92
Psychometrics	94
Marlow-Crowne Social Desirability Scale, Short form (MCSDS-SF) ..	95
Rationale for the MCSDS-SF	95
Psychometrics	95
Research Variables	96
Independent Variables	96
Socio-demographic Variables	96
Gender	96
Age	96
Race and Ethnicity	96
Income Level	97
OC Behavior Variables	97
Obsessing	97
Washing	97
Checking	97
Ordering	98
Hoarding	98
Neutralizing	98
Shared Independent and Dependent Variables	99
School Functioning Variables	99
Academic Functioning	99

Social Functioning	99
Daily Living Skills Functioning	100
Dependent Variables	100
Help-Seeking Variables	100
Help-Seeking from Informal Sources	100
Help-Seeking from Formal Sources	100
Controlled Variable	101
Socially Desirable Responding	101
Research Design	101
Sampling Model	101
Survey Model	101
Statistics Model	103
Research Question 1	104
Research Question 2	105
Research Question 3	105
Research Question 4	105
Research Question 5	106
Plan of Analysis	106
Univariate Analysis	110
Biivariate Analysis	110
Multiivariate Analysis	111
Chapter 4: RESULTS	113
Pre-Analysis Data Screening	113

Preparing Data File	114
Screening Data	114
Missing Values	115
Univariate Analysis	117
Descriptives	119
Normality	121
Bivariate Analysis	123
Intercorrelations Among Predictor Variables	125
Correlations Between Predictor and Criterion Variables	125
Linearity	127
Multivariate Analysis	127
Model 1 Results	127
Research Question 1	128
Research Question 2	130
Research Question 3	132
Model 2 Results	134
Research Question 4	134
Research Question 5	138
Residual Analysis Results	141
Chapter 5: DISCUSSION	143
Summary of Findings	144
Obsessive Compulsive Behavior Findings	144
Overall Prevalence Rate	144

Overall Dimension and Scope of OC Behaviors	147
Demographic Features of OC Behaviors	149
Gender and Age Prevalence	149
Ethnicity and Economic Prevalence	153
OC Behavior and School Functioning Prevalence	156
Prevalence Rate and Severity of Impairment	157
Predictors of School Functioning Impairment	159
Summary of Collective Influences	160
Predictors of Academic Functioning	160
Predictors of Social Functioning	161
Predictors of Daily-Living Skills Functioning	164
Summary of Individual Influences	166
Sociodemographic Influences	166
O C Behavior Influences	168
Obsessing Behavior Influences.....	168
Compulsive Behavior Influences	169
Help-Seeking Behavior	171
Predictors of Informal Help-Seeking Behaviors	172
Predictors of Formal Help-Seeking Behaviors	174
General Help-Seeking Findings	176
Implications of the Study	177
Strengths and Limitations of the Study	181
Strengths	181

Limitations	182
Recommendations for Future Research	183
Conclusions	184
References	187
APPENDIX A: Email Permission: Penn State Office of Research Protections	210
APPENDIX B: Email Permission to Use the OCI-R	211
APPENDIX C: Email Permission to Use the COIS-R	212
APPENDIX D: School Cover Letter	213
APPENDIX E: Parent Letter	214
APPENDIX F: Student Implied Conform Consent	215
APPENDIX G: Parent Opt-Out Letter	216
APPENDIX H: Opt-Out of the Study Form	218
APPENDIX I: Demographic Questionnaire	219
APPENDIX J: Obsessive Compulsive Inventory, Revised	220
APPENDIX L: Child Obsessive-Compulsive Inventory, Revised	221
APPENDIX L: General Help-Seeking Questionnaire	223
APPENDIX M: Marlowe-Crowne Social Desirability Scale Short Form	224
APPENDIX N: Summary of OCI-R Subscales by Range and Percentage	225

LIST OF TABLES

Table 3.1: Demographic Information	80
Table 4.1: Summary of Univariate Analysis for Study Variables	118
Table 4.2: Correlation Matrix of Variables	124
Table 4.3: Summary of Regression Analysis Predicting Academic Functioning	128
Table 4.4: Summary of Regression Analysis Predicting Social Functioning	130
Table 4.5: Summary of Regression Analysis Predicting Daily-Living Skills Functioning	132
Table 4.6: Summary of Regression Analysis Predicting Informal Help-Seeking	135
Table 4.7: Summary of Regression Analysis Predicting Formal Help-Seeking	138

ACKNOWLEDGEMENTS

I would like to express my gratitude and appreciation to my committee members Doctors Jerry Trusty, Brandon Hunt, JoLynn Carney, and Robert Stevens for their encouraging words, thoughtful criticism, and time and attention during busy semesters. My deepest gratitude is to my advisor and dissertation chair, Jerry Trusty. I have been fortunate to have an advisor who gave me the freedom to explore on my own and at the same time, the guidance to recover when I faltered. I am grateful to him for holding me to a high research standard and enforcing strict validations for each research result, and thus teaching me how to do research. I am also pleased to thank Brandon Hunt, my professor, my mentor, and my friend. Teaching with Brandon and supervising under her guidance were excellent opportunities for me to grow professionally. Her true sense of camaraderie also helped me to remain grounded when trying to balance rigorous course-work and personal trials. I am also eager to thank JoLynn Carney, an exemplary counselor and mentor and dedicated friend. She provided me with enormous encouragement and support throughout my tenure at PSU. Her feedback was always helpful and comforting. This is also a great opportunity to express my respect to Robert Stevens for his encouragement and practical advice. I am also thankful to him for reading my work, commenting on my views, and helping me understand and enrich my ideas.

I am grateful to my family and to my friends who have been a continuous source of support and strength. I am especially grateful to my sister Kathy Perque who made the data collection for this dissertation possible. The high response rates of my surveys speak to the willingness of these individuals to assist me with my work. I am also very gracious to Rebecca Basham for encouraging me and helping me to succeed.

Chapter 1

INTRODUCTION

Statement of the Problem

Students come to school each day with more than paper, pen, and backpack. They bring a myriad of life factors that shape their academic and social development. Ranging from family issues, health, and culture to behavior, learning style, and abilities, mental health is the scaffolding of these influences. The United States Surgeon General's Report (2000) estimates that 1 in 5 children and adolescents experience a significant mental health problem during their school years and approximately 70% of those who need treatment will not receive appropriate services. Failure to address student's mental health needs is linked to poor academic performance, behavior problems, school violence, dropping out, substance abuse, special education referral, criminal activity, and suicide (National Association of School Psychologists, 2002).

Anxiety disorders are one of the most common forms of childhood and adolescent mental health concerns and it is estimated to affect up to 18% of 6 to 17-year olds (Angold & Costello, 1999). Once thought to be rare, obsessive compulsive disorder (OCD) affects more than 4% of the general population (Rapoport & Inoff-Germain, 2000) and is a relatively common anxiety disorder among adolescents, with a lifetime prevalence estimated at 2-4% (Rapoport et al., 2000; Zohar, 1999). This percentage may be an underestimation given the secrecy of the disorder. It is reasonable to assume that OCD is an under-reported and under-identified disorder that, for a large majority of adults, has origins in adolescence (Adams & Burke, 1999; Niehous & Stein, 1997). Among adults with OCD, one third to one half developed the disorder during childhood

or adolescence (Rapoport & Inoff-Germain, 2000), which supports the possibility that early intervention in youth could prevent long-term morbidity in adulthood.

Briefly, OCD is an anxiety disorder characterized by recurrent, unwanted, disturbing thoughts (obsessions) and/or repetitive, ritualized behaviors, mental acts, or avoidance (compulsions) that lead to significant distress or impairment (American Psychiatric Association [APA], 2000). Some common childhood obsessions are fear of contamination, fear of some dreaded event (e.g. fire, death, illness), and a need for symmetry or exactness (Swedo, Leonard, & Rapaport, 1990). Common compulsions include repetitive hand washing, ordering, checking or mental acts such as praying, counting, or repeating words silently, “the goal of which is to prevent or reduce anxiety or distress, not to provide pleasure or gratification (APA, 1994, p. 418). The specific OC behaviors that have been investigated in this study are defined and operationalized at the end of this chapter.

These behaviors differ from developmentally appropriate ritualized behaviors (e.g., ritualized play or bedtime rituals) in that they typically appear after the appropriate period of task development, appear anomalous, and produce an inability to function (March, Leonard, & Swedo, 1995). In addition, the content of the obsessions is unrelated to other *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR), Axis I disorders that might be present (APA, 2000). Therefore, fixations are not focused on food in the presence of an eating disorder, for example, or guilty thoughts in the presence of major depression. Individuals realize that the persistent ideas, thoughts, impulses, or images are the product of their own minds (Adams, 1994).

The symptoms of OCD are heterogeneous to the extent that two individuals can display completely different non-overlapping combinations of behaviors (Mataix-Cols, Conceicao do Rosario-Campos, & Leckman, 2005). Researchers have argued, however, that in the vast majority of cases, one type of ritual usually predominates. As a result, most current OCD etiology and treatment models (e.g. neurobiological, developmental, or cognitive behavior theories) have attempted to dissect the phenotype into homogeneous subtypes characterized by the most distressing symptom (Calamari, Wegatz, & Janeck, 1999; Mc Kay, et al., 2004). Research using subtyping methods have also found that people with OCD commonly have obsessions and compulsions that are thematically consistent with one another (Adams, 1998; Matraix-Cole et al., 2005; McKay, et al., 2004). For example, people who typically have fear of contamination obsessions also have washing rituals. Although this is not always the case, often obsessions pair with compulsions in ways that defy explanation (Adams, 2004) such as a person who compulsively avoids a certain “number” to ward off a fear of a parent’s death.

Several authors have described OCD as a disabling disorder with multiple and longstanding impairments of psychosocial functioning (March, Franklin, Nelson, & Fox, 2001; Placentini & Bergman, 2000; Thomsen, 2000; Valleni-Basile et al., 1996). Even though a history of pediatric OCD has been associated with impairment in adulthood, very few studies have dealt with the impact of OCD symptomatology on psychosocial functioning in childhood or adolescence. Some studies of adult samples reported high levels of family dysfunction, academic and occupational difficulties and problems in socializing as negative effectives of OCD on daily functioning (Calvocoressi, Lewis,

Harris et al., 1995; Cooper, 1996; Hollander et al., 1990; Koran, Thienemann, & Davenport, 1996).

It is also well documented in the literature (Besiroglu, Cilli, & Askin, 2004; Hollander, Stein, Kwon, Rowland, et al; Rapaport & Inoff-Germain, 2000) that the majority of adults reported their first experience with OCD-related functioning problems in early childhood or in adolescence (i.e., reported, on average, before the age of 15 years). Consequently, OCD-related distress, as well as frequent engagement in compulsive rituals, are two components of pediatric OCD that are often identified as contributing to these negative outcomes in adulthood (Rapaport & Inoff-Germain, 2000), suggesting that the investigation of the effect of OCD on psychosocial functioning in children or adolescents potentially has important implications for prevention.

According to the DSM-IV-TR (APA, 2000), obsessions or compulsions cause pronounced stress, can be time consuming or significantly interfere with normal routines, and interfere with occupational and academic functioning or normal social activities or relationships. The importance of impairment is further emphasized by findings suggesting that obsessive and compulsive phenomena are very similar in both general and clinical populations (Freston & Ladouceur, 1993; Freston, Ladouceur, Gagnon & Thibodeau, 1992). The difference between obsessive compulsive phenomena in the general population and in clinical populations is related to the frequency and duration of the obsessions and compulsions rather than to the content of thoughts or the characteristics of the ritualized behaviors. As a result, the assessment of functional impairment constitutes one of the prime issues for discriminating OCD from transient obsessions or compulsions (APA, 2000).

Furthermore, research studies (Angold, Costello, Farmer, Burns, & Erkanli, 1999; Kramer et al., 2004) suggest that assessment of functional impairment has important implications for diagnostic assessment, access to treatment, treatment planning, and monitoring of outcome. Accordingly, an array of diagnostic tools have emerged in the past decade (Merlo, Storch, Murphy, Goodman, & Geffken, 2005; Silverman & Ollendick, 2005). Even so, these instruments focus primarily on symptom severity rather than on functional impairments associated with obsessions and compulsions. Research focusing on assessment of specific functional impairment associated with childhood OCD has received limited attention (i.e., Placentini et al., 2003; Valderhaug & Ivarsson, 2005), and there are no studies focusing on adolescent OCD-related impairment.

According to Adams (1998), youth who are plagued by obsessive thoughts and ritualized behaviors are at risk for significant disruptions in normative social and educational functioning due to distress and frequent ritual engagement. For school-aged children, the ramifications of obsessive compulsiveness can be enormous. For academic performance, obsessions can be extremely intrusive and interfere with concentration or information processing (Adams, 2003; Muller & Roberts, 2005). Attention that students should allocate to academic tasks is frequently redirected to obsessive thoughts or mental compulsions and interference with completing academic tasks may lead to decreased work production and poor grades. Also impairing school performance is tardiness if morning rituals result in students being late to school and absenteeism if students skip school because they fear that school-based stimuli will trigger obsession or compulsion or because of overwhelming peer ridicule (Adams, 2003). Students' preoccupation with ceaseless ruminations and compulsions leaves little time or energy for friends or family.

Many are withdrawn and isolated from peers and have few friendships, if any (March & Mulle, 2004; Rapaport, 1989). Consequently, social competence has been found to be closely linked to academic performance. That is, studies (Johnston & Fruehling, 2002; Patrick & Townsen, 1995) show that children and adolescents tend to utilize their evaluations of social behavior and degree of keenness of self and others to evaluate academic competence which in turn influences motivation to achieve academically.

Obsessive-compulsive disorder is one of the most misunderstood and under diagnosed conditions of our time (Adams & Burke, 1999; Jenike, 1989; Niehous & Stein, 1997). Because of the shame and embarrassment surrounding their obsessive thoughts and rituals, many adolescents attempt to hide their condition from family and friends and live secret lives (Adams, 1999). Many fear that they cannot verbalize or explain what they are experiencing. School personnel can make a profound difference in the lives of these young people by taking a deeper look at student behavior and, if one suspects OCD, taking appropriate steps (Adams, 1999).

Justification for the Study

The notion that obsessive compulsiveness is a rare phenomenon is consistently based on rates of OCD seen in psychiatric clinic samples. Several epidemiologic studies (Jenike, 1989; Robins et al., 1991; Stein, Forde, Anderson, & Walker, 1997) suggest, however, that OCD and OC tendencies are more common in the general population than previously thought. The Epidemiologic Catchment Area study (ECA; United States Department of Health and Human Services as cited by Stein, Forde, Anderson, & Walker, 1997) uncovered a lifetime prevalence of OCD that ranged from 2-3.3% across five non-clinical sites in the United States. Subsequently, surveys in other countries found similar

rates (Fogel, 2003; Stein et al., 1997; Weissman et al., 1994). The net effect of these findings brings much needed attention to the “hidden epidemic” (Jenike, 1989).

Like symptoms of anxiety, obsessive compulsive (OC) symptoms are present to some degree in most people. Epidemiologic studies have consistently shown that 2-19% of the general population, world-wide, meet diagnostic criteria for obsessions and/or compulsions (Apter, Fallon, King et al., 1996; Flament, Whitaker, Rapoport et al., 1988; Rachman & Hodgson, 1980; Valleni-Basile et al., 1994, 1996; Zohar et al., 1992). Furthermore, Apter and colleagues (1996) concluded that OC phenomena appear on a continuum, with few symptoms and minimal severity at one end and many symptoms and severe impairment on the other. Recognizing that obsessions and compulsions occur with a wide range of severity and impairment, the term “subclinical OCD” has been used to describe individuals reporting substantial obsessions or compulsions not severe enough to meet the full OCD criteria (Apter et al., 1996). Although it is assumed that OC symptoms not meeting the diagnostic criteria are far more prevalent than OCD, little systematic investigation concerning subclinical OCD has been carried out. Moreover, data on the psychosocial functioning of individuals with OCD and subclinical OCD in the general population are missing to date, particularly for children and adolescents.

Recognizing the symptoms of OCD (i.e., clinical or subclinical) in the school setting may be challenging, as the behaviors can easily be misinterpreted as willful disregard, opposition, or meaningless worry. For self-conscious adolescents who see their own behavior as odd and distinctly different from their peers, many will more than likely be reluctant to divulge their symptoms unless asked directly, and most professional caregivers often fail to ask. Many teens are skilled at keeping compulsions hidden and rituals

may remain undetected (March & Mulle, 1998). These findings accentuate the need for sensitive and direct interviewing of students about obsessive-compulsive behaviors and assessment of how varying degrees of these behaviors affect psychosocial functioning in school (i.e., academic and social functioning).

It is prominent in the literature (Rapoport & Inoff-Germain, 2000; Shapiro, Skinner, Kessler et al., 1984; Whitaker, Johnson, Shaffer et al., 1990) that many people with OC traits or OCD never seek the professional help they need to find relief from their symptoms. Data from adult and adolescent community-based samples suggest that only a small minority of individuals with OCD receive mental health treatment (Shapiro et al., 1984; Swinson, Antony, Rachman, & Richter, 1998; Whitaker et al., 1990). Swinson et al. (1998) found only 28% of OCD sufferers had ever sought professional help for their symptoms and less than one-half had seen a mental health specialist. The literature (Kennedy & Schwab, 1997; Rasmussen, 1986) reports a majority of people with OCD symptoms were seen by clergy or by non-psychiatric physicians such as dermatologists and cardiologists and few are properly diagnosed or treated in these settings (Pollard et al., 1989; Rapoport & Inoff-Germain, 2000; Swinson et al., 1998).

As with adults, estimates of the frequency of OCD in clinical samples of children are generally lower than those found in community samples and range from 1.3% to 5% (Honjo et al., 1989; Thomsen & Mikkelsen, 1991). This discrepancy, which suggests that many individuals with clinical or sub-clinical OCD do not come to clinical attention, may be due to secretiveness about symptoms or lack of awareness about the disorder and the availability of treatment. There is some evidence that with increased professional and public awareness about OCD, clinical diagnosis of the disorder has become more

frequent (Stoll et al., 1992). And, over the past ten years, significant progress in research has resulted in the availability of several efficacious treatments for OC symptoms (American Academy of Child and Adolescent Psychiatry, 1997; Kendall, 1993, 1994; King & Cohen, 1994). The availability of treatment and factors that influence decisions about obtaining professional help among individuals with OC symptoms in the community are issues that have attracted much less empirical attention. Questioning help-seeking etiquette of adolescent students who experience OC symptoms has important implications for access to treatment. To date, however, research from the viewpoint of students has not generally been undertaken. The determinants of access to care, the factors that influence decisions about obtaining help, and patterns of help-seeking among people with OCD in the school-community are unknown. Concisely, additional studies are needed to substantiate these findings and to delineate precisely the extent of disability and reduced quality of life attributable to OCD and OC variants in the general school community.

Purpose Statement

The focus of this investigation is on the spectrum of obsessions and compulsions that exists on the OCD continuum rather than on the diagnosis of OCD in a general population of adolescents in high school. The goals of this study were to examine the prevalence rate, degree (i.e., subclinical, clinical), and severity (i.e., mild, moderate, severe) of obsessive compulsive characteristics that exist in a general population of adolescents. I have focused on students in high school and have examined the scope and specific impairment of OC behaviors on psychosocial functions (i.e. academic, social, and daily living issues) among adolescents with various degrees of OC tendencies. Range

and frequency of OC-related problems were also compared and described. Additionally, how symptom subtype and severity may or may not encourage certain behaviors or increase significant problems in school functioning have been explored. Although not central to this investigation, the researcher has also explored associations between OC behaviors, school functioning, and help-seeking protocol in high-school students. The impact of gender, age, race, and socioeconomic status on the prevalence of specific OC-related functional problems and in relation to help seeking intentions has also been examined.

In spite of the growing clinical literature related to OCD across the age span, only a few studies have systematically examined the impact of OCD symptomatology on school functioning of youth (i.e., Placentini et al., 2003; Valderhaug & Ivarsson, 2005). Even that research focused predominately on children and pre-adolescents in elementary and middle school as opposed to youth in high school. High school rules, procedures, and expectations can be a challenging environment for any adolescent. Students with OC behaviors must overcome extra hurdles in order to succeed academically and socially in school. Thus, for the high school student with OCD or OC tendencies, it is critical to consider how adolescents' broader social contexts influence their well-being and academic achievement.

Many youth who experience from obsessions and compulsions go undiagnosed or misdiagnosed and do not obtain appropriate services or treatment in a timely manner (Whitaker et al., 1990). In many cases, early detection has played a vital role in recovery (March & Mulle, 1998). Unfortunately, many people attempt to hide their symptoms and are embarrassed to seek help, thinking that they are the only one who experiences these

obsessions and compulsions or fearing that others will think of them as “crazy.”

Therefore, the knowledge, identification, and ability to monitor interventions are crucial in the school setting.

Research Questions

The following research questions were proposed and evaluated to expand upon and to address the gaps in the existing literature and to enhance the existing.

RESEARCH QUESTION 1:

What are the independent and correlated effects of socio-demographic characteristics, obsessive compulsive behaviors and level of severity on academic functioning, while controlling for socially desirable responding?

RESEARCH QUESTION 2:

What are the independent and correlated effects of socio-demographic characteristics, obsessive compulsive behaviors and level of severity on social functioning, while controlling for socially desirable responding?

RESEARCH QUESTION 3:

What are the independent and correlated effects of socio-demographic characteristics, obsessive compulsive behaviors and level of severity on daily living skills functioning, while controlling for socially desirable responding?

RESEARCH QUESTION 4:

What are the independent and correlated effects of socio-demographic characteristics, obsessive compulsive behaviors and level of severity, and school functioning on help-seeking from informal sources, while controlling for socially desirable responding?

RESEARCH QUESTION 5:

What are the independent and correlated effects of socio-demographic characteristics, obsessive compulsive behaviors and level of severity, and school functioning on help-seeking from formal sources, while controlling for socially desirable responding?

Significance of the Study

It has been said that obsessive-compulsiveness is one of the most misunderstood and disabling conditions of our time (Carter & Pollock, 2000; Schwartz & Bayette, 1997). Sadly, for several reasons, the literature (Rapoport & Inoff-Germain, 2000; Shapiro, Skinner, Kessler et al., 1984; Whitaker et al., 1990) shows that many adolescents never seek the professional help they need to find relief for their symptom-related issues. Adams (2003) suggests that school personnel can make a profound difference in the lives of these young people by taking a deeper look at student behavior. And, if one suspects OC symptoms, with a deeper understanding of this phenomenon, caretakers can take the appropriate steps to assist students who experience obsessions and compulsions and their related effects.

Data derived from this study has added to the existing knowledge through identification and evaluation of the independent and collective effects of socio-demographic characteristics, OC behaviors, on school functioning, and on help-seeking practices of students. The results of this study offer a comparison and description of range and frequency of OC-related problems and how symptom sub-type and severity may or may not encourage certain behaviors or increase the significance of problems in school functioning. The impact of race, religion, socioeconomic status, age, sex, and

grade level on the prevalence of specific OC-related functional problems and help-seeking behaviors have been revealed. The investigation will generate information on prevalence rates of adolescents with OC behaviors and OC-related functional problems across academic, social, and daily living domains as well as information on patterns of help-seeking behaviors and reporting sources for adolescent who experience problems as a result of their OC behaviors.

As a result of this information, counselors, teachers, and other school personnel can help to normalize life for children who experience OC symptoms. Through understanding of the influence of OC behaviors, school functioning, and help-seeking practices of students, counseling professionals can assist in facilitation of school-based programming and early intervention.

Limitations and Delimitations

Limitations. There are several limitations to this study. Oftentimes survey research using self-report measures may have self-report bias (Fowler, 2002). Surveys provide only verbal descriptions of what participants' say they do or how they feel about something. Responses cannot always be taken as accurate descriptions of what the respondents actually do or really feel. This is particularly true for behavior contrary to generally accepted norms of society. Measurement of OC behaviors, functional impairment attributes, and willingness to seek help from professional sources were likely to be affected by social desirability response bias. Many times, responders are not willing to indicate that they have engaged in behavior not accepted by their peers (Reynolds, 1982). Due to the failure of sample respondents to answer with candor, results might not accurately reflect the opinions of all members of the included population.

Another limitation may be attributed to the rate of return or surveys returned with missing data (Fowler, 2002). Because participants volunteered to complete the surveys, they were free to retract their commitment or to stop completing the forms at any time during the data collection process. Due to the length of the study, a significant number of respondents available in the beginning of the review may have been unwilling to participate until the end of the examination.

Overall, in a survey study, there are many factors that the researcher cannot control. This study, therefore, was exploratory in nature and lacked the experimental control or comparison group that superiorly increases overall generalization of the results (Leong & Austin, 2006). Due to the unique sample available for the study, results may not be generalizable beyond the specific population from which the sample was drawn (i.e., high school students from the southeastern region of Louisiana; Fowler, 2002).

Delimitations. The delimitations of the study included sampling and methodology. In order to assure manageability of the collected data, the survey instruments chosen for this study were designed with only multiple-choice items and did not include open-ended response items. Due to the large number of participants in the study population (i.e., the general high school community), the population involved in the current study focused only on students located in one Southeastern, Louisiana school district. As a result, the delimitations also precluded generalizing beyond the study's targeted population (e.g., to high school students in semi-urban and rural communities; Fowler, 2002).

Definition of Terms and Treatment of Data

The following definitions are provided to ensure uniformity and understanding of these terms throughout the study. The researcher developed all definitions not accompanied by a citation.

Socio-demographic characteristics. These characteristics refer to descriptive information about the participants. Included in this grouping are gender, race or ethnicity, economic level. Given a range of fixed choices, socio-demographics were self-reported by participants using a feedback form (i.e. Demographic Questionnaire, DQ).

Obsessive compulsive behaviors. Obsessive compulsive behaviors (OC) refer to the signs and symptoms associated with obsessive compulsive phenomena referenced in the DSM-IV (APA, 1998). The behaviors are characterized by recurrent, unwanted, disturbing thoughts (obsessions) and/or repetitive, ritualized behaviors that a person feels driven to perform (compulsions). For this study, OC behaviors will absorb the official term *subclinical OCD*. Apter and colleagues' (1996) used the term "subclinical OCD" to describe individuals reporting substantial obsessions or compulsions not severe enough to meet the full OCD criteria.

Likert-type questions were used to determine the presence of OC behaviors. Students self-reported any obsessions or compulsions on the Obsessive Compulsive Inventory-Revised (OCI-R; Foa, Huppert, Leigerg, et al., 2002) by circling the number and corresponding description of OC behaviors that best represented them. The individual responses range from 0-4, with 0 indicating no presence of OC behavior, and 1 or above indicating a presence of OC behavior.

School functioning. For this study, school functioning encompassed the term functional impairment. According to Jans and Kraus (2004), functional impairment includes: (a) limitation in, or inability to perform a variety of activities; (b) symptoms associated with a mental health concern that interferes with life; and (c) inability to perform age-appropriate functions. Also supported by Jans and Kraus (2004) and based on the research of Placentini et al. (2003, 2007), functional activities in this study include significant problems at school incorporating academic functioning (e.g., such as ability to pay attention in class), social functioning (e.g., such as ability to eat lunch with other students), and daily living skills functioning (e.g., such as ability to get to school in the morning).

Likert-type questions were used to determine the presence of functional impairment in school relative to OC behaviors. Students self-reported any problems in school functioning caused by *unwanted thoughts* and *ritualize behaviors* on the Child Obsessive Compulsive Impact Scale-Revised (COIS-R; Placentini, Peris, Bergman, Chang, & Jaffer, 2007) by circling the number and corresponding description of functioning problems that best represented them. The individual responses range from 0-3, with 0 indicating no problems in school functioning and 1 or above indicating presence of problems in school functioning, relative to OC behaviors.

Help-seeking. Help-seeking is defined by Rickwood et al. (2005) as the process that involves the behaviors people use to obtain help “in terms of understanding, advice, information, treatment, and general support in response to a problem or distressing experience” (p. 4). It is a form of coping that relies on communicating with people varying in their level of formality (e.g., informal source such as a friend or informal

source such as a counselor). Based on this definition, help-seeking in this study refers to those behavior patterns associated with the likelihood that students will seek help, or not, for different problems from a variety of potential help sources that fall within several generic help-source domains (e.g., parent, friend, teacher).

Likert-type questions were used to define students' patterns of help-seeking practices. Students self-reported these practices on the General Help-Seeking Questionnaire (GHSQ; Ciarrochi & Deane, 2001; Wilson, Deane, Ciarrochi, & Rickwood, 2005) by circling the number corresponding to how they feel about seeking help from each source. The individual responses for each help-source range from 1-7, with 1 weighted an "extremely unlikely" source and 7 weighted as an "extremely likely" source. Each help source is scored on a 7-point Likert scale from 1 (extremely unlikely) to 7 (extremely likely), where higher scores indicate greater willingness to seek help and from which sources—formal or informal (Rickwood et al., 2005).

Chapter 2

LITERATURE REVIEW

Once considered rare and untreatable in the early 1980s, obsessive compulsive disorder (OCD) is now considered to be the fourth most common anxiety disorder among Americans and is now believed to be 20 to 40 times more common in children and adolescents than previously reported (Adams & Burke, 1999; Niehous & Stein, 1997; Rapoport & Inoff-Germain, 2000). OCD is considered to be one of the most under-recognized, chronic, and debilitating psychiatric conditions of our time (Carter & Pollock, 2000, Diler & Avci, 2002), yet, very little is known about how OCD symptomatology affects psychosocial functioning of school-aged youth. Considering the formative years are spent, on average, one-third to one-half of the day either in school or going to and from school (Sabuncuoglu & Berkem, 2006), the prevalence, presentation, and impact of clinical or subclinical OCD in school settings is worth investigating.

Many youth who suffer from obsessions and compulsions go undiagnosed or misdiagnosed and do not attain appropriate services or treatment in a timely manner. In many cases, early detection has played a vital role in recovery (March & Mulle, 1998). Unfortunately, many people attempt to hide their symptoms and are embarrassed to seek help, thinking that they are the only ones who experiences these obsessions and compulsions or fearing that others will think of them as “crazy” (Rapoport, 1989). Therefore, the knowledge, identification, and ability to monitor interventions are crucial in the school settings. Investigating help-seeking manners of adolescents who experience OC symptoms have important implications for access to treatment. Factors that may be central to seeking help for obsessive compulsiveness have scarcely been reported in the

literature. Thus, this literature review represents a tentative attempt to draw together studies that address issues to be relevant to school functioning of adolescents with OC symptoms as well as studies to be relevant to help seeking protocol. Due to the paucity of research on the OCD adolescent population and their school functioning in relation to the wide range of OC symptoms as well as the lack of attention on the effects of subclinical OC phenomena in the general population, this review has drawn mainly from the clinical OCD research to set the foundation for further investigation.

In addition, because of the relative scarcity of studies addressing adolescent mental health help seeking, a review of the literature on general help seeking among adolescents was conducted. Recognizing that obsessions and compulsions occur with a wide range of severity and impairment (Apter, Fallon, King et al., 1996), the terms subclinical OCD, OC behaviors, OC phenomena, and OC tendencies, traits, or variants will be used synonymously, although they may have slightly different meanings depending on the context. Each term will be used to describe individuals reporting substantial obsessions or compulsions that appear on the OC phenomenon continuum as previously described in Chapter 1. That is to say, the main focus of this presentation is on the range, frequency, and severity of obsessions and compulsions and their effects on school functioning of adolescents in a general school population and not on the diagnosis of obsessive compulsive disorder.

Understanding Obsessive-Compulsive Disorder

Prevalence

Studies reveal approximately 6.6 million people or about 1 in every 50 Americans experience OCD. OCD is more common than asthma or diabetes (Obsessive Compulsive

Foundation [OCF], 2006). More common among children and adolescents than previously thought, epidemiological studies (Adams & Burke, 1999; Flament, Koby, Rapoport et al., 1990; Niehous & Stein, 1997; Rapoport & Inoff-Germain, 2000) revealed that OCD in children and adolescents is not exceptional, with lifetime prevalence rates in community and clinical samples ranging from 2% to 4%. Rapoport and Inoff-Germain (2000) indicated that 25-50% of adults with OCD report onset of their OCD symptoms in childhood or early adolescence. Many people, however, attempt to hide their symptoms from family and friends and are embarrassed to seek help, thinking that they are the only ones who experiences these obsessions and compulsions or fearing that others will think of them as “crazy.” Although prevalence rates in the OCD literature fluctuate, it is estimated that 3 or 4 children in an average-size elementary school, or up to 20 to 30 in a large urban high school have obsessive-compulsive disorder (Adams, 2004; Adams & Burke, 1999; Rapoport & Inoff-Germain, 2000). Unfortunately, pediatric OCD is usually recognized only when severe and typically years, 15 years on average, after onset (Rapoport & Inoff-Germain, 2000). Since childhood OCD is frequently unidentified or misdiagnosed, prevalence rates may be even higher (Jenike, 1989).

Phenomenology

Rappoport (1989) described OCD as “the sense of being compelled, of being forced from within, to carry out senseless acts or think senseless thoughts” (p. 207) that cannot be resisted without great difficulty. Classified as an anxiety disorder (American Psychiatric Association [APA], 2000), the essential features are recurrent obsessions and/or compulsions that are time consuming (e.g., one hour or more per day) and interfere with normal life. People with OCD realize that their thoughts and rituals are

unreasonable, irrational, and excessive but cannot dispel the ideas and impulses, in spite of an inner desire to do so. The obsessions or compulsions are potentially so severe, individuals often cannot maintain emotional and social relations, have difficulty coping with daily life events, and have problems studying or working. As a result, their everyday lives are overwhelmed with distress (APA, 2000; March, Leonard, & Swedo, 1995).

Obsessions. People with OCD have obsessions that are intrusive, inappropriate, and persistent ideas, thoughts, impulses, or images such as repetitive thoughts of violence, contamination, and excessive doubt. The obsessions are egodystemic; that is, they are not experienced as voluntarily produced, but rather as thoughts that invade consciousness and are experienced as senseless or repugnant. Obsessions are capable of producing severe anxiety and feelings of disgust and guilt (APA, 2000; March & Mulle, 1998).

Concerns involving catastrophic events, fear of contamination, harm, illness, or death; and sexual, somatic, and religious preoccupations (i.e., scrupulosity) are the most common obsessions in pediatric studies (Geller, Biederman, Jones et al., 1998). Also common among people with OCD is a fear of losing items that may be needed later and beliefs of an excessive emotional attachment to items (Grisham, Brown, Savage, Steketee, & Barlow, 2007). Often appearing as concerns for personal safety or the safety of significant others, Adams (1998) notes that adolescents with *fear of harm* obsessions are regularly plagued by “thoughts of death due to poisoning, germs, and sharp objects” (p. 198). For some, the emphasis is on the fear of inflicting harm, as opposed to encountering harm, according to Adams (1998).

Strong religious beliefs and affiliation is the crux of *scrupulosity*. Adolescents who have strong ties to religion may experience with obsessive fears of doing something

evil and committing sins. They usually seek penance through constant prayer or self-punishment for the imagined sins. Or, they may take great measures such as constructing elaborate systems to avoid certain thoughts, memories, or actions they deem as blasphemous or unacceptable such as committing deviant sexual acts, uttering unacceptable phrases, and wishing harm on loved ones (March & Mulle, 1998; Mc Kay, Abramowitz, Calamari et al., 2004). Obsessions with numbers are common among adolescent boys who have been diagnosed OCD (Adams, Waas, March, & Smith, 1994). That is, certain numbers are considered “safe” while others are considered “bad” and must be avoided.

Compulsions. Compulsions are repetitive, purposeful, and intentional behaviors that are performed according to certain rules or in a stereotyped fashion. These compulsions are performed in response to an obsession, thus, “the person feels driven to perform the compulsion to reduce the distress that accompanies an obsession or to prevent some dreaded event or situation” (APA, 1994, p. 418). For example, a common compulsion is excessive hand washing in response to one’s fear of germs or contracting a deadly disease. Other common compulsions involve repetitive behaviors such as cleaning, checking, touching, and odd movements (overt compulsions) or mental acts such as counting, praying, or repeating words silently (covert compulsions). Some compulsive rituals involve hoarding seemingly useless possessions (Grisham et al., 2007) to the extent of disastrously and dangerously cluttering living spaces. Some adults seek alternate living spaces in order to avoid discarding belongings.

Symptoms and sub-types. Experts have suggested that OCD is actually a heterogeneous condition comprised of distinct subtypes that are based on multiple

symptoms of obsessional concerns, compulsive behaviors, and neutralizing responses (Adams et al., 1999; Rapport, 1989). Although specific manifestations of these symptoms typically vary from person to person, evidence suggests that dimensional schemes of symptom categories can be distinguished by associated symptomological, phenomenological, or neurobiological underpinnings.

OCD sub-typing research was generated from the 1970 work of Robins and Guze (McKay et al., 2004) who proposed that understanding and treating psychiatric disorders is most effective when diagnostic class is homogenized, “when there are clear boundaries between classes, and when the different classes are mutually exclusive” (APA, 2000, p. xxxi). For example, researchers conducting treatment studies discovered that clients with certain types of OCD symptoms (e.g., hoarding symptoms) do not respond to pharmacological or behavior therapy (Stanley & Turner, 1995), which are standard treatment protocol for clients with OCD. Whereas, people with contamination fears and washing symptoms responded moderately well, to well with Cognitive-Behavior Therapy (CBT), specifically exposure response prevention (ERP) techniques (Swinson, Antony, Rachman & Richter, 1998). Neurobiological research findings suggest that different parts of the brain may be involved in different manifestations of OCD (Swedo, Rapoport, Leonard, Lenan, & Cheslow, 1989). For example, Fontenelle, Mendlowicz, and Versiani (2005) found that clients with cleaning and washing concerns have more frontal brain involvement than other OCD clients.

Symptom based classification is predicated on the basis of the primary or most distressing symptom. Although an individual with OCD may exhibit a combination of behaviors, some authors have argued that, in the vast majority of cases, one type of ritual

usually predominates, permitting the client to be classified as a checker, washer, counter, or hoarder, (Calamari, Wegatz, & Janeck, 1999; Mc Kay et al., 2004). Because the phenomenology of OCD often changes over time, however, and because people frequently present with more than one type of ritualistic behavior (Swinson et al., 1998), symptom based classifications do not account for the presence of complex obsessional themes nor the occurrence of multiple obsessions and compulsions. Accordingly, the complex systems of obsessions and compulsions that are experienced by people with OCD are not fairly obvious to the clinician, researcher, especially not to a casual observer (e.g., a teacher or friend).

Other sub-typing research (Leckman et. al., 1997; McKay et al., 2004; Mataix-Cols, Rauch, Manzo, Jenike, & Baer, 1999; Summerfeldt, Richter, Antony, & Swinson, 1999) found that individuals with OCD commonly have obsessions and compulsions that are thematically consistent with one another. For example, in a statistical cluster analysis, Calmari et al. (1999) found that washing/cleaning compulsions appear with contamination obsessions, and ordering and arranging compulsions appear with symmetry obsessions. Factor analytic studies (Leckman, et. al., 1997; McKay et al., 2004; Mataix-Cols et al., 1999; Summerfeldt, Richter, Antony, & Swinson, 1999) have consistently found four common profiles: contamination/washing, harm obsessions/checking, symmetry/ordering, and hoarding.

Conditions Associated with OCD Symptoms

Subtypes may vary in terms of information processing anomalies and interfere with cognitive performance and produce functional impairment. According to the cognitive-behavioral model (Frost & Gross, 1993; Frost & Hartl, 1996), individuals with

OCD may have information processing problems and deficits in the areas of categorization, organization, memory, attention, and decision-making ability. One example is found in hoarding behavior. Cognitive-behaviorists believe “poor self-regulation and difficulty suppressing responses evoked by the environment may contribute to the excessive acquisition and saving behavior of hoarders”, while “problems with planning and executing complex, goal-directed motor responses and controlling interference may limited these individuals’ ability to effectively organize and discard their possessions” (Grishim et al., 2007, p. 1492). Hoarding appears to be one of the most disabling forms of OCD. In comparison to other subtypes, clients with primary hoarding symptoms reported higher anxiety and depression with severe psychosocial consequences (Frost & Gross, 1993; Frost, Steketee, Williams, & Warren, 2000).

On the basis of clinical observations, neuropsychological research is being directed to *checkers* and people with *fear of contamination* to examine attention and memory deficits and biases in people with OCD. Deficits refer to general cognitive impairment and biases refer to “enhanced processing of certain types of stimuli relative to other types of stimuli” ((Muller & Roberts, 2005, p. 2). That is to say how individuals infer and attend to verbal and non-verbal threatening information—real or imagined threat—can negatively impact attention and memory functioning.

People with OCD exhibit a cognitive bias in favor of processing threat-related information (e.g., contamination-related words—cancer, urine—and emotional-laden pictures —toilet, knife) over neutral stimuli (e.g., flower). When task-relevant information is intruded by task-irrelevant information, cognitive processing and performance deficits are associated with an increased level of anxiety (Muller & Roberts, 2005). In an

Exposure Response Prevention (ERP) treatment study, Foa and Mc Nally (1966, as cited in Muller & Roberts, 2005), gave 11 people with OCD dichotic listening tasks before and after ERP treatment. Participants were presented with two prose passages, one in each ear, to test whether fear-relevant stimuli were readily processed over that of neutral stimuli. The idea was that if recall of fear-relevant words was more accessible “because of their association with fear, then this difference should be reduced following ERP treatment” (Muller & Roberts, 2005, p. 8). The findings confirmed sensitivity to fear-relevant stimuli due to fear itself. Elevated anxiety is also associated with an enhanced capacity to encode threatening information in lieu of relevant information, impairing the OCD individual’s ability to focus attention and producing performance deficits (Muller & Roberts, 2005).

The results of several recognition and recall studies (Deckersback, Otto, Savage, Baer, & Jenike, 2000; Sher, Mann, & Frost, 1984; Zitterl, Urban, Linzmayer, Aigner, & Demal, 2001) have concluded that individuals with high levels of checking symptoms were relatively impaired in their memory for complex verbal information and for non-verbal episodic memory. Sher et al. (1984) studied 49 college students who were selected to represent a wide range of compulsive checking behaviors. Participants were required to recall details from short passages read to them. Results indicated that checking was associated with overall scores on the Wechsler Memory Scale (WMS), particularly the logical Memory subtest. Sher et al. (1989) also compared WMS scores among psychiatric outpatients with mixed diagnoses. Checkers ($n = 13$) received lower scores compared to non-checkers ($n = 12$). The authors noted that groups did not differ in general intellectual ability (Sher et al, 1989). These results were replicated in two recent studies

(Deckersbach et al., 2000; Zitterl et al., 2001) in which people with OCD were found to be impaired in short-and long-delayed recall tests.

Non-verbal episodic memory problems of OCD *checkers* is also believed to be linked to impaired organizational patterns. Using the Rey-Osterrith Complex Figure Test, which requires test takers to copy a figure from memory, Savage, Baer, Kauthen et al. (1999) tested people with OCD ($n = 20$) regarding their non-verbal memory and found that participants tend to focus more on “irrelevant details” of the items to be remembered. These results were replicated in normal control comparison studies (e.g., Tallis, Pratt, & Jamani, 1999). Muller and Roberts (2005) suggested that this pattern of non-verbal memory impairment was limited to visual memory. Further investigation is warranted.

Success in school, career, and daily living is, in large part, dependent on the student’s aptitude of processing verbal and non-verbal information-the vehicle used to transfer and receive knowledge. The ability to accumulate and recall what is being taught is a fundamental aspect of learning. Categorization, organization, and decision-making skills are also essential schema to the solidification and application of knowledge. For those students who have OCD, however, deficits due to compulsion and hyper-ritualization in these pertinent areas of learning can inhibit both future potential and growth in education and healthy adulthood (Rapoport & Inoff-Germain 2000).

These conditions are also reflective in Adams’ (2003) theory that children and adolescents with OCD tend to have more learning disorder than the population at large. One type of learning disability that youth with OCD frequently exhibit is a nonverbal learning disability (March, Leonard, & Swedo, 1995). With a nonverbal learning disability, such verbal skills as language, reading, and spelling are intact, but the child

experiences difficulties in nonverbal areas that tap visual-spatial abilities. As a result, difficulties with mathematics, handwriting, and processing social/emotional information may be evident (March & Mulle, 1998).

While the studies aforementioned have credence in determining the effects of OCD on adolescents in an institutional environment such as school, it is obvious that more investigation needs to be conducted specifically to decode the evidentiary prevalence of OCD in order to prescribe effective general modes of treatment (e.g., school intervention, accommodations). These efforts are paramount to offset the detrimental symptomological effects of OCD on adolescent development. While the trials of adolescence are in and of themselves a difficult burden for many adolescents, when combined with the insidious presence of undiagnosed OCD this period can be hyper-detrimental to select members of this age group.

Obsessive Compulsive Phenomenon in Community Studies

The notion that obsessive compulsiveness is a rare phenomenon is consistently based on rates of OCD seen in psychiatric clinic samples. Several epidemiologic studies (Jenike, 1989; Robins, Locke, & Regier, 1991; Stein, Forde, Anderson, & Walker, 1997) suggest, however, that OCD and OC tendencies are more common in the general population than previously thought. The Epidemiologic Catchment Area study (United States Department of Health and Human Services [USDHHS] as cited by Stein et al., 1997) uncovered a lifetime prevalence of OCD that ranged from 2-3.3% across five non-clinical sites in the United States. Subsequently, surveys in other countries found similar rates (Fogel, 2003; Stein et al., 1997; Weissman, Bland, Canino et al., 1994). The net

effect of these findings brings much needed attention to the “hidden epidemic” (Jenike, 1989).

Like symptoms of anxiety, obsessive compulsive symptoms are present to some degree in most people. Epidemiologic studies have consistently shown that .7-19% of the general population, world-wide, meet diagnostic criteria for obsessions and/or compulsions (Apter et al., 1996; Flament, Whitaker, Rapoport et al., 1988; Rachman & Hodgson, 1980; Thomsen, 2000; Valleni-Basile et al., 1994; 1996; Zohar et al., 1992). Furthermore, Apter et al. (1996) concluded that OC phenomena appear on a continuum, with few symptoms and minimal severity at one end and many symptoms and severe impairment on the other. Recognizing that obsessions and compulsions occur with a wide range of severity and impairment, the term “subclinical OCD” has been used to describe individuals reporting substantial obsessions or compulsions not severe enough to meet the full OCD criteria (Apter et al., 1996).

In the southeastern United States, Valleni-Basile et al. (1996) found a .7% one-year prevalence of OCD and 8.4% one-year prevalence of subclinical OCD in youth ranging in age from ages 11-14. In studying 16-17 year old Israeli army recruits, Apter et al. (1996) found a lifetime prevalence of 2.3% for OCD and 3.9% for subclinical OC symptoms. They quote another Israeli army inductee study (Zohar et al., as cited in Apter et al., 1996) showing a 3.6% point prevalence and a non-Israeli study (Valleni-Basile et al., 1994) showing a 3.0% point prevalence of OCD and 19% for subclinical obsessions and compulsions in adolescents. A New Zealand study of 18 year olds found 4.0% prevalence (Zohar, 1999) and a German study reported prevalence of OC symptoms in children ranging from 2.8%-4.5% (Thomsen, 2000).

In their investigation, Apter et al. (1996) concluded that OC phenomena appear on a continuum, with few symptoms and minimal severity at one end and many symptoms and severe impairment on the other. Using the screening questions for OCD in the Hebrew version of the Schedule for Tourette's Syndrome and Other Behavior Syndromes (H-STSOBS; Pauls & Zohar, 1991), Apter, Fallon, King et al. (1996) discovered that while *disturbing* and *intrusive thoughts* were reported by only 8.0% and 6.3% of the respondents in the total sample ($n = 861$; 436 males and 425 females), 6 of the 8 remaining behaviors were reported by 27% to 72% of the sample. The results indicated that 27% endorsed *repetitive actions*, 30% *an urge to repeat*, 34% *ritualized routines*, 72% *extreme neatness*, 49% *orderliness*, and 29% *hoarding*. Of the remaining participants, 32% endorsed 4 or more symptoms and only 18% reported no symptoms (Apter et al., 1996). Overall, these studies can be summarized to show that OCD and subclinical OCD range for adolescents from .7% to 72%, where subclinical OCD is far more prevalent than OCD.

Apter et al. (1996) also reported severity in terms of time occupied with the endorsed symptoms, perceived senselessness of symptoms and amount of distress caused by these symptoms. Of the 706 adolescents who reported one or more symptoms, a mean time of 33.5 to 91.5 minutes was spent each day engaged in the behaviors, 50% reported no time spent, 28% reported 10 minutes or more and 8% reported 60 minutes or more on one of the eight behaviors. Notably, the DSM-IV-TR criterion (APA, 2000) for an OCD diagnosis requires a person to be engaged in the behavior for 1 or more hours per day. In addition a significant proportion of this adolescent population reported the thoughts and behaviors as senseless (20%), while 3% reported the behaviors as disturbing and stressful.

Personal appraisal of thoughts and behaviors as senseless, disturbing, and stressful are also hallmarks of the DSM diagnostic criteria (APA, 2000). From such results as presented by Apter et al. (1996), it is evident that OC phenomena, appearing as they do in a large population of adolescents, cannot be labeled as rare or abnormal. For some people, however, these behaviors appear to be very time-consuming and logically, can cause significant interference in a person's daily functioning. Relative to the prevalence of OC behavior and daily functioning, additional studies of adolescent culture and context (i.e. the school setting) are warranted.

OCD in the School Setting

OCD in Youth

Like adults, adolescents with OCD typically attempt to ignore, suppress, or neutralize obsessive thoughts and associated feelings by performing compulsions. Oftentimes obsessions pair with compulsions in ways that defy explanation (Adams, 2004). For this reason, thoughts and behaviors associated with OCD are often perplexing to parents, teachers, and peers. For example, a student who experiences an obsession regarding the death of a loved one, such as a parent, may feel compelled to trace the number "8" a prescribed number of times on a sheet of paper in order to prevent the death. When inquiring how tracing the number "8" would prevent the loved one from dying, the adolescent might be unable to provide a reason and is often embarrassed as a result. Often, an observer only sees the end result of the symptom (e.g., darkened numbers or letters on writing assignments, hours in the bathroom, extended time alone in a bedroom turning the light switch on and off, or peevishness when the student cannot do something his or her way).

Recognizing the symptoms of OCD may be challenging, as the symptoms can easily be misinterpreted as willful disregard, opposition, or meaningless worry. In addition, adolescents may not know how to express their underlying worries. Many describe OCD as an entity outside of themselves. For example, young children may try to convey obsessions as if someone on the outside (e.g., my invisible friend) is telling them to do certain things or is putting thoughts in their heads (Adams & Burke, 1999). March et al. (1995) observed that most children have insight into their disorder (i.e., they realize that what they are thinking is irrational or, in childlike terms, “silly” or “stupid”); however, young children in particular may be unaware of their obsessions or have difficulty verbalizing them.

For self-conscious adolescents who see their behavior as odd and distinctly different from their peers, many will more than likely be reluctant to divulge their symptoms unless asked directly, and most professional care-givers often fail to ask. As a result, OCD often goes unrecognized and untreated. In one epidemiological survey of high school students, only 4 of the 18 students found to have OCD were under professional care (Flament et al., 1990) and none of the total had been correctly identified as having OCD. This reinforces Jenike’s (1989) depiction of OCD as a “hidden epidemic”. In these cases, ritualistic behavior such as hand washing or the appearance of dried cracked hands commonly is a better indicator of OCD (March et al., 1995). Some adolescents wash with strong cleaning chemicals such as bleach, however, many teens are skilled at keeping compulsions hidden and rituals may remain undetected (March & Mulle, 1998). These findings accentuate the need for sensitive and direct interviewing of students about obsessive-compulsive symptoms.

Subtypes and Manifestations of OC Behavior at School

For students, OC behavior can manifest itself in various ways. As described by Swinson, Antony, Rachman, and Richter (1998), people who experience obsessions typically engage in three types of behavior to provide relief from their distress: (a) compulsive behavior, (b) avoidance behavior, and (c) neutralization. Logically, such behaviors are also utilized by students who experience obsessions in the context of school functioning.

As previously explained people with obsessions typically engage in compulsive behavior to reduce distress or prevent an event. In addition, Swinson et al. (1998) suggest that people with obsessions engage in avoidance behavior that has a clear relationship to the content of the obsession. For example, a student distressed by intrusive images of contracting a deadly disease may go to great lengths to avoid being in physical contact with peers. Where the main purpose of a compulsive behavior is to prevent an event, Swinson et al. (1998) describes neutralization as an attempt to “put right” the obsession, to cancel the effects of a thought or an action. For example, a child who obsesses about killing his parents may spend a significant amount of time in the shower until he feels he has washed the thought away. In any case, these actions can materialize and interfere in school in a variety of ways.

Although there are no formal investigations into OC related behaviors for students in the school environment, Adams’ work (2004) will be highlighted to ground the discussion of obsessions, compulsions, and behavioral manifestations in school. Generally, one OC behavior is usually more pervasive for a child at one given time. However, Rettew, Swedo, Leonard, Lanane, and Rapoport (1992) concluded from

clinical observations that many individuals will experience nearly all the classic OC symptoms by the end of adolescence. Although not presented in its entirety, these examples are offered below as they relate to the behaviors being investigated in this study.

Washing/Cleaning. Washing and cleaning rituals are typically driven by fear of contamination obsessions, a fear that is frequently reported by children and adolescents (Adams, 2004; March & Benton, 2007; Rapoport, 1989). These fears typically center on a concern with germs, dirt, or other substances such as ink, glue, excrements, and chemicals for example. Also concerning fear of contamination, Swedo et al. (1989) reported an increase in obsessions with Acquired Immune Deficiency Syndrome (AIDS) among this population in the past decade.

Adams (1998) reported that approximately 80% of children and adolescents with OCD experience washing or cleaning rituals. The most common ritual among this population is hand washing. These individuals may feel compelled to wash extensively (e.g. until their hands bleed) or to clean their environment excessively (e.g. for minutes to hours at a time) and according to some self-prescribed method. On the other hand, others may be less thorough about washing or cleaning, but may engage in the behavior many times each day. Some may even engage in unusual cleansing rituals besides washing or cleaning. Apter and Tyano (1988) suggests that some students may even bake their school books in the oven each day after school to remove contaminants.

Adams (1998, 2003) hypothesizes that students with fear of contamination obsessions paired with washing compulsions may result in excessively excusing oneself from class to go to the restroom to carry out washing rituals. Also, these students may be observed as excessively late to school or appear fatigued in class as a result of extensive

grooming rituals before school or at bedtime. They may appear anxious or frustrated, even angered, if permission for restroom visits is refused.

Checking. Checking and doubting compulsions have been shown to be connected (March & Benton 2007; Swinson et al., 1998) and will be presented together in this section. Clinical observation and case studies (Rapoport, 1989; Rettew, Swedo, Leonard, Lanane, & Rapoport, 1992; Swinson et al., 1998) give an account that checking compulsions are often triggered by an obsessive fear of harm to self or others. As a result, the individual will typically engage in behaviors designed to prevent some dreaded event and to create a safe environment such as incessantly checking doors, windows, electrical outlets, appliances, and other items. In other instances, rather than a fear of harm, some individuals may be fraught with doubt (e.g., obsessively doubting that the door was actually locked), also leading them to compulsively check their environment.

Swedo and Rapoport (1989) observed that this fear is often implicated by a concern for one's own safety, or the safety of parents, or significant others. They reported that young people with such an obsession may be overwhelmed by thoughts of death due to sharp objects, poisoning, or catastrophic events such as earthquakes. In some cases, individuals with OCD may experience urges to self-harm; or, they may fear that they may inflict harm on someone else, typically a loved-one (Swedo & Rapoport, 1989).

Adams (2004) hypothesizes that students' fear of harm, illness, death or pathological doubting obsessions paired with checking compulsions manifest in frequently checking books in a backpack, a compelling urge to return home to check something, checking and rechecking an assignment or homework, or checking a school locker to verify that it is locked. A student who engages in compulsive checking might be

observed as consistently late to school or appear tired in class as a result of excessively engaging in checking behaviors before school or at bedtime. Adams (2004) reports that checking can cause a student to work late into the night on assignments that should, on average, take 2 to 3 hours to complete. Some students may even turn in assignments late or not complete tests as a result of checking behaviors. Or, they may have doubting obsessions (e.g. doubting that an assignment was actually carried out as instructed) which may be particularly alarming to the student. Sher et al. (1983) suggested that *checkers* may express a lack of confidence in their ability to remember or are unable to recall performing an activity. Some students may also become fixated on self-doubt and engage in compulsive reassurance-seeking such as checking in with others (Adams et al, 1994).

Repeating. Repeating rituals are regularly connected to counting rituals and according to Adams (2004), may assume various forms in the school setting. Fear of harm, illness, and death are obsessions also associated with repeating rituals. The repetitive actions are generally the result of the experienced anxiety (Swinson et al., 1998). Individuals with repeating compulsions are either compelled to repeat an action a certain number of times or may experience a strong feeling that an action has to be completed “enough” or “just so.” They may repeatedly walk in and out of a doorway, may walk forward and backward, or get up and down from a chair several times in a particular fashion until it “feels right.”

Likewise, number or counting obsessions exhibit in repeatedly counting up to a particular (“magic”) number or a multiple of that number, touching or counting an object a certain number of times, or repeating an action a certain number of times. With

counting, some numbers are considered “lucky” or “safe” and will prevent harm while other are considered “unlucky” or “unsafe” and will bring about harm (Rapoport, 1989a).

In school settings, according to Adams (2004), repeating rituals may include endless streams of different questions, or one question repeated in a variety of ways, reading or repeating sentences, paragraphs, or pages in a book, or repeatedly sharpening pencils. Hand-written assignments may reveal holes that were worn from excessive erasing, crossing out words, or rewriting or tracing letters or numbers. In some cases, students’ may be observed as being tardy to class due to an inability to execute locker combinations in a timely manner. Interestingly, Rapoport (1989a) presented a case where a young boy was referred to a psychiatrist because his obsession with the number 4 dominated his life, causing problems in school and with friends. Rapoport (1989b) also noted a case in which an adolescent reported an attack of certain numbers into his thoughts and as a result, the teen and was unable to play his clarinet and keep step in the school marching band.

Ordering/Arranging. Johnston and March (1992) suggested obsessions around a need for symmetry may result in compulsive arranging. They also noted ordering or arranging rituals to be associated with feared consequences or with “forbidden thoughts” such as sexual obsessions for example. Sexual obsessions may result in difficulties in relating to the opposite sex and in social skills. In turn, Johnston and March (1992) suggested these obsessions may lead to compulsive distraction. The individual engages in behaviors (e.g., ordering or arranging) to reduce the discomfort associated with the sexual ideas. In class, students may appear stuck, fixated on a particular task, or appear to be

anxious or frustrated. In actuality, the student may be struggling with trying to neutralize feelings of guilt brought on by illicit thoughts.

Adams (1998, 2003) suggests that individuals with symmetry obsessions, paired with ordering, or arranging compulsions can produce observable behaviors such as repeatedly tying of shoelaces until both shoes look identical. For some individuals, common movements may have to be symmetrical or balanced. For example, Swedo and Rapoport (1989) observed children and adolescents taking steps of identical length or speaking with equal stress on each syllable. In general, these individuals may appear to have an abnormal concern about the neatness of their personal appearance or environment.

In school, according to the literature (Adams, 1998, 2003; OCF, 2006), an obsessive need for order or symmetry may be noted by large blocks of unexplained time, such as unproductive hours spent doing homework or an in class assignment. Students may spend an excessive amount of time arranging books on a shelf or items on a page so they appear symmetrical even at the risks of failing an exam. For example, an overwhelming need to align objects "just so" or symmetrically may override students' better judgment to put the right answer on the test. Therefore, the OCF (2006) advises that a sudden drop in test grades may be an indication of a student struggling with obsessions and compulsions.

Hoarding. The practice of hoarding is described by researchers (McKay et al., 2004; Seedat & Stein, 2001) as the repetitive collection of excessive quantities of items that have little or no value with failure to discard these items over time. As evident in the DSM-IV-TR (APA, 2000), hoarding behaviors occur in many clinical syndromes (e.g.

Obsessive Compulsive Personality Disorder (OCPD), Impulsive Control Disorder, Schizophrenia, depression, eating disorders, dementia). In relation to OC behavior, however, fixations are not focused on *perfectionism* as in the presence of OCPD, for example, or on *paranoia* as in the presence of schizophrenia. It has been hypothesized (Frost & Hartl, 1996; Frost & Steketee, 1998) that individuals with OC symptoms acquire or save indiscriminately to avoid emotional upset and/or to prevent negative outcomes. That is, the authors have suggested that possessions provide a sense of safety, used to cope with actual or perceived danger.

Hoarding in OC phenomenon has been shown to be allied with strong emotional attachment to possessions and strong emotional responses to discarding possessions (Cermele, Melendez-Pallito, & Pandina, 2001; Frost & Gross, 1993; Frost et al., 1995). More specifically, Steketee, Frost, and Kyrios (2003) reported compulsive hoarding to be linked to cognitive/emotional features such as: (a) emotional attachment, which refers to emotional comfort provided by the objects, fear of losing something important, and feeling of loss of self or identity, (b) memory-related concerns, referring to beliefs that objects are needed as reminders, (c) desire for control, reflecting a need to restrict others from touching, borrowing, or moving one's possessions, and (d) inflated responsibility, which refers to a sense of polite obligation toward possessions and people who may need them.

March and Benton (2007) suggest that hoarding is the least common subtype in children and adolescents. In contrast, Seedat and Stein (2001) reported that 11-42% of children and adolescents diagnosed with OCD display hoarding tendencies. Researchers (McKay et al., 2004; Samuels, Bienvenu, Riddle et al., 2002) propose that when hoarding

is present, it is the most disabling and most treatment resistant form of OC behavior. It has also been shown (Samuels et al., 2002) to be more prevalent in males than females and associated with more severe OC symptoms.

Swinson et al. (1998) describe the ramification of collecting and retaining unnecessary objects as first an embarrassment, evolving into a source of distress and an inability to function ordinarily. They further explain that with hoarding, the experienced anxiety is not just caused by an obsessive thought as with other compulsive behaviors but is magnified by the embarrassment, inconvenience, and inference with daily life, setting hoarders apart from other subtypes. Additional differences between compulsive hoarding and other subtypes are evident in the social impact of such behaviors. An example of this social implication is demonstrated in the adolescent who is embarrassed or unable to invite friends or school mates into his/her home due to the lack of space or cleanliness. Rapoport (1989) described a 15-year-old girl who collected a variety of trash, including soiled sanitary napkins, pieces of paper, and empty juice cans. She saved partially chewed food in napkins and stored them in various places through out her parents' house. Despite humiliation and teasing from peers including ridicule for climbing into a garbage can, she was unable to stop her compulsive hoarding even though she had complete insight into the uselessness of these items.

According to the OCF (2006), the surplus of hoarding items is such that they form piles and disrupt work spaces. To reduce the discomfort associated with the anxiety of throwing things away, students may hold onto used notebooks, graded assignments from years past, school newspaper clippings, letters from friends, or seemingly useless items such as scraps of paper, even used household products such as used egg cartons intended

for future art projects. Logically, in school, these students may appear unorganized with school bags, lockers, and desks cluttered with saved items.

The inferences of hoarding research (Frost & Gross, 1993; Frost & Hartl, 1996) as presented earlier in this chapter implicating hoarders as having information processing problems in the areas of attention, memory, and decision-making ability can be logically generalized to the context of school functioning. Difficulty in taking tests that require rote memorization may be prevalent. As well, Steketee, Frost, Wincze, Green, and Douglas, (1999) reported treatment-seeking hoarders as having difficulty categorizing and organizing information as well as possessions. Logically, these students may have difficulties performing tasks that require such skills. For example, writing assignments may consistently lack clarity and organization. School projects that require decision making tasks may be consistently late. Another indication of hoarding may be evident in students' ability to work cooperatively in groups. In reflecting Steketee et al.'s (2003) representation of hoarding as the student's *desire for control* for instance, preventing others from touching, borrowing, or moving one's possessions may be viewed as uncooperative behavior, which is typically an unfavorable evaluation for a student.

Avoidance. In addition to these compulsive behaviors previously described, students may engage in avoidance behaviors to access relief from obsessions (Swinson et al.1998). Compulsive *avoidance* is sometimes part of a broader OC phenomenon and shares some characteristics of other forms of compulsive behavior, such as those presented above (i.e. ritualized washing/cleaning, repeated checking, ordering/arranging, hoarding, and scrupulosity). In order to avoid overlap in content, I will provide some brief examples of manifestations of avoidance as it may occur in the school setting.

While contamination fears often lead to excessive washing, they may also cause some students to arrange their lives around avoiding contaminants or to engage in bizarre rituals besides washing or cleaning. In these cases, students may appear to have dirty hair, untied shoes, or to be slovenly clothed for example. Adams (2004) explains that this opposite effect (i.e. cleanliness) is instigated by the student refusing to touch certain objects or body parts for fear of being infected. Students may be noticed as using objects such as tissue or sleeve of shirt as a barrier to touch things.

Rapaport (1989b) noted compulsive avoidance behaviors associated with an obsessive fear of objects such as paint in art class, animals or chemicals in Science class, or fear of contact with other people such as in sports played in Physical Education class. Also referencing avoidance, March and Benton (2007) pointed out that indecisiveness is strongly associated with hoarding and checking behaviors, and both appear to be driven by a strong tendency to avoid making mistakes. Moreover, students with scrupulosity symptoms according to Adams (1998) may create elaborate schemes to avoid certain thoughts, memories, or actions. In any of these cases, compulsive avoidance can result in activity refusal or school refusal.

Neutralizing. Just as with avoidance, neutralization, on occasion, is part of a broader OC phenomenon and shares some characteristics of other forms of compulsive behavior (Swinson et al.1998). Researchers (Freeston & Ladouceur, 1997; Swinson et al., 1998) noted *neutralizing* as most often associated with moral discomfort such that may be produced by, but not limited to, religious or moral scrupulosity for example. Thus, although functionally equivalent to overt compulsions, the purpose of neutralizing activities, which are usually covert, is focused on undoing the thought and reducing the

moral discomfort. Neutralization is considered to be a compulsion when the same method is repeatedly used to obtain relief. If the action is flexible, it is a neutralizing tactic rather than a compulsion. For these reasons, neutralizing strategies are difficult to access (Swinson et al.,1998).

To reference March and Benton (2007), obsessions associated with scrupulosity may be one example of thought content that may trigger mental neutralizing tactics for children or adolescents. Rapoport (1989a) noted a case in which a teenaged boy was plagued with evil thoughts and images. Ultimately, he was afraid he would decapitate his younger brother. He struggled with this impulse by avoiding letters of the alphabet with his brother's name. Each time he would encounter the word "death," he went through an extensive "counter-ritual" to undo the image of decapitation. For example, he would search for the word "life" in what he was reading to offset "death" before he could continue his reading (Rapoport, 1989a).

In a related vein, Adams (2004) suggests students might circumvent the use of particular objects in the classroom (e.g., scissors, sharp objects), reading certain assigned books, or working with certain numbers because they may trigger feelings of distress. In some cases, students may feel compelled to count while they are engaged in an activity to neutralize a thought (Foa, Huppert, Leiberg, et al., 2002). Nonetheless, manifestations of neutralizing activities would be difficult to detect in a school setting (Swinson et al., 1998). From the examples above, one can conclude that in school, this student may appear distracted or stuck on one task.

Collectively, these works on subtyping methods provide some insight in how obsessions, paired with compulsions can manifest in observable behaviors in the context

of school. However, to date, there are no studies that systematically investigate these possible occurrences in the general school community, as presented above. Furthermore, there are no studies that look at OC-specific behaviors or combinations of behaviors in the adolescent culture and context of school and how they may interfere with adolescent school functioning. In order to acquire a better understanding of how OC behavior can impair or interfere with school functioning, relevant impairment literature is present below.

OCD Impairment Literature

Several authors have described OCD as a disabling disorder with multiple and longstanding impairments of psychosocial functioning (March, Franklin, Nelson, & Fox, 2001; Placentini & Bergman, 2000; Thomsen, 2000; Valleni-Basile et al, 1996). The impairments caused by OCD are reflected in the DSM-IV-TR diagnostic criteria (APA, 2000). To establish a diagnosis of OCD, obsessions or compulsions must cause pronounced stress, be time consuming or significantly interfere with normal routines, occupational and academic functioning or normal social activities or relationships. As a result, the assessment of functional impairment constitutes one of the prime issues for discerning clinical from subclinical OCD.

The importance of impairment is further emphasized by findings suggesting that obsessive phenomena are very similar in both general and clinical populations (Freston & Ladouceur, 1993; Freston, Ladouceur, Gagnon & Thibodeau, 1992). The difference, however, is related to the frequency and duration of obsessions rather than to the content of thoughts. Furthermore, research studies (Angold, Costello, Farmer, Burns, & Erkanli, 1999; Kramer, et al., 2004) suggest that assessment of functional impairment has

important implications for diagnostic assessment, access to treatment, treatment planning, and monitoring of outcome. However, as previously stated, very few studies have dealt with the impact of OCD symptomatology on psychosocial functioning in childhood or adolescence. Some studies of adult samples have reported high levels of family dysfunction, academic and occupational difficulties and problems in socializing when they were children (Calvocoressi et al., 1995; Cooper, 1996; Hollander et al., 1996; Koran, Thienemann, & Davenport, 1996). In an epidemiological study, Heyman et al. (2001) reported impairment scores for childhood OCD, but the measure used in the study, the Strength and Difficulties Questionnaire (SDQ), is a general, non-OCD specific scale that has limited value regarding details of OCD-related impairments.

Evident in Adams' (1998) manifestation examples, youth with OCD are at risk for significant disruptions in normative social and educational functioning due to distress and frequent ritual engagement. For school-aged children, the ramifications of OCD can be enormous. For example, those who engage in extensive bedtime or morning rituals may be exhausted in school due to not getting enough sleep. On academic performance, obsessions can be extremely intrusive and interfere with concentration or information processing. Attention that students should allocate to academic tasks is frequently redirected to obsessive thoughts or mental compulsions. Adams (2003) suggests that students with OCD "often appeared stuck or fixated on certain points and lost the need or ability to continue" (p. 50). As a result, teachers may mistakenly believe that the student is experiencing difficulties with attention task compliance, daydreaming, or motivation. Or, they may label the child as *lazy* (Adams, 2003).

As previously noted, interference with completing academic tasks may lead to decreased work production and poor grades. Also impairing school performance is tardiness if morning rituals result in students being late to school or absenteeism, if students skip school because they fear that school-based stimuli will trigger obsession or compulsion or because of overwhelming peer ridicule (Adams, 2003). Students' preoccupation with ceaseless ruminations and compulsions leaves little time or energy for friends or family. Many are withdrawn and isolated from peers and have few friendships, if any. Social competence is closely linked to academic performance (Johnston & Fruehling, 2002). Despite the many ways OCD manifests at school, home, and in social settings, patterns of OCD behavior are recognizable. For some students, OCD symptoms are mild to moderate and may not interfere with academic or social functioning in school. Other students require adaptations in the general classroom and school environment.

OCD and Functional Impairment Studies with Youth

Clinical accounts often reflect that children with OCD are impaired in their daily routine, emotional adjustment, family and peer relationships, and academic performance. For example, in a review of 67 articles on pediatric OCD, Geller et al. (1998) noted that several authors reported school avoidance, school refusal, and academic difficulties in children. Children and adolescents with OCD also experience difficulties with social competence according to Adams et al. (1994). In a sample of children and adolescents with OCD, Hanna (1995) found that the average score for social competence on parent ratings of the Child Behavior Checklist was approximately 1 standard deviation below the mean. Actually, parents perceived that their children were more impaired socially than academically. Still, in spite of growing clinical experience with OCD across the age

span, only a few researchers (Calvocoressi, et al., 1995; Cooper 1996; Hollander et al., 1998; Koran et al. 1996) have systematically examined the range and degree of OCD-specific psychosocial dysfunction among affected youth, and almost all data on this topic have been derived from adult samples.

To date, only two studies (i.e., Placentini, et al., 2003; Valderhaug & Ivarsson, 2005) sought to describe the range and frequency of OCD-related functional problems across a broad range of relevant psychosocial contexts (i.e., school, social, and home/family domains). Placentini, Bergman, Keller, and McCracken (2003) studied 151 clinic-referred young people, aged 5 to 17, diagnosed with OCD. The sample was just over half male (57%) and primarily White ($n = 125$). The research was based on a 58-item questionnaire (the Child OCD Impact Scale-the COIS) designed by the authors to assess OCD-specific psychosocial impairment in children and adolescents. The COIS has child and parent parallel versions and is the only OCD specific scale available so far for measuring how OCD symptoms affect functioning in children and adolescents. Almost 90% of the sample reported at least one significant OCD-related dysfunction; almost half indicated major problems attributed to OCD at school, and in social contexts. The most common difficulties students with OCD reported were concentrating on class work and completing homework (Placentini et al., 2003).

Placentini et al. (2003) noted some limitations to the study. They emphasized that the study was limited in that the scale is a new measurement constructed on an a priori and non-empirical basis. They suggested a replication of the study for validation of findings. The replication should include a broader, representative, clinical sample that addresses potential cultural differences.

Valderhaug and Ivarsson (2005) replicated and addressed the limitations in the previous study. Sixty-eight clients were recruited from four psychiatric outpatient clinics in Norway and Sweden to examine cultural issues and to identify potential culturally specific items on the COIS. The researchers also expanded on the original study to address previous findings that suggested parents, children, and adolescents often have high levels of disagreement in ratings of child impairment (see Kramer et al., 2004). Because the impairment measure (i.e., COIS) is a complex task involving multiple informants, Valderhaug and Ivarsson (2005) explored relationships, agreement, and disagreement between parent-reported and child-reported impairment, and clinician's assessments.

Results indicated frequent impairment in the school and social domains. Interestingly, adolescents reported more impairments than did children, and females reported more impairments than males. There was a consistent trend towards parents reporting more severe impairments than children and adolescents, and parent-child agreements were generally low to moderate. The items revealing most impairment as conveyed by parents and child ratings were "situations related to bedtime, activities requiring concentration, and building or maintaining social relations" (Valderhaug & Ivarsson, 2005, p. 171). There were no evident cultural issues in impairment and only one issue relevant to the COIS and cultural specific content: "*Going to temple or church on a regular basis*, is practiced by only a small minority in both countries" reported Valderhaug and Ivarsson (2005, p. 165). Overall, the results indicated good agreement with only minor discrepancies between the two studies.

Studying OCD-as prescribed by these researchers (Placentini et al., 2003; Valderhaug & Ivarsson, 2005) should be replicated and reports on cultural, socioeconomic status, and gender differences should be explored in order to increase the validity and reliability of the instrument. Some limitations of both studies are related to exclusion of information on co-morbid symptoms or diagnosis, use of medications, and information regarding special education services. Furthermore, because parents and children were surveyed together, socially desirable responding of the child participants is another possible limitation. Factoring this information into the study and examining the affects on level of impairment and severity of symptoms is suggested for future investigation. Differences in gender for parents and parent-youth dyads need to be explored. The studies were limited in this area in that the sex identification is unknown.

Future studies should also look at the age by sex and gender interaction effects for the three domains of impairment on people with OCD. Such as, how does level of maturation (i.e., children versus adolescents) or gender influence level of impairment in the three domains and on specific items? Using the COIS items for example, do boys “have more trouble going on a date” than girls? Or, does a 6 year-old girl have more trouble than a 17-year-old boy with “eating lunch with other kids”? A broader sample of various cultures, ethnicities, and races as well as socioeconomic status may be helpful in determining if there are any main affects or interactions in the demographics of those with OCD and impairment. Since prevalence and clinical features of childhood and adolescent OCD vary across studies, further research in community samples is needed.

Although it is assumed that OC symptoms not meeting the diagnostic criteria are far more prevalent than OCD, little systematic investigation concerning the distribution

of obsessive and compulsive phenomena in a nonclinical population has been carried out. Moreover, data on the psychosocial functioning of individuals within this OC distribution in the general population are missing to date, particularly for children and adolescents. Likewise, epidemiological and community studies (Fament et al., 1988; Stein et al, 1997; Valleni-Basile et al., 1994) make it clear that individuals who meet both the symptom criteria and the distress criteria for OCD or OC variants do not appear among treatment-seeking clinic samples. Significantly, there is also a lack of clarity as to whether subclinical symptoms, or the level of severity on the continuum as previously described (i.e. Apter et al., 1996), is a precursor of clinical disorder (Berg, Rapoport, Whitaker, et al., 1989; Valleni-Basile et al., 1996). These issues have important implications for prevention research and therefore, are additional reasons to focus research on non-referred youth.

Help-Seeking Literature

OCD has been deemed the 8th leading cause of disability worldwide (World Health Organization [WHO], 1999). Clinical accounts often reflect that children with OCD are impaired in their daily routine, emotional adjustment, family and peer relationships, and academic performance. Yet, despite the considerable distress and disability associated with OCD and the availability of treatment options (see American Academy of Child and Adolescent Psychiatry, 1997; Kendall, 1993, 1994; King & Cohen, 1994). It is prominent in the literature that many people never seek the professional help they need to find relief from their OCD symptoms (Rapoport & Inoff-Germain, 2000; Shapiro, Skinner, Kessler et al., 1984; Whitaker, Johnson, Shaffer et al., 1990). Although interest in help seeking behavior of adolescents, in general, has increased in recent years

(Boldero & Fallon, 1995; Offer et al., 1991; Rickwood & Braithwaite, 1994; Rickwood, Deane, Wilson, & Ciarrochi, 2005), the determinants of access to care, and patterns of help seeking, among people with OCD are unknown. In order to gain insight into adolescence and helping seeking phenomena, a review of general help seeking behaviors in terms of various mental health concerns among the adolescent population is presented below.

Youth with Mental Health Concerns and Help Seeking Behavior

Adolescence is a vulnerable period filled with stress and disruption (Offer et al., 1991). Due to a number of biological, cognitive, interpersonal, and environmental changes, and the rate of increasing numbers to stressful life events (Schonert-Reichl & Muller, 1996), there is a high prevalence rate of mental health issues, in addition to high rates of personal, emotional, and behavioral issues amongst adolescents in general (Sawyer, Arney, Baghurst et al., 2001; Sheffield, Fiorenza, & Sofronoff, 2004). In a large epidemiological study in Munich, Witchen and colleagues (1998) found 17.5% of adolescents and young adults, 14-24 years old, met DSM-IV criteria for at least one mental disorder in the past year. Similar results were found with Australian youth in that of 4500 children and adolescents, Sawyer et al. (2001) concluded that 14% had a mental health problem. In further support, Shaffer et al. (1996) established that approximately 11% of American children and adolescents between 9 and 17 years old met DSM-III-R (APA, 1987) criteria for a mental illness that was associated with significant functional impairment.

With respect to personal, emotional, and behavioral problems, Sheffield, Fiorenza, and Sofronoff (2002) noted low self esteem (21%), depressed mood (10%), relationship

problems (14%), stress related problems (6%), and behavior problems at school or home (3%) among other problems (17%) from a sample of 254 secondary school students. In addition, the literature suggests some significant differences in age, grade level, ethnicity, and adolescent concerns. Dubow, Lovko, and Kausch (1990) surveyed 1,384 9th—12th graders. They (1990) found that high school students experience more severe levels of psychological, acting-out, somatic, and sexual problems than junior high school students. Of particular interest, ninth graders were found to be the most distressed group with significantly more family, physical, acting-out, and peer problems. Moreover, they also reported that when compared to White youth, minority groups (i.e. Black, Hispanic, “Other”) report more sexual related problems and White students report more peer related problems. Also, Chang, Morrissey, Koplewicz (1994; as cited by Kuhl et al., 1996) maintain that Asians students report fewer symptoms than other groups. Inevitably, mental health, personal, emotional, and behavioral problems have a significant impact on an adolescent’s social, physical, educational and occupational functioning (Sawyer et al., 2001; Wittchen et al., 1998).

Despite the prevalence and impact of mental health problems among adolescents of various age, grade level and ethnicity, it appears that adolescents, in general, rarely seek professional mental health services. There are many reports (Boldero & Fallon, 1995; Offer et al., 1991; Rickwood & Braithwaite, 1994) that youth prefer to seek help from parents, family members, and friends (Boldero & Fallon, 1995; Offer et al., 1991; Rickwood & Braithwaite, 1994), a finding that raises serious concerns for appropriate treatment for mental health. In response, interest in help seeking behavior of adolescents for mental illness as well as for personal, emotional, and behavioral problems has

increased in recent years (Rickwood et al., 2005; Sheffield et al., 2004; Zwaanswijk, Verhaak, Bensing, Ende, & Verhulst, 2003) as previously noted.

Help-Seeking Defined

Help seeking involves “communicating with other people to obtain help in terms of understanding, advice, information, treatment, and general support in response to a problem or distressing experience” (Rickwood et al., 2005, p. 4). Rickwood and colleagues (2005) described the concept of help-seeking as a form of coping that involves a social transaction between an individual’s cognitions, emotions, and social relationships. It is dependent upon one’s interpersonal skills and becomes an increasingly interpersonal process when willingly engaged. In further conceptualization of help seeking, Rickwood et al., (2005) proposed a process model consisting of four predictive factors that lead to, or intersect with, willingness to seek help for mental health problems. The process begins with the awareness and appraisal of symptoms that may require intercession, followed by the need to express and be understood by others and availability and accessibility of helping sources, leading to willingness to disclose to a helping source (Rickwood et al., p. 8).

Rickwood et al. (2005) also noted that help seeking sources can consist of informal social relationships (e.g., peers, friends, family) or formal social relationships such as professionals who have received suitable training to provide aid or advice (e.g. mental health, health providers, teachers, clergy). Referencing the Dubow et al. (1990) study previously described, the researchers reported informal and formal help-seeking patterns among adolescents as follows. For informal sources, they recounted that 89% of their sample of high school students ($n = 1,384$) consulted friends, 81% consulted family,

and 32% consulted clergy. In examining school resources, the authors (1990) detailed that of the students they surveyed (i.e. the 1,384 previously mentioned), 57% sought help from a teacher for a problem, 36% a principal, 35% a team coach, and 30% a guidance counselor. Notably, they found that less than 10% of the students utilized agencies designed to deal with issues such as sexual problems, mental health, and substance even though these issues were prevalent in the sample population. These findings have been substantiated in the literature (e.g. Rickwood et al., 2005; Sheffield et al., 2002).

Themes and Factors in Help-Seeking Behavior

There are consistent themes in the literature concerning the promoting and preventing factors of adolescents' willingness to seek mental health services. That is, the general consensus (Haavet, Straand, Hjortdahl, & Saugstad, 2005; Rickwood, et al., 2005; Sheffield, Fiorenza, Sofronoff, 2004) is that the actual help seeking approach or avoidant factors for help seeking in adolescence generally hinges on the attitudes and beliefs towards seeking help, mental health literacy, gender, socioeconomic status, prior history of help seeking, psychological functioning, and perceived social support to name a few. Other barriers to help seeking were also noted in the literature. For example, Amato and Bradshaw (1985) argued for four general motives for avoiding or delaying help seeking among community samples: the desire to maintain independence, fear about the consequences of help seeking, denial of the problem, and concern about the suitability of the help source.

Kuhl et al. (1997) found major barriers to help seeking among secondary school students consisted of the perception that family, friends, and self were adequate enough

to deal with problems. They also reported other significant barriers such as stigma regarding seeking help, confidentiality, and affordability.

The National Survey of Mental Health and Wellbeing (NSMHW, Sawyer et al., 2001) reported similar results; the most frequent answer adolescents gave for not seeking psychological help was that they preferred to manage their own problems. Other responses included not knowing where to get help, thinking no one could help, and being worried what other people would think of them if they sought help.

Demographic Differences and Patterns of Help-Seeking

Some notable patterns of demographic differences in adolescents' concerns and helping agents were also reported in the literature. Concerning gender, several studies (Boldero & Fallon, 1995; Rickwood & Braithwaite, 1994; Schonert-Reichl & Muller, 1996) show that after controlling for psychological distress, adolescent females are more likely than males to seek help or to intend to seek help for problems. According to Rickwood et al. (2005) however, the difference was pronounced in that older females intended to seek help from friends. The pattern of intentions to consult with friends increased over the high school years for females. On the other hand, males preferred seeking help from family and these intentions remained stable over high school matriculation. Overall, the authors reported professional help-seeking (i.e. from formal sources) as equally low rated for both females and males. School counselors were the least likely source of formal assistance to be sought.

Trends across grade levels were also noted. Dubow et al. (1990) reported seeking help from friends increased from 85% in the seventh grade, to 94% in the twelfth grade. However seeking help from other school personnel showed declining patterns of help

seeking: the school principal decreased from 47% in grade 7, to 31% in Grade 12, as did seeking help from the school nurse (49%, grade 7 to 19% in grade 12). Quite the opposite, seeking help from the guidance counselor increased over time, from 18% in grade 7 to 48% in grade 12.

Other demographic characteristics relative to adolescents' willingness to seek help have also been reported. Several studies (Benson, 1990; Raviv, Maddy-Weltzman, & Raviv, 1992; Realmuto, Bernstein, Maglothin, & Pandey, 1992; Walker, Cross, Heyman, et al., 1982) advise that socioeconomic status, for example, has been shown to affect both adult and adolescent help seeking, suggesting that higher socioeconomic status and level of education predict increased help-seeking behavior. Walker et al. (1982) found adolescents from urban school communities of low SES to be least likely to express a desire for help for a broad range of physical health problems. Whereas, private school students (higher SES) were willing to seek help for emotional and personal issues such as depression and birth control. What's more, ethnic differences were also found supporting a large body of literature (Cauce, Domenech, Paradise, et. al. 2002; Kuhl Jarkon-Holick, & Morrissey, 1997; Rogler & Cortes, 1992; Seiffge-Krenke, 1990; Sue & Sue, 1974) that suggests the conception of help seeking is a culturally determined behavior. That is, when compared to Whites, minorities prefer to seek help from informal sources. Specifically, ethnic groups such as Asian (Sue & Sue, 1974) or American Indian (Cauce et al., 2002) tend not to utilize professional mental health services altogether.

In addition, Walker et al. (1992) noted that lack of knowledge pertaining to where to obtain health services was evident in over 50% of their sample regardless of SES or cultural background. In semi-rural and industrial areas, Dubow et al. (1990) found that

high school students in general, regardless of demographic characteristics are not knowledgeable of accessible professional helping service. Take together, these studies provide little insight to how or why being adolescent is associated to a lack of knowledge of reachable helping services.

Obsessive Compulsive Behaviors and Help Seeking

In general, data from adult and adolescent community-based samples suggests that only a small minority of individuals with OC symptoms seek mental health treatment (Kennedy & Schwab, 1997; Shapiro, Kinner, & Kessler, 1984; United States Department of Health and Human Services as cited by Stein et al., 1997). Instead, these individuals prefer to keep their symptoms private, even secret from others supporting Clarizio's (1991) depiction of the OC phenomena as the "secretive syndrome" (p. 106). For example, most of the population identified in the ECA survey as having obsessions and compulsions had not sought health care (Stein et al., 1997). In support, Swinson et al. (1998) found only 28% of people with OCD had ever sought professional help for their symptoms and less than one-half, had seen a mental health specialist. Among a community-based sample of adolescents, Whitaker et al., (1990) reported only 35% with OCD to have experienced any treatment contact with a mental health professional. For those who seek help, the mean from initial symptom manifestation to professional health care seeking has been reported to be between 10-15 years (Hollander, Stein, Kwon, Rowland, et al., 1998; Rapoport & Inoff-Germain, 2000).

More often, individuals experiencing OC symptoms may seek help for conditions caused by the symptoms without identifying obsessive compulsiveness as the issue. Many individuals with OC symptoms make up to nine different doctor's visits, on

average, before seeking counseling or psychological services (Rauch, Whalen, Dougherty, & Jenike, 1998). Kennedy and Schwab (1997) report a majority of adults with OC symptoms were seen by clergy or by non-psychiatric physicians such as dermatologists and cardiologists; and, few people are properly diagnosed or treated in these setting (Andersen & Newman, 1973; Pollard, Henderson, Frank, & Margolis, 1989; Swinson, Antony, Rachman, & Richter, 1998).

For example, two studies (Friedman, Hatch, Paradis, & Shalita, 1993; Rasmussen, 1986) reported a high regularity of patients in dermatology clinics who exhibited dermatitis resulting from contamination obsessions and washing compulsions (i.e. 15-36% met criteria for OCD). Other researchers (Rauch et al., 1998) reported 20% of dermatology issues contributed to compulsive skin-picking in which only one patient had been diagnosed with OCD previously. Similar cases were reported across various medical setting: In internal medicine or primary care settings, two-thirds of patients were seen for major depression (Rasmussen & Eisen, 1994) and 10% were seen for hypochondriasis (Barsky, 1992).

In Obstetrics and Gynecology settings, new mothers were seen for postpartum concerns such as frequently aggressive obsessions of hurting their infants (Wisner, Peindl, Gigliotti, & Hanusa, 1999) or for obsessive fears of infection or other harm coming to their newborn, causing compulsive cleaning rituals or ritualized avoidance behaviors (Williams & Koran, 1997). Late onset OCD (i.e. after age 40) has been described as “secondary to neurologic illness” (Cavallaro, as cited in Greenburg, Pinto, Mancebo, Eisen, & Rasmussen, 2006) and obsessive compulsive symptoms has been observed to dramatically worsen after brain lesions or injury (e.g. tumors, basal ganglia ischemia, or

closed head trauma; Laplane, Lavasseur, Pillon, et al., 1989); therefore, many have sought neurologists for help. In nearly all the cases described above, the medical professionals were unaware of the mental health problem (i.e. OC symptoms).

Delay in health care seeking in OC populations is an important issue due to the high prevalence of OC behaviors in the community and substantial costs of impairment both for the individuals and for society (DuPont, Rice, Miller et al., 1996). As with adults, estimates of the frequency of OCD in clinical samples of children are generally lower than those found in community samples and range from 1.3% to 5% (Honjo et al., 1989; Thomsen & Mikkelsen, 1991). This discrepancy, which suggests that many individuals with clinical or sub-clinical OCD do not come to clinical attention, may be due to secretiveness about symptoms or lack of awareness about the disorder and the availability of treatment. Nonetheless, the determinants of access to care, the factors that influence decisions about obtaining help, and patterns of help-seeking among people with OC concerns, mainly adolescents are virtually unknown

Recent adult studies sought to identify some basic reasons for the delay in seeking health care and use of mental health treatment for OCD (Besiroglu, Cilli, & Askin, 2004; Goodwin et al., 2002; Mayerovitch, du Fort, Kakuma, Bland, Newman & Pinard, 2003). Goodwin et al (2002) evaluated the degree to which socio-demographic characteristics, health-related beliefs, and illness severity influence treatment-seeking behavior using the Behavioral Model of Health Service Use. The Model identifies predictors of service use with 3-steps that include: (a) *predisposing characteristics*--age, gender, race, marital status, education-, (b) *enabling resources*--income level, health insurance, quality of family relationships, and (c) *perceived and evaluated need*. *Perceived need* is concerned

with the biological demand or perceived severity of illness and *evaluated need* considers professional judgment about clients' health status (for study examples see Andersen, 1995; Andersen & Newman, 1973; Andersen, Rice, & Kominski as cited by Goodwin et al., 2002, p. 144). Both aspects of perceived need and evaluated need encompass mental health literacy.

The study sample was extracted from participants ($n = 15606$) attending The National Anxiety Disorder Screen Day (NADSD) who met the screening criteria for OCD ($n = 3069$). Results indicated that overall, people with OCD who received mental health treatment were older, more likely to be Caucasian, female, and more likely to be divorced or separated and have comorbid Panic Disorder (PD), Generalized Anxiety Disorder (GAD), or Post Traumatic Stress Disorder (PTSD) compared with those who had not been treated. A series of multivariate logistic regression analysis revealed several noteworthy associations between predisposing factors/enabling factors/perceived and evaluated need and likelihood of mental health treatment. Age, gender, and race remained as constant significant predictors of utilization of health care and were deemed stronger predictors than interference in daily life. Correlates between readiness for treatment and help seeking attitudes were also reported. Younger age and higher education increased the likelihood of being ready to seek help. Prior to entering *perceived need* factors into the regression equation, *enabling factors* such as fear of taking medication, belief of not having an anxiety disorder, not having insurance, not knowing where to go for help, and thinking that treatment would not help emerged as significant predictors of readiness. Then, interference in daily life emerged as the significant predictor of readiness to seek help (Goodwin et al., 2002).

The authors (Goodwin et al., 2002) presented some limitations to the study. Because the sample consisted of people who self-selected into participation at the NADSA, the data is not representative of the general population. They also implicated a weakness relevant to the assessment of OCD being performed with a screening instrument as opposed to a structured clinical interview or a full-length epidemiologic survey assessment tool. The data did not provide detail in describing specific symptoms that prompted distress or motivated the decision to seek help. For example, information on type and duration of treatment and satisfaction with experiences as well as how previous experience with mental health influenced the decision to seek help may have been valuable to the research. Significant results could be because of large sample size (i.e. effect of age on service use; Goodwin et al., 2002).

To replicate the data and increase generalizability, the authors (Goodwin et al., 2002) suggest that future investigations of this type should include random selected community samples and usage of more rigorous diagnostic assessment instruments. More in-depth research designs that focus on the detail of symptoms and motivations to help seeking as well as those factors that influenced decisions to seek help such as previous experience with mental health treatment are also warranted for intervention and prevention. Even though the authors suggest that the significant effect of age on mental health service use was due to a large sample size, the data do support that access to treatment is heavily influenced by sociodemographic and health care seeking-related attitudes (Goodwin et al., 2002). Nonetheless, there is a need for replication to substantiate these findings.

Similar studies were conducted in Turkey (Besiroglu et al., 2004) and in the United Kingdom (Mayerovitch et al., 2003). In Konya, Turkey, Besiroglu et al. (2004) sought to understand why the majority of individuals with OCD did not seek health care by comparing a sample of health-care-seeking (HCS; $n = 25$) and non-health-care seeking (NHCS; $n = 23$) adults with OCD. By investigating and comparing features such as illness severity, insight degree, types of obsessions and compulsions, frequency of comorbid diagnoses, quality of life (i.e. degree of functional impairment), and sociodemographic characteristics, the researchers identified some basic reasons for the delay in seeking health care.

Using the Yale-Brown Obsessive Compulsive Inventory (Y-BOCS; Goodwin et al., 1989), the HCS group scored significantly higher on the total scale and on the obsessing subscale, and lower on the insight scale. There were, however, no significant differences between the groups on the Y-BOCS compulsive subscale or in the numbers of obsession and compulsion categories. There was also a significant difference in terms of mean duration of illness and comorbid diagnosis. The NHCS had a longer history of clinical characteristics and showed significantly less frequent comorbid psychiatric diagnosis, a finding consistent with Goodwin et al. (2002). Inconsistent with previous studies (i.e. Goodwin et al., 202), no significant differences between groups were evident based on sociodemographic characteristics (Besiroglu et al., 2004).

Concerning the content of obsessions and compulsions, aggression and religious obsessions were significantly less identified in the NHCS; there were no differences in compulsions between groups. Obsessions and compulsions were similar for both groups with symmetry/exactness (NHCS = 69.6%; HCS = 60.0%) and contamination (NHCS =

69.6%; HCS = 52.0%) identified as the most common obsessions and checking (NHCS = 73.9%; HCS = 52.0%) and cleaning/washing (NHCS = 69.6%; HCS = 52%) identified as the most common compulsions (Besiroglu et al., 2004). Comparatively, Mayerovitch et al. (2003) found that individuals with severe obsessions of violence and other unpleasant thoughts or severe obsessions of contamination and/or doubt are significantly more likely to seek health care. In addition, they also found that people with OCD who seek health care had a significantly higher number of OCD symptoms and are significantly more likely to have a comorbid diagnosis compared with the individuals who do not seek care.

Measures of quality of life (i.e. functional impairment) revealed the HCS group had significantly worse levels of quality of life in psychological health and level of independence domains. Impairment of social relationships and level of independence in the HCS group exhibited a significant relationship with severity of OCD ($r = -0.62, p < .05$; $r = -0.54, p < .01$, respectively). The researchers concluded that insight degree ($R = -0.30, \text{Wald } \chi^2 = 7.89, df 1, p = .005$) and level of independence ($R = 0.28, \text{Wald } \chi^2 = 7.08, df 1, p < .01$) were most significantly associated with health care seeking behavior, identifying 87.5% of the health care seeking behavior model and consistent with Mayerovitch et al. (2003), the presence of aggressive obsession was the strongest, but nonsignificant, predictor ($R = 0.15, \text{Wald } \chi^2 = 3.60, df 1, p = .057$; Besiroglu et al., 2004).

As previously noted, 20% of children and adolescents experience a significant mental health problem during their school years and approximately the majority (70%) of those who need treatment will not receive appropriate services (The United States Surgeon General's Report, 2000). In general, data from adult and adolescent community-

based samples suggests that only a small minority of individuals with OC concerns receive mental health treatment (Shapiro et al., 1984; Kennedy & Schwab, 1997; United States Department of Health and Human Services as cited by Stein et al., 1997). Also previously noted, compared to those with other anxiety disorders, studies suggest that people with OC symptoms use more, specific specialty medical care services such as dermatologists and cardiologists for example (Kennedy & Schwab, 1984).

As described in the adult literature (i.e. people with OC symptoms use more specialty medical care; Kennedy & Schwab, 1984), adolescents who face functional problems as described in the school impairment literature (Placentini et al., 2003; Valderhaug & Ivarsson, 2005) may potentially seek help for non-OC related problems. For example, students with obsessive doubt and checking compulsions with school problems may seek help from a teacher for academic issues rather than for the OC symptoms. Nonetheless, availability of treatment and factors that influence decisions about obtaining professional help among adolescent students with OC symptoms and corresponding functioning problems are issues that have attracted much less empirical attention.

The Theoretical Models

In sum, prior research (March et al., 2001; Placentini & Bergman, 2000; Thomsen, 2000; Valleni-Basile et al, 1996) has shown varying levels of distress associated with OC behaviors are related to varying levels of functional impairment. Comparably, psychological distress and functional impairment are related to help-seeking behavior in adolescents (Carlton & Deane, 2000; Sheffield et al., 2006). As well, predisposing characteristics such gender, race/ethnicity, and economic level have been shown to be

influential on determinants of OC behavior (Rapoport, 1989a; 1989b; Rogler & Cortes, 1992; Samuels et al., 2002), functional impairment (Placentini et al., 2003), and help-seeking (Sheffield et al., 2004). Thus, this study will examine the combined and sequential effects of these dynamics.

*Influences of Socio-demographic OC Behaviors, and Severity Level
on School Functioning*

The obsessive compulsive literature, whether clinical observations studies of OCD (e.g. Adams & Burke, 1999; Niehous & Stein, 1997; Rapoport & Inoff-Germain, 2000) or epidemiological surveys of OC behaviors in the general population (e.g. Apter et al., 1996; Stein et al., 1997; Valleni-Basile et al., 1996), has not determined that there are symptom profile variations for race and culture nor for socioeconomic status. Researchers (Last & Strauss; 1989; Swedo et al., 1989) have suggested, however, that symptom presentation for OC behavior varies by age and gender. Researchers (McKay et al., 2004; Samuels et al., 2002) have also suggested that certain OC behaviors, such as washing and checking, are most common in children and adolescents, while others are rare and vary by gender. For example, hoarding, although the least common ritualized behavior among adolescents is more prevalent in males than females and washing is more prevalent in females than males. Additional, sub-typing research (Leckman et. al., 1997; McKay et al., 2004; Mataix-Cols et al., 1999; Summerfeldt et al., 1999) has put forward that some symptom clusters are more common than others in young people. They maintain that the most common sub-type is fear of contamination obsessions paired with washing/cleaning compulsions, sub-typed as washers and common to girls.

The literature (Abramowitz & Houts, 2006; Apter et al., 1996) shows that symptoms vary along a continuum of severity level and some sub-types are associated with more severe symptoms than others. Moreover, prior research (March et al., 2001; Placentini & Bergman, 2000; Thomsen, 2000; Valleni-Basile et al., 1996) has shown that varying levels of distress associated with OC behaviors are related to varying levels of functioning impairment. Frost et al. (1993; 1996) found that subtypes may vary in terms of information processing anomalies, interfere with cognitive performance, and produce certain types of functional impairment, such as in the case of hoarders. For example, as presented earlier in this chapter, they found hoarding to be the most disabling form of OC behavior and associated with more severe OC symptoms that are susceptible to social impairment.

Common to this sub-typing research, Adams (2004) theorized that subtypes can manifest in the school setting in observable ways and produce certain school-related problems. Although limited, research (Placentini et al., 2003; Valderhaug & Ivarsson, 2005) has demonstrated that clinical OCD can produce functional impairment in academic, social, and daily living skills functioning in children and adolescents with OCD. Epidemiological studies (Apter et al., 1996; Flament et al., 1988; Rachman & Hodgson, 1980; Thomsen, 2000; Valleni-Basile et al., 1994; 1996; Zohar et al., 1992) with community-based samples studies also noted impairment among adolescents due to obsessive compulsive behaviors. In further note, Placentini et al. (2003) reported that adolescents prescribed to more impairments than did children, and females reported more impairment than males. Results also indicated frequent impairment in the academic and social domains for the overall sample over the daily living skills domain.

Model One

Because of these findings, it is reasonable to assume that adolescent boys with hoarding behaviors, for example, might have more severe levels of social functioning problems at school than adolescent girls who display checking symptoms at school. Furthermore, it is also reasonable to assume that older high school girls, with washing rituals might have specific problems getting dress before school (i.e. daily living skill impairment; Placentini et al., 2007) due to extensive grooming rituals, are unable to finish assignments (i.e. academic impairment; Placentini et al., 2007) for frequent trips to the school rest room, and has trouble doing fun things in her free time (i.e. social impairment; Placentini et al., 2007) for fear of peer ridicule (Adams, 2004). Thus, relative to OC behaviors in adolescents in high school, for the first model to be tested, I will investigate whether age, gender, race/ethnicity, or income level differentially influence level of impairment in the three separate domains of school functioning (i.e. academic, social, daily living skills; Placentini et al., 2007). See figure 1 below.

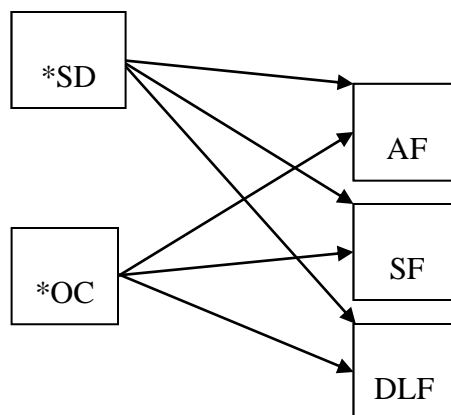


Figure 1. Theoretical Model. SD = Sociodemographic Characteristics (*age, gender, race/ethnicity, income level), OC = Severity of Obsessive Compulsive Behaviors (*severity level-mean score for each OC subscale will be reported for obsessing, washing, checking, ordering, hoarding, neutralizing), AF = Academic Functioning, SF = Social Functioning, DLF = Daily Functioning.

Influences of Socio-demographic Characteristics, OC Behaviors, Severity Level, and School Functioning, on Help-Seeking Behavior

Research suggests that people with OCD and that young people, in general, rarely seek professional mental health services (Kennedy & Schwab, 1997; Rickwood & Braithwaite, 1994; Shaperio et al., 1984). The most reported barrier to seeking help for a mental health issue from professional sources was adolescents' preference to manage their own problems, particularly in regard to seeking help from school counselors (Kuhl et al., 1997; Offer et al., 1991). And, when willing to engage in help-seeking, adolescents are partial to *informal* as compared to *formal* sources of help when they experience a problem (Bolder & Fallon, 1995; Offer et al, 1991; Rickwood & Braithwaite, 1994; Sheffield et al., 2004).

Boldero and Fallon (1995) reported that adolescents' help-seeking behavior (i.e. whether they ask for help and from who do they ask for help) is influenced by the type of problem experienced. For example, they found that students sought peers for family and interpersonal problems and they sought teachers for educational problems. In contrast, Sheffield et al. (2004) found no distinguished differences between adolescents with mental health, personal, emotional or behavioral problems in relation to whom they choose to seek help from. They did find, however, that adolescents perceive family and friends (i.e. informal sources) as more helpful than formal sources, despite the problem. In a related vein, Kennedy and Schwab (1997) reported a majority of adults with OC symptoms were most often seen by clergy or by non-psychiatric physicians. Researchers also noted an increase in the use of specialized medical health care services (e.g., cardiologists, dermatologists) for people with OCD (Hollander et al., 1996; Swinson et al., 1998; Weissman et al., 1994; Swinson, et al., 1998). There is evidence that this may also be the case for adolescents (Adams, 1998, Rapoport, 1989b; Rapoport & Inoff-Germain, 2000).

Research has considered a wide and diverse range of factors that may affect seeking help. The factors that were presented in this literature and considered to be influential on help-seeking behavior of both adolescents in general and of adolescents who have OC symptoms are summarized below. In model two, the researcher will examine these factors in high school students and their influences on adolescents' help-seeking behaviors and choices of help sources (i.e. formal or informal).

Influences of Socio-demographic Characteristics

A number of studies specific to adolescent help-seeking (Bolder & Fallon, 1995; Offer et al, 1991; Rickwood & Braithwaite, 1994; Sheffield et al., 2004) have shown socio-demographic characteristics such as age, gender, and race/ethnicity remained as constant significant predictors of utilization of health care, deemed stronger predictors than attitudes and interference in daily life (Sheffield et al., 2004). Studies specific to obsessive compulsiveness and help-seeking have shown mixed results concerning this trend (Besiroglu et al., 2004; Goodwin et al., 2002; Mayenovitch et al., 2003). As well, association between socioeconomic status and help-seeking behaviors of adolescents and of individuals with OC behaviors, overall, has mixed reviews in the help-seeking literature (Besiroglu et al., 2004; Goodwin et al., 2002).

Gender influences. Gender has been shown to be consistently related to various kinds of help seeking across culture, ethnicity, age, economic level, and distress level. One of the most consistent findings in the literature of help seeking is that adolescent females are more likely than males to seek help or to intend to seek help for various mental health, emotional, and behavioral problems, even true after controlling for socioeconomic status (SES) and age (e.g., Bolder & Fallon, 1995; Dubow et al., 1990; Rickwood & Braithwaited, 1994; Schonert-Reichl & Muller, 1996).

As previously stated, the help-seeking literature in general suggests that both males as well as females tend to seek help from informal help sources as opposed to formal help sources. The differences between males and females and help-seeking were noted by Offer et al. (1991) who reported that females often turn to friends for help while males turn to their parents.

Age influences. The individual's age, per se, has also been found to be associated with help-seeking behavior and help sources. On average, teenagers seek help less than adults (Karabenic & Newman, 2006). Some investigators have found help-seeking behavior to be increased in middle and late adolescence compared to early adolescence (Bolder & Fallon, 1995; Dubow et al., 1990; Rickwood et al., 2005). For example, studies (Dubow et al., 1990; Rickwood et al., 2005) have revealed the patterns of intentions to consult with friends increase over the high school years for females; whereas, younger students tend to seek help from school personnel, such as the school principal and school nurse (i.e., formal sources), for example (Dubow et al., 1990). Dubow et al. (1990) also noted trends across age level in that an increase of seeking help from the guidance counselor increased as grade level increased. On the other hand, Hesselbart (1993) noted a decrease in mental health service use in late adolescence.

Race and ethnic influences. There is a large body of literature supporting the concept of help seeking as a culturally determined behavior (Cauce, Domenech, Paradise et al. 2002; Kuhl et al., 1997; Rogler & Cortes, 1992; Seiffge-Krenke, 1990; Sue & Sue, 1974). This literature revealed that obtaining services from the mental health sector for a mental, emotional, or behavioral problem is often a last choice for many minority people in general. This is especially the norm for minority youth (Cauce et al., 2002) and in people with OC symptoms (Goodwin et al., 2002). In a study consisting of adults of various races and ethnicities (i.e. White, Black, and Hispanic), Goodwin et al. (2002) found that the adults with OCD who had received mental health care were more likely to be Caucasian when compared to those who have not received health care. The findings of

Goodwin et al. (2002) are consistent with the adolescent general help-seeking literature (e.g. Cauce et al., 2002).

Economic level influences. Studies that included socioeconomic status (SES) influences on help-seeking behavior have also yielded mixed results. Saunders et al. (1994) suggested that higher SES increased the likelihood to seek help and Barker, Pistrang, Shapiro, and Shaw (1990) noted that members of the lowest social class are less likely than others to seek care in the adult population. Furthermore, some investigators found that adolescents' tendency to seek or to obtain help was associated with parental SES (see Barker et al., 1990; Dubow et al. 1990; Saunders et al., 1994). Intentions to seek help or actual help-seeking was positively associated with families from higher income neighborhoods (i.e. students who attended private as opposed to urban schools; Walker et al., 1982), with higher level of education (i.e. Goodwin et al., 2002), and with higher level of income (Dubow et al., 1990; Goodwin et al. 2002).

In addition, whether individuals asked for help, from whom did they ask, and for what problems was also influenced by SES. Walker et al. (1982) reported that students from low SES tend to seek informal sources of help but expressed a desire for formal help with a broad range of physical health problems; whereas, students from higher SES expressed a desire for formal help for mental health and personal problems, no matter how minimum or severe the problem (Walker et al., 1982; Raviv et al., 2000). Goodwin et al. (2002) found predisposing characteristics such as higher education and enabling characteristics such as full-time employment and having insurance predicted readiness to seek help in OCD-specific studies.

On the contrary, Besiroglu et al. (2004) found that SES (i.e. education level and employment status) was not a significant predictor of health care seeking behavior in individuals with OCD. Additionally, in measuring barriers to help-seeking behavior in adolescents, Kuhl et al. (1997) reported that SES was not associated significantly with more resistance to seeking help. Taken together, these studies provide little insight into the role of SES in help-seeking behaviors of adolescents with OC symptoms.

OC behavior influences. As with adults, estimates of the frequency of obsessive compulsiveness in clinical samples of adolescents are generally lower than those found in community samples (Honjo et al., 1989; Thomsen & Mikkelsen, 1991). This discrepancy suggests that many adolescents with clinical or sub-clinical OCD who do not come to clinical attention may be due to secretiveness about symptoms (Clarizo, 1991, Jenike, 1989; Rapoport, & Inoff-Germain, 2000). Paradoxically, help seeking behavior involves communicating with other people and willingness to self-disclose (Rickwood et al., 2005). As a result, it is logical to hypothesize that possessing OC symptoms is a further deterrent of help-seeking because adolescents are afraid of what others will think of them (Adams, 2004; Rapoport, 1989).

Mayerovitch et al. (2003) reported that people with OCD who seek health care had a significantly higher number of OCD symptoms compared with the individuals who do not seek care. Prior research (Besiroglu et al., 2004; Mayerovitch et al., 2003) also suggests that people with specific types of obsessions and/or compulsions are more likely than other types to be seen in health-care settings. Researchers (Besiroglu et al., 2004; Mayerovitch et al., (2003) found that individuals with severe obsessions of violence and other unpleasant thoughts or severe obsessions of contamination and/or doubt are

significantly more likely to seek health care. Compared to non-health-care seeking (NHCS) individuals, Besiroglu et al. (2004) noted aggressive and religious obsessions were significantly more identified in the health-care-seeking group (HCS); however, there were no significant differences between the groups in terms of the types of compulsions. This was also consistent with the findings of Mayerovitch et al. (2003).

Severity level influences. Although a number of researchers (e.g. Offer et al., 1991; Sheffield et al., 2004) suggest that psychological distress is an important variable when examining help seeking, the issue of severity and the relationship to help-seeking is controversial (e.g. Kuhl et al., 1997; Sheffield et al., 2004). Some findings indicated that level of stress for any mental, emotional, or behavioral issue is an important contributor to initiating help-seeking behavior (Offer et al., 1991; Sheffield et al., 1997), while other findings did not find correlations between distress and intentions to seek help or actual help-seeking behavior (Dubow et al., 1990; Kaul et al., 1997; Seiffge-Krenke). In addition, Kuhl et al. (1997) found that higher psychological distress was related to greater willingness to seek help for mental health issues from both formal and informal sources. On the contrary, Seiffge-Krenke (1989) as well as Dubow et al. (1990) investigated the relationship between distress and help seeking, and reported that in adolescence, increase distress leads to withdrawal and a decrease in help seeking behavior.

The links between severity of obsessions, compulsions, help seeking behaviors, and help sources are also divisive in the literature. Some researchers (Kennedy & Schwab, 1997; Rapoport, 1989, Rasmussen & Tsuang, 1986; Shapiro et al., 1984; Zohar et al., 1992) maintain that only adolescents with severe OCD symptoms come to clinical attention. From their comparative investigation of health-care-seeking (HCS) and non-

health-care seeking (NHCS) of adults with OCD, Besiroglu et al. (2004) concluded that individuals with more severe symptoms were more likely to use treatment services. These findings are consistent with the adolescent general health-care seeking research (i.e. Offer et al., 1991; Sheffield et al., 1997). The researchers (Besiroglu et al., 2004) also concluded that the severity of obsessions has more importance on health care seeking than compulsions, a conclusion also supported by Mayerovitch et al., (2003).

In disagreement, a significant amount of data from epidemiological and community-based investigations (Apter et al., 1996; Robins et al., 1991; Shapiro et al., 1984; Swinson, et al., 1998; Valleni-Basile et al., 1996; Whitaker, et al., 1990) has shown that OC behavior appears in the general community on a continuum of severity, from mild to severe symptoms. Suggesting otherwise, the majority of individuals who reported experience of OC behaviors in these studies, no matter the level of severity, also reported that they did not seek professional treatment. Moreover, research had also revealed that for the majority of individuals in the community who did seek help from professionals, they sought out non-psychiatric physicians or clergy for non-OC-related factors (Friedman et al., 1993; Rasmussen, 1986; Rauch et al., 1998) and they sought cardiologist and dermatologist for conditions caused by their OC behavior without identifying obsessive compulsiveness as the issue (Kennedy & Schwab, 1997).

School functioning influences. As defined in Chapter 1, school functioning encompasses the term functional impairment and denotes significant problems at school with academic, social, and daily living functions (Placentini et al., 2003, 2007). In further clarifying the definition, “significant” problems are connected with level of severity.

Concerning OCD, severity is positively associated with distress and frequency of behaviors (DSM-IV-TR, 2000).

In the general help-seeking literature (Carlton & Deane, 2000; Sheffield et al., 2006), functional impairment is related to help-seeking behavior in adolescents. Moreover, Boldero and Fallon (1995) stated that “adolescents’ responses to the problems they have are a function of the type of problem” (p. 206). In one study (Boldero & Fallon, 1995), females reported on problems with family, interpersonal relationships, and health, while males reported more on educational problems.

Very little is known about OC-related functional impairment in relation to help-seeking behavior in adolescents. Apter et al. (1996) and Zohar et al. (1992) noted a broad range of symptoms and impairment in a non-referred community sample of adolescents. Rasmussen and Tsuang (1986) noted, however, that the delay in care seeking is common for adults who have “socially” and “occupational impairing” OC symptoms. Goodwin et al. (2002) recounted interference of OC symptoms in daily life as a significant predictor of mental health treatment but only when age and race were not considered as predictors of treatment. This trend was evident in the ECA study (as cited by Stein et al., 1997), where a majority of survey participants with OC symptoms reported that they were receiving disability payments.

Therefore, it is reasonable then, to assume that problems in school that are positively linked to OC symptoms will be positively associated with help-seeking patterns in adolescents. Whether the student will seek help or not and from whom will they seek help is reasonable to assume to be based on the type of school problem and whether academic, social, or daily living problems are positively associated with OC

behavior. Based on the collective findings, being a White, older, female is a reasonable prediction of help-seeking in adolescent high school students as well.

Model Two

The second model to be tested will examine the possible pathways by which adolescents seek help for OC-symptoms. Collectively, the studies reference socio-demographic characteristics, OC behaviors, level of severity (i.e. distress), and school functioning (i.e. impairment) as possible influential characteristics on adolescents' help-seeking behaviors. Thus, these factors will be investigated by the researcher. Because choices of help sources vary among adolescents in the general help-seeking literature and because the variations are sometimes inconsistent with the OCD-specific literature, informal sources and formal sources are also incorporated into the strata of help-seeking to be examined. Whether adolescents with OC symptoms progress to the stage of service selection and whom they turn to for help or receive help from—informal network members, or formal network members—will be examined by the independent and correlated effects of these variables as presented below. (See figure 2).

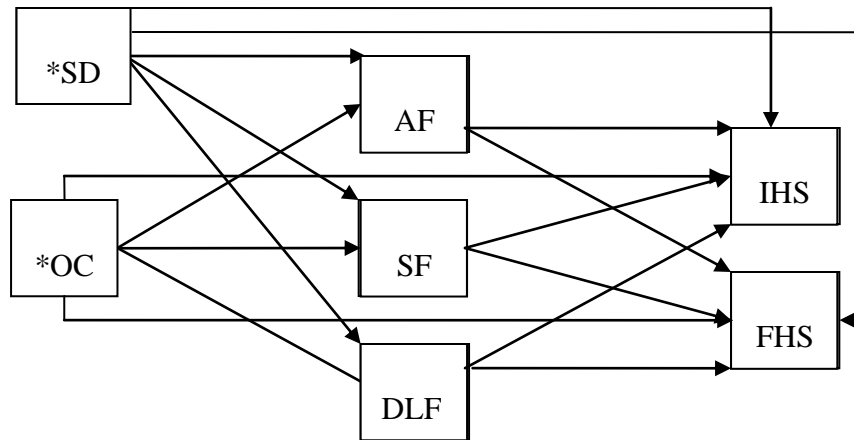


Figure 2. Theoretical Model. SD = Sociodemographic Characteristics (*age, gender, race/ethnicity, income level), OC = Severity Level of Obsessive Compulsive Behaviors (*severity level-mean score for each OC subscale will be reported for obsessing, washing, checking, ordering, hoarding, neutralizing), *obsessing, washing, checking, ordering, hoarding, neutralizing), AF = Academic Functioning, SF = Social Functioning, DLF = Daily Functioning.

Chapter 3

METHODS

This chapter describes the method for answering the research questions of the current study. A description of the participants, procedures, instruments, research design, and plan of data analysis are presented. Also included is a rationale for instrument selection.

Participants

A total of 1,098 participants that were enrolled in a large, metropolitan high school in southeast Louisiana were recruited for participation in this study. The final sample consisted 1,075 secondary students (i.e., grades 9-12), ranging in age 13 to 19 years (mean = 16 years, standard deviation = 1.28) who identified themselves as having at least one OC behavior on the OCI-R (Foa, Huppert, Leiberg et al., 2002). A total of 56% of the participants were Black/African American, 22% White, non-Hispanic, 7% Asian/Asian American/Pacific Islander, 7% Hispanic, 1% Native American, and 7% represented other racial/ethnic groups. Additionally, 61% reported receiving free or reduced lunch services. Table 3.1 summarizes the demographic information for the 1075 participants.

The student demographics closely reflected the current demographics of the targeted high school. This academic year (2008-2009), there was a total of 1,810 students, 51% female and 49% male, who attended this high school in West Jefferson Parish. There was approximately 62% Black/African American, 25% White, non-Hispanic, 7% Asian/Asian American/Pacific Islander, 5% Hispanic, and 1% Native American students,

forty-three percent of which were eligible for free or reduced lunch services (Mary. Landry, personal communication, January 15, 2009).

Table 3.1

Demographic Information

Variable	Category	N	%
Gender	Female	567	53
	Male	508	47
Age	13-14	142	13
	15-16	567	52
	17-18	344	32
	19-20	27	3
Race/Ethnicity	Black/African American	603	56
	White/non-Hispanic	236	22
	Asian/Asian American/Islander	78	7
	Hispanic	73	7
	Native American	12	1
	Other	73	7
Economic Level	Free/Reduced Lunch	658	61
	No Free/Reduced Lunch	417	39

In order to investigate prevalence rates of unidentified high school students with obsessive compulsive (OC) behaviors, the goal of this study was to recruit as many participants as possible. However, a priori statistical power and effect analysis was conducted in order to determine the appropriate sample size suitable to accurately represent the present approximations of this population (i.e., the 20-30 per high school proposed by Rapoport & Inoff-Germain, 2000). With regard to multiple regression, Tabachnik and Fidell (2007) recommends the minimum number of participants should be larger than $50 + 8(m)$, where m is the number of independent variables. They also noted that a larger number of participants are needed in cases in which the data is skewed or if a

substantial measurement error is anticipated. Based on the description, $N = 50 + 8(m)$, this model has approximately 15 parameters requiring a minimal sample size of 150 participants for a medium effect size and power of .80. The 1,075 student participants met the requirement for statistical analysis.

Procedures

Students were recruited from a large Metropolitan high school located in the West Jefferson Parish (county) school district in Louisiana. This specific school was determined as a site of convenience because of the researcher's prior employment and relationship with the school. Prior permission to recruit students in this parish was granted by the Superintendent of Schools. The principal of the targeted school was contacted and "opt out" forms and information about the study was passed out in home room classes and were sent home with students for parent review and signature. Student consent was obtained on the day the questionnaires were administered. (See Appendix D-H for copies of the recruitment materials).

In collaboration with the school principal, predetermined dates, times, and an in-school location was set for data collection in the school. Arrangements to collect data from students who were absent on the pre-determined dates was not negotiated. Therefore, students who were absent on the day of data collection did not participate in the study ($n = 169$). "Opt out" forms and information about the study was distributed in home room classes approximately two weeks before the study dates. Students were instructed by the home room teacher to take the letters home for parent review and/or signature. As instructed in the letter, if a parent gave consent to their child's participation for the study, they did not have to take any action. If a parent did not want their child to

participate, they were instructed to complete and sign the “opt out“ form and have their child bring the form back to their home room teacher prior to the study date. Teachers were instructed to place all signed forms into a sealed envelope and to deliver the envelope to the front office for the researcher to retrieve prior to the study date. One-hundred and ten students decided not to participate on the day the questionnaires were administered. Each student who did not want to participate communicated this action by not completing the survey. In addition, 192 students were absent from school on the day the data were collected.

During English class periods, the researcher administered the study to groups in alphabetical order of the last name of the teacher-in-charge. Participants were given a packet of surveys to complete. The students were assured confidentiality and were also informed that their teachers, school administrators, and parents would not see their responses. Students who had parents object to their participation or who has decided not to participate were given time to read. It took students less than 15 minutes to fill out the measures. A total of 264 students were not enrolled in English coursework during the time in which the study was conducted. Therefore, these students were not given an opportunity to participate in this research. A total of 1,641 students were enrolled in English coursework.

Pilot Study of Procedures

A pilot study was conducted 4 months prior to launching the investigation. The purpose was to test the procedures of the study in order to evaluate the amount of time it would actually take students to complete the surveys and to determine if the oral and written instructions were clear and comprehensive to the student population. The data

derived from this pilot examination was used to improve upon the procedures as deemed necessary.

This study consisted of 4 students randomly selected from the Southeastern Louisiana University Upward Bound Program in Hammond, Louisiana. These students represented a subset of the identified district of students to be studied. The Upward Bound Program was chosen as a site of convenience due to the researcher's prior employment with the program.

A stratified random sample technique was employed to generate a sample consisting of one student from each grade level. There were two female students, one Hispanic and one White student, and two male students, both were Black/African American. The names were generated from the programs' data base. All consent procedures as previously described were applied to this pilot investigation. It was determined that on average, it took students less than 10 minutes to complete the packet of questionnaires. Based on students' feedback, there was no need to alter any of the studies procedures.

Instruments

Demographic Questionnaire (DQ). A demographic questionnaire was designed to obtain information on demographics and previous OC-related issues. The demographic data collected included gender, age, race/ethnicity, and socioeconomic status (i.e. whether a student was receiving free or reduced lunch), and grade level. Information on special education services such as accommodations for school work was also collected for future analysis. (See Appendix I for the demographic questionnaire.)

Obsessive Compulsive Inventory-Revised (OCI-R).

The OCI-R (Foa, Huppert, Leigerg et al., 2002) is an 18-item, self-administered questionnaire designed to assess distress associated with OC symptoms. Based on the earlier 42-item OCI (Foa et al., 1998), the revised OCI improves on the original version by eliminating the redundant frequency scale, simplifying the scoring of sub-scales, and reducing the overlap across subscales, resulting in a shorter version of the OCI (see Foa et al., 1998; Foa et al., 2002). The OCI-R assesses obsessions and compulsions across six factors: (a) washing, (b) checking, (c) obsessions, (d) mental neutralizing, (e) ordering, and (f) hoarding. Each of these subscales includes three scale items. Participants are asked to rate the degree to which they are bothered or distressed by experiences in the past month on a 5-point scale from 0 (not at all) to 4 (extremely). Example items include: “I get upset if objects are not arranged properly” and “I repeatedly check doors, windows, drawers, etc.” The total OCI-R score is the sum of all items, and it ranges from 0-72 and the subscale scores range from 0-12, which largely correspond with the symptom dimensions identified in factor-cluster analytical studies of the Yale-Brown Obsessive Compulsive Scale-Symptom Checklist (Mataix-Cols et al., 2005). Any score of 1 or above on an item indicates the presence of any given symptom (i.e. OC behavior) which is an independent variable in this investigation. A cutoff of 5 on any subscale and a cutoff score of 14 on the total score showed good sensitivity (84%) and specificity (78%) in its ability to distinguish individuals with OCD from subclinical participants (Foa et al., 2002). The OCI-R can be found in Appendix J.

Rational for the OCI-R. As discussed previously, the present study sought to investigate the prevalence, scope, and severity of OC-related behaviors in a general

population of high school students. After examination of the literature, the OCI-R was utilized in this study for several reasons. In addition to psychometrically sound properties for assessing distress associated with obsessions and compulsions, the OCI-R is a brief, practical, and theoretically driven self-report inventory that is also intended to be applicable to the general population in assessing the presence of obsessive thoughts and ritualized behaviors (Foa et al., 2002; Terwilliger, 2003).

The OCI-R is an improvement over other self-report measures that do not fully assess the breadth of OC symptoms; for example, neither the Maudsley Obsessive Compulsive Inventory (MOCI; Hodgson & Rachman, 1977) nor the Padua Inventory (Sanavio, 1988) include items measuring ordering/symmetry or hoarding symptoms. Thus, the OCI-R was developed to be more comprehensive than other available instruments by encompassing six subscales that address the heterogeneity of obsessions and compulsions observed in OCD (Foa et al., 1998). That is, the instrument could be used to identify homogeneous client samples for studies of specific behavior dimensions (e.g. washing, checking). Another reason for selection in this study was that the OCI-R yields a profile of frequency/distress for each symptom class (Foa et al., 2002), affording comparisons among severity of various obsessions and compulsions. The 0-4 Likert scale provides a wide range of severity for each item and each subscale. Characteristically, the OCI-R was the most practical instrument for the design of this study, given that it assesses a broad range of behaviors, it uses Likert-scale ratings to assess the severity of behaviors (Foa et al., 1998), and it is brief and easy to administer in research clinical and non-clinical settings (Abramowitz & Deacon, 2006; Foa et al., 2002; Terwilliger, 2003; Smári, Ólason, Eyþórsdóttir, & Frölunde, 2007).

Psychometrics. Several studies (Abramowitz & Deacon, 2006; Foa et al., 2002; Hajcak, Huppert, Simons, & Foa, 2004; Smári, Ólason, Eyþórsdóttir, & Frölunde, 2007) report the OCI-R to have excellent psychometric properties that are similar to those of the original OCI scale (Foa et al., 2002). In the development and validation of the OCI-R, Foa and her colleagues (2002) demonstrated the short version and its subscales to be strongly correlated with the long version of the OCI and its subscales. In the study, participants consisted of 215 individuals with OC (mean age = 33.2 years; 46.7% women), 243 individuals with other anxiety disorders ([i.e., 111 individuals with posttraumatic stress disorder (PTSD; mean age = 31.4 years; 100% women), 132 individuals with generalized social phobia (GSP; mean age = 38.8 years; 45.6% women)], and 677 non-anxious controls (NAC, mean age = 21.3 years; 69.9% women) who completed the OCI-R as well as other measures of OCD, anxiety, and depression. Foa et al. (2002) tested the factorial stability of the six new subscales, consisting of 18-items as opposed to the original 42-items. Comparatively, in the revision study, Foa, et al. (2002) demonstrated that the OCI-R retained many of the qualities of the OCI. It was found to have good to excellent internal consistency, test-retest reliability, and convergent, divergent validity.

Confirmatory factor analysis supported the hypothesized six-factor structure in the revision (i.e. the original consisted of a seven-factor structure). The model had a significant chi-square, $\chi^2(138, N = 338), p < .01$, a goodness-of-fit index of .897, a comparative-fit index of .946, a root mean square residual of .070, and a root mean square error of approximation of .067. These values suggest excellent stability and fit for the new model.

The OCI-R reliably demonstrated satisfactory internal consistency with Cronbach alpha coefficients of the full scale for each clinical group ranging from .81 (OC) to .93 (GSP). This is consistent with the original version (OCI; Cronbach alpha ranges = .86 to .95) indicating that the distress items within each subscale converge on a common construct. Four of the six coefficients for the subscales exceeded .72. The two exceptions were the Mental Neutralizing and Checking subscales in the NAC sample ($\alpha = .34$ and $.65$, respectively). Spearman intercorrelations among the subscales indicated that the subscales are related but not redundant, demonstrating a moderate range from .31 to .57 (Foa et al., 2002).

In terms of validity, the total score showed significant positive correlations with other global measures of OCD (i.e. MOCI, Y-BOCS, and GOCS = Global Obsessive-Compulsive Scale, Goodman & Price 1992) and depression (i.e. Hamilton Rating Scale for Depression [HRSD], Hamilton, 1960; Beck Depression Inventory [BDI], Beck et al., 1979). The washing, checking, and obsessing subscales also showed moderate to strong correlations with other measures of these particular OCD symptom presentations. An evaluation between the OCI-R subscales and other criterion measures of OCD Subtypes revealed high correlations between the Washing and Checking subscales of the OCI-R and the MOCI (Washing: $r_s = .78$, $n = 34$; Checking: $r_s = .72$, $n = 34$) and a moderate correlation between the OCI-R Obsessing subscale and the Y-BOCS Obsessions score ($r_s = .51$, $n = 124$). ROC analysis (i.e. receiver operating characteristic analysis) demonstrated that the measure effectively discriminates between clients with OCD and other groups (PTSD, GSP, NAC). The Obsessing subscale alone best differentiated OCs from NACs. Given the similar psychometrics, the data suggests the short version (OCI-R)

can effectively replace the long version (OCI) for this research. And, participants may find the OCI-R to be less of a burden than the original version (Foa et al., 2002).

Additional support for the OCI-R demonstrated strong psychometric properties with non-clinical in addition to clinical population studies (Abramowitz & Deacon, 2006; Hajcak, Simons, & Foa, 2004; Smári, Ólason, Eyþórsdóttir, & Frölunde, 2007; Terwillger, 2003). Hajcak et al. (2004) examined the psychometric properties of the OCI-R in a nonclinical student sample of 395 first-year, undergraduate students, 242 females and 146 males. These authors confirmed the six-factor solution described above and found strong internal consistency for the subscales, adequate test-retest reliability and evidence of convergent and divergent validity (i.e. the OCI-R appears to measure a construct that is distinct from pathological worry in a nonclinical sample). Of particular importance, considering the theoretical utility of assessing obsessive-compulsive behaviors and related construct in large student samples, the literature references the OCI-R as a psychometrically sound instrument, quick to administer and score, and an ideal measure for use in screening and research in large student populations. Cronbach alpha coefficients were calculated in this study for the full scale ($a = .88$) and subscales: Obsessing ($a = .66$), Washing ($a = .71$), Checking ($a = .64$), Ordering ($a = .80$), Hoarding, ($a = .63$), and Neutralizing ($a = .66$).

Child Obsessive Compulsive Impact Scale, Revised (COIS-R).

The COIS-R (Placentini, Peris, Bergman, Chang, & Jaffer, 2007) is a 33-item, self report questionnaire designed to assess the extent to which obsessions and/or compulsions cause impairment in specific areas of youth psychosocial functioning over the previous month. The items specify potential difficulties in school activities (6 items),

social activities (13 items), and daily-living activities (14 items). Respondents indicated the extent to which “unwanted thoughts or ritualized behaviors” interfered with their ability to participate fully and successfully (i.e. “causes problems) in each area using a 4-point Likert-scale ranging from 0 (not at all) to 3 (very much). If a specific question did not apply, responders are instructed to mark “not at all.” Example items included for school activities, “Getting to classes on time during the day,” and for social activities, “Making new friends.” The daily-living activities address a set of personal operations (5 items) such as “Getting dressed in the morning” as well as set of family functions (9 items) such as “Visiting relatives” or “going on a family vacation.” The family functions items were not a major focus in the data analysis as the questions did not directly apply to this study. (See Appendix K for the COIS-R questionnaire)

Rational for the COIS-R. Previously proposed dimensions of this study were to investigate the prevalence, scope, and severity of OC-related functional problems, to examine the relationships between specific OC behaviors and severity, and to determine the effects on school functioning in a general population sample of students. After careful review of the literature, the COIS-R appeared to be the best choice for implementation in this study. It is a one-of-a-kind, self-report measure that holds utility for assessing the specific impact of OC symptoms on youth functioning (Placentini & Jaffer, 2002; Placentini, Peris, Bergman, Chang, & Jaffer, 2007; Valderhaug & Ivarsson, 2005).

Psychometrics. Based on the earlier 52-item COIS (Placentini, Bergman, Keller, & McCracken, 2003), the revised COIS improves on the original version. A study of the COIS revision suggests that the scale has sound psychometric properties (Placentini et al., 2007). Results are also in accordance with previous studies using the original COIS

(Geller et al., 2001; Liebowitz et al., 2002; Martin & Thienemann, 2005; Placentini, Bergman, Jacobs, McCracken, & Kretchman, 2002; Placentini et al., 2003; Valderhaug, Larsson, Gotestam, & Placentini, 2006). Norwegian and Swedish versions of the scale tested on clinical samples (Valderhaug & Ivarsson, 2005) demonstrated convergent validity with other measures of symptom severity and functional impairment as well as good construct validity and internal consistency (Cronbach's alpha ranged from .82-.97; Placentini et al., 2002).

Placentini and colleagues (2007) documented the development, factor structure, and psychometric properties of the revised COIS using a sample of 250 youth ranging in age from 5-17 years, (M age = 11.7, 54% male, 80% Caucasian) who displayed a wide range of Obsessive Compulsive symptoms and severity. An exploratory factor analysis was employed to develop a 3-factor structure for the youth-report form (School, Social, Activities). The measure demonstrated good internal consistency, concurrent validity, and test-retest reliability. Likewise, correlations demonstrated significant associations between COIS-R scales and clinician global assessment of functioning scores while controlling for both symptom severity and comorbid internalizing and externalizing symptomatology (Placentini et al., 2007).

To improve the measure, redundant items were removed from the activities scale to shorten the measure and the subscale title was changed from "family activities" to "daily-living activities" to reflect the range of items the subscale was actually incorporating (Placentini et al., 2007). Reliability and validity analyses of the full and reduced "activities" scale yielded no significant differences. Internal consistency for the full scale (Cronbach's alpha; $\alpha = .73$) and subscales were very good: School ($\alpha = .88$),

Social ($\alpha = .78$), and Activities (.92). Test-retest reliability over a two-week period yield .89 for the total score, and .86 for school, .79 for social and .86 for activities subscales (Placentini et al., 2007).

With regard to validity, Placentini et al. (2007) reported COIS-R total scores positively associated with the Child Behavior Checklist (CBCL, Achenbach & Resorla, 2001) and symptom severity measure, Children's Global Assessment Scale (CGAS; Shaffer et al., 1983). Significant correlations were also found with regard to specificity of the COIS-R. In relation to the CBCL's Internalizing and Externalizing subscales, the CGAS, and the Kiddie Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime version (K-SADS-PL; Kaufman, Birmaker, Brent, & Rao, 1997), the COIS-R accounted for unique variance in child functional status above and beyond that contributed by OCD severity and comorbid internalizing and externalizing symptomatology, thus demonstrating concurrent validity (Placentini et al., 2007). These findings indicate that the revised COIS is a reliable and valid instrument for assessing the specific impact of OC symptoms on youth functioning. Cronbach alpha coefficients were calculated in this study for the full scale ($\alpha = .97$) and subscales: School ($\alpha = .90$), Social ($\alpha = .83$), and Activities ($\alpha = .96$).

General Help-Seeking Questionnaire (GHSQ)

The GHSQ (Ciarrochi & Deane, 2001; Wilson, Deane, Ciarrochi, & Rickwood, 2005) is a self-report questionnaire designed to assess the likelihood that responders would seek help for different problems from a variety of potential help sources that fall within several generic help-source domains. Participants were asked: "In the next 4 weeks if you were to experience a personal, emotional, or behavioral problem, how likely

are you to seek help from the following?” Examples of help sources include friend, family, school counselor, physical health professional, no one. Each help source is scored on a 7-point Likert scale from 1 (extremely unlikely) to 7 (extremely likely), where higher scores indicate greater willingness to seek help (Rickwood et al., 2005). (See Appendix L for the GHSQ questionnaire)

According to Rickwood et al. (2005), help-seeking intentions can be reported as a total score or as a score for each specific help source. Using the GHSQ, Sheffield, Fiorenza, and Scfronoff (2004) calculated 2 “willingness to seek help” variables: (a) willingness to seek help for a mental health concern from informal sources (i.e. mean score of friends, church, parents, other family members, and teacher); and (b) willingness to seek help for a mental health concern from formal sources (i.e. mean score of school counselor, psychologist, psychiatrist, doctor, and telephone crisis hotline).

The supplementary section of this measure consists of asking whether professional help has been sought in the past (Carlton & Deane, 2000; Wilson, Deane, Ciarrochi et al., 2005). If help had been sought, the frequency and who provided these services is assessed. The usefulness of the help source is evaluated on a 5-point scale. Higher scores indicate ratings of services being more helpful (Carton & Deane, 2000; Wilson et al., 2005). The supplementary section was implemented for future research but was not analyzed for this investigation.

Rationale for the GHSQ. One intention of this study was to examine the relationships between OC behaviors, various areas of psychosocial functioning, and help-seeking practices in a general population of students. Previous help-seeking research (Boldero & Fallon, 1995; Offer et al., 1991; Rickwood & Braithwaite, 1994) suggests

that adolescents, in general, tend to seek help from informal sources such as friends and family. It has also been reported (Kennedy & Schwab, 1997; Pollard, Henderson, Frank, & Margolis, 1989; Rauch, Whalen, Dougherty, & Jenike, 1998; Swinson, Antony, Rachman, & Richter, 1998) that people with OC symptoms tend to seek help from sources other than mental health professionals and adolescents in general, tend to seek help from informal sources such as a friend. As noted in Chapter 2, help-seeking intentions offer promise for studying help-seeking behavior. The GHSQ was developed to formally assess help-seeking intentions for different problem-types.

As described by Wilson et al. (2003), there appear to be several desirable characteristics for a sound measure of intentions. Sanders et al. (1994) makes a case that a help-seeking intentions measure should include demarcation of various types of formal and informal help seeking behavior, along with a variety of targeted help-seeking sources that vary dependent on the context of the investigation. The GHSQ, as previously described, provides a format that asks respondents to rate the likelihood that they would seek help for different problems from a variety of specific help-sources that fall within several generic help-source domains. According to these reports (i.e. Wilson et al., 2003; Sanders et al., 1994), the GHSQ is an appropriate instrument in the context of this study. The troubles potentially derived from OC behaviors and related functional impairment, in addition to socio-demographic characteristics constitutes a range of “different problems.” As well, in the milieu of adolescents in school, home, and in the community, there is wide range of potential help sources.

The GHSQ format provides the generality and flexibility to readily adapt this instrument to the site and population targeted for this investigation as deemed necessary.

Additional support comes from Sheffield, Fiorenza, and Scfronoff (2004) who used the GHSQ to examine adolescents' willingness to seek help and to investigate factors that promote and prevent help seeking from formal and informal sources. Results indicated that the hypothesized model is useful in formative help seeking research with adolescents.

Psychometrics. The GHSQ appeared to be supported by adequate reliability and validity. Two studies using the GHSQ (Wilson & Deane, 2001a; Wilson et al., 2003) with high school samples have found that adolescents' help-seeking intentions differed for different help sources and different problem-types. Reflecting the overall help-seeking patterns described in Chapter 2, students reported higher intentions to seek help from informal sources (i.e. friends and family) than from formal sources (i.e. mental health professional, telephone help line, general practitioner), and high intentions to seek help from "no-one" for suicidal and non-suicidal problems. Wilson et al. (2003) also found that the GHSQ can be reliably reduced as a single help-seeking scale (Cronbach's alpha = .85, split-half reliability = .69, test-retest reliability assessed over a three week period = .92). Wilson et al., (2003) also found that the instrument can be broken down as individual scales comprising specific help-source options for different problem-types. One example, Wilson et al. (2003) reported that the GHSQ could be reliably reduced to two scales. The first scale was concerned with suicidal problems (Cronbach alpha = .83, split-half reliability = .65, test-retest reliability assessed over a three week period = .88). The second scale for was for non-suicidal problems (Cronbach alpha = .70, split-half reliability = .57, test-retest reliability assessed over a three week period = .86; Wilson et al., 2003). Cronbach alpha coefficients were calculated in this study for the full scale ($a = .76$) and subscales: Informal ($a = .63$), and Formal ($a = .79$).

Marlow-Crowne Social Desirability Scale, Short Form (MCSDS-SF)

The MCSDS-SF (Reynolds, 1982) is a 13-item self-report questionnaire designed to assess social approval tendencies from respondents. Participants were asked to consider several statements concerning their character and persona such as “I am always courteous, even to people who are disagreeable” and “On a few occasions, I have given up doing something because I thought too little of my ability.” The instrument consists of items that describe highly desirable behaviors that have a low probability of occurrence. Responses are recorded as “true” or “false” and scored on a 0-13 point scale. Points are accumulated for each correct response (i.e. 5 items are scored as true and 8 items as false) and the higher the score, the greater the tendency for contributors to answer in a socially desirable way (Reynolds, 1982). (Refer to Appendix M for the MCSDS-SF questionnaire)

Rationale for the MCSDS-SF.

As previously noted, youth with OC traits typically attempt to hide their symptoms for fear of what others will think of them (Rapoport, 1989). This thought coupled with the typical adolescent tendency to seek social approval (Offer et al., 1991) has important implications to consider social desirable responding in this research. The Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960; Reynolds, 1982) is widely used to assess and control for response bias in self-report research. In an effort to lessen participant fatigue, the abbreviated version of the Marlowe-Crowne scale (Reynolds, 1982) was proposed for this study.

Psychometrics. Based on the original psychometrically solid 33-item MCSDS (Crowne & Marlow, 1960), the short version has also shown good psychometric

properties (Reynolds, 1982). Reynolds (1982) reported an alpha coefficient of .76 and a high correlation (.93) between the long and short version of this scale. Additional studies (Ballard, 1992; Loo & Thorpe, 2000; Reynolds, 1982; Zook & Sipps, 1985) reported internal consistency ranging from .62 to .76 and six-week test-retest correlation of .74. Edens, Buffington, Tomicic, and Riley (2001) reported satisfactory criterion-related validity information about the scale. Confirmatory factor analyses by Loo and Loewen (2004) supported the two-factor model consisting of separate attribution and denial provided best fit with the data. Cronbach alpha coefficients were calculated in this study for the full scale ($\alpha = .64$).

Research Variables

Based on the research questions identified in this study, several independent, dependent, and control variables had been identified. Further details of the research variables are presented in the following sections of this document. A definition and treatment of data for each independent and dependent variable is presented below.

Independent Variables

The socio-demographic variables in this study consisted of the following:

Age. Students self-reported their chronological age on question 1 of the DQ.

Gender. For this study, gender was a dichotomous variable. Students self-reported the gender that most represented their personal identity as either “male” or “female” on item 2 of the DQ.

Race and ethnicity. Race or ethnicity was broken down into six categories: Black/African American, Asian American, White (non-Hispanic), Hispanic/Latino,

Native American, and Pacific Islander, or “other.” Students selected the response that they believed best represented their racial or ethnic background on the item 4 of the DQ.

Income level. Income level will be a dichotomous variable. For this study, income level was defined as either low-income or not low-income status and was determined by a free/reduced lunch status. Students self-reported whether they are receiving free/reduced lunch services (i.e. low income level) or if they are not receiving free/reduce lunch (i.e. not low income level) services on question 5 of the DQ.

The OC behavior variables in this study were operationally defined by the subscales on the OCI-R. The variables consisted of the following:

Obsessing. The conceptual definition of obsessing is to preoccupy the mind excessively with recurrent, unwanted, disturbing thoughts that invade consciousness and cannot be resisted without great difficulty (APA, 1998). Students self-reported obsessing behavior on questions 6, 12, or 18 on the OCI-R. One example of an item evaluating this variable was: “I find it difficult to control my own thoughts.”

Washing. The conceptual definition of washing was to wash extensively or to clean one’s environment excessively. Washing behavior is typically accompanied by an obsessive fear of contamination (Mc Kay et al., 2004). Students self-reported washing behavior on questions 5, 11, or 17 on the OCI-R. One example of an item evaluating this variable was: “I find it difficult to touch an object when I know it has be touched by strangers or certain people.”

Checking. The conceptual definition of checking was the act of repeatedly and incessantly checking a task. Checking behavior is typically accompanied by an obsessive fear of having failed to perform the task adequately and as a result some dire

consequences will follow (Adams, 2004; March & Mulle, 1998). Students self-reported checking behavior on questions 2, 8, or 14 on the OCI-R. An example of an item evaluating this variable was: “I check things more often than necessary.”

Ordering. The conceptual definition of ordering was the act of performing certain tasks in a symmetrical or balanced manner. Ordering behavior is typically accompanied by an obsessive fear or strong sense of uneasiness that if an action is not balanced harm will come to self or others (Adams, 2004; March & Mulle, 1998). Students self-reported ordering behavior on questions 3, 9, or 15 on the OCI-R. An example of an item evaluating this variable was: “I get upset if objects are not arranged properly.”

Hoarding. The conceptual definition of hoarding was as the repetitive collection of excessive quantities of items that have little or no value with failure to discard these items over time (Seedat & Stein, 2001). Hoarding behavior is typically accompanied by an obsessive fear that discarding items will result in some dire consequences (Adams, 2004; March & Mulle, 1998). Students self-reported hoarding behavior on questions 1, 7, or 13 on the OCI-R. An example of an item evaluating this variable was: “I have saved up so many things that they get in the way.”

Neutralizing. The conceptual definition of neutralizing referred to a person’s attempt to ignore, suppress, or “undo” unwanted thoughts, impulses, or images by replacing them with some other thought or action (Swinson et al., 1998). Neutralizing behavior is typically accompanied by an obsessive fear that if such thoughts or images are not neutralized, harm will come to self or others (Freeston & Ladouceur, 1997). Students self-reported neutralizing behavior on questions 4, 10, or 16 on the OCI-R. An

example of an item evaluating this variable was: “I feel compelled to count while I’m doing things.”

Shared Independent and Dependent Variables

The variables presented below served as dependent variables when the effect of OC behaviors on school functioning was being examined. The same variables also served as independent variables when the effect of school functioning, in addition to the effects of socio-demographic characteristics and severity level, on help-seeking was being examined in this study.

The school functioning variables in this study were operationally defined by the subscales on the COIS-R (i.e. academic, social, daily living skills). The conceptual definition of school functioning incorporated the concept of “functional impairment,” limitation in, or inability to perform a variety of activities (Jans & Kraus, 2004; Placentinti et al., 2003, 2007). The school functioning variables consisted of the following:

Academic functioning. The conceptual definition of academic functioning was a persons’ inability to perform a variety of activities relative to academic-related activities. Students self-reported academic functional impairment on the COIS-R academic subscale. On example of an item evaluating this variable was having problems with “taking tests or exams” as a result of “unwanted thoughts” and/or “ritualized behaviors”.

Social functioning. The conceptual definition of social functioning was a persons’ inability to perform a variety of activities relative to socially-related activities. Students self-reported social functional impairment on COIS-R social subscale. One example of an

item evaluating this variable was having problems with “making new friends” as a result of “unwanted thoughts” and/or “ritualized behaviors.”

Daily living skills functioning. The conceptual definition of daily living skills functioning was a persons’ inability to perform a variety of activities relative to socially-related activities. Students self-reported daily living skill functional impairment on the COIS-R daily living skills subscale. On example of an item evaluating this variable was having problems with “getting to school in the morning” as a result of “unwanted thoughts” and/or “ritualized behaviors.”

Dependent Variables

The conceptual definition of help-seeking in this study incorporated “help-seeking behavior” and “help source.” These concepts refer to a persons’ pattern of behavior that was associated with the likelihood that he/she would seek help, or not, and from what sources were they likely to seek help. For this study, help source was defined as either informal help sources or formal help sources. The following help-seeking variables were operationally defined by the scores on the subscales on the GHSQ.

Help-seeking from informal sources. Help-seeking from informal sources was broken into 4 categories: (a) intimate partner, (b) friend, (c) parent, and (c) other relative/family. Students self-reported help-seeking behavior from informal sources on questions 1a-1d on the GHSQ.

Help-seeking from formal sources. Help-seeking from informal sources was broken into 5 categories: (a) mental health professional, (b) phone help line, (c) family doctor/GP, (c) teacher, and (d) someone not listed. Students self-reported help-seeking behavior from formal sources on questions 1e-1i on the GHSQ.

Controlled Variable

Socially desirable responding. Socially desirable responding was operationally defined by the total score on the MCSDS-SF. Students self-reported their social approval tendencies on the MCSDS-SG. One example of an item evaluating this variable was: “I am always courteous, even to people who are disagreeable.”

Research Design

Sampling Model.

This study employed a stratified-clustered sampling technique to ascertain participants for survey research. Intact classrooms of students (i.e. clusters) were selected across strata, 9th, 10th, 11th, and 12th grades (i.e., 350, 312, 206, 207 students, respectively). Heppner, Kivhighan, and Wampold (1999) stated that when a researcher samples a population with several strata, it is generally required that the proportion of each stratum in the sample be the same as in the population. The subpopulation of students obtained for analysis in this study closely resembled the proportion of total students as they were distributed in each grade level. There was a total of 532 9th graders, 469 10th graders, 402 11th graders and 406 12th graders attending classes in this school during the 2008-2009 school year (M. Landry, personnel communication, January, 18, 2009). According to Heppner et al. (1999), stratified sampling increases the representativeness of the general high school population and increases generalizability of results. And, clustering techniques, logically, were more practical in this setting.

Survey Model. The current model investigated the links between the predictor variables based on the theoretical and empirical underpinnings, as outlined in chapter two using survey methods. As referenced by Heppner et al. (1999), the basic objective of

survey research is to document the nature and frequency of particular variables contained by a certain population, a method compatible with the objectives of this study. Therefore, self-report questionnaires methods were used to collect information on socio-demographic characteristics of participants, prevalence, type, and severity of OC behaviors, school functioning problems, and help-seeking patterns of adolescents within a population of high school students.

The authors (Heppner et al., 1999) also communicated that surveys assist the researcher in identifying opinions, attitudes, and behaviors as well as relationships among these aspects in a way that is non-threatening to participants. As previously mentioned, secrecy and fear of what others will think are two hallmarks of obsessive compulsiveness (Clarizio, 1991; Rapoport, 1989). This effect made self-report measures an even more attractive method of choice. Heppner et al. (1999) further advocates that the function of survey research is to describe, explain, or explore phenomena. This was an exploratory investigation based on prior research (March, Franklin, Nelson, & Fox, 2001; Placentini & Bergman, 2000; Thomsen, 2000; Valleni-Basile et al., 1996) that presented observable occurrences of OC behaviors appearing to be associated with functional impairment. In turn, psychological distress and functional impairment have been observed by researchers (Carlton & Deane, 2000; Sheffield, Fiorenza, & Sofronoff, 2004; Zachrisson, Rodje, & Mykletun, 2006) to be related to different levels of help-seeking behavior in adolescents. Accordingly, the survey method served the appropriate function.

Furthermore, because the majority of the literature described in Chapter Two pertaining to functioning levels for those with obsessive compulsiveness are derived from clinical observations and from base-line measures in treatment outcome studies, there is a

dire need for a systematic investigation within the context of this model (i.e. the relations of OC behaviors, functional impairment, and help-seeking behaviors) to use OC-specific instrumentation. Therefore, incorporating survey instruments into this study was also used to address a significant gap in the OC literature. Some additional advantages to using this method was that self-report questionnaires are easy and quick to administer to a large number of people, are cost effective, and are less invasive, an important factor in the school setting. The limitations to this method are referenced in chapter one.

Statistics Model.

Statistically, the study is a correlational design. As maintained by Heppner et al. (1999), the purpose of correlational research is to discover relationships, not causality, between two or more variables. However, the results from correlational studies can either support or disconfirm the effects hypothesized in the models tested in this investigation. Specifically in keeping with Heppner et al. (1999), this research design incorporated various multiple regression models. These authors specified that statistical regression is an extension of correlation and is used to calculate the degree to which one variable (dependent variable) changes when other variables (independent variables) change. They also noted this method is typically used when the impetus is to predict a continuous dependent variable from a number of independent variables, as was the demonstrated intention of this study.

There are several types of regression analysis and the choice of model depends upon the goals of the research (Heppner et al., 1999). Suitable regression methods, namely standard regression and hierarchical regression, were used to identify the independent and collective contributions of each independent variable (predictor

variable) to the variation of each of the dependent variables (criterion variables), using socio-demographic variables, OC behavior variables, OC severity variables, as the predictor variables. Academic, social, and daily living skills functioning served as the criterion variables in one analysis and as the independent variables in another analysis. That is to say, when help-seeking was offered to the investigation through hierarchical regression, academic, social, and daily living skills became predictor variables and help-seeking from informal and from formal sources became the dependent variables. This concept is explained in more detail in the *Plan of Analysis* section of this chapter.

As previously stated, the results of the study have either provided support for or disconfirmed the extent to which the selected variables have effects on academic, social, and daily living skill functioning and willingness to seek help from formal or informal sources. This statistical approach allowed the researcher to control for variables likely to affect students' reports (e.g. social desirable responding) and to identify the independent and unique effects of each variable proposed in the following research questions:

RESEARCH QUESTION 1:

What are the independent and correlated effects of socio-demographic characteristics (i.e., age, gender, income level, and race/ethnicity), obsessive compulsive behaviors (i.e., washing, checking, ordering, hoarding, obsessing, and neutralizing OCI-R subscales) and level of severity (i.e., distress and frequency ratings on the OCI-R) on academic functioning (i.e., subscale on the COIS-R), while controlling for socially desirable responding?

RESEARCH QUESTION 2:

What are the independent and correlated effects of socio-demographic characteristics (i.e., age, gender, income level, and race/ethnicity), obsessive compulsive behaviors (i.e., washing, checking, ordering, hoarding, obsessing, and neutralizing OCI-R subscales) and level of severity (i.e., distress and frequency ratings on the OCI-R) on social functioning (i.e., subscale on the COIS-R), while controlling for socially desirable responding?

RESEARCH QUESTION 3:

What are the independent and correlated effects of socio-demographic characteristics (i.e., age, gender, income level, and race/ethnicity), obsessive compulsive behaviors (i.e., washing, checking, ordering, hoarding, obsessing, and neutralizing OCI-R subscales) and level of severity (i.e., distress and frequency ratings on the OCI-R) on daily living skills functioning (i.e., subscale on the COIS-R), while controlling for socially desirable responding?

RESEARCH QUESTION 4:

What are the independent and correlated effects of socio-demographic characteristics (i.e., age, gender, income level, and race/ethnicity), obsessive compulsive behaviors (i.e., washing, checking, ordering, hoarding, obsessing, and neutralizing OCI-R subscales) and level of severity (i.e., distress and frequency ratings on the OCI-R), and school functioning (i.e., scores on the academic, social, and daily living skills subscales of the COIS-R) on help-seeking from informal sources, while controlling for socially desirable responding?

RESEARCH QUESTION 5:

What are the independent and correlated effects of socio-demographic characteristics (i.e., age, gender, income level, and race/ethnicity), obsessive compulsive behaviors (i.e., scores on the washing, checking, ordering, hoarding, obsessing, and neutralizing OCI-R subscales) and level of severity (i.e., distress and frequency ratings on the OCI-R), and school functioning (i.e., scores on the academic, social, and daily living skills functioning subscales of the COIS-R) on help-seeking from formal sources, while controlling for socially desirable responding?

Plan of Analysis

Multiple regression analysis was used to answer the proposed research questions. As described by Tabachnick and Fidell (2007), standard multiple regression is a statistical method typically exercised to evaluate the relationship between a set of independent variables, referred to as predictor variables in regression, and a dependent variable, referred to as a criterion variable. Whereas, hierarchical regression is statistically used to evaluate the relationship between a set of predictor variables and the criterion variable, controlling for or taking into account the impact of a different set of independent variables on the dependent variable. According to this description, standard multiple regression analysis was an appropriate method for answering Research Questions 1, 2, and 3, while hierarchical regression was the suitable method for answering Research Questions 4 and 5.

In addressing the first three research questions, a standard regression method was used to predict the individual and correlated effects of socio-demographic characteristics, OC behaviors, and severity level of behaviors (i.e. predictor variables) on each individual

criterion variable—academic, social, and daily living skills. As indicated by Tabachnick and Fidell (2007), this method will allow the researcher to assess the impact of all the predictor variables simultaneously. They also advocate that standard regression is suitable for these questions in that it will enable the researcher to report the percentage of variance (i.e., R^2 value) in each criterion variable explained by the combined effects of the predictor variables. I reported standardized regression coefficients for all correlations. In other words, I was also able to report and present how much impairment, whether academic, school, or daily living skills, is predicted by OC behaviors, individually and collectively, while controlling for socially desirable responding.

To address research questions 3 and 4, a hierarchical regression model was used to investigate the effects of socio-demographic characteristics, OC behaviors, and severity level of behaviors on the subscales of the COIS-R (i.e. academic, social, and daily living skills) and students' willingness to seek help from *formal sources*, as well as from *informal sources*. From this analysis, I was able to gauge and report the indirect effect or shared variance (i.e. correlated effects) of all the criterion variables on each of the criterion variables (i.e. willingness to seek help from formal sources or informal sources).

According to Tabachnick and Fidell (2007), hierarchical regression methods allow the researcher to examine the influence of several predictor variables in a sequential way; such that, the relative importance of a predictor may be evaluated on the basis of how much it adds to the prediction of a criterion variable, over and above that which can be accounted for by other important predictors. They maintain that this method is useful because it allows the researcher to specify the order of entry of the predictor

variables based on rationale such as research relevance, causal priority, or theoretical grounds, thereby testing the model outlined in Chapter 2. In addition, this statistical approach allows the researcher to control for variables likely to affect students' reports such as social desirable responding, medication, and special education services.

As a rule, Hartwig and Dearings' (1979) systematic three-step process for conducting correlational analysis will be employed to determine the unique contribution of variables. First, descriptive statistics, including means, standard deviations, skewness, and kurtosis, was examined to gain a basic understanding of how adolescents respond to the instruments included in this study (i.e. a univariate analysis). Second, correlations between instruments and subscales were calculated to determine total associations among constructs (i.e. a bivariate analysis of variance). Finally, standard regression and hierarchical linear regression was used to identify the extent to which the combined relationships between predictor and criterion variables are the result of shared variance among the criterion variables and the extent to which the total relationships are unique to the particular criterion variable (i.e. multivariate analysis of variance).

More specifically, before the regression analysis could be conducted, several things needed to be considered relevant to the collected data. All demographic and measurement data was entered into the Statistical Package for the Social Sciences (SPSS), and a quantitative analysis was conducted for simple comparison. The dataset needed to be inspected to identify any miscoded data, data points outside of the range of scores established by the instrument, and any patterns of missing data. Then, a set of guidelines used to determine what procedures were necessary to cleanse the data and to establish how missing values were managed was finalized prior to formal analysis.

Once inspection of the data was completed, the data needed to be tested to determine if the three assumptions for multivariate procedures are met. That is, the variables must be symmetrically distributed (i.e. normality); the interrelationships between variables must be the depiction of a straight line (i.e. linearity); and the variance of errors are the same across all levels of the predictor variables (i.e. homoscedasticity). Although there are existing statistical tests that can be used to determine if distributions are allocated accordingly, Tabachnick and Fidell (2001) advises to visually scan the plotted distributions derived from univariate and bivariate analysis to determine normality, skewness, or kurtosis as a preferable method when sample sizes are large. Normally distributed data will reveal a *bell-shaped* curve. A linear relationship can be determined by inspecting the scatterplots for a straight line.

Once the regression analysis was completed, the data were inspected to see if it met the assumption of homoscedasticity. Homoscedasticity was also determined by viewing the scatterplots, where residuals (i.e. the difference between the predicted scores for the dependent variables and the actual scores) should approximate a pattern of a straight line as opposed to a circle or some other figure. If all the assumptions for analyses were met, continuing to the regression equation was warranted. In the event that the residuals (the difference between the predicted scores for the dependent variables and the actual scores) did show normality, linearity, or homoscedasticity further screening was necessary. If all the assumptions for analyses were met, continuing to the regression equation was warranted. In the event that the residuals did not show normality, linearity, or homoscedasticity then further screening was necessary.

Univariate Analysis

The first step in the data analysis was to generate descriptive statistics—means, standard deviations, frequency, and percentages—on all predictor variables for simple comparison. I used univariate analysis to explore each variable in the data set, separately and to examine the range of values, central tendency of values, and to describe the patterns of responses to the variable. The univariate distributions exposed any existing outliers and prevalence of skewed data among the variables. This process was relevant in determining if the variables fit the linear model. In the case that any of the distributions were significantly skewed, a nonlinear transformation was necessary to transfer the variables to a fairly accurate linear dispersal. Distribution normality was also evaluated at this stage by dividing the skewness statistic value by the standard error of skewness value. If the result was more than the absolute value of 2, then nonlinear transformations were warranted. Otherwise, there was no need to transform the scores.

Bivariate Analysis

Second, correlations between variables, generated from the instruments and subscales, were calculated to determine total associations among constructs. Bivariate analysis is the simultaneous analysis of two variables and was used to determine if one variable, such as gender, was related to another variable, perhaps type of OC behavior. By using bivariate analysis, I was able to investigate the existence of curvilinear relationships in the bivariate correlations. This was accomplished by analyzing the bivariate scatter plots. Advised by Hartwig and Dearing (1979), visually scanning bivariate scatter plots is a priori way to check for violation of the linearity assumption. If

curvilinear relationships were present, the data was transformed to approximate a normal distribution and a linear correlation.

Multivariate Analysis

The last step was the multivariate analysis. In general, multivariate analysis evaluates the variability in the criterion variables from a number of predictor variables (Harting & Dearing, 1979). This analytical method is also supported by Heppner, Kivlighan, and Wampold (1999) as an appropriate method when multiple dependent measures are involved, which is applicable to this study. Appropriately, the OC-behavior/School functioning model that was investigated consisted of 3 dependent (criterion) variables, academic functioning, social functioning, and daily living skills functioning. The help seeking model that was investigated consisted of 2 dependent (criterion) variables, help-seeking from informal sources and help-seeking from formal sources.

In addressing Research Questions 1, 2, and 3, multiple regression models were used to calculate correlations between variables of socio-demographic characteristics, OC behaviors, and severity level will be used to predict outcomes on academic, social, and daily living functioning as presented in Chapter 2 (See figure 1). Social desirable responding was held in the equation as the *constant* to control for any effects this variable might potentially have on the outcome measures. In secession, the standard regression models were used to analyze the correlations between all the predictor variables, entered into the equation simultaneously, and academic functioning, followed by social functioning, then, daily living functioning as separate criterion variables.

To address Research Questions 4 and 5, a similar format was used in the hierarchical regression analysis where willingness to seek help from informal sources or from formal sources served as the criterion variables, as different predictor variables are added to the equation. All predictors (including serving as controls) were entered as blocks into the hierarchical regression analysis in a planned order of entry. The order corresponded to the model and motives presented in Chapter 2 (See figure 2).

Social desirable responding was entered into the first block as a control. The following variables were loaded for correlation as follows: (a) block 2, socio-demographic variables, (b) block 3, OC behaviors, (c) block 4, severity level, (d) block 5, functional impairment scales. This analysis was performed two times—once using help-seeking from informal sources as the dependent variable and again using help-seeking from formal sources as the dependent variable. This order of entry allowed the researcher to assess the unique contributions of each predictor variable to help-seeking.

If necessary, post hoc tests were performed after the multivariate analysis to determine any significant differences between subgroup means. Distributions of the residuals were examined by way of normal probability plot of residuals, histogram of standardized residuals, and partial plots of residuals against the values of the criterion variables to determine if the assumptions were plausible. All significances were highlighted and reported.

Chapter 4

RESULTS

A series of standard multiple and hierarchical regression analysis was used to answer the proposed research questions. As a guide, Hartwig and Dearings' (1979) exploratory data analysis (EDA) techniques were employed to facilitate exploration of the data. The results of the study are organized in this chapter according to the EDA approach.

There were several issues that were considered and addressed prior to the actual statistical analysis: (1) preparing and structuring the data file, (2) screening the data file for errors, (3) managing missing values, (4) assessing normality and outliers, and (5) modifying variables for further analysis (Hartwig & Dearing, 1979; Pallant, 2007). Thus, before proceeding with the regression models, a variety of preliminary techniques and analyses were conducted. This process, including a priori univariate analysis and bivariate correlations are presented in this chapter, followed by the multivariate analysis and results of each research question.

Pre-Analysis Data Screening

A visual inspection of each survey was conducted to identify and eliminate those participants who did not match the inclusion requirements, those who did not submit an adequate amount of data, and/or those who submitted responses that seemed illogical. This process lead to the removal of 23 surveys that did not indicate at least one OC behavior on the OCI-R scale, and to the removal 7 surveys where participants completed only the first survey in the sequence (i.e. the questionnaires were randomly collated). An additional 20 surveys were excluded because the responses appeared pattern-like; it

seemed as if the responders did not conscientiously engage in the research. Leong and Austin (2006) refer to this phenomenon as “Christmas treeing” and supports that “participants whose responses are clearly patterned should be dropped from the sample (p. 244). Additionally, since there was a natural break between the number of people who did not complete the General Help-Seeking Questionnaire (GHSQ) and those who partially completed the other surveys, I decided to include any case that completed 75% of the other questionnaires (n=15) when the GHSQ was incomplete. A remaining 1075 participants and their responses were retained for further examination.

Preparing data file. The collected data were then organized and prepared for screening and analysis using the following process. First, suggested by Pallant (2007), a codebook was created to define and label each of the variables and to assign numbers to each of the possible responses from the surveys prior to creating the SPSS data file. The codebook contained names of the variables, their corresponding SPSS variable names, and their coding instructions. This reference tool was used to assist in keeping track of the variables and how they were defined in the SPSS data file. Subsequently, the structure of the data file was set up by labeling each of the variables and assigning numbers to each of the possible responses into a SPSS spreadsheet using the codebook. Upon completion, every response generated from the surveys was manually entered into the spreadsheet. Because the data set was rather large, all of the values were further examined through various SPSS programs for accuracy of input, missing values, and fit between their distributions and the assumptions of multivariate analysis.

Screening data. Inspection of the data to identify any miscoded data, data points outside of the range of scores established by the instrument, and any patterns of missing

data was done using frequency distributions and descriptive statistics tables generated. The categorical variables were inspected using frequency tables to assure that all cases had values that corresponded to the coded values for the possible categories (e.g. gender; 1=male, 2=female). For quantitative variables, the range of values were inspected to be sure that no cases had values outside the range of possible values; the means and standard deviations were also checked to see if they were plausible. Any found inaccuracies were checked against the participants' original responses and code book and adjusted accordingly.

Missing values. In further examining the patterns of responses submitted by participants, I noticed some missing data points. As suggested by Tabachnick and Fidell (2007), I further assessed the number and pattern of missing values to determine their effects on the data and to determine how they would be managed. In reviewing the frequency statistic tables, I found missing values in the following areas: There were 9 individuals who did not respond to income level on the demographic questionnaire. Missing values appeared randomly scattered throughout the Obsessive Compulsive Inventory-Revised (OCI-R) and throughout the Childs' Obsessive Compulsive Inventory-Revised (COIS-R) data matrix. There were 13 GHSQs not completed with 100% missing values in their corresponding data set and an additional 2 participants with partial completions (i.e. 1 completed only the informal scale and 1 participant completed 1 item in the total scale).

Because the sample was large and the missing data points was less than 5% of the 83,850 possible response items (# of items x # of participants), I decided to replace the missing values I found in the OCI-R and in the COIS-R by each item mean for all cases

in each subscale. This is a commonly supported procedure because it does not change the scale means. That is, because mean substitution does not suppress the true value of the standard deviation or standard error, researchers (Field 2005; Tabachnick & Fidell, 2007) believe this to be a conservative alternative when dealing with regression analysis and making hypothesis about missing data. Tabachnick and Fidell (2007) have 5% or less as a guideline for this alternative.

I took note that income was the only missing value on the demographic questionnaire when data was absent in this survey. Because some investigators found that adolescents' tendency to seek, or to obtain help was associated with parental SES (see Barker, Pistrang, Shapiro, & Shaw, 1990; Dubow, Louko, & Kausch, 1990; Saunders, Resnick, Hoberman, & Blum, 1994), I thought it was important to understand how not reporting income status related to other variables prior to making a decision of how to handle the missing values. I conducted independent sample *t*-tests to determine if there were significant mean differences in the subscales of the COIS-R and the GHSQ for income.

Guided by the writings of Tabachnick and Fidell, (2007), this test was done by creating a dichotomous dummy variable, coded to include cases with income values and cases with missing income values. I found no differences between the groups, suggesting that those who did not provide income information did not possess different levels of impairment in school functioning or help-seeking behavior. The 9 missing income values on the demographic questionnaire were subsequently replaced by the average for all cases and retained for analysis.

In further examining the missing data contained in the GHSQ survey, I discovered that commonly the GHSQ was last in the sequence for each case. Since there were no other patterns of *missingness* prevalent, I concluded that students did not have enough time to complete this survey. I decided to retain the participants for further analysis. However, missing data points for the GHSQ were not changed. If a participant did not indicate their willingness to seek help from specific help sources (e.g. willingness to seek help from a partner), it did not make sense to estimate it. As suggested by Pallant (2007), the participants were included in the analysis only when the missing data was not required for the analysis.

Univariate Analysis

The first step of the exploratory mode of analysis was to characterize the location and variability of each variable in the data set (Hartwig & Dearing, 1979). Means and standard deviations for all predictor and criterion variables are presented in Table 4.1.

Table 4.1

Summary of Univariate Analysis for Study Variables

Variable	M	Mediam	SD	Range
N = 1075				
Social Desirable Responding	6.72	7.00	2.77	0-13
N=1075				
OC Behavior	Severity			
Obsessing	4.02	4.00	3.35	0-12
Washing	4.12	4.00	3.24	0-12
Checking	3.70	3.00	2.82	0-12
Ordering	5.07	5.00	3.49	0-12
Hoarding	4.35	4.00	3.04	0-12
Neutralizing	2.77	2.00	2.89	0-12
Total OCI-R Score	24.03	22.00	14.19	0-72
N = 1075				
School Functioning	Impairment			
Academic	10.09	9.00	7.89	0-30
Social	5.83	5.00	4.91	0-18
Daily Living Skills	16.05	11.00	15.67	0-51
Total COIS-R Score	31.96	25.00	26.75	0- 99
Help-Seeking Behavior	Willingness		Actual (Possible)	
N = 1061				
Total Informal Sources	18.10	19.00	6.43	*4-24 (4-28)
N = 1060				
Total Formal Sources	11.20	9.00	5.74	**3-32 (5-35)

Note: M = Mean, SD = Standard Deviation

* 14 participants did not respond to all of the questions.

** 15 participants did not respond to all of the questions.

Descriptives. In considering socio-demographic variables, the majority of the students were between the ages of 15 and 17 (75%, $n = 812$). There was approximately an equal distribution of females and males, 53% ($n = 567$) and 47% ($n = 508$) respectively. The race/ethnic majority was Black/African American (56%, $n = 603$), and most students received free or reduced lunch (61%, $n = 658$).

With respect to OC behavior, results indicated that the majority of participants experienced moderate levels of distress and frequency of OC behaviors (see Table 4.1 for average severity levels). The largest percentage of the sample endorsed hoarding behaviors (91%, $n = 978$) with moderate levels of distress and frequency of behaviors (severity level, $M = 4.35$). Neutralizing behaviors were the least reported with distress and frequency of behaviors rated as “a little” on the OCI-R ($M = 2.77$). Ordering behaviors (90%, $n = 968$) were evaluated as the most distressing when experienced ($M = 5.07$). Other OC behaviors were obsessing (80%, $n = 860$), washing (84%, $n = 903$), and checking (90%, $n = 968$). Noteworthy, 73% ($n = 785$) of the sample scored 14 or higher on the OCI-R total scale and are considered clinically meaningful (Hajcak, Huppert, Simons, & Foa, 20003). On average, responders rated *how much the experiences distress or bother you in the past month* as “a little” ($M = 24.03$, range 0 – 72). For further breakdown of the OCI-R subscales by ranges and percentages, refer to Appendix N.

The results of school functioning measures (i.e. COIS-R) indicated that the majority of participants experienced moderate levels of functional impairment associated with their OC behaviors (see Table 4.1 for average impairment levels). A total of 86% ($n = 929$) of the sample experience academic functioning problems, while 83% ($n = 892$) experienced social functioning problems, and 81% ($n = 871$) experienced daily-living

skills functioning problems as associated with OC behaviors. On average, responders rated *how much your unwanted thoughts and/or rituals you reported, have caused problems for you over the past month* as “moderately” ($M = 31.96$, range 0 – 99). Only 98 out of 1075 participants believed that their OC behaviors did not cause them any problems as associated with school functioning.

Overall, students rated that they would “extremely likely” be willing to seek help from informal help-sources and “likely” to be willing to seek help from formal help-sources (see Table 4.1 for averages for willingness to seek help). At a response rate of 99% ($n = 1061$; 14 missing responses), participants favored seeking help from a friend over the other informal networks (76%, $n = 806$). At the same rate, they also indicated that they were willing to seek a parent (63%, $n = 668$) as well as some other relative (59%, $n = 626$). Moreover, 71% ($n = 754$) of the sample indicated that they would be willing to seek help from a partner. This statistic was generated from a 99% response rate ($n = 1062$), where 13 participants did not respond to seeking help from a partner.

With respect to formal help sources, a total of 15 participants did not respond to the questions on the GHSQ, formal subscale. Of the total responses ($n = 1060$), the majority of the sample specified that they would be willing to seek help from a teacher and from some other professional, both at 27% ($n = 286$). While, 23% ($n = 244$) of participants responded that they would be willing to seek help from a mental health professional, 22% ($n = 233$) from a doctor, and only 12% ($n = 127$) from a phone help line. Overall, out of 1059 responses, over 73% ($n = 776$) agreed that it was “extremely unlikely” to “unlikely” that they would seek help from anyone.

Normality. The univariate distributions were examined to determine if the response rates were normally distributed. First, I visually scanned the distribution of each variable using frequency histograms that were plotted against a normal curve, generated through SPSS. According to Hartwig and Dearing (1979), this method is prior in which to check for violations of the normality assumption suitable for multiple regression analysis. If curvilinear relationships are present, the data will have to be transformed to approximate a normal distribution and a linear correlation.

The social desirable scale approached normality with a slight peak in kurtosis. I found patterns of left-truncated distributions for every predictor variable. That is, the range of scores was restricted to one side of the distribution, clustering at the zero value and producing positively skewed distributions. For further confirmation, I divided the skewness statistic value by the standard error of skewness values. The general rule is that the absolute value of the ratio of the skewness to its standard error should be less than 2. As a result, high levels of positive skewness were confirmed for all the subscales associated with OC behavior and school functioning, every obtained value exceeded the absolute value of 2. In evaluating the distributions of the criterion variables, help-seeking from formal sources was positively skewed while help-seeking from informal sources was negatively skewed.

One explanation for the truncated data observed with the predictor variables is offered by Strauss, Sherman, and Spreen (2006). These authors noted that “a test with a normal distribution in the general population may show extreme skew or other divergence from normality when administered to a population that differs considerably from the average individual”, or vice-versa (p. 7). Because I am measuring an uncommon

phenomenon (i.e. OC behavior) that occurs in about 4% of the general population (Rapoport & Inoff-Germain, 2000), obtaining non-normality can logically be expected. Even though I initially excluded participants who did not have at least one OC behavior from the sample, I can reasonably consider that the remaining participants may have rated a 1-3 value on two of the three items in each OCI-R subscale, while rating a 0 on a third item –causing the group to obtain low scores on the subscales. For this reason, the OCI-R test most likely presented too high a *floor effect* for this sample. And, as a result, positively skewed distributions were obtained with most scores clustering at the tail end of the distribution. In short, the most likely explanation is that the majority of the respondents did not perceive themselves to be distressed or bothered by certain OC behaviors.

To prepare for bivariate analysis, I attempted to symmetrize the skewed distributions by applying a squared-root transformation technique for all positively skewed variables. This procedure resulted in the opposing negatively skewed distributions for all OC behavior variables and for the all school functioning variables. However, a power-square transformation substantially corrected the skewness of the distribution for help-seeking from informal sources (HSInF) by bringing the ratio of the skewness to the standard error within the acceptable range to 1.22 ($p^2\text{HSInF}$). To improve skewness and kurtosis, help-seeking from formal sources (HSF) was transformed by using a square-root, of the square-root method. This technique also successfully altered the ratio of skewness and standard error bringing the value within acceptable range .518 ($rr\text{HSF}$).

According to Tabachnick and Fidell (2007), a variable with statistically significant skewness and/or kurtosis “often does not deviate enough from normality to make a substantive difference in analysis” (p. 80). Other researchers (Pallant, 2007; Watermaux, 1979) maintain that the impact of non-normality on underestimates of variance dissipates with 100 or more cases for positive kurtosis and with 200 or more cases for negative kurtosis. This study contained 1075 cases. Normality was further assessed in the multivariate analysis of variance.

Bivariate Analysis

The second step using the exploratory perspective of Hartwig and Dearing (1979) was to evaluate the strength and direction of relationships between all pairs of variables. A bivariate analysis of variance between instruments and subscales was calculated to determine total associations among constructs. Pearson r coefficients for all predictor and criterion variables are presented in Table 4.2. While different authors suggest different interpretations, Fink (1995) maintains that “for some social science disciplines, correlations of .26 to .50 are considered quite high, especially if they occur in multiple regression models where one variable is estimated by the use of more than one variable” (p. 36). Cohen (1988) suggests a guideline of small ($r = .10$ to $.29$), medium ($r = .30$ to $.49$), and large ($r = .50$ to 1.0) correlations.

Table 4.2
Correlation Matrix of Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Age	—	.111**	-.074**	.013	-.073**	.040	.064*	-.005	-.050	.040	.026	.054*	.077**	.077**	.088**	.159**
2. Gender		—	.034	.046	.046	-.063*	.033	-.120**	-.034	.005	.005	.011	.009	-.105**	-.060*	.003
3. Income			—	.007	.000	-.001	-.014	-.004	.033	-.027	-.026	-.012	-.046	-.046*	.002	
4. Obsessing				—	.417**	.390**	.387**	.425**	.510**	.360**	.378**	.333**	.044	.205**	-.258**	
5. Washing					—	.543**	.546**	.393**	.529**	.357**	.351**	.361**	.164**	.290**	-.028	
6. Checking						—	.524**	.487**	.581**	.374**	.343**	.357**	.134**	.300**	-.034	
7. Ordering							—	.440**	.499**	.343**	.323**	.327**	.157**	.207**	-.115**	
8. Hoarding								—	.455**	.316**	.302**	.269**	.078**	.181**	-.156**	
9. Neutralizing									—	.357**	.365**	.354**	.099**	.287**	-.138**	
10. Academic										—	.727**	.788**	.187**	.306**	-.074**	
11. Social											—	.859**	.196**	.310**	-.069*	
12. Daily-Living Skills												—	.211**	.333**	-.016	
13. Informal Sources													—	.080**	.384**	
14. Formal Sources														—	.073**	
15. Social Desirability															—	

* $p < .05$, ** $p < .01$

Intercorrelations among predictor variables Overall, results from the Pearson correlation matrix revealed that there were slight, albeit significant relationships, between most socio-demographic features (i.e. age, race/ethnicity, and gender) and a variety of OC behavior, school functioning, help-seeking, and social desirability variables. Yet, there were no significant relationships between income level and the same variables. Two interesting developments for the socio-demographic characteristics and the OCI-R subscales were noted in age and gender. One, the correlation coefficient was negative for age and obsessing $r = -.073$, ($p = .008$), suggesting that as age increased, the scores on the obsessing subscale decreased. Two, the coefficients for gender and ordering were also negative, $r = -.063$ ($p = .0005$). These data signifies that females were associated with increasing scores on the washing and ordering subscales while males were associated with decreasing scores on the washing and ordering subscales.

Correlations between predictor and criterion variables. Next, I examined the relationships between all pairs of predictor and criterion variables. The socio-demographic variable age, revealed a small relationship with social impaired functioning, while race/ethnicity showed a small significant relationship with academic impaired functioning; both variables showed small relationships with daily-living skills impaired functioning. Gender and income did not significantly correlate to any of the school functioning subscales. Age, gender, and race/ethnicity were significantly related to help-seeking sources.

Black/African American race was positively correlated with help-seeking from informal sources $r = .074$, ($p = .01$), while Native American race was negatively correlated with help-seeking from informal sources $r = -.072$, ($p = .01$). There was a

negative significant correlation between race/ethnicity and help-seeking from formal sources for white race $r = -.135$, ($p = .01$) and for Hispanic race $r = -.057$ ($p < .01$). However, there was a positive significant correlation between Black/African American race and formal help-seeking. For this sample, having a Black racial identity was related to a increase in the likelihood of seeking help from informal help-sources, while having a Native American racial identity was related to a decrease in the likelihood of seeking help from informal help-sources such as a partner, friend, parent, or some other family member. Also, in this sample having a White or Hispanic racial identity was related to a decrease in the likelihood of seeking help from formal help-sources, while having a Black/African American racial identity was related to an increase in likelihood of seeking help from formal help sources such as a crisis phone line, a mental health professional, a teacher, and a doctor.

Further observations revealed that every correlation coefficient for the OCI-R subscales and the COIS-R subscales were between .27 to .38, suggesting quite a strong relationship between the six OC behaviors and the three-domains of school functioning. The highest correlation was between obsessing and social functioning, $r = .378$ ($p = .0005$). Fourteen percent ($r^2 = .142$) of the variance in social functioning was explained by obsessing behaviors. With the exception of the correlation of obsessing behavior and help-seeking from informal sources, there were also small to medium correlations for all OC behaviors paired with all help seeking subscales, .09 to .31. Overall, academic, social, and daily-living skills functioning showed a strong correlation to help-seeking from formal sources and a small but significant, correlation to help-seeking from informal sources.

Linearity. Each bivariate scatter plot was evaluated to determine the existence of curvilinear relationships. Advised by Hartwig and Dearing (1979), visually scanning the bivariate scatter plots is a priori way to check for violation of the linearity assumption. The data appeared randomly distributed among pairs of variables, with no evidence of curvilinear tendencies. Evaluation among these networks of relationships was re-evaluated in the multivariate analysis of variance in order to insure that the linearity assumption for multiple regression was respected.

Multivariate Analysis

The last step in the EDA approach (Hartwig & Dearing, 1979) was to explore the relationships between the sets of variables. Two multiple regression models were designed to evaluate the variability in the criterion variables from the various predictor variables I have presented in this study. The first model to be tested was designed to evaluate the influences of socio-demographics, OC behaviors, and severity level on school functioning among a general population of high school students. The second model to be tested was designed to evaluate the influences of socio-demographic characteristics, OC behaviors, severity level, and school functioning, on help-seeking behavior among a general population of high school students.

Model 1 Results

To address Research Questions 1, 2, and 3, three standard multiple regression analyses were performed to examine the roles of socio-demographic characteristics and severity of OC behaviors in the prediction of impairment in three separate domains of school functioning (i.e. academic, social, daily living skills; Placentini et al., 2007).

These results are organized according to the relevant research question and are presented below.

Research Question 1. What are the independent and correlated effects of socio-demographic characteristics, (i.e., age, gender, income level, and race/ethnicity), obsessive compulsive behaviors (i.e., on the washing, checking, ordering, hoarding, obsessing, and neutralizing OCI-R subscales) and level of severity (i.e., distress and frequency ratings on the OCI-R) on academic functioning (i.e., subscale on the COIS-R), while controlling for socially desirable responding?

Using the SPSS Enter method (i.e. all of the predictor variables were entered simultaneously), a significant model emerged: $F(14, 1048) = 22.80, p = .0005$. The model (i.e. which included socio-demographic and OC behavior variables) explained 23% of the variance ($R^2 = .23$, Adjusted $R^2 = .22$) in academic functioning. Table 4.3 gives information for the predictor variables entered into the model.

Table 4.3

Summary of Regression Analysis Predicting Academic Functioning

Variable	β	p
Socially Desirable Responding	-.002	.945
Age	.023	.404
Gender	.012	.655
White (non-Hispanic)	.022	.665
Black/African American	.110	.045*
Asian/Asian American/Pacific Islander	.017	.657
Hispanic/Latino	.013	.738
Native American	.021	.469
Income	-.019	.496
Obsessing	.174	.000***
Washing	.089	.015*
Checking	.122	.001**
Ordering	.090	.013**
Hoarding	.081	.016*
Neutralizing	.074	.051*
Total R ²	.234	
Adjusted R ²	.223	

Note: * $p < .05$, ** $p < .01$, *** $p < .0001$

Age, gender, or income was not significant predictors of impairment in academic functioning. Black/African American emerged as the only significant predictor among race/ethnicity ($\beta = .110$, $p = .045$). Results from the regression equation demonstrated that participant's OC behaviors accounted for a significant amount of the variance in predicting academic functional impairment. Students who indicated higher levels of obsessing, washing, checking, ordering, hoarding, or neutralizing behaviors indicated

higher levels of academic impairment. Obsessing behavior emerged as having the strongest unique contribution ($\beta = .174, p = .0005$) to students' problems in academic functioning. The Beta value for neutralizing was slightly lower ($\beta = .074, p = .051$), indicating that it made less of a contribution among the OC behaviors variables for predicting academic difficulties. Socially desirable responding did not show any statistically effect on participants' responses ($\beta = -.002, p > .05$).

Research Question 2. What are the independent and correlated effects of socio-demographic characteristics, (i.e., age, gender, income level, and race/ethnicity), obsessive compulsive behaviors (i.e., on the washing, checking, ordering, hoarding, obsessing, and neutralizing OCI-R subscales) and level of severity (i.e., distress and frequency ratings on the OCI-R) on social functioning (i.e., subscale on the COIS-R), while controlling for socially desirable responding?

Using the same procedure as for Model 1, a standard multiple regression revealed a significant overall relationship between the proposed variables and social functioning, $F(15, 1047) = 20.96, p = .0005$. The model accounted for 22% of the variance ($R^2 = .22$, Adjusted $R^2 = .23$) in school functioning as attributed to the predictors. Table 4.3 gives information for the predictor variables entered into the model.

Table 4.4
Summary of Regression Analysis Predicting Social Functioning

Variable	β	p
Socially Desirable Responding	.004	.893
Age	.050	.077
Gender	.016	.558
White (non-Hispanic)	-.054	.279
Black/African American	.031	.568
Asian/Asian American/Pacific Islander	-.052	.167
Hispanic/Latino	-.046	.219
Native American	.025	.391
Income	-.050	.465
Obsessing	.206	.000**
Washing	.085	.020*
Checking	.073	.054*
Ordering	.072	.044*
Hoarding	.075	.025*
Neutralizing	.098	.010**
Total R ²	.231	
Adjusted R ²	.220	

Note: * $p < .05$, ** $p < .01$, *** $p < .0001$

Socio-demographic features and socially desirable responding were not significant predictors. However, OC behavior variables accounted for a large amount of the variance in predicting impairment in social functioning. Students who indicated higher levels of obsessing, washing, checking, ordering, hoarding, or neutralizing behaviors indicated higher levels of social problems. Obsessing showed the strongest unique contribution ($\beta = .206, p = .0005$). Higher levels of obsessing behavior were

associated with higher social functional impairment. Whereas, ordering showed the smallest contribution ($\beta = .072, p = .044$) among the OC behavior subscales.

Research Question 3. What are the independent and correlated effects of socio-demographic characteristics, (i.e., age, gender, income level, and race/ethnicity), obsessive compulsive behaviors (i.e., on the washing, checking, ordering, hoarding, obsessing, and neutralizing OCI-R subscales) and level of severity (i.e., distress and frequency ratings on the OCI-R) on daily-living skills functioning (i.e., subscale on the COIS-R), while controlling for socially desirable responding?

Using the same procedure, a standard multiple regression showed a significant overall relationship between the proposed variables and daily-living skills functioning, $F(15, 1047) = 21.30, p = .0005$, with 23% of the variance ($R^2 = .23$, Adjusted $R^2 = .22$) in daily-living skills functioning explained by the predictors. Table 4.5 gives information for the predictor variables entered into the model.

Table 4.5

Summary of Regression Analysis Predicting Daily-Living Skills Functioning

Variable	β	p
Socially Desirable Responding	.034	.234
Age	.056	.046*
Gender	.017	.538
White (non-Hispanic)	-.031	.528
Black/African American	.123	.021*
Asian/Asian American/Pacific Islander	-.033	.387
Hispanic/Latino	-.006	.876
Native American	.009	.764
Income	-.002	.947
Obsessing	.165	.000***
Washing	.104	.005***
Checking	.099	.009***
Ordering	.086	.017*
Hoarding	.044	.193
Neutralizing	.098	.010**
Total R ²	.234	
Adjusted R ²	.223	

Note: * $p < .05$, ** $p < .01$, *** $p < .0001$

Results indicated that age was a significant predictor of functional impairment in daily-living skills ($\beta = .056$, $p = .046$). Race/ethnicity, specifically Black/African American, emerged as the strongest predictor in the model, $\beta = .128$, $p = .021$. However, there were no significant contributions for the responders from different racial/ethnic backgrounds (e.g. White--non-Hispanic, Asian/Asian American/Pacific Islander, Hispanic/Latino, or Native American).

With the exception of hoarding behavior(s), each of the OC behaviors made a significant contribution in the prediction of daily-living skills functioning. Students who indicated higher levels of obsessing, washing, checking, ordering, or neutralizing behaviors indicated higher levels of daily living skills impairment. Four of the OCI-R subscales predicted functional impairment at a 99% confidence level (i.e. $p < .01$). The results were: Obsessing ($\beta = .165, p = .000$), Washing ($\beta = .104, p = .005$), Checking ($\beta = .099, p = .009$), and Neutralizing ($\beta = .098, p = .010$). Ordering explained the smallest unique contribution ($\beta = .086, p = .017$) to students' problems with social functioning. Hoarding was not a significant predictor in the model. Also, socially desirable responding was not significant in predicting school functioning associated with daily living skill impairment.

Model 2 Results

To address Research Questions 4 and 5, two hierarchical regression analyses were exercised to examine the independent and collective roles of socio-demographic characteristics, severity of OC behaviors, and the three domains of school functioning in the prediction of help-seeking from informal help sources and from formal help sources. These results are organized according to the corresponding research question and are presented below.

Research Question 4: What are the independent and correlated effects of socio-demographic characteristics (i.e., age, gender, income level, and race/ethnicity), obsessive compulsive behaviors (i.e., scores on the washing, checking, ordering, hoarding, obsessing, and neutralizing OCI-R subscales) and level of severity (i.e., the frequency/distress score on the OCI-R), and school functioning (i.e. scores on the

academic, social, and daily living skills subscales of the COIS-R) on help-seeking from informal sources, while controlling for socially desirable responding?

Using the SPSS Block method, a hierarchical multiple regression analysis was performed, in which the socially desirable responding was entered into Block 1 as a control variable. Socio-demographic variables were also entered into Block 1, OC behaviors were entered into Block 2, and areas of school functioning were entered into Block 3. A significant model emerged: $F(18, 1030) = 5.82, p = .0005$. The overall model explained 9% of the variance ($R^2 = .09$, Adjusted $R^2 = .07$). Table 4.6 gives information for the predictor variables that are included in the model.

Table 4.6

Summary of Hierarchical Regression Analysis Predicting Informal Help-Seeking

Variable	pHSInF Block 1		pHSInF Block 2		pHSInF Block 3	
	β	<i>p</i>	β	<i>p</i>	β	<i>p</i>
Socially Desirable Responding	.066	.033*	.081	.012**	.078	.014**
Age	.078	.013**	.069	.027*	.061	.046*
Gender	-.103	.001***	-.086	.005**	-.090	.003**
White (non-Hispanic)	-.043	.434	-.014	.799	-.009	.864
Black/African American	.018	.774*	.029	.636	.012	.842
Asian/Asian American/Pacific Islander	-.054	.202	-.051	.227	-.045	.276
Hispanic/Latino	.016	.692	.041	.322	-.044	.288
Native American	-.054	.099	-.056	.085	-.059	.064
Income	-.039	.201	-.042	.168	-.039	.193
Obsessing			-.012	.754	-.048	.206
Washing			.091	.026*	.072	.074
Checking			.041	.326	.023	.575
Ordering			.090	.024*	.073	.064
Hoarding			.003	.927	-.010	.780
Neutralizing			.001	.976	-.020	.635
Academic					.052	.307
Social					.072	.235
Daily-Living Skills					.075	.267
Total R ²	.035		.067		.092	
Adjusted R ²	.027		.054		.076	
R ² Change	.035		.032		.025	

Note: * $p < .05$, ** $p < .01$, *** $p < .0001$

The first model (i.e. Block 1), which included only the control variable and socio-demographic variables accounted for 4% of the variance ($R^2 = .04$, Adjusted $R^2 = .03$) in help-seeking from informal sources. Race/ethnicity and income were not significant predictors of help-seeking in this model. However, age was found to be a significant predictor ($\beta = .078$, $p = .033$), as was gender ($\beta = -.103$, $p = .001$). Being female was associated with a higher probability of seeking help from informal sources; whereas, being male was related to lower odds of seeking help from informal sources. When assessed with socio-demographic variables, results revealed that socially desirable responding had a direct effect on how responders rated their willingness to seek help from informal help-sources ($\beta = .066$, $p = .33$).

The inclusion of OC behaviors in the second model resulted in an additional 3% of the variance being explained ($\Delta R^2 = .03$) in help-seeking from informal sources. Results from Step 2 (i.e. Block 2) of the regression revealed that washing and ordering behaviors had a direct effect on willingness to seek help from informal sources, $\beta = .091$, $p = .026$ and $\beta = .090$, $p = .024$, respectively. Higher levels of washing and ordering behaviors were associated with an increase in students' willingness to seek help from informal help sources. The remaining four behaviors (i.e. obsessing, checking, hoarding, and neutralizing) were not significant predictors. Age and gender remained significant predictors, $\beta = .069$, $p = .02$, $B = -.086$, $p = .005$, respectively. Although there was a slight drop in the Beta value (i.e. $-.103$ to $-.086$), the contribution of gender unfolded in the same pattern, with females being more likely than males to seek help from informal sources. Socially desirable responding had a significant effect on students' responses ($\beta = .081$, $p = .012$).

The final model 3 (i.e. Block 3) included the three areas of school functioning which resulted in an additional 3% of variance explained ($\Delta R^2 = .03$). Results indicated that there were no significant relationships between school functioning, OC behaviors, and willingness to seek help from informal sources. Rather, age and gender were found to have a direct effect on help seeking from informal sources, which was not mediated by academic, social, or daily-living skills functional impairment.

Research Question 5: What are the independent and correlated effects of socio-demographic characteristics (i.e., age, gender, income level, and race/ethnicity), obsessive compulsive behaviors (i.e., scores on the washing, checking, ordering, hoarding, obsessing, and neutralizing OCI-R subscales) and level of severity (i.e. frequency and distress score on the OCI-R), and school functioning (i.e. scores on the academic, social, and daily living skills functioning subscales of the COIS-R) on help-seeking from formal sources, while controlling for socially desirable responding?

The hierarchical multiple regression analysis was performed using the previous method. That is, the control socially desirable responding and socio-demographic variables were also entered into Block 1, OC behaviors were entered into Block 2, and areas of school functioning were entered into Block 3. A significant model emerged: $F(18, 1029) = 13.48, p = .0005$. The overall model explained 20% of the variance ($R^2 = .19$, Adjusted $R^2 = .18$). Table 4.7 gives information for the predictor variables that are included in the model.

Table 4.7

Summary of Hierarchical Regression Analysis Predicting Formal Help-Seeking

Variable	rrHSF Block 1		rrHSF Block 2		rrHSF Block 3	
	β	p	β	p	β	p
Socially Desirable Responding	.054	.083	.103	.001***	.098	.001***
Age	.061	.050*	.044	.138	.035	.226
Gender	.061	.048*	.064	.031*	.060	.038**
White (non-Hispanic)	-.084	.130	-.027	.606	-.024	.647
Black/African American	-.067	.273	.098	.092	.075	.189
Asian/Asian American/Pacific Islander	-.014	.735	-.006	.871	-.002	.961
Hispanic/Latino	-.052	.207	-.011	.781	-.010	.798
Native American	.020	.548	.017	.582	-.013	.662
Income	-.031	.307	-.041	.161	-.038	.181
Obsessing			.064	.074	.023	.531
Washing			.111	.004**	.089	.020**
Checking			.116	.004**	.094	.018**
Ordering			.002	.961	-.018	.636
Hoarding			.017	.635	.002	.954
Neutralizing			.130	.001***	.109	.006***
Academic					.077	.103
Social					.044	.440
Daily-Living Skills					.109	.087
Total R ²	.039		.157		.191	
Adjusted R ²	.030		.144		.177	
R ² Change	.039		.118		.034	

Note: * $p < .05$, ** $p < .01$, *** $p < .0001$

The first model, which included only the control variable and socio-demographic variables accounted for 4% of the variance ($R^2 = .04$, Adjusted $R^2 = .03$) in help-seeking from formal sources. Race/ethnicity and income were not significant predictors of help-seeking in this model. However, age as gender contributed equally to predicting help-seeking from formal sources, $\beta = .061$, $p = .050$ and $\beta = .61$, $p = .048$, respectively. In comparison to help-seeking from informal sources where females were more likely to seek help from informal sources over that of males; there were no differences in seeking help from formal sources for females and males (i.e. results indicated a positive relationship between gender and formal help-seeking). Also comparative, socially desirable responding deviated from having a significant effect when evaluating the relationship of help-seeking from informal sources to having a non-significant effect when evaluating help-seeking from formal sources in the first Block of the hierarchy.

The inclusion of OC behaviors in the second model (i.e. Block 2) resulted in an additional 12% of the variance being explained ($\Delta R^2 = .12$) in help-seeking from formal sources. Obsessing, ordering and hoarding were not significant predictors, but washing, checking, and neutralizing behavior variables accounted for a large amount of variance in predicting help-seeking from formal sources, each at a 99% confidence rate (i.e., $p < .01$). Neutralizing emerged as having the strongest unique contribution ($\beta = .130$, $p = .001$), then checking ($\beta = .116$, $p = .004$), followed by washing behaviors ($\beta = .111$, $p = .004$). Socially desirable responding also accounted for a large amount of variance in predicting willingness to seek help from formal sources ($\beta = -.130$, $p = .001$), indicating a desire to be socially acceptable had a direct effect on increase on students' responses to help-

seeking from formal sources. Higher social desirable responding was related to less help-seeking from formal sources.

The final Model 3 (i.e. Block 3) included the three areas of school functioning which resulted in an additional 3% of variance explained ($\Delta R^2 = .03$). Results indicated that there were no significant relationships between academic, social, and daily-living skills functioning and willingness to seek help from formal sources, whereas, washing, checking, and neutralizing remained significant predictors. Neutralizing was also the strongest unique contributor in this model, $\beta = .109$, $p = .006$. Although there was a slight drop in Beta values from Block 2, checking changed from $\beta = .111$ to $\beta = .089$ ($p = .020$) and washing changed from $\beta = .116$ to $\beta = .094$ ($p = .018$), both OC behaviors made a consecutive significant contribution to formal help-seeking in Block 3. Of the socio-demographic variables, gender was the only significant predictor and results indicated a direct positive relationship with help-seeking from formal sources, $\beta = .064$, $p = .031$. Socially desirable responding also accounted for a large amount of variance in predicting willingness to seek help from formal sources $\beta = .098$, $p = .001$.

Residual Analysis Results

Finally, upon completion of the regression analysis, in line with the EDA approach (Hartwig & Dearing, 1979), I evaluated the residuals to assess the validity of the models I tested in this study. Results indicated that although many of the distributions were positively skewed, residual analysis supported the assumptions of regression. Explicitly, upon further evaluation, visual inspection of the plotted residuals appeared to support the assumptions of normality, linearity, and homoscedasticity.

Histograms and stem and leaf plots of standardized residuals through visual inspection appeared to approximate a normal distribution for all school functioning variables. However, there were several cases with high scores on the GHSQ's found to be multivariate outliers. Fourteen cases with high values on help-seeking from informal sources were identified through Mahalanbis distance as multivariate outliers; 15 other cases were also identified for high values on help-seeking from formal sources. All cases found 3 standard deviations beyond the mean were deleted using SPSS Exclude cases likewise, resulting in 14 deleted cases for the informal subscale and 15 deleted cases for the formal subscale.

Upon visual inspection of the normal probability plots it was determine that the observed probabilities closely followed the line of predicted values. The residuals were approximately equal for all predicted scores on the COIS-R subscales, as well as for the GHSQ informal and formal subscales. The mean values of the outcome variables for each increment of the predictors appeared to approximate a straight line, supporting the assumptions of linearity. For the most part, the partial plots appeared centered at zero and resembled an oval pattern for every level of predictor, supporting the assumptions of homoscedasticity.

Chapter 5

Discussion

Like symptoms of anxiety, obsessive compulsive traits have been shown to be present to some degree in most people. Although obsessive compulsive disorder (OCD) has been associated with severe social and occupational impairment in adult studies (Calvocoressi, Lewis, Harris et al., 1995; Cooper, 1996; Hollander, Kwon, Stein et al, 1996; Koran, Thienemann & Davenport, 1986), very little is known about how varying degrees of obsessive compulsive traits affect psychosocial functioning of school-aged youth. Research has also suggested that people who experience obsessions and compulsions and that young people in general, rarely seek professional mental health services to relieve their obsessive compulsive symptoms. Rather, they seek help for problems caused by the symptoms (Rauch, Whalen, Dougherty, & Jenike, 1998)).

The first purpose of this study was to examine the prevalence rate, degree, and severity of obsessive compulsive (OC) characteristics that exist in a general population of adolescents, focusing on the spectrum of obsessions and compulsions that lie on the OCD continuum rather than on the diagnosis of OCD. The purpose was to: (a) describe distinct OC behavior dimensions and school functioning problems as they exist in the school context, (b) to examine specific impairment of OC behavior on psychosocial functioning among adolescents, and (c) to investigate help-seeking intentions of students who experience OC behavior and OC-related functional impairment. The impact of socioeconomic status, age, gender, and race on the prevalence of specific OC-related functional problems and in relation to help seeking intentions was also a factor of this investigation.

A model of socio-demographic characteristics, specific OC behaviors, and severity level influences was hypothesized to predict impairment in three areas of school functioning-academic, social, and daily-living skills. A second model was put forth to predict help-seeking behaviors as influenced by socio-demographic characteristics, specific OC behaviors, severity level, and school functioning problems. This chapter expands upon the statistical findings presented in Chapter 4 as related to these purposes. Implications of findings for counselors and counselor educators are also discussed. In addition, recommendations, limitations and directions for future research are also presented in this chapter.

Summary of Findings

An initial goal of this study was to examine the prevalence rate, degree, and severity of OC behaviors that exist in a general population of adolescents. Therefore, to enrich the understanding of intrusive thoughts and behaviors, obsession and compulsion behavior, per se, this study employed a non-patient sample of adolescents who experience varying degrees of obsessive-compulsive phenomena, irrespective OCD diagnostic status. Subsequently, the first purpose of the current study was to describe the distinct OC behavior dimensions and school functioning problems as they existed in the school context.

Obsessive Compulsive Behavior Findings

Overall Prevalence Rate and Severity of Behaviors

Overall, community prevalence information on adolescent populations concerning OC behaviors is scarce in this literature. Broadly speaking, results from the present study, supported a one-month point prevalence of OC behavior of varying degrees for

adolescents, ages 13-20 in this general-community study. Correspondently, the incidence rates generated as a result of this investigation are similar to national and international prevalence estimates across age, gender, culture, and socio-economic status (SES) (Berg, Whitaker, & Davies, 1988; Diler & Avci, 2002; Flament, Whitaker, & Rapoport, 1988; Fogel, 2003; Last & Strauss, 1989; Swedo et al., 1989). Concluding, the regularity of OC behaviors found in this study adds to the existing knowledge of prevalence rate and degree of obsessive-compulsiveness in general adolescent populations.

With lifetime prevalence in cross-national studies of 2-4% for obsessive-compulsive disorder (OCD; Adams & Burke, 1999; Flament, Koby, Rapoport et al., 1990; Rapoport & Inoff-Germain, 2000), OCD and obsessive compulsive (OC) tendencies have consistently been underestimated in both prevalence, and scope in adolescent populations. World-wide, epidemiologic studies found similar rates in community samples meeting diagnostic criteria for obsessions and compulsion with .7-5% for OCD and 3-19% for symptoms not severe enough for OCD diagnosis in young groups 11-14 years (Apter & Tyrano, 1988; Valleni-Basile, Garrison, Waller et al., 1994; Zohar, Ratzoni, Pauls et al., 1992). However, more recent studies suggested higher prevalence rates for adolescents experiencing obsession and compulsions in nonclinical groups than previously thought, 16-18 years (Apter, Fallon, King et al., 1996; Zohar, 1999; Thomsen, 2000). For example, Apter et al. (1996) reported rates for 16 and 17-year-olds with as many as 72% who experienced unpleasant intrusions and ritualized behaviors that are similar in content to clinical obsessions and compulsions that were numerous and interfered with their functioning. The data generated from this study upholds these findings.

As a result of this investigation, I found that the majority of the adolescent sample experienced obsessive thoughts and compulsive behaviors that were numerous and that interfered with their functioning at a rate similar to Apter et al. (1996). Out of 18 items on the Obsessive Compulsive Inventory (OCI-R, Foa, Huppert, Leiberg et al., 2002) at least one OC behavior was endorsed for a period of one month by 98% of participants in this sample consisting of 1,098 high school student volunteers. Another interesting finding was a one-month clinically significant prevalence estimate by approximately 73% of the sample, versus the previously noted 19% for sub-clinical and 72% for non-clinical obsessions and compulsions, reported by Valleni-Basile, Garrison, Waller et al., 1996 and Apter et al., 1996, respectively. While applied clinician-based interviewing and reappraisal are necessary to verify the clinical degree and significance of this clinically significant finding, previous research showed good sensitivity and specificity in the OCI-R's ability to distinguish individuals with clinical and subclinical OCD from individuals with transitory obsessions and compulsions when the total score exceeded 14 points (Foa et al., 2002; Hajack, Huppert, Simons, & Foa, 2004).

Even though a "closer look" would have been necessary to make conclusive generalizations about this sample concerning clinical or subclinical significance, overall, this data is in support of the idea that like symptoms of anxiety, OC symptoms are present to some degree in most people (Jenike, 1989; Robins, Locke, & Regier, 1991; Stein, Forde, Anderson, & Walker, 1997). And, although slightly higher, these percentages approximate those found in epidemiological studies which suggests that rates of OCD are underestimated in the general population and that subclinical and non-clinical obsessions and compulsions are far more prevalent than OCD (Apter et al., 1996;

Flament et al., 1988; Thomsen, 2000; Valleni-Basile et al., 1994; 1996; Zohar et al., 1992). Since the demographic characteristics in this high school were similar to other suburban areas of *Greater New Orleans* -a seven-parish metropolitan centered on the city of New Orleans-. I believe these prevalence estimates may be extrapolated to other suburban region schools in southeast Louisiana.

Overall Dimension and Scope of OC Behaviors

Experts have suggested that the symptoms of OCD are heterogeneous in nature, comprised of multiple symptoms of obsessive concerns, compulsive behaviors, and neutralizing responses (Adams & Burke, 1999; Mataix-Cols, Rosario-Campos, & Leckman, 2005; Rapport, 1989). Due to the frequent presence of obsessive compulsive behaviors in nonclinical populations, researchers (Apter et al., 1996; Thomsen, 1991) suggested that OC phenomena may be best understood from a categorical (i.e. phenotype) as well as a dimensional (i.e. level of severity) perspective. OC phenomena have been thought to appear with few behaviors and minimal severity at one end of a continuum and many behaviors and extreme severity on the other (Apter et al., 1996). This is one of few studies that looked at behavior dimension and socio-demographics among those who experience obsessions and compulsions in the general community (e.g. Apter et al., 1996; Flament et al., 1988; Valleni-Basile et al., 1994).

Results indicated that the distribution and severity of obsessions and compulsions in this general school-based study also approximate those found in epidemiological studies that suggested obsessive phenomena are very similar in both general and clinical populations (Apter et al., 1996; Thomsen, 1991). Based on the literature, people frequently present with more than one type of obsessive thought and/or ritualistic

behavior and the severity associated with the obsessions and compulsions has often been describe along a continuum of frequency, duration, and distress (Calamari, Wegatz, & Janeck, 1999; Mc Kay, Abramowitz, Calamari et al., 2004). Thus, the list and frequency of behaviors (i.e., sub-types) reported by the students in this study are in accordance with other studies both clinical (Rapaport, 1996; Thomsen, 1991) and epidemiological (Apter et al., 1996; Flament, et al, 1988; Valleni-Basile et al., 1994). The differences are evident in the socio-demographic characteristics of participants within each OC behavior dimensions.

Frequency results revealed that the majority of the student population had multiple obsessive and compulsive symptoms (84%). Over half of the total sample (69%) endorsed behaviors in all 6 categorical behavior dimensions assessed (i.e., obsessing, washing, checking, ordering, hoarding, and neutralizing), with identification of hoarding, ordering, and checking sanctioned by the top 10% of the sample (i.e., approximately 968 to 978 student-informants). The most common single behavior reported was of a doubting type, particularly *checking things more often than necessary* (86%). On average, the students reported relatively modest severity rates for a majority of the items on the OCI-R (Foa et al., 2002).

In a comparative community study, Apter et al. (1996) reported 32% of the total sample with four or more behaviors in his study of Israeli army inductees. They found that while *disturbing* and *intrusive* thoughts were reported by only 8% and 6% of respondents in the total population, respectively, 27-72% of participants endorsed 6 of the 8 categories assessed in their study. Contrastingly, *extreme neatness* was the most commonly endorsed behavior across severity of symptoms -non-OCD cases (n = 807) -

subclinical OCD cases ($n = 34$), -OCD cases ($n = 20$). However, the highly endorsed doubting/checking subtype found in this study was also common to participants, at a rate of 30%., in a study by Stein et al. (1997) who surveyed community volunteers age 18-64 using the Yale-Brown Obsessive-Compulsive Scale (Goodman, Price, Rasmussen et al., 1989).

Demographic Features of OC Behaviors

Gender and Age Prevalence

With regard to gender differences, there again is limited research with regard to adolescents. Yet, the available data for both adults and children show mixed reviews. In general, among adult studies, epidemiological samples show gender differences, while clinical patient samples do not (Horwath & Weissman, 2000; Weissman, Bland, Canino et al., 1994). The gender distribution of OC prevalence rates in this sample is consistent with the observation by researchers that show equal male/female representation or a slight female preponderance in adult patients with OCD. For example, international studies (Geller, Biederman, Jones et al., 1997) reported an equal gender ratio. Alike the present study, Swedo, Rapoport, Leonard, Lenane, & Cheslow (1989b) reported a slight majority of girls among adolescents referred with OCD. Yet, these findings are inconsistent with reports of pediatric studies, particularly Geller (1998) and Swedo, Rapoport, Leonard, (1989a) who reported a male/female ration of 3:2 in a clinical OCD sample in children. Just recently, Kendurkar and Kaur (2008) also observed a male/female ratio of 3:2 in a clinical OCD sample of adults, average age 35 years. Perhaps the slight female prevalence in this study is due to higher a rate of female volunteers. Or, based on the results of Swedo et al. (1989) who showed the higher rates

among female teens, another conclusion might be that gender differences are influenced by age, particular for children and adolescents where male predominance appeared in childhood and female predominance appeared in adolescence. This idea was put forward by Geller et al., (1997) and is discussed below. In any case, more studies are needed in the general community with people of all ages to resolve these conflicting results concerning gender influences of OC behavior.

On one hand, the information on age by gender prevalence from this investigation is inconclusive with Geller et al. (1997) who suggested that “male predominance in pre-pubertal onset OCD in clinical samples shifts to a female predominance in later adolescence” (p. 261). This scenario however, was not reflective in this assessment alone. That is to say that in general, the mere presence of obsessions and compulsions in this general-community sample did not shift by gender as age increased. However, if taken in conjunction with the pediatric data offered by Geller et al. (1997), the findings from this study support the switch to female predominance of OC behavior in later adolescence. More age by gender comparison studies consisting of a broader age range of subjects (e.g., pre- early- mid- and late-adolescents) would be necessary to support this inference.

Researchers (Mc Kay et al., 2004; Samuels et al., 2002) have noted that certain OC behaviors, likely washing and checking, are most common in children and adolescent age groups, while others are rare and vary by gender. This has also been demonstrated in this investigation. Consistent with the literature, the high rates of ordering (e.g., see Apter et al., 1996; average age 16.5 years) and checking (e.g., see Abramowitz & Houts, 2005; average age 18 years) were expected among this teen-aged population -average age 16 years, range 13-20. And, although slightly lower than predicted by Adams (2004), who

estimated an 80% incidence of washing and cleaning rituals among school-age youth, the contamination/washing dimension was endorsed by over half (69%) of the adolescents. However, the high frequency of hoarding behaviors was a surprisingly common result among this adolescent population. Identification with hoarding behaviors exceeded that of ordering and checking by an additional 1% of the student sample, from 90% to 91% comparatively. This is not in agreement with March and Benton (2007) who suggested that hoarding in OC phenomenon is the least common subtype in children and adolescents. Yet, the percentage favors Seedat and Stein (2001) who found a high rate of hoarding tendencies in children and adolescents diagnosed with OCD.

Another interesting note on age is that correlates from this study suggested that severity of obsessing behaviors decrease with an increase in age and severity of checking behaviors increase with an increase in age. Thus, younger students experienced more obsessing behaviors at higher rates of severity compared to older students. Whilst, older students experienced more checking behaviors at higher rates of severity compared to younger students. There were no significant correlates with age and the remaining behaviors assessed.

There were some gender variations concerning prevalence of behavior subtypes and distress levels in these findings. Ordering behaviors were more prevalent in females (92%) than males (88%). Forty-three percent of female informants reported moderate to extreme distress caused by *getting upset if others change the way I have arranged things* as indicated by the OCI-R (Foa et al., 2002). There were no notable sex differences reported for adolescents and ordering prevalence in the literature for comparison. However, in adult studies, men compared to women, reported more concerns with

ordering related to symmetry and exactness (Swinson et al., 1998). This was not the case here. Yet, ordering compulsions are also described in the adolescent OCD literature as having an association with symmetry and exactness obsessions (Adams, 1998; Rapoport, 1989b). Suggestively, female students in the study may feel a strong need to order, arrange, and rearrange certain objects until they are “just right”.

There were 3% more checking behavior endorsements for boys than for girls. Severity ratings were from “a little” to “moderately” for females, and “a little” to “extremely” for males on the OCI-R checking subscale (Foa et al., 2002), suggesting that male students experienced checking behaviors slightly more frequently and with slightly more severity than female students. The most common behavior endorsed by both groups -*checking things more often than necessary*- as previously mentioned, was evaluated as being experienced as “a little” frequent and causing “a little” distress by both males and females. However, males indicated on the that they had more distress and frequency associated with *repeatedly checking gas and water taps and light switches after turning them off*. In parallel lode, Adams, Waas, March, and Smith (1994) reported that checking rituals are typically linked to number obsessions which are found to be particularly common among males. This finding suggests that male students may be checking things excessively for a prescribed number of times, particularly things that can potentially cause harm. Checking rituals and harm obsessions were most commonly linked in the literature (Adams, 1998; March & Benton, 2007, McKay et al., 2004).

The experiences with washing behaviors based on gender in this investigation are concordant with other clinical observations that suggest more females experience washing behaviors than males (Leckman, et. al., 1997; McKay et al., 2004; Mataix-Cols

et al., 1999; Summerfeldt et al., 1999). There were a significantly higher number of females engaged in washing rituals with responses and interference scores at 21% (moderately), 18% (“a lot), and 15% (“extremely”) for *having to wash or clean due to feeling contaminated* as indicated by the OCI-R (Foa et al., 2002). Other female reports included *I wash my hands more often and longer than necessary* and *I find it difficult to touch an object when I know it has been touched by strangers or certain people.*

Ethnicity and Economic Prevalence

Although many studies have been conducted internationally with different cultures and ethnicities from various economic backgrounds (see Valleni-Basile et al., 1996), little has been reported on these differences, especially concerning categorical patterns for OCD or non-clinical OC behaviors. Studies have often been carried out in predominantly white populations who have been referred to clinics for care (Rapoport, 1989; Swedo et al, 1989) which can lead to ascertainment bias. Although researchers have recently begun to study the nature and prevalence of anxiety disorders across ethnic groups (e.g., Karno, Golding, Sorenson, & Burnam, 1988; Neal & Turner, 1991), there appears to be consistent differences in prevalence of OCD or OC behaviors in different ethnic groups. When compare to the literature, this study was no exception.

For example, the *Epidemiologic Catchment Area* (ECA) study (Karno et al., 1988; Karno & Golding, 1991) indicated that OCD tends to be relatively rare in Hispanic and African American individuals relative to Caucasian individuals. And, Nestadt et al., (1994) found the prevalence of obsessions and compulsions not necessarily of clinical severity to be about 2:1 among whites and non whites, respectively. Yet, in an anxiety treatment clinic, Swinson, Antony, Rachman, & Richter (1998) found 83.5% of

individuals with principal diagnosis of OCD described themselves as white, 3.5%, Hispanic, 3.5%, Asian, 1.2%, and black, 1.2%.. In clinical reviews, Valleni-Basile, et al. (1996) has shown Black race, increasing age, and medium to high SES as significant predictors of OCD. While other studies using prevalence data (Valleni-Basile et al., 1995; Karno & Golding, 1991) showed no significant predictors by race.

I found prevalence of OC behavior most like that of Swinson et al. (1998) who noted more variation in ethnicity among treatment seeking individuals. The one-month point-prevalence for at least one OC behavior were reported by Black/African American, 56.1%, White-non Hispanic, 22%, Asian/Asian American/Pacific Islander, 7.3%, Hispanic, 6.8%, Native American 1.1%, and other 6.8% racial and cultural identities in this general school-based population sample. However, also like Valleni-Basile et al., (1996), I found higher frequency of prevalence in Black race compared to the ECA report that found OC behaviors to be rare in Black as well as Hispanic populations (Karno et al., 1988; Karno & Golding, 1991). Nevertheless, the high diversity prevalence rates may be a factor of sampling criteria and a product of the geographic dynamics in this southeast region of Louisiana. The sample proportionally reflected the current demographics in this high school that consisted of a majority of Black/African American and non-White students (retrieved June 1 from <http://www.zillow.com/school/LA-/Jefferson-Parish-School-Board-12521/John-Ehret-High-School-37717>).

In addition, because the sample in this study was not exclusively white; race differences and prevalence of OC subtypes could be observed. One major prevalence finding concerning race/ethnicity and behavior was that the Asian/Asian American/Pacific Islander group consistently endorsed more of the behaviors at higher

rates when compared with other racial groups in this study. High endorsements included hoarding behaviors (97%), ordering behaviors (95%), and washing behaviors (90%) among the Asian student-population. Obsessing behaviors were highly endorsed by the Native American students (92%), while checking was highly endorsed by the Black/African American student population (91%).

Culture-specific factors, such as religion, tradition, and values may be attributing factors in this finding that suggests that OC behaviors may be more prevalent among certain cultural groups or that certain behaviors may be more common among certain group when compared to others. For example, as cited in Assarian, Biqam, & Asqarnejad (2006), Louis and Joseph found that there was a significant relationship between obsessive traits and religious rites; whilst, Juni and Fischer, also cited in as cited in Assarian et al. (2006), concluded that although a significant relationship between obsessive traits and religiosity exist, there was no relationship with OCD. However, religion, tradition, and value influences were not accessed in this study and therefore, the possible inference to culture-specific factors as being an attribution to certain OC behaviors is inconclusive.

In addition, there were no notable trends concerning economic level status and prevalence of OC behavior. That is to say, there were no notable group differences in students who received free/reduce lunch and students who did not receive free/reduce lunch services concerning prevalence rate, frequency, or severity of OC behaviors. Data concerning economic level and prevalence of OC traits in the literature are inconsistent. In the ECA study (Karno et al., 1988; Karno & Golding, 1991), there was no relationship between OCD and children of low-income households. The pattern of finding in clinical

samples is mixed concerning SES and prevalence of OC behaviors. Steketee et al. (1997) found a significantly high percentage of treatment seeking individuals who were receiving welfare or family support. Swinson et al. (1998) found no significant income differences in clients with OCD in their anxiety treatment clinic. Also conducive to evaluation, this study consisted of a high percentage of participants from low-income families.

Overall, the presentation of OC behavior dimensions in this study supports the idea that OC behaviors appear to be associated with few behaviors and minimal severity at one end of a continuum and many behaviors and extreme severity on the other (Apter et al., 1996) based on age, gender and culture. Given the findings that men tend to experience more rituals designed to prevent harm and women display more washing and cleaning rituals, suggests that the content and behavior expression of OC behaviors may be influenced by socio-cultural factors, supporting the heterogeneity of OC prevalence in the general community.

OC Behavior and School Functioning Prevalence

In a broader context, the results of this investigation parallel clinical accounts of children where obsessive compulsiveness was positively associated with significant and relatively pervasive impairments in functioning depending on frequency and severity level (March et al., 2002; Placentini & Bergman, 2000; Thomsen, 2000; Valleni-Basile et al., 1996). As part of determining what influences OC behaviors had on psychosocial functioning of students in high school, adolescents were asked to rate how much their experienced “unwanted thoughts” and “behaviors” caused problems for them over the past month (i.e. the Child’s Obsessive-compulsive Impact Scale, COIS-R, Placentini,

Lindsey, Bergman, Keller, & Mc Cracken, 2003). Although the impact of obsessions and compulsions experienced by the general community has not yet been systematically described, these results provide the most specific description to date of the adverse impact of OC behavior on adolescent psychosocial functioning for a non-clinical sample.

Prevalence Rate and Severity of Impairment

Overall, the findings show good accordance with the only two previous systematic studies of OCD-related impairment in clinically-referred children and adolescents (i.e. average age, 11.5 years; see Placentini et al. 2003; Valderhaug & Ivarsson, 2005). Consistent with the heterogeneous nature of OCD, non-referred adolescents in this study (i.e. average age, 16 years) exhibited a broad range of specific impairments as a result of their experienced OC behavior. Approximately 91% of adolescents reported at least one significant problem in functioning due to obsessions and/or compulsions, and over two-thirds, between 81% and 86% described significant problems in each of the three functional domains assessed (i.e. academic, social, daily-living skills). In the comparative studies, (Placentini, et al., 2003; Valderhaug & Ivarsson, 2005) between 90% and 93% of the clinically referred youth presented with significant impairment associated with a primary diagnosis of OCD, and over half were found to identify with problems at school/academically, at home/with family, and socially. In agreement with the Placentini et al. (2003) study, results also indicated frequent impairment in the academic and social domains over that of the daily-living skills domain for the overall sample.

Impairments, in this investigation, were especially profound at school, where close to nine out of ten students reported that OC behaviors caused problems. The most

commonly noted OC behavior-related academic problem (*difficulty concentrating on work*) was rated as significant, by only 22% (i.e. students rated problem as “Pretty Much”) and 16% (i.e. students rated problem as “Very Much”). The two most common academic problems in OCD clinical observations were also concentrating on schoolwork (Muller & Roberts, 2005) and doing homework (Placentini et al., 2003; Valderhaug et al., 2005). However, impairments were also frequent in the social and daily-living skills domains. On average, only about 31% of the sample identified any specific impairment item as a significant problem (i.e. “Very Much” or “Pretty Much”). In contrast, while difficulty concentrating on work was also a commonly noted OCD-related problem in the comparative studies (Placentini et al., 2003; Valderhaug & Ivarson, 2005), it was the home domain (i.e. referenced as daily-living skills impairment in this study), however, that posed the greatest challenge to youth with OCD. In the academic area, the corresponding rates of individuals experiencing adverse effects from OCD were 44% (Placentini, et al., 2003) and 36% (Valderhaug & Ivarsson, 2005). Consistently, these studies also reported relatively modest endorsement rates for most of the individual impairment items on the COIS (Placentini et al., 2003).

The findings from these data offer a number of unique contributions to the literature on the prevalence rate, degree, and severity of obsessive compulsive characteristics and related functional impairment that exist in the general population. Although slightly higher, overall the distribution and severity of obsessions and compulsions in this nonclinical adolescent population approximate those found in epidemiological studies. This difference could be due to several factors such as the type of sampling, difference in the diagnostic criteria employed (i.e., self reports), or different

and special cultural and geographical factors. And, generally speaking, the findings suggested that OC behavior and functional impairment also co-exists in community samples.

Predictors of School Functioning Impairment

The second purpose of this study was to examine the effects of specific impairment of OC behavior on psychosocial functioning among a group of high school students. In keeping with the idea that OC phenomena may be best understood from a categorical and dimensional perspective (Apter et al., 1996; Thomsen & Jensen, 1991), a multilevel approach was used to identify the specific predictors of impairment in academic, social, and daily-living skills functioning as determined by each OC behavior phenotype –that is, encompassing the category of behavior (e.g., washing, checking), the rated frequency and distress caused by the behavior, as well as the socio-demographic makeup (e.g., gender, race/ethnicity, economic level) of those experiencing the behavior. Precisely, this study sought to determine if the various socio-demographic features and specificity and severity of OC behaviors would independently and/or collectively account for statistical variability in the three domains of school functioning.

Based on the OC subtypes, Adams (2004) theorized that obsessions and compulsion are thematically related and can manifest in the school setting in observable ways to produce certain school-related problems. However, after diligent research, no formal investigations into OC related behaviors for students in the school environment were found. Thus, lack of standardized research on OC-related functional impairment in general population-based samples related to school functioning of youth has hampered comparison of findings across different studies. In lieu of standardized research and an

accepted rubric for comparison, Adams' (2004) theories of OC behavior manifestation and possible related impairment in school and the theoretical underpinning of clinical observations and brain research studies was used to ground the present findings into discussion.

Summary of Collective Influences

Predictors of Academic Functioning. The self-reported incidence of academic-related functional impairment caused by “stressful and bothersome” obsessions and compulsions was rated between “just a little” and “pretty much” (COIS-R, Placentini et al., 2007). Twenty-three percent of the variance in academic functional impairment was explained by the study variables. Racial identity, specifically the Black/African American student population, and experienced severity level of obsessing, washing, checking, ordering, hoarding, and neutralizing behaviors contributed significantly to students' academic problems. However, each OC behavior independently contributed to students' academic impairment at different strengths.

Students' obsessing behaviors was the strongest predictor of academic functioning, followed by students' checking behaviors. An increase in frequency and severity of obsessing and checking behaviors were associated with an increase in students' academic impairment levels. The third strongest predictor was the socio-demographic Black/African American race/ethnicity. Next, ordering, washing, hoarding, and neutralizing behaviors consecutively followed Black/African American race as strong predictors of academic problems for these high school students. *Concentrating on school work*, followed by *taking test or exams* and *doing homework* was ranked consistently as the top three areas of academic-related problems predicted by each one of

the OC behaviors listed in this study. Black/African American students also identified *concentrating on school work* and *taking test or exams* as problem areas. However, when compared to the other cultural groups in the study, this subgroup was more troubled with *getting good grades* than troubled with doing *homework*.

Just as with the OCD prevalence literature, impairment research has focused mainly on Caucasian samples (Placentini, 2003; Valderhaug & Ivarsson, 2005). Thus, there is no empirical support for the variance explained by Black/African American identity in predicting academic problems but this result will be explored later in this chapter. However, OC severity level influences on academic functioning was consistent by Apter et al. (1996) who concluded that OC phenomena appear on a continuum, with few symptoms and minimal impairment at one end and many symptoms and severe impairment on the other. This idea of cascading continuum was also consistent with Adams (2004) who affirmed that in school, some students' may experience OC behaviors as mild which may not interfere with their academic functioning, while other students may experience more frequency and severity associated with OC behaviors and may require school and classroom accommodations. The determinate that each of the OC behavior groups contributed significantly to students' academic problems was supported by the sub-typing research referenced in Chapter 2 (e.g. Frost & Gross, 1993; Grisham, Brown, Savage, Steketee, & Barlow, 2007; Muller & Roberts, 2005) which suggested that subtypes may vary in terms of information processing anomalies and interfere with cognitive performance and produce functional impairment.

Predictors of Social Functioning. The self-reported incidence of social-related functional impairment caused by severity of obsessions and compulsions was “just a

little” on one end of the continuum and almost exceeded “pretty much” on the other as measured by the COIS-R (Placentini et al., 2007). Twenty-two percent of the variance in social functional impairment was explained by the study variables. Although there were no significant socio-demographic predictors of school functioning, every OC behavior contributed significantly to students’ social problems; each behavior had different strengths of prediction, even dissimilar to how they ranked in predicting academic-related problems. For example, students’ obsessing behaviors continued to be the strongest predictor of impairment foreshadowing academic functioning; however, the role of students’ neutralizing behaviors escalated to the second most useful predictor of social problems, followed by washing, hoarding, checking, and ordering behaviors. This new pattern of predictors also suggested that students’ experiences with checking and ordering behaviors were not as influential on social impairment as they were on academic impairment. Overall, as frequency and severity of OC behaviors increased, levels of social impairment also increased.

Unlike the strict pattern found when predicting academic impairment, it seems that the primary type of social-related problem experienced by these students was differentiated by the type of OC behavior they experienced. For example, the most commonly endorsed social-related problem among the obsessive group was *being with a group of strangers* followed by *making new friends*, and *having a boyfriend/girlfriend* as measured by the COIS-R social subscale (Placentini et al., 2007). *Being with a group of strangers* was also the most named social-impairment item on the COIS-R (Placentini et al., 2007) for *hoarders*, *checkers*, and *arrangers* (i.e. those with ordering behaviors). However, *neutralizers* and *washers* worried more about *having a boyfriend/girlfriend*,

than the other social issues on the impairment measure (COIS-R, Placentinti et al., 2007); although the students who experienced these behaviors also worried about the other identified problems in the social domain. *Going on a date* seemed to be unique to *checkers* and *arrangers* and was rated the top commonly identified social problem for all students.

Predicted social impairment in interpersonal skills and relationships was also documented in the OCD literature specific to individuals' experiences with obsessions and/or compulsions (APA, 2000, Calvocoressi et al., 1995; Cooper, 1996, Hollander et al., 1996; Koran, Thienemann & Davenport, 1996). These reports suggested that adults with OC traits tend to exhibit problem behaviors such as shyness and social withdrawal or isolation, experience impaired social relationships, and lack appropriate social skills. Moreover, Adams (2004) posited that students' frequent engagement with obsessions and compulsions leave little latitude for family and peer activities which was also consistent with the present study's findings. Ashamed of their obsessions and/or compulsion and concerned about what others will think of them, was the most document reason for interpersonal interferences for school-aged youth (Adams, 1994, 2004; March & Mulle, 1998; OCF, 2006; Rapoport 1989a, 1989b; Rapoport & Inoff-Germain, 2000). Accordingly, if Adams' (2004) conjecture concerning shame for what others would think were generalized to this sample, "others" would more likely mean a concern from what "peers" would think as evident in students selections on the COIS-R (Placentinti, 2007). Students' answers were centered on making new friends, going on a date, and having a partner –"peers".

Predictors of Daily-Living Skills Functioning. The self-reported incidence of impairment in daily-living skills functioning caused by severity of obsessions and/or compulsions barely rated “just a little” on one end of the continuum and rated “pretty much” on the other according to the COIS-R (Placentini et al., 2007). Twenty-two percent of the variance in daily-living skills functioning was explained by the model. Age and race/ethnicity (Black/African American) were the only two significant socio-demographic contributions to predicting daily-living skills functioning. For the first time, not every OC behavior produced a significant contribution to students’ school problems. Students’ experiences with hoarding behaviors did not produce a significant contribution to predicting daily-living skills functioning. However, the results indicated that as frequency and severity of obsessing, washing, checking, ordering, and neutralizing behaviors increased, levels of daily-living skills impairment increased.

Once again, students’ obsessing behaviors was the most useful predictor of daily-living skills functioning; but obsessing was not as strong a predictor in this school functioning domain as it was in prediction of academic and social functioning. The second most useful predictor of problems in daily-living skills functioning was Black/African American race which was also a strong contributor in predicting academic impairment. However, the results showed that the Black student population contributed to more variance in daily-living skills functioning than in academic functioning. Washing, checking, neutralizing, and ordering followed as significant predictors of academic problems. Students’ age made the least significant contribution to predicting problems in daily-living skills functioning.

Some commonly noted daily-living skills problems varied by age and race. For the oldest students (i.e., 17, 18, and 19 years), OC behaviors mostly contributed to problems associated with students *going to the bathroom*. The Black/African student population commonly endorsed problems associated with *eating in public*. Some commonly noted daily-living skills problems for students were also OC behavior specific. For example, the most endorsed daily-living skills problems among the different OC behavior groups in this study was that *obsessers* tended to associate with problems *going to the bathroom*, *washers* typically identified with problems *watching television and listening to music*, and *checkers* leaned toward problems with *having a friend come to their house* to visit. Both *neutralizers* and *arrangers* reported tendency to have problems associated with *talking on the phone*. Each of these daily-living skills problems were identified using the daily-living skills subscale on the COIS-R (Placentini, et al, 2007).

There was no empirical support for age influences on daily-living skills functioning in the OCD impairment literature (Placentini et al., 2003; Valderhaug & Ivarsson, 2005). In their study on OCD-related impairment, Valderhaug and Ivarsson (2005) found that while parent-reported COIS scores indicated that parents experienced more impairment with increasing age in their children, the child informants themselves reported no differences specific to age which is inconsistent with the current findings. However, some possible reasons for this finding will be discussed later in this chapter. Impairment in daily-living skills, however, was uniquely associated with severity and diagnosis of obsessions and compulsions in several studies on children and adolescents (Apter, 1996; Cooper, 1996; Swedo et al., 1989). The present findings are consistent with Adams (2004) also suggested that specific obsessions and/or compulsions can interfere

with students daily routines which can lead to problems in school. For example, as referenced in this study, students who indicated that their obsessions cause them problems *going to the bathroom* may be engaging in washing and cleaning activities for many hours or for several times a day for fear of being contaminated. As a result, these students may appear tired in school or may be late to school due to extensive bedtime and morning bathroom rituals or they may excessively excuse themselves to go to the restroom during school.

Summary of Individual Influences

Sociodemographic influences.

Taken together, my results suggest that OC behaviors interfere with students' functioning in a highly idiographic manner. For example, while some studies (Adams & Burke, 1999; Niehous & Stein, 1997; Rapoport & Inoff-Germain, 2000)) have shown predisposing characteristics of people who experience OC behaviors to be influential on determinants of OC-related functional impairment, certain socio-demographic features of students in this study were influential on some areas of school functioning, while other personal features were not influential on any of the areas of school functioning. That is, gender and economic level were non-productive predictors while specifically Black/African race was productive in predicting academic and daily-living skills functioning; age as well, was productive in predicting daily-living skills functioning. Some explanations for the significant and non-significant variation in the findings relative to sociodemographic variables may be an artifact of the sampled population; it may be attributed to environmental factors that were not assessed in this study, or, it may be due to an inadequate operationalized variable, specifically socioeconomic status (SES).

As demonstrated in these findings, the Black/African American student population accounted for a significant amount of variance in academic and in daily-living skills impairment. The highest rates of checking behaviors were found in the Black student population. Ranking second to checking in contribution (i.e., the category of Black student contribution), perhaps these high rates of checking behaviors among Black students collectively explain this race's high predictability of academic impairment for example.

As implied, some other explanations may be found in the OCD literature concerning the influences of environmental factors found to exacerbate OC symptoms and consequent impairment; yet, these factors were not figured into this assessment. Some commonly reported environmental influences reference in the literature were life events (i.e., desirable versus undesirable events) geographic location (i.e., rural versus urban; non-hostile versus hostile housing community), family environment (i.e., functional versus dysfunctional; supportive versus abusive), family structure (i.e., birth order), health (i.e., good versus poor), and SES (i.e., low versus high) (Cath, Grootheest, Gonneke, et al, 2008; Rasmussen & Tsuang, 1986; Rettew et al., 1992; Swedo et al, 1989 Swinson et al., 1989). There were also racial and age differences based on these environmental detriments of OC-related impairment. Demonstratively, within certain age groups, significant differences between urban and rural settings emerged; in addition, among African Americans, individuals living in rural settings were more likely to be diagnosed with OCD (Swinson et al., 1989).

A possible reason for the non-significant SES predictor may also be relative to environmental influences. Based on the environmental research which defined SES based

on the number of individuals in the household, parental education level, parental occupation, and social status in the community (Cath, et al, 2008; Rasmussen & Tsuag, 1986; Rettew et al., 1992; Swedo et al, 1989 Swinson et al., 1989), I believe that SES lacked predictability on school functioning in this study because it was not operationalized based all of these environmental points. SES in this investigation was only based on income level which therefore may restrict the interpretation.

OC Behavior Influences.

Also idiographic in nature is that OC-related impairment in school functioning appears to be OC-behavior specific. Overall, these results suggested that these students are more impaired by their obsessions than their compulsions. Yet, certain compulsive behaviors seem to be stronger predictors of some areas of school functioning while the same compulsive behaviors may be weaker predictors in other areas of school functioning. For example, among the compulsive behaviors, checking was the strongest predictor of academic functioning, neutralizing was the strongest predictor of social functioning, and washing was the strongest predictor of daily-living skills functioning. Or, as in the case of hoarding, a particular behavior may be a useful predictor in some domains of school functioning but may not be productive in others. Hoarding was influential in predicting academic and social impairment but was not productive in predicting daily-living skills impairment.

Obsessing behavior influences. Perhaps, one reason that obsessing behavior was found to be the strongest predictor of school-related problems and compulsive behaviors were found to be secondary predictors in this study may be supported by the apparent nature of “unwanted thoughts.” High appraisals regarding the importance of intrusive

thoughts and the need to control these distressing or unacceptable intrusions (e.g., harming, sexual, religious thoughts) are commonly reported by this subgroup in OCD research (Rapoport & Inoff-Germain, 2000; Rachman, 1997, 1998, 2003). As previously described, passive avoidance of situations that provoke the feared intrusions is typically observed along with active avoidance through covert rituals (e.g., compulsive rituals) and neutralizing strategies (e.g., mental acts such as praying, counting) both serve to reduce distress and to maintain mental control caused by the obsessions (APA, 2000; Swinson, Antony, Rachman, & Richter, 1998). Since obsessions seem to drive compulsive behaviors, it is not surprising then, that the other OC behaviors assessed in this study follow obsessing as predictors of school-impairment, although research does show that individuals can be classified as *pure obsessionals* but it is rare (Frost & Steketee, 2002). For this reason, Adams (2004) also believed that attention students should be allocating to academic, social, and daily-living functioning tasks are frequently rerouted to other mental or overt compulsions.

Compulsive behavior influences. Adams' (2004) idea that obsessions pair with compulsions and produce a broad range of school functioning problems was positively demonstrated by these findings. As discussed in Chapter 2, obsessions and compulsions have been shown to be thematically consistent with one another in OCD sub-typing research (Leckman et al., 1997; Mc Kay et al., 2004). Based on this research, it is presumable that in this study, students' encounters with harm obsessions primarily paired with checking compulsions actively influence academic-related problems, scrupulosity obsessions primarily paired with neutralizing compulsions actively influence social-related problems, and contamination obsessions primarily paired with washing

compulsions actively influence daily-living skills problems. That is, these were the strongest compulsive behavior predictors in each of school functioning domains.

These findings confirm Adams (2004) theory that the thematically related obsessions and compulsion can manifest in the school setting in observable ways to produce certain school-related problems. Because the OCI-R (Foa et al., 2002) is not designed to assess the content of obsessions, this idea should be viewed as a preliminary finding. However, when examining the relatively modest endorsement rates on the COIS-R subscales (Placentini, et al., 2005) in conjunction with the finding that nearly all of the students (depending on informant) endorsed at least one problem area as significant, suggests that OC behaviors interfere with functioning in a highly idiographic manner as previously suggested. As a result, the psychosocial functioning of students who experience OC behavior must be carefully assessed on a case-by-case basis.

Help-Seeking Behavior

The final part of this project was to investigate help-seeking practices of students who experience OC behaviors and OC-related functional impairment. Research has considered a wide and diverse range of factors that may affect seeking help for those who experience OC-related phenomena and for adolescents in general, who may experience any personal, emotional, or behavioral problem (see Besiroglu, Cilli, & Askin, 2004; Goodwin, Koenen, Hellman, Guardino, & Struening, 2002, Kennedy & Schuab, 1997, Mayenovitch, du Fort, Kakuma, et al., 2003 for OCD help-seeking; see Bolder & Fallon, 1995; Offer, Howard, Schonert, & Ostrov, 1991; Rickwood & Braithwaite, 1994; Sheffield, Fiorenze, & Scfronoff, 2004 for adolescent help-seeking). Collectively, the literature references socio-demographic characteristics, OC behaviors, level of severity

(i.e., distress), and school functioning (i.e., impairment) as possible influential characteristics on adolescents' help-seeking behaviors. A hierarchical approach was used to identify the specific predictors of help-seeking behaviors based on these factors and to determine the pathways by which adolescents seek help. Precisely, this study sought to determine the following concurrently: Whether adolescents with OC symptoms progress to the stage of service selection, and their choice of informal or formal help sources; whether it was the adolescents' obsessions and/or compulsions that prompted these same adolescents to seek help, or if it was the school functioning impairment conditions associated with their obsessions and/or compulsions that led them to do so. The likelihood of students seeking help from a mental health provider (i.e., the school counselor) for their OC behaviors was of particular interest in this investigation because it highlights the need for active vigilance on the part of mental health professionals in the school setting.

Research suggests that people who experience OC behavior and that young people, in general, rarely seek professional mental health services (Shaperio, et al., 1984; Kennedy & Schwab, 1997; Rickwood & Braithwaite, 1994). A desire to keep OC symptoms secret has been noted consistently in the literature as a limit to help seeking (Clarizo, 1991, Jenike, 1989; Rapoport, & Inoff-Germain, 2000). Researchers found that when adolescents do seek help, they are partial to more *informal* as compared to *formal* sources of help when they experience a problem (Bolder & Fallon, 1995; Offer et al, 1991; Rickwood & Braithwaite, 1994; Sheffield et al., 2004). Goodwin et al. (2002) and Kennedy and Schwab (1997) noted that individuals who experience OC symptoms more often seek help from non-mental health professionals such as clergy or non-psychiatric

physicians for conditions caused by the obsessions and/or compulsions without identifying obsessive compulsiveness as the issue.

Based on the previous observations (Goodwin et al., 2002; Kennedy & Schwab, 1997), it was assumed that students in this study would more likely seek help for their school-related problems that were predicted by their OC behaviors, as opposed to seeking help for their experiences with OC behaviors. Help-seeking for OC-related school functioning impairment was also anticipated to be primary hence each of the three school functioning variables was found to be in the positive predictive direction. Due to the fundamental secretiveness that so often surrounds the OC phenomena (Clarizo, 1991, Jenike, 1989; Rapoport, & Inoff-Germain, 2000) and because help-seeking behavior involves communicating with other people and a willingness to self-disclose (Rickwood et al., 2005), it was logical to presuppose that possessing OC symptoms would be off-putting for students to seek out someone to talk with about their OC behaviors. Yet, on the contrary, sequential analysis surprisingly revealed that the majority of the students in this study did advance to a stage of service selection that was influenced by OC-specific behavior and not school impairment. It was also evident that the type of obsession and/or compulsion that students' experienced positively influenced their overall choice of help source. The analysis also showed that this process of active help-seeking was positively influenced by students' gender and/or age as well as socially desirable responding.

Predictors of informal help-seeking behaviors.

Nine percent of the variance in informal help-seeking was accounted for by the study variables. Of the OC behavior variables, washing and ordering behaviors specifically, along with female gender and participants' age were statistically significant

in predicting help-seeking from informal help sources. The majority of the girls who experienced washing and ordering behaviors indicated on the General Help Seeking Questionnaire (GHSQ; Ciarrochi & Deane, 2001; Wilson et al., 2005) that they were “likely” to “extremely likely” to seek help from a friend (i.e., 538 *washers* and 448 *checkers*). Because these relationships were positively correlated, the likelihood of females seeking help from these sources increased with age and severity of the washing and ordering behaviors. However, when the school functioning variables were entered into the regression model, the washing and ordering behaviors were no longer significant in predicting help-seeking from informal sources. Associated impairment with washing and ordering behaviors in school functioning created a deterrent for the secondary female students to seek care from their friends.

The sociodemographic influences on informal help-seeking was consistent with previous research conducted by Dubow et al. (1990) and by Offer et al. (1991). Offer et al. (1990) also found that females often turn to their friends for help. Dubow and his colleagues (1990) discovered that an individual’s age, per se, has also been found to be associated with help-seeking behavior and help sources. These researchers also found patterns of intentions to consult with friends increase over the high school years for females (Dubow et al., 1990).

In the current study, positive correlates suggest that as severity of washing and ordering behaviors increased so did students’ willingness to seek help from informal sources. A number of researchers (Dubow et al., 1990; Kuhl et al., 1997; Offer et al., 1991; Sheffield et al., 2004) suggest that psychological distress is an important variable when examining help seeking. Some researchers (Offer et al., 1991; Sheffield et al.,

1997) found that higher psychological distress was related to greater willingness to seek help for mental health issues from both formal and informal sources. Thus, according to Offer et al. (1991) and Sheffield et al. (1997), there is some support for females' initial willingness to seek-out friends for support with washing and ordering behaviors.

However, as noted, once the school functioning variables were entered into the regression model, the washing and ordering behaviors were no longer significant in predicting help-seeking from informal sources. One possible explanation for this non-significant result may be offered by Dubow et al. (1990) and Seiffge-Krenke (1989). These researchers investigated the relationship between distresses and help seeking, and reported that in adolescence, increased distress leads to withdrawal and a decrease in help seeking behavior (Dubow et al., 1990; Seiffge-Krenke, 1989). Suggestively, the collective contributions of OC washing and ordering behaviors in conjunction with school functioning variables may have produced significant tension and the right combination of distress necessary to aid students' in withdrawal of intent to seek help.

Predictors of formal help-seeking behaviors

Twenty percent of the variance in help-seeking from formal sources was explained by the model. The OC behavior variables washing, checking, and neutralizing distinctively, along with the sociodemographic variable gender contributed significantly in predicting students' intentions to seek help from formal help sources. Both females and males indicated a willingness to seek help from formal sources. Specifically, higher levels of washing, checking, and neutralizing behaviors were associated with higher levels of help-seeking intentions for both female and male students. Females *washers* (n = 481), *checkers* (n = 655), and *neutralizers* (n= 455) indicated on the GHSQ (Ciarrochi

& Deane, 2001; Wilso et al., 2005) that they were” likely” to “extremely likely” to seek help from “some other professional” not listed. Males who also experienced the same OC behaviors indicated that they were more “likely” to “extremely likely” to seek help from a teacher: *washers* (n = 417), *checkers* (n = 464), *neutralizers* (n = 405). Students’ experiences with washing, checking, and neutralizing behaviors consistently contributed to help-seeking from formal help sources even after the school functioning impairment variables were entered into the equation.

Current with this study’s findings, Mayerovitch et al., (2003) also found that people with specific types of obsessions and/or compulsions were more likely than other types to be seen in formal health-care settings. As demonstrated in this analysis with washing, checking, and neutralizing behaviors as distinctive predictors of formal help seeking, researchers (Besiroglu et al., 2004; Mayerovitch et al., (2003) in their study also found that individuals with severe obsessions of violence and other unpleasant thoughts or severe obsessions of contamination and/or doubt are significantly were more likely to seek health care. Furthermore, just as the females in this study indicated that they would seek help for OC behaviors from “some other professional,” besides a mental health professional, Kennedy and Schwab (1997) also found that individuals in their study sought cardiologists and dermatologists for conditions caused by their OC behaviors. However, since the sources of non-professional help, such as dermatologists for example, was not identified by the female informants in this investigation. Please be aware that this specific reference to the literature is only speculation. Just as with the males in the current study, students’ in the general help-seeking literature were often observed to turn to teachers as primary formal sources of help as opposed to seeking help from the school

counselor (Boldero & Fallon, 1995). However, Bolder and Fallon's (1995) research suggested that this help would be solicited by students for an academic-related problem, not a mental health problem, which is somewhat inconsistent with these findings.

General Help-Seeking Findings

The likelihood of students seeking help from a mental health provider (i.e., the school counselor) for their OC behaviors was of particular interest in this investigation. As the impetus for this study was the fact that very little is known about this condition, and that most adolescents seek help for 'problems' caused by symptomology rather than the actual obsessions and/or compulsions that they must routinely deal with from 'informal sources,' this study, in general, acknowledges the importance of vigilance on the part of the mental health professional especially in the school setting

Overall, there were some interesting trends on formal help-seeking found in this study that were consistent with the adolescent help-seeking literature. One of the most consistent findings in the literature is that researchers generally reported professional help-seeking (i.e., from formal sources) as equally low rated for both females and males, school counselors being the least likely source of formal assistance to be sought (Boldero & Fallon, 1995; Rickwood & Braithwaited, 1994; Schonert-Reichl & Muller, 1996). In the current study, the likelihood of seeking help from a mental health professional was endorsed by only 23% of the entire sample; while, over half of the sample indicated that it would be "extremely unlikely" (52%) to "unlikely" (24%) to seek help from a mental health provider. Of the population that favored mental health service, most of the students indicated a greater chance of meeting with a school counselor for help with an issue. However, this was not the popular choice for those who sought help for washing,

checking and neutralizing behaviors as presented earlier. Overall, for males there were greater endorsements for seeking help from a teacher and for females there were greater endorsements for seeking help from “some other professional” among the formal professionals, as previously stated. Phone help line services were a least-likely choice for the adolescents.

One interesting trend, though it was not statistically significant, was that approximately 10% of the sample chose not to indicate whether they would be willing to seek mental health assistance or not. For those students who did answer this question, correlates suggested a positive relationship between seeking help from formal help sources and socially desirable responding. For this reason, I believe that one possible explanation for the absent endorsements in this area of formal help-seeking may be due to students’ fear of what others may think about their answers such as the researcher, other students, or other school personnel. Fear of what others would think and a lack of trust concerning confidentiality in mental health service were referenced in the literature as major barriers for adolescents contemplating seeking professional help (Kuhl et al., 1996; Offer et al., 1991, Sawyer, Arney, Baghurst et al., 2001). Students in this study may have been afraid to answer whether they would be willing to seek help from a mental health professional for fear of what others would think (e.g., the researcher, other students).

Implications of the Study

As stated in Chapter 1, it has been said that Obsessive Compulsive Disorder is one of the most misunderstood and potentially disabling conditions of our time (Carter & Pollock, 2000; Schwartz & Bayette, 1997). And, like symptoms of anxiety, OC traits have been shown to be present to some degree in most people. Although OCD has been

associated with severe social and occupational impairment in adult studies (Calvocoressi, Lewis, Harris et al., 1995; Cooper, 1996; Hollander, Kwon, Stein et al, 1996; Koran, Thienamann & Davenport, 1986), very little has been known about how varying degrees of obsessive compulsive traits affect psychosocial functioning of school-aged youth in the general population. Research has also suggested that people who experience obsessions and compulsions and that young people in general, rarely seek professional mental health services to relieve their obsessive compulsive symptoms. The results of this study suggest that varying types and dimensions of OC behavior(s) that were found to be prevalent in a general population of high school students negatively influenced their academic, social, and daily-living skills functioning. As well, specific OC behaviors were also found to be influential on students' willingness to seek help from various help sources. This data has tremendous implication for school personnel.

School personnel can make a profound difference in the lives of these young people by taking a deeper look at student behavior. And, if one suspects OC symptoms, with a deeper understanding of this phenomenon, caretakers can take the appropriate steps to assist students who experience obsessions and compulsions and their related effects. School personnel may represent the first line of defense in identifying children and adolescents who experience obsessive-compulsive behavior and reducing the *typical 15 year after onset* record as previously described by the literature (Swedo, et al., 1989). They may also play an important role in assessment and treatment. Because of extensive interaction with students and opportunities to observe them, school personnel can play a vital role in recognizing OC symptoms. Because educators are familiar with behavior of other students in their classes who are the same age and have the same academic

background level, they often recognize student difficulties. School counselors can educate school personnel about OC symptoms and OCD, provide individual or group counseling services to help students cope with OC-related symptoms, or help students obtain appropriate accommodations. Such accommodations may be provided within the context of Section 504 of the Rehabilitation Act of 1973, “a civil rights law under which a child qualifies for special services if he or she exhibits a physical or mental impairment that substantially limits one or more major life activities, such as learning” (Adams, 2004, p. 47). For example, a student who has trouble with written assignments due to writing compulsions may need to do assignments orally or record responses on audio tape. School counselors can also assist students in getting help from outside professionals who specialize in the treatment of OCD, if necessary, and serve as a liaison between families, school, and mental health professionals. In summary, educators and school counselors can initiate protective factors and prevent academic difficulties in school settings that help establish youth’s continuing competency for positive behavior, academic achievement, and emotional well-being.

An integral part of the determining factor in choosing to focus on the school functioning of adolescents who experience OC behavior is the dearth of accumulated studies and interest in this area. Adolescence is a time of increased sensitivity and vulnerability, a complex transitional phase fraught with confusion and the search for identity that is frequently accompanied by feelings of sadness, helplessness, and depression (Erikson, 1968; Harter, 1990). For the developing adolescent, the potential impact of OC behaviors can be even more significant and disruptive to positive academic and social growth. While studies on adolescent impairments such as Attention Deficit

Disorder have proliferated in the past decade, subclinical and clinical OC symptoms which has demonstrated impairment to adolescent education and personal development has been severely neglected especially in the counseling realm of literature, research, training, and professional support. The surfacing consciousness and political activism bellowing from the No Child Left Behind Act (Retrieved May 1, 2009 from <http://www.ed.gov/policy/elsec/leg/esea02/pg68.html#sec5421>) has important implications for counselor education and practice.

Counselor education programs play a significant role in preparing school counselors to give teachers, parents and school personal the tools they need to identify, refer, and accommodate students with OC symptoms so that they will not be “left behind.” Foster (1995) compared counseling students/counseling professionals with school administration students/professional administrators to determine the amount of knowledge and experience in recognition and intervention of students with OC behavior traits. There were no significant differences between the groups in the degree in knowledge, training, or experience in the area of obsessive compulsiveness. Thus, it is important for counselor educators to provide future counseling students with a working knowledge and first-hand experience in recognizing and identifying obsessive compulsive behaviors and to include the best intervention strategies in college course work. Improving the skills required to address such issues in the school setting is directly proportional to a counseling professional’s affirming attitudes towards students who in a structured, rule-governed world, inflexible, unrealistic demands often precipitate behaviors that do not meet the expectations of teachers and parents.

Strengths and Limitations of the Study

Strengths

There are several noteworthy strengths to this study. Very few studies used nonclinical samples to ascertain prevalence of obsessive compulsive behaviors related to the OCD phenomena (APA, 2000). In part, this study represents a replication and extension of the only two studies (i.e. Placentini et al., 2003 & Valderhaug & Ivansson, 2005) that systematically examined specific impacts of obsessive compulsiveness on psychosocial functions in clinical cases of childhood OCD. However, it is the first study to replicate this research with a general population of students who self-reported various dimensions of OC behavior. Further, just as used in the previous two studies, this study employed a measure of OC impairment (COIS-R, Placentini et al., 2003) rather than a proxy for school-related impairment. It is also the first to make use of sub-typing methods to predict specific OC-related impairment in a general population of students. Uniquely, the study design took into account the diverse themes of obsessions and compulsions (e.g., washing, checking, hoarding behaviors). Thus, strength to the generalizability of the findings to non-clinical settings is that the sample is epidemiological rather than clinical. This is something the study differs with all previous studies on functional impairment and determinants to adolescent help-seeking as well. Also unique is that this non-clinical sample was not exclusively white and race differences could be explored.

The benefit in studying impairment this way is that it places symptom expression into functional terms and provides information that may help professionals identify and address students' needs relative to OC behaviors and school functioning problems. It has

been surmised that future treatments of OCD will most likely follow further subtyping with increasing sophistication as to which types of OC respond best to which treatment (Rapoport & Inoff-Germain, 2000). Subtyping children and adolescents with OC-related impairment may culminate in more effective treatment and instructional systems for all youth who have these experiences.

Limitations

This study is not without limitations and the results should be only interpreted with their context. There were several limitations concerning generalizability of the results. First, because random sampling was not used to identify the participants, results may not be generalizable beyond the specific population from which the sample was drawn (i.e., high school students from the southeastern region of Louisiana; Fowler, 2002). Second, being exploratory in nature, the study lacked the experimental control or comparison group that superiorly increases overall generalization of the results (Leong & Austin, 2006). Third, the study was not longitudinal or developmental, posing another limitation related to generalizability. It can only be suggested that the prevalence of OC behaviors contributed to school functioning and help-seeking for adolescents at a particular time in their lives.

There were also several methodological limits in this investigation. One limitation of this study included the possibility of students being absent from school and students who were not enrolled in English coursework during the time the data were collected, may have artificially altered findings of OC-related conditions. The assessment of OC behaviors, functional impairment, and help-seeking was performed using self-report screening instruments, rather than structured clinical interviews. The lack of confirmatory

information such as information from teachers, parents, medical records, and other sources; and the unavailability of specific data such as the contributions of environmental factors and capitalized accommodations or special education services, might have enabled clarification of certain hypothesis. These data also do not provide great detail in describing the specific symptoms that promoted distress or motivated the decision for students to seek help. Report bias may also be a problem as, for example, anxiety, OC symptoms and functional problems, and mental health seeking are socially undesirable topics, particularly in a teen-aged milieu. Another limitation concern is that responses may have been inflated in some cases due to method variance. Typically, correlations between study variables measured with the same method, usually self-report surveys, may inflate results in some cases (Fink, 1995). However, I controlled for socially desirable responding which may have avertedly limited the possible inflation of results.

Recommendations for Future Research

Many areas exist for future research. While the studies aforementioned have credence in determining the effects of OC behavior on adolescents in an institutional environment such as school, it is obvious that more investigation needs to be conducted specifically to decode the evidentiary prevalence of OC behavior and related impairment. The study needs to be replicated and expanded to substantiate these findings and to address some of the limitations of the current study. Soliciting additional information from participants such faith tradition, environmental conditions, prescribed medications, pre-existing and co-morbid conditions, and acquired school and classroom accommodations are suggested. Factoring this information into the study is suggested to determine the cultural, contextual, and protective factors that may be influencing OC-

related impairment and help seeking. Identification of the determinants of access to mental health treatment can facilitate the identification of those with unmet need in the community.

Information on youth-functioning from the perspective of teachers, parents, and peers are also advised for exploration and comparison. A study design that utilizes parent-youth and teacher-youth dyads may increase perspective of youth functioning. Also, a lower extension of the present study is necessary to determine whether students in elementary grades, like their adolescent counterparts, experience OC-related phenomena and difficulty in school functioning. Also, extending the study will also assist researchers in determining the influences of OC-behavior and related impairment on help-seeking practices of younger students.

Suspected causal influences and impact of OC traits are often a hodgepodge of studies with conflicting results and more research is needed to refine them, especially the conflicting results related to the differences observed between clinical and epidemiological studies. Because OC phenomena appear to be on a continuum, defining optimal cutoff points for distinguishing between the psychiatric disorder and the OC-related phenomena that are common in the general population remains an open question. More longitudinal or developmental studies are needed to determine if young peoples' experiences with obsessions and/or compulsions are a precursor for OCD or if they are provisional.

Conclusions

Several years ago, OCD was considered to be infrequent. However, a higher prevalence of OCD and OC-related phenomena in community populations than in clinical

populations is a consistent finding (Apter et al., 1996; Valleni-Basile et al., 1994; 1996; Zohar et al., 1992). This may be attributable to under-diagnosis by health care professionals who, until recently, believe OC behavior to be rare (Rapoport & Inoff-Germain, 2000; Zohar, 1999). Perhaps frequency of OCD diagnosis and increase awareness about OC symptoms in the general community is associated with increases in publications about the disorder.

Researchers (Rapoport, 1989; Ramussen & Tsuang, 1989; Zohar et al, 1992) posited that people, young people in particular, who experience OC behaviors often do not realize treatment is available, fail to seek treatment until symptoms become so severe as to cause serious loss of functioning, are secretive about symptoms, and turn to non-mental health specialists further delaying their referral to a psychiatrist or counseling professional. As previously stated, school personnel can make a profound difference in the lives of these young people by taking a deeper look at students' behavior and, if one suspects OC symptoms, taking appropriated steps. Darren Fleegeer (1995) wishes that his teaches had taken a closer look at his idiosyncrasies:

As a child who experienced obsessions and compulsions, I was very sensitive, moody, depressed, and introverted. Much of my time was spent seeking refuge in some solitary activity.... Teachers saw me as a bright, thoughtful, and emotional student. Now I wish that my character was more problematic in school. This was such a secretive and embarrassing experience. It would have been nice if someone had picked up on my strange behavior and suggested something. Maybe that would have saved me years of suffering (pp. 27-28).

Through education and school-based programming, teachers, parents, and other school personnel can help to normalize life for adolescents who experience OC behavior, such as Darren Fleege (1995). Educating others through research about OC behaviors and OC-related problems may potential bring the “15 year” delay in health care (Rapoport & Inoff-Germain, 2000) to an end.

References

- Abramowitz, J. S., & Deacon, B. J. (2006). Psychometric properties and construct validity of the Obsessive-Compulsive Inventory-Revised: Replication and extension with a clinical sample. *Journal of Anxiety Disorders, 20*, 1016-1035.
- Abramowitz, J. S., & Houts, A. C. (Eds.) (2005). *Concepts and controversies in obsessive-compulsive disorder*. New York, NY: Springer.
- Adams, G. B. (1998). Working with schools. In J. S. March & K. M. Mulle (Ed.), *OCD in children and adolescents* (pp. 197-206). New York: Guilford Press.
- Adams, G. B. (2003). *School personnel: A critical link in the identification, assessment, and treatment of OCD in children and adolescents*. New Haven, CT: OC Foundation, Inc.
- Adams, G. B. (2004). Teaching exceptional children. *Identifying, assessing, and treating obsessive-compulsive disorder: The role of school personnel, 37*(2), 46-53.
- Adams, G. B., & Burke, R. W. (1999). Children and adolescents with obsessive-compulsive disorder: A primer for teachers. *Childhood Education, 76*, 2-7.
- Adams, G. B., Waas, G., A., March, J. S., & Smith, M. C. (1994). Obsessive compulsive disorder in children and adolescents. The role of the school psychologist in identification, treatment, and assessment. *School Psychology Quarterly, 9*, 274-294.
- Agnold, A., Costello, E. F., Farmer, E. M., Burns, B. J., & Erkanli, A. (1999). Impaired but undiagnosed. *Journal of the American Academy of Child & Adolescents Psychiatry, 38*, 129-137.

- Amato, P. R., & Bradshaw, R. (1985). An exploratory study of people's reasons for delaying or avoiding helpseeking. *Australian Psychologists*, (20)1, 21-31.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text revision). Washington, DC: Author.
- Anderson, R. M. (1995). Revisiting the behavioral model and access to medical care: does it matter? *Journal of Health & Social Behavior*, 36, 1-10.
- Anderson, R. M., & Newman, J. F. (1973). Societal and individual determinants of medical care utilization in the United States. *Milbank Memorial Fund Q Journal*, 51, 95-124.
- Anderson, R. M., Rice, T. H., & Kominski, G. F. (1996). *Changing the U.S. health care system*. San Francisco: Josey-Bass Publishers
- Apter, A., Fallon T. J., King R. A., Ratzoni, G., Zohar, A., Binder, M., Weizman, A., Leckman, J., Pauls, D., Dron, S., & Cohen, D. (1996). Obsessive-compulsive characteristics: From symptoms to syndrome. *Journal of the American Academy of Child & Adolescent Psychiatry*, 35(7), 907-912.
- Apter, A., & Tyano, S. (1988). Obsessive compulsive disorders in adolescence. *Journal of Adolescence*, 11, 183-194.
- Assarian, F., Biqam, H., & Asqarnejad, A. (2006). An epidemiological study of obsessive-compulsive disorder among high school students and its relationship with religious attitudes. *Archives Iranian Medicine*, 9(2), 104-107.

- Ballard, R. (1992). Short forms of the Marlowe-Crowne Social Desirability Scale. *Psychological Reports, 71*, 1155-1160.
- Barker, C. Pistrang, N., Shapiro, D. A., Shaw, I. (1990). Coping and help-seeking in the UK adult population. *British Journal of Psychiatry, 29*, 271-285.
- Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). *Cognitive therapy of depression*. New York, NY: Guilford Press.
- Berg, C. Z., Whitaker, A., & Davies, M. (1988). The survey form of the Leyton obsessional inventory-Child version: Norms from an epidemiological study. *Journal of the American Academy of Child & Adolescent Psychiatry, 27*, 759-763.
- Benson, P. L. (1990). Help-seeking for alcohol and drug problems: To whom do adolescents turn? *Journal of Adolescent Chemical Dependency, 1*(1), 83-94.
- Besiroglu, L., Cilli, A. S., & Askin, R. (2004). The predictors of health care seeking behavior in obsessive-compulsive disorder. *Comprehensive Psychiatry, 45*(2), 99-108.
- Boldero, J., & Fallon, B. (1995). Adolescent help-seeking: What do they get help for and from whom? *Journal of Adolescence, 18*(2), 193-209.
- Calamari, J. E., Wiegartz, P. S., & Janeck, A. S. (1999). Obsessive-compulsive disorder subgroups: A symptom-based clustering approach. *Behaviour Research and Therapy, 37*(2), 113-125.
- Calvocoressi, L., Lewis, B., Harris, M., Trufan, S. J., Goodman, W. K., McDougle, C. J., & Price, L. H. (1995). Family accommodation in obsessive-compulsive disorder. *Journal of the American Academy of Child & Adolescent Psychiatry, 152*, 441-443.

- Carlton, P. A., & Deane, F. P. (2000). Impact of attitudes and suicidal ideation on adolescents' intentions to seek professional psychological help. *Journal of Adolescence, 23*, 35-45.
- Carter, A., & Pollock, R. A. (2000). Obsessive-compulsive disorder in childhood. *Current Opinion in Pediatrics, 12*, 325-300.
- Castle, D., & Phillips, K. (2006). Clinical practice guidelines. Management of anxiety disorders. *Canadian Journal of Psychiatry, 51*(Suppl 2), 1S-90S.
- Cath, D. C., van Grootheest, D. S., Willemsen, G., van Oppen, P., & Boomsma, D. I. (2008). Environmental factors in obsessive-compulsive behavior: Evidence from discordant and concordant monozygotic twins. *Behavior Genetics, 38*, 108-120.
- Cauce, A. M., Domenech-Rodriguez, M., Paradise, M. Cochran, B. Shea, J., Munyi, S. D., & Baydar, N. (2002). Cultural and contextual influences in mental health help seeking: A focus on ethnic minority youth. *Journal of Consulting and Clinical Psychology, 70*(1), 44-55.
- Cermele, J., Melendez-Pallito, L., & Pandina, G. (2001). Intervention in compulsive hoarding. *Behavior Modification, 25*, 214-232.
- Ciarrochi, J. V., & Deane, F. P. (2001). Emotional competence and willingness to seek help from professional and nonprofessional sources. *British Journal of Guidance and Counseling, 29*, 233-246.
- Clarizio, H. F. (1991). Obsessive-compulsive disorder: The secretive syndrome. *Psychology in the Schools, 28*(2), 106-115.
- Cohen, J. (1988). *Statistical power for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.

- Cooper, M. (1996). Obsessive-compulsive disorder: Effects on family members. *American Journal of Orthopsychiatry*, 66, 296-304.
- Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, 24, 349-354.
- DuPont, R. L., Rice, D. P., Miller, L. S. et al. (1996). Economic cost of anxiety. *Anxiety*, 2, 167-172.
- Deckersback., T, Otto, M. W., Savage, Baer, C. R., & Jenike, M. A. (2000). The relationship between semantic organization and memory in obsessive-compulsive disorder. *Psychotherapy and Psychosomatics*, 69, 101-107.
- Diler, R. S., & Avci, A. (2002). Sociodemographic and clinical observations of Turkish children and adolescents with obsessive-compulsive disorder. *Croatian Medical Journal*, 43(3), 324-329.
- Dubow, E. F., Louko, K. R., & Kausch, D. F. (1990). Demographic differences in adolescents' health concerns and perceptions of helping agents. *Journal of Clinical Child & Adolescent Psychology*, 19(1), 44-54.
- Edens, J. F., Buffington, J. K., Tomicic, T. L., & Riley, B. D. (2001). Effects of positive impression management on the Psychopathic Personality Inventory. *Law and Human Behavior*, 25, 235-256.
- Erikson, E.H. (1968). *Identity: Youth and Crisis*. New York, NY: Norton.
- Fink, A. (1995). *How to analyze survey data*. Thousand Oaks, CA: Sage Publications, Inc.
- Flament, M. F., Koby, E., Rapoport, J. L., Berg, C. J., Zahn, T., Cox, C., Denckia, M., & Lenane, M. (1990). Childhood obsessive-compulsive disorder: A prospective follow-up study. *Journal of Child Psychology and Psychiatry*, 31, 363-380.

- Flament, M. G., Whitaker, A., Rapoport, J. L. et al. (1988). Obsessive compulsive disorder in adolescence: An epidemiological study. *Journal of the American Academy of Child & Adolescent Psychiatry*, 27, 764-771.
- Fleeger, D. (1995). OCD since childhood: Growing up feeling different. *The Journal of the California Alliance for Mentally Ill*, 6, 27-29.
- Foa, E. B., Kozak, M. J., Salkovskis, P., Coles, M. E., & Amir, N. (1998). The validation of a new obsessive-compulsive scale: The Obsessive-Compulsive Inventory. *Psychological Assessment*, 10, 206-214.
- Foa, E. B., Huppert, D., Leiberg, S., Langner, R., Kichic, R., Hajcak, G., & Salkovskis, P., M. (2002). The Obsessive-Compulsive Inventory: Development and validation of a short version. *Psychological Assessment*, 14, 485-496.
- Fogel, J. (2003). An epidemiological perspective of obsessive-compulsive disorder in children and adolescents. *Canadian Academy of Child and Adolescent Psychiatry*, 12, 33-36.
- Fontenelle, L. F., Mendlowicz, M. V., & Versiani, Marcio. (2005). Clinical subtypes of obsessive-compulsive disorder based on the presence of checking and washing compulsions. *Rev Bras Psiquiatr*, 27(3), 201-207.
- Foster, S. (1995). *Comparison of knowledge of obsessive-compulsive behavior between counseling students and school administration students*. Unpublished manuscript, Sam Houston State University.
- Fowler, F. J. (2002). *Applied Social Research Methods Series: Volume 1* (3rd Ed.). Thousand Oaks, CA: Sage Publications.

- Freston, M. H., & Ladouceur, M. (1993). Appraisal of cognitive intrusions and responsive style: Replication and extension. *Behavior Research Theory*, *31*, 181-190.
- Freston, M. H., Ladouceur, M., Gagnon, F., & Thibodeau, N. (1992). Intrusive thoughts, worry, and obsessions: Empirical and Theoretical distinctions. In: World Congress of Cognitive Therapy, Toronto.
- Friedman, S., Hatch, M. Parakis, C., & Shalita, A. R. (1993). Obsessive compulsive disorder in 2 Black ethnic groups: Incidence in an urban dermatology clinic. *Journal of Anxiety Disorders*, *7*, 434-438.
- Frost, R., & Gross, R. (1993). The hoarding of possessions. *Behaviour Research and Therapy*, *32*, 367-381.
- Frost, R. O., Hartl, T. L., Christian, R., & William, N. (1995). Value of possessions in compulsive hoarding: Patterns of use and attachment. *Behavior Research and Therapy*, *33*, 897-902.
- Frost, R. O., & Hartl, T. L. (1996). A cognitive-behavioral model of compulsive hoarding. *Behaviour Therapy and Research*, *34*, 341-350.
- Frost R.O., & Steketee, G. (1998) Hoarding: clinical aspects and treatment strategies. In M. Jenike, L. Baer, & W. Minichiello (Eds), *Obsessive Compulsive Disorders: Theory and management* (pp. 533-554). Philadelphia, PA., Mosby Yearbook, Inc.
- Frost, R., Steketee, G., Willians, L., & Warren, R. (2000). Mood, personality disorder symptoms and disability in obsessive compulsive hoarders: A comparison with clinical and nonclinical controls. *Behavior Research and Therapy*, *38*(11), 1071-1081.

- Geller, D. A., Biederman, J., Jones, J., Shapiro, S., Schwartz, S., & Park, K., S., (1988).
Obsessive-compulsive disorder in children and adolescents: A review. *Harvard
Review of Psychiatry*, 5, 260-273.
- Geller, D. A., Biederman, J., Jones, J., Park, K., Schwartz, S., Shapiro, S., & Coffey, B.
(1998). Is juvenile obsessive-compulsive disorder a developmental subtype of the
disorder: A review of the pediatric literature. *Journal of the American Academy of
Child and Adolescent Psychiatry*, 34(4), 420-427.
- Goodman, W. K., Price, L. H., Rasmussen, S. A., Mazure, C., Fleischmann, R. L., Hill, C.
L., Heninger, G. R., & Charney, D. S. (1989). The Yale–Brown Obsessive–
Compulsive Scale: I. Development, use, and reliability. *Archives of General
Psychiatry*, 46, 1006– 1011.
- Goodwin, R., Koenen, K. C., Hellman, F., Guardino, M., & Struening, E. (2002).
Helpseeking and access to mental health treatment for obsessive-compulsive
disorder. *Acta Psychiatrica Scandinavica*, 106, 143-149.
- Greenberg, D. (1987). Compulsive hoarding. *American Journal of Psychotherapy*, 41(3),
409-416.
- Greenburg, B. D., Pinto, A., Mancebo, M. C., Eisen, J. L., & Rasmussen, S. A. (2006).
Obsessive compulsive disorder: Recognition across medical settings and
treatments from behavior therapy to neurosurgery. *Medicine & Health/Rhode
Island*, 89, 162-165.
- Grisham, J. R., Brown, T. A., Savage, C. R., Steketee, G., & Barlow, D. (2007).
Neuropsychological impairment associated with compulsive hoarding. *Behavior
Research and Therapy*, 45, 1471-1483.

- Haavet, O. R., Straand, J. Hjortdahl, P., Saugstad, O. D. (2005). Do negative life experiences predict the health-care-seeking of adolescents? A study of 10th-year students in Oslo, Norway. *Journal of Adolescent Health, 37*, 128-134.
- Hajcak, G., Huppert, J. D., Simons, R., & Foa, E. B. (2004). Psychometric properties of the OCI-R in a college sample. *Behaviour Research and Therapy, 42*, 115-123.
- Hamilton, M. (1960). A rating scale for depression. *Journal of Neurology, Neurosurgery, Psychiatry, 23*, 56-62.
- Hanna, G. L. (1995). Demographic and clinical features of obsessive-compulsive disorder in children and adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry, 31*, 19-27.
- Harter, S. (1990). Developmental differences in the nature of self-representations: Implications for the understanding, assessment, and treatment of maladaptive behavior. *Cognitive Therapy and Research 14*, 113-142.
- Hartwig, F., & Dearing, B. E. (1979). *Exploratory data analysis. Series: Quantitative applications in the social sciences*. London: Sage Publications.
- Heppner, P. P., Kivhghan, D. M., & Wampold, B. E. (1999) *Research design in counseling* (2nd Ed.). Belmont, CA: Wadsworth Publishing Company.
- Heyman, I., Fombonne, E., Simmons, H., Ford, T., Meltzer, H. & Goodman, R. (2001). Prevalence of obsessive-compulsive disorder in the British Nationwide Survey of Child Mental Health. *British Journal of Psychiatry, 17*, 324-329.
- Hodgson, R. J. & Rachman, S. (1977). Obsessional-compulsive complaints. *Behaviour Research and Therapy, 15*, 389-395.

- Hollander, E., Kwon, J. H., Stein, D. J., Broatch, J., Rowland, C. T., & Himelein, C. A. (1996). Obsessive-compulsive and spectrum disorders: Overview and quality of life issues. *Journal of Clinical Psychiatry, 57*, S3-S6.
- Hollander, E., Stein, D. J., Kwon, J. H., Rowland, C., Wong, C. M., Broatch, J. et al. (1998). Psychosocial function and economic costs of obsessive-compulsive disorder. *CNS Spectrums, 3*, 48-58.
- Honjo, S., Hirano, C., Murase, S., Kaneko, T., Sugiyama, T., Ohtaka, K., Ayoama, T., Takei, T, Inoko, K., & Wakabayashi, S. (1989). Obsessive-compulsive symptoms in childhood and adolescence. *Acta Psychiatrica Scandinavica, 80*, 73-91.
- Horwath, E. & Weissman, M. M. (2000). The epidemiology and cross-national presentation of obsessive-compulsive disorder. *Psychiatric Clinics of North America, 23*, 493-507.
- Jenike, M. A. (1989). Obsessive-compulsive and related disorders: A hidden epidemic {Editorial; comment}. *New England Journal of medicine, 32* (8), 539-541.
- Johnson, H. F., & Fruehling, J. J. (2002). *Obsessive compulsive disorder in children and adolescents*. Madison, WI: Rockston.
- Johnston, H. F., & March, J. S. (1992). Obsessive-compulsive disorder in children and adolescents. In W. Reynolds (Ed.), *Internalizing disorders in children and adolescents*, (pp. 107-148). New York, NY: J. Wiley & sons.
- Karno, M., Golding, J. M., Sorenson, S. B., & Burnam, A. (1988) The epidemiology of obsessive-compulsive disorder in five U.S. communities. *Archives of General Psychiatry, 45*, 1094-1099.

- Karno, M., & Golding, J., M. (1991). Obsessive compulsive disorder. In L. N. Robins & D. A. Regier (Eds), *Psychiatric disorders in American: The Epidemiologic Catchment Area Study* (pp. 204-219). New York, NY: Free Press.
- Kaufman, J., Birmaher, B., Brent, D., & Rao, U. (1997). Schedule for Affective Disorders and Schizophrenia for School- Age Children-Present and Lifetime Version (K-SADS-PL): Initial reliability and validity data. *Journal of the American Academy of Child & Adolescent Psychiatry*, 36, 980–988.
- Kendall, P. C. (1993). Cognitive-behavioral therapies with youth: Guiding theory, current status, and emerging developments, *Journal of Consulting and Clinical Psychology*, 61(2), 235-249.
- Kendall, P.C. (1994). Treating anxiety disorders in children: Results of a randomized clinical trial. *Journal of Consulting and Clinical Psychology*, 62, 100-110.
- Kendurkar, A., & Kaur, B. (2008). Major depressive disorder, obsessive-compulsive disorder, and generalized anxiety disorder: Do the sexual dysfunctions differ? *Journal Clinical Psychiatry*, 10(4), 299-305.
- Kennedy, B. L., & Schuab, J. J. (1997). Utilization of medical specialists by anxiety disorder patients. *Psychosomatics*, 38, 109-112.
- Koran, L. M., Thienemann, M. L., & Davenport, R. (1996). Quality of life for patients with obsessive-compulsive disorder. *Journal of American Academy of Child & Adolescents Psychiatry*, 153, 783-788.
- Krauth, L., (2007, Spring). Scrupulosity: Blackmailed by OCD in the name of God. *The OCD Newsletter*, 21(2), 4-5.

- Kramer, T. L., Phillips, S. D., Hargis, M. B., Miller, T. L. Burns, B. J., & Robbins, J. M. (2004). Disagreement between parent and adolescent reports of functional impairment. *Journal of Child Psychology and Psychiatry*, *45*, 248-259.
- Kuhl, J., Jarkon-Horlick, L., & Morrisey, R. F. (1997). Measuring barriers of help-seeking behavior in adolescents. *Journal of Youth and Adolescence*, *36*(6), 637-651.
- Laplane D, Levasseur M, Pillon B, Dubois B, Baulac M, Mazoyer B et al. (19689). Obsessive-compulsive and other behavioural changes with bilateral basal ganglia lesions. *Brain: A Journal of Neurology*, *112*, 699-725.
- Last, C. G., & Strauss, C. C. (1989). Obsessive-compulsive disorder in childhood. *Journal of Anxiety Disorders*, *3*, 295-302.
- Leckman, J. F., Grice, D. E., Boardman, J., Zang, H., Vitale, A., Bondi, C., et al. (1997). Symptoms of obsessive-compulsive disorder. *American Journal of Psychiatry*, *154*(7), 911-917.
- Liebowitz, M., Turner, S., Piacentini, J., Beidel, D., Clarvit, S., Davies, S., et al. (2002). Fluoxetine in children and adolescents with OCD: A placebo-controlled trial. *Journal of the American Academy of Child & Adolescent Psychiatry*, *41*, 1431-1438.
- Loo, R., & Thorpe, K. (2000). Confirmatory factor analyses of the full and short versions of the Marlowe-Crowne Social Desirability Scale. *Journal of Social Psychology*, *140*, 628-635.

- March, J. S., & Benton, C. M. (2007). *Talking back to OCD: The program that helps kids say "no way" –and parents say "way to go"*. New York, NY: The Guildford Press.
- March, J. S., Franklin, M., Nelson, A., & Foa, E. (2001). Cognitive-behavioral for pediatric obsessive-compulsive disorder. *Journal of Clinical Child Psychology, 30*, 8-18.
- March, J. S., Leonard, H. L., & Swedo, S. E. (1995). Obsessive-compulsive disorder. In J. S. March (Ed.), *Anxiety Disorders in children and adolescents* (pp. 251-275). New York: the Guilford Press.
- March, J. S., & Mulle, K. (1998). *OCD in children and adolescents*. New York: The Guildford Press.
- Martin, J. & Thienemann, M. (2005). Group CBT with family involvement for middle school-age children with OCD: A pilot study. *Child Psychiatry and Human Development, 36*, 113–127.
- Mataix-Cols, D., Rauch, S. L., Manzo, P. A., Jenike, M. A., & Baer, L. (1999). Use of factor-Analyzed symptom dimensions to predict outcome with serotonin reuptake inhibitors and placebo in the treatment of obsessive-compulsive disorder. *American Journal of Psychiatry, 156*(9), 1409-1416.
- Mataix-Cols, Rasario-Campos, M. C., & Leckman, J. F. (2005). A multidimensional model of obsessive-compulsive disorder. *American Journal of Psychiatry, 16*, 228-238.
- Mayerovitch, J. L., du Fort, G. G., Kakuma, R., Bland, R. C., Newman, S. C., & Pinard, G. (2003). Treatment seeking of obsessive-compulsive disorder: Role of

obsessive-compulsive disorder symptoms and comorbid psychiatric diagnoses.

Comprehensive Psychiatry, 44, 462-168.

McKay, D., Abramowitz, J. S., Calamari, J. E., Kyrios, M., Radomsky, A., Sookman, D.,

Taylor, S., & Wilhelm. (2004). A critical evaluation of obsessive-compulsive

disorder subtypes: Symptoms versus mechanisms. *Clinical Psychology Review*,

24, 283-313.

Muller, J., & Roberts, J. E. (2005). Memory and attention in obsessive-compulsive

disorder: a review. *Anxiety Disorders*, 19, 1-28.

National Association of School Psychologists. (2002). *School psychologists: Providing*

mental health services to improve the lives and learning of children and youth

{Brochure}. Bethesda, MD: Author.

Neal, A. M., & Turner, S. M. (1991). Anxiety disorders research with African

Americans: Current status. *Psychological Bulletin*, 109, 400-410.

Nestadt, G., Smmuels, J. F., Romanoski, A., J., Folstein, M. F., & Mc Hugh, P. R. (1994).

Obsessions and compulsions in the community. *Acta Psychiatrica Scandinavica*,

89, 219-224.

Niehous, D. J., & Stein, D. J. (1997). Obsessive-compulsive disorder: Diagnosis and

assessment. In *Obsessive-Compulsive Disorders: Diagnosis, Etiology, Treatment*,

edited by Eric Hollander and Dan J. Stein. New York: Marcel Dekker, Inc.

Obsessive-Compulsive Foundation. (2006). Information on obsessive-compulsive

disorder. Retrieved January 29, 2006 from Internet <http://www.ocfoundation.org>

Offer, D., Howard, K. I., Schonert, K. A., & Ostrov, E. J. D. (1991). To whom do

adolescents turn for help? Differences between disturbed and nondisturbed

- adolescents. *Journal of the American Academy for Child & Adolescent Psychiatry*, 30, 623-630.
- Pallant, J. (2007). *SPSS survival manual* (3rd ed.). NY: Mc Graw Hill, Open University Press.
- Pedhazur, E. J. (1997). *Multiple Regression in Behavioral Research* (3rd ed.). Orlando, FL: Harcourt Brace.
- Placentini, J., & Bergman, R. L. (2000). Obsessive-compulsive disorder in children. *Psychiatry of Clinical North America*, 23, 519-533.
- Placentini, J., Bergman, L., Keller, M., & McCracken, J. (2003). Functional impairment in children and adolescents with obsessive-compulsive disorder. *Journal of Child and Adolescent Psychopharmacology*. 13, suppl. 1, S61-S69.
- Placentini, J., Peris, T. S., Bergman, L., Chang, S. & Jaffer, M. (2007). Functional impairment in childhood OCD: Development and psychometrics properties of the Child Obsessive-Compulsive Impact Scale-Revised (COIS-R). *Journal of Clinical Child and Adolescent Psychology*, 36(4), 645-653.
- Pollard, C. A., Henderson, J. G., Frank, M., & Margolis, R. B. (1989). Help-seeking patterns of anxiety-disordered individuals in the general population. *Journal of Anxiety Disorders*, 3(33), 131-138.
- Rapoport, J. (1989). *The boy who couldn't stop washing*. New York: E. P. Dutton.
- Rapoport, J. (1989). *Obsessive-compulsive disorder in children & adolescents*. American Washington, DC: Psychiatric Press, Inc.
- Rapoport, J., & Inoff-Germain, G. (2000). Practitioner review: Treatment of obsessive-

- compulsive disorder in children and adolescents. *Journal of Child Psychiatry*, 41, 419-434.
- Rachman, S. (1997). A cognitive theory of obsessions. *Behavior Research and Therapy*, 35, 793-802.
- Rachman, S. (1998). *Anxiety*. Hove, UK: Psychology Press.
- Rachman, S. (2003). *The treatment of obsessions*. New York, NY: Oxford University Press.
- Rachman, S., & Hodgson, R. J. (1980). *Obsessions and compulsions*. Englewood Cliffs, NJ: Prentice Hall.
- Rasmussen, S. A. (1986). Obsessive compulsive disorder in dermatologic practice. *Journal of the American Academy of Dermatology*, 13(6), 965-967.
- Rasmussen, S. A., & Eisen, J. L. (1994). The epidemiology and differential diagnosis of obsessive compulsive disorder. *Journal of Clinical Psychiatry*, 55(suppl), 5-10.
- Rasmussen, S. A., & Tsuang, M. T. (1986). Clinical characteristics and family history in DSM- III obsessive-compulsive disorder. *American Journal of Psychiatry*, 143, 317-322.
- Rauch S. L, Whalen P. J., Dougherty, D. D., & Jenike, M. A. (1998). Neurobiological models of obsessive compulsive disorders. In M. A. Jenike, L. Baer, & W. E. Minichiello (Eds), *Obsessive-Compulsive Disorders: Practical Management*, (pp. 222-253). Boston: Mosby.
- Rickwood, D. J., & Braithwaite, V. A. (1994). Social-psychological factors affecting help-seeking for emotional problems. *Social Science and Medicine*, 39, 563-572.

- Rickwook, D., Deane, F. P., Coralie, J. Wilson, C. J., & Ciarrochi, J. (2005) Young people's help-seeking for mental health problems. *Australian Journal for Advancement of Mental Health*, 4(3), 1-34.
- Rettew, D. C., Swedo, S. E., Leonard, H. L., Lanane, M. C., & Rapoport, J., L. (1992). Obsessions and compulsions across time in 79 children and adolescents with obsessive-compulsive disorder. *Journal of the American Academy for Child & Adolescent Psychiatry*, 31(6), 1050-1056.
- Reynolds, W. M. (1982). Development of reliable and valid short forms of the Marlowe-Crowne Social Desirability Scale. *Journal of Clinical Psychology*, 38(1), 119-125.
- Robins, L. N., Locke, B. Z., & Regier, D. A. (1991). In L. N. Robins, and D. A., Regier (Ed.), *Psychiatric Disorders in American*, (pp. 328-386). New York: Free Press.
- Samuels, J., Bienvenu, O. J., Riddle, M. A., Cullen, B. A. M., Grados, M. A., Liang, K. – Y., Hoehn-Saric, R., & Nestadt, G. (2002). Hoarding in obsessive compulsive disorder: Results from a case-control study. *Behavioral Research and Therapy*, 40(5), 517-528.
- Saunders, S., M., Resnick, M. D., Hoberman, M. M., & Blum, R. W. (1994). Formal help-seeking behavior of adolescents identifying themselves as having mental health problems. *Journal of the American Academy of Child & Adolescent Psychiatry*, 33, 718-728.
- Savage, C. R., Baer, L., Kauthen, N., Brown, H. D., Rauch, S. L., & Jenike, M. A. (1999). Organizational strategies mediate nonverbal memory impairment in obsessive-compulsive disorder. *Biological Psychiatry*, 45, 905-916.

- Sawyer, M. G., Arney, F. M., Baghurst, P. A., Clark, J. J., Giraetz, B. W., Kosky, R. J., Nucombe, B., Patton, G. C., Prior, M. R., Raphael, B. Rey, J., Whaites, L. C., & Zabrik, S. R. (2001). The mental health of young people in Australia: key findings from the child and adolescent component of the national survey of mental health and well-being. *The Australian and New Zealand Journal of Psychiatry, 35*(6), 806-814.
- Scahill, L., Riddle, M. A., McSwiggin-Haridin, M., Ort, S. L., King, R. A., Goodman, W. K., Cicchetti, D., & Leckman, J. F. (1997). Children's Yale-Brown obsessive compulsive scale: reliability and validity. *Journal of the American Academy of Child & Adolescent Psychiatry, 36*, 844-852.
- Schonert-Reichl, K. A., & Muller, J. R. (1996). Correlates of help seeking in adolescence. *Journal of Youth and Adolescence, 25*, 705-731.
- Schwartz, J. M., & Bayette, B. (1997). *Brain lock: Free yourself from obsessive-compulsive behavior*. New York, NY: Harper Collins Publishers.
- Seedat, S., & Stein, D. (2001). Hoarding in obsessive-compulsive disorder and related disorders: A preliminary report of 15 cases. *Psychiatry and Clinical Neurosciences, 56*, 17-23.
- Seiffge-Kenke, I. (1989). Problem intensity and the disposition of adolescents to take therapeutic advice. In M. Brambring, F., Losel, and H. Skowronek (Ed.). *Children at risk: Assessment, longitudinal research and intervention*. New York, NY: Waltz de Gruyter.
- Seiffge-Kenke, I. (1990). Coping style in adolescence. A cross cultural study. *Journal of Cross-Cultural Psychology, 21*, 351-377.

- Shafron, R. (1998). Childhood obsessive-compulsive disorder. In P. Graham (Ed.), *Cognitive-behavior therapy for children and families* (pp. 45-73). Cambridge: Cambridge University Press.
- Shapiro, S., Skinner, E. A., Kessler, L. G., et al. (1984). Utilization of health and mental health services. *Archives of General Psychiatry*, *41*, 971-978.
- Sheffield, J. K., Fiorenza, E. F., & Scfronoff, K. (2004). Adolescents' willingness to seek psychological help: Promoting and preventing factors. *Journal of Youth and Adolescence*, *33*(6), 495-507.
- Sher, K. J., Mann, B., & Frost, R.O. (1984). Cognitive deficits in compulsive checkers: Further explorations. *Behaviour Research and Therapy*, *22*, 493-502.
- Smári, J., Ólason, D. T., Eyþórsdóttir, Á., & Frörlunde, M. B. (2007). Psychometric properties of the Obsessive Compulsive Inventory-Revised among Icelandic college students. *Scandinavian Journal of Psychology*, *48*(2), 127-133.
- Stanley, M. A., & Turner, S. M. (1995). Current status of pharmacological and behavioral treatment of obsessive-compulsive disorder. *Behavior Therapy*, *26*, 163-186.
- Steketee, G., Frost, R. O., & Kyrios, M. (2003). Cognitive aspects of compulsive hoarding. *Cognitive Therapy and Research*, *27*, 463-479.
- Steketee, G., Frost, R. O., Wincze, J., Greene, K., & Douglass, H. (1999). Group and individual treatment of compulsive hoarding: A pilot study. *Behavioural and Cognitive Psychotherapy*, *28*, 259-268.
- Stein, M. B., Forde, D. R., Anderson, G., & Walker, J. R. (1997). Obsessive-compulsive disorder in the community: A epidemiologic survey with clinical reappraisal. *American Journal of Psychiatry*, *154*(8), 1120-1126.

- Storch, E. A., Murphy, T. K., Geffken, G. R., Soto, O., Sajid, M., Allen, P., Roberti, J. W., Killiany, E. B., & Goodman, W. K. (2004). Psychometric evaluation of the Children's Yale-Brown Obsessive-Compulsive Scale. *Psychiatry Research, 129*, 91-98.
- Strauss, E., Sherman, E. M. S., & Spreen, O. (2006). *A compendium of neuropsychological tests: Administration, norms, and commentary*. New York, NY: Oxford University Press.
- Sue, S., & Sue, D.W. (1974). MMPI comparisons between Asia-Americans and non-Asian students utilizing a student psychiatric clinic. *Journal of Counseling Psychology, 21*, 423-427.
- Summerfeldt, L., Richter, M., Antony, M., & Swinson, R. (1999). Symptom structure in obsessive-compulsive disorder: A confirmatory factor-analytic study. *Behaviour Research and Therapy, 37*, 297-311.
- Swedo, S. E. & Rapoport, J. L. (1989). Phenomenology and differential diagnosis of obsessive-compulsive disorder in children and adolescents. In J. L., Rapoport (Ed.), *Obsessive-compulsive disorder in children and adolescents* (pp. 13-32). Washington, DC: American Psychiatric Press.
- Swedo, S. E., Rapoport, J. L., Leonard, H., Lenan, M., & Cheslow, D. (1989). Obsessive-compulsive disorder in children and adolescents. *Archives of General Psychiatry, 46*, 335-341.
- Swinson, P. S., Antony, M. M., Rachman, S., & Richter, M. A. (1998). *Obsessive-compulsive disorder: Theory, research, and treatment*. New York: Guilford Press.

- Tallis, F., Pratt, P., & Jamani, N. (1999). Obsessive compulsive disorder, checking and non-verbal memory a neuropsychological investigation. *Behaviour Research and Therapy*, 37, 161-166.
- Tabachnick, B. G., & Fidell, L. S. (2001). *Computer-Assisted Research Design and Analysis*. Boston, MA: Allyn and Bacon.
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.) Needham Heights, MA: Allyn and Bacon.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.) Needham Heights, MA: Allyn and Bacon.
- Thomsen, P. H. (1991). Obsessive compulsive symptoms in children and adolescents. A phenomenological analysis of 61 Danish cases. *Psychopathology*, 24, 12-18.
- Thomsen, P. H. (2000). Obsessions: The impact and treatment of obsessive-compulsive disorder in children and adolescents. *Journal of Psychopharmacology*, 14, S31-S37.
- Thomsen, P. H., & Mikkeldrn, M. U. (1995). Course of obsessive-compulsive disorder in children and adolescents: A prospective follow-up study of 23 Danish cases. *Journal of American Academy of Child & Adolescents Psychiatry*, 34, 1432-1440.
- United States Public Health Service. (2000). *Report of the Surgeon General's conference on children's mental health: A national action agenda*. Washington, DC: Department of Health and Human Services.
- Walker, D. L., Cross, A. W., Heyman, P. W. Ruch-Rose, H., Benson, P., & Tuthill, J. W. G. (1982). Comparisons between inner-city and private school adolescents' perceptions of health problems. *Journal of Adolescent Health Care*, 3(2), 82-90.

- Weissman, M. M., Bland, R. C., Canino, G. J. et al. (1994). The cross national epidemiology of obsessive compulsive disorder: The Cross National Collaborative Group. *Journal of Clinical Psychiatry, 55*, 5-10.
- Whitaker, A., Johnson, J., Shaffer, D. et al., (1990). Uncommon troubles in young people. *Archives of General Psychiatry, 47*, 487-496.
- Wilson, C. J., Deane, F. P., & Ciarrochi, J. (2005). Can hopelessness and adolescents' beliefs and attitudes about seeking help account for help negation? *Journal of Clinical Psychology, 61*, 1525-1539.
- Wilson, C. J., Deane, F. P., Ciarrochi, J., & Rickwood, D. (2005). Measuring help-seeking intentions: Properties of the general help-seeking questionnaire. *Canadian Journal of Counseling, 39*, 15-28.
- Williams, K. E., & Koran, L. M. (1997). Obsessive-compulsive disorder in pregnancy, the puerperium, and the premenstruum. *Journal of Clinical Psychiatry, 58*, 330-334.
- Winsner, K. L., Peindl, K. S., Gigliotti, T., & Hanusa, B. H. (1999). Obsessions and compulsions in women with postpartum depression. *Journal of Clinical Psychiatry, 60*(3), 176-180.
- World Health Organization. (1999). *The newly defined' burden of mental problems: Fact Sheets no. 217*. Retrieved January 18, 2008 from <http://www.who.int/whr/en>.
- Valleni-Basile, A., Garrison, C. Z., Waller, J. L., Addy, C., L., McKeown, R. E., Jackson, K. L., & Cuffe, S. P. (1996). Incidence of obsessive-compulsive disorder in a community sample of young adolescents. *Journal of American Academy of Child & Adolescent Psychiatry, 35*, 898-906.

- Valderhaug, R., & Ivarsson, T. (2005). Functional impairment in clinical samples of Norwegian and Swedish children and adolescents with obsessive-compulsive disorder. *European Child & Adolescent Psychiatry, 14*, 164–173.
- Valderhaug, R., Larsson, B., Gotestam, G., & Piacentini, J. (2006). An open clinical trial with cognitive behavior therapy administered in outpatient psychiatric clinics to children and adolescents with OCD. *Behavior Research and Therapy, 45*, 577–589.
- Zohar, A. H. (1999). The epidemiology of obsessive-compulsive disorder in children and adolescents. *Child Adolescent Psychiatry, 8*, 445-460.
- Zohar, A. H., Ratzoni, F., Pauls, D. L. et al. (1992). An epidemiological study of obsessive-compulsive disorder and related disorders in Israeli adolescents. *Journal of American Academy for Child & Adolescent Psychiatry, 31*, 1057-1061.
- Zook A., & Sippes, G. J. (1985). Cross-validation of short form of the Marlowe-Crown Social Desirability Scale. *Journal of Clinical Psychology, 41*, 236-238.
- Zitterl, W., Urban, C., Linzmayer, L., Aigner, M., Demal, U., et al. (2001). Memory deficits in patients with DSM IV obsessive-compulsive disorder. *Psychopathology, 34*, 113-117.
- Zwaanswijk, J., Verhaak, P. F. M., Bensing, J. M., Ende, J., & Verhalst, F. C. (2003). Help seeking for emotional and behavioral problems in children and adolescents. A recent literature. *European Child & Adolescent Psychiatry, 12*, 153-161.

APPENDIX A

Email Permission: Penn State Office of Research Protections

Date: November 26, 2008

From: Jodi L. Mathieu, Assistant Director – IRB Operations

To: Terry L. Pertuit

Subject: Results of Review of Proposal - Expedited (**IRB #29851**)
Approval Expiration Date: November 24, 2009
“The Influence of Distracting Experiences on School Functioning and Help-Seeking Practices of High School Students”

The Social Science Institutional Review Board (IRB) has reviewed and approved your proposal for use of human participants in your research. By accepting this decision, you agree to obtain prior approval from the IRB for any changes to your study. Unanticipated participant events that are encountered during the conduct of this research must be reported in a timely fashion.

Enclosed is/are the dated, IRB-approved informed consent(s) to be used when recruiting participants for this research. Participants must receive a **copy** of the approved informed consent form to keep for their records.

If signed consent is obtained, the principal investigator is expected to maintain the original signed consent forms along with the IRB research records for this research at least three (3) years after termination of IRB approval. For projects that involve protected health information (PHI) and are regulated by HIPAA, records are to be maintained for six (6) years. The principal investigator must determine and adhere to additional requirements established by the FDA and any outside sponsors.

If this study will extend beyond the above noted approval expiration date, the principal investigator must submit a completed Continuing Progress Report to the Office for Research Protections (ORP) to request renewed approval for this research.

On behalf of the IRB and the University, thank you for your efforts to conduct your research in compliance with the federal regulations that have been established for the protection of human participants.

Please Note: The ORP encourages you to subscribe to the ORP listserv for protocol and research-related information. Send a blank email to: L-ORP-Research-L-subscribe-request@lists.psu.edu

/JLM

Enclosure

cc: Jerry G. Trusty

APPENDIX B

Email Permission to Use the OCI-R

From Ellen Kubis <ekubis@mail.med.upenn.edu>
To tlp201@psu.edu
Subject OCI measurement
Date Tue, Mar 18, 2008 08:39 AM

Per Dr. Foa

Hi Terry:

Attached are the OCI long version, the OCI-R shorter version and the article for the OCI-R. Thanks, Ellen

APPENDIX C

Email permission to Use the COIS-R

On Fri, Mar 14, 2008 04:16 PM, wrote:

Terry,

Thanks for your interest. I've attached a copy of the COISR parent and child reports along with our recently published psychometrics paper. We haven't yet examined the COISR in a general population. The primary roadblock is that the COIS was designed to measure "OCD specific" impairment so the measure may not make sense to those without the disorder. However, if the sample were large enough, you might expect some proportion to have subclinical to perhaps even clinical levels of OCD. In that case, it would be interesting to see how sensitive the COISR was to picking up impairments in these individuals. I think you'd need to provide a description of OCD symptoms prior to administering the COISR – some may not know what OCD is or recognize some of their thoughts and behaviors as related to the disorder. The other issue is that it sounds as though you're interested in studying a college sample, however, the COISR was designed and validated for children and adolescents up to age 17.

I'm happy to talk to you more about this if you like, and would support your use of the COISR in your dissertation if it is still something you are interested in doing.

John

John Piacentini, Ph.D., ABPP

Professor of Psychiatry and Biobehavioral Sciences

Director, Child OCD, Anxiety, and Tic Disorders Program

UCLA Semel Institute for Neuroscience and Human Behavior

760 Westwood Plaza, Rm. 68-251

Los Angeles, CA 90024

(310) 206-6649 (o)

(310) 825-2682 (fax)

jpiacentini@mednet.ucla.edu

APPENDIX D

School Cover Letter

Dear School Administrator:

My name is Terry Pertuit. I am a doctoral candidate in the Department of Counselor Education and Supervision at The Pennsylvania State University. I am currently conducting research under the supervision of Dr. Jerry Trusty as part of the dissertation requirements for my doctoral degree, and I am asking for your consideration in allowing me to conduct research in your school. The purpose of this research study is to examine a range of experiences that may be potentially distracting for high school students. The focus of this research is on the associations between these distracting experiences and various areas of school functioning, including students willingness to seek help, for example from a parent, teacher, or counselor.

A study of this nature could be beneficial for several reasons. The information from this study may assist you and other school administrators in enhancing prevention and intervention programs, while giving students a learning opportunity to experience scientific research first hand. There may also be some long-term benefits for students in general as we more clearly understand how adolescents are affected by distracting experiences, and the factors that contribute to seeking help. The data generated from this study might encourage stakeholders to more carefully consider the needs of students who have such experiences and support schools in planning programs that make student services better. This information might also assist students in getting services that will help them to deal with such experiences that cause problems for them in school

If you decide to allow your school to participate in this research, students will be asked to complete four short surveys and a demographic questionnaire that will take an average of 8 minutes to complete in one session. Student participation in this study is voluntary. To ensure that decisions regarding inclusion are informed, all students, parents, and/or guardians will be given sufficient information about the study and will have liberal opportunity to 'opt-out' out of participation. I will be available to go to classrooms to collect the survey packets and to answer any question that the students might have about the questionnaires.

Participation is **ANONYMOUS**. Student identity will be unknown even to the researcher. Students will be instructed **NOT** to write their names or any other identifying information on the study materials. Upon completion, students will be asked to seal their responses in the provided envelope. Although results describing groups of students may be published or presented at professional meetings, no information that could identify individual students will be included. School personnel will **NOT** be allowed to view individual student responses. However, I will be happy to share a summary of the results with you after the research is completed.

I have enclosed copies of all recruitment materials, parental and student consent/assent information, and study questionnaires for your review. As previously mentioned, if you decide to participate in this research, I will share the analyzed aggregate data and summary report with you when the analysis is complete.

Thank you for your time and consideration of allowing your school to participate in this research. If you have any questions or concerns, please feel free to contact me at (609) 937-3227, (985) 549-2309, or tlp201@psu.edu. I am equally open to adjusting any procedures that you deem necessary in order to implement this research in your school. I look forward to an opportunity to work with you and your school personnel and student body.

Sincerely,

Terry L. Pertuit, ABD, LPC, LMFT, NCC
Doctoral Candidate, The Pennsylvania State University

APPENDIX E

Parent Letter

Dear Parents/Guardians:

My name is Terry Pertuit and I am a doctoral candidate in the Department of Counselor Education and Supervision at The Pennsylvania State University. We are seeking the assistance of the students at your child's school to participate in a research study as partial fulfillment of my dissertation-thesis requirement to complete my doctoral degree. Your school administrators have granted their permission for this study to be conducted. Your child will be asked to complete four short surveys. The function of these surveys is to examine a range of experiences that may be potentially distracting for high school students and to study how those experiences relate to school functioning, including students' willingness to seek help from a parent, teacher, or school counselor for example. The purpose of this letter is to provide you with information so you may make a decision regarding your son's or daughter's permission to participate in this study. Your cooperation and assistance is very important because the more we know about how distracting experiences and help-seeking are related for our young people, schools and other community leaders can take specific actions to support students' academic and social development.

All cooperation and participation in this study is strictly voluntary and permission to participate or not will in no way impact your child's grade or school standing. Participation is **ANONYMOUS**. Students will be requested **NOT** to put their names or any other identifying information on the study materials; their identity will be unknown even to the researcher. Since students will not be asked to submit any identifying information, the study is completely confidential. Students may stop answering the survey questions at any time. **NO** school personnel will see any of the students' responses.

Students will be asked to complete four short surveys and a demographic questionnaire that will be completed in one 8-minute session during class-time. On the day of the study, I will be available to answer any questions or concerns that students might have about the questionnaires.

I have enclosed a consent form that provides more detailed information about the study. Please review this information.

If you have any questions about this study, please feel free to contact me at (609) 937-3227, (985) 549-2309, or tjp201@psu.edu. A summary of study results will be made available through the school if you would be interested in obtaining a copy. I hope you will take this opportunity to allow your child to have his/her input included in this important study. Thank you very much in advance for your assistance and cooperation.

Sincerely,

Terry L. Pertuit, ABD, LPC, LMFT, NCC
Doctoral Candidate, The Pennsylvania State University

APPENDIX F



Implied Informed Consent Form for Social Science Research The Pennsylvania State University (STUDENT)

Title of Project: The Influence of Distracting Experiences on School Functioning and Help-Seeking Practices of High School Students

Principal Investigator: Terry L. Pertuit, ABD, LPC, LMFT, NCC
327 CEDAR Building
University Park, PA 16802
(985) 549-5796; tlp201@psu.edu

Advisor: Dr. Jerry Trusty, Ph.D.
327 CEDAR Building
University Park, PA 16802
(814) 863-7536; jgt3@psu.edu

1. **Purpose of the Study:** The purpose of this research study is to learn more about how some everyday experiences distract high school students. We are also interested in learning about how these distracting occurrences are related to students' school experiences, including their willingness to seek help and from whom do they seek help, for example, from teachers and school counselors.
2. **Procedures to be followed:** You will be asked to answer questions on 4 short surveys that will take an average of 8 minutes to complete during a class period. Your teacher is aware of the study and has agreed to allow his/her classroom students to have the opportunity to participate
3. **Discomforts and Risks:** There are no risks in participating in this research beyond those experienced in everyday life.
4. **Benefits:** **There might be long-term benefits for students in general as a result of this study as educators more clearly understand how adolescents are affected by distracting experiences, and the factors that contribute to seeking help. It might encourage educators to more carefully consider the needs of students who have such experiences. This information could help schools plan programs and make student services better. This information might also assist students in getting services that will help them to deal with the experiences that distress or bother them and cause problems for them in school.**
5. **Duration:** Participants in this study will be involved in one 8-minute session.
6. **Statement of Confidentiality:** Your participation in this research is confidential. The surveys do not ask for any information that would identify who the responses belong to. Penn State's Office for Research Protections, the Social Science Institutional Review Board and the Office for Human Research Protections in the Department of Health and Human Services may review records related to this research study. In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared because your name is in no way linked to your responses.
7. **Right to Ask Questions:** Please contact Terry Pertuit at (986) 549-5706 or Dr. Jerry Trusty at (814) 863-7536 with questions, complaints, or concerns about this research. Questions about your rights as a research participant may be directed to Penn State University's Office for Research Protections at (814) 865-1775.
8. **Voluntary Participation:** Your decision to participate in this research is voluntary. You can stop at any time. You do not have to answer any questions you do not want to answer. Refusal to take part in or withdrawing from this study will involve no penalty or loss of benefits that you would receive otherwise. No one at your school will have access to the survey information you provide.

Completion and return of the survey implies that you have read the information in this form and consent to take part in the research. **Please keep this form for your records or future reference.**

ORP USE ONLY: IRB# Doc. #
 The Pennsylvania State University
 Office for Research Protections
 Approval Date:
 Expiration Date:
 Social Science Institutional

APPENDIX G



**Parental Opt-Out Form for Social Science Research
 The Pennsylvania State University (Parents/Guardians)**

Title of Project: The Influence of Distracting Experiences on School Functioning and Help-Seeking Practices of High School Students

Principal Investigator: Terry L. Pertuit, ABD
 327 CEDAR Building
 University Park, PA 16802
 (985) 549-5796; tlp201@psu.edu

Advisor: Dr. Jerry Trusty, Ph.D.
 327 CEDAR Building
 University Park, PA 16802
 (814) 863-7536; jgt3@psu.edu

1. **Purpose of the Study:** The purpose of this research study is to learn more about how some everyday experiences distract high school students. We are also interested in learning about how these distracting occurrences are related to students' school experiences, including their willingness to seek help and from whom do they seek help, for example, from teachers and school counselors.
2. **Procedures to be followed:** Your child will be asked to answer questions on 4 short surveys that will take an average of 8 minutes to complete during a class period. Your child's teacher is aware of the study and has agreed to allow his/her classroom students to have the opportunity to participate.
3. **Discomforts and Risks:** There are no risks in participating in this research beyond those experienced in everyday life.
4. **Benefits:** There might be long-term benefits for students in general as a result of this study as educators more clearly understand how adolescents are affected by distracting experiences, and the factors that contribute to seeking help. It might encourage educators to more carefully consider the needs of students who have such experiences. This information could help schools plan programs and make student services better. This information might also assist students in getting services that will help them to deal with the experiences that distress or bother them and caused problems for them in school.
5. **Duration:** Participants in this study will be involved in one 8-minute session.
6. **Statement of Confidentiality:** Your child's participation in this research is confidential. The surveys do not ask for any information that would identify who the responses belong to. Penn State's Office for Research Protections, the Social Science Institutional Review Board and the Office for Human Research Protections in the Department of Health and Human Services may review records related to this research study. In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared because your name is in no way linked to your responses.
7. **Right to Ask Questions:** Please contact Terry Pertuit at (986) 549-5706 or Dr. Jerry Trusty at (814) 863-7536 with questions, complaints or concerns about this research. Questions about your rights as a research participant may be directed to Penn State University's Office for Research Protections at (814) 865-1775.
8. **Voluntary Participation:** Your decision to allow your child to participate in this research is voluntary. Your child can stop at any time. They do not have to answer any questions they do not want to answer. Refusal to take part in or withdrawing from this study will involve no penalty or loss of benefits that your child would receive otherwise. No one at your child's school will have access to the survey information provided by your child.

Completion and return of the survey implies that you and your child have read the information in this form and consent to take part in the research. **Please keep this form for your records or future reference.**

Please read the following carefully:

If you **DO NOT AGREE** to allow your child to participate in this study, please sign the enclosed OPT-OUT slip on the next page and return it to your child's school by DATE.

If you do not return the slip by DATE, your child will be asked to complete the surveys as described above.

If you **AGREE** to allow your child to participate, you do not need to do anything or return any forms.

APPENDIX H

“Opt-Out” of the Study Form

Study Title: *The Influence of Distracting Experiences on School Functioning and Help-Seeking Practices of High School Students*

If you **DO NOT** want your child to participate in the study, please sign your name and indicated the date below and return it to the school

I DO NOT want my son/daughter _____
(Print Full Name)
to participate in the study.

(Parent / Guardian Signature)

Date

Please return this form to your homeroom teacher by December 7, 2008.

APPENDIX I

Demographic Questionnaire

PLEASE DO NOT PUT YOUR NAME ON THIS SURVEY. This survey is confidential. No one will know how you answered these questions. However, it is important that you answer carefully and tell how you really think and feel. At times, it may be hard to decide what to put for your answer. Just give the first response you think of. This survey is voluntary, so you may stop at any time you want to if you do not want to continue to answer the questions.

1. Age: I am currently _____ years old.

2. I am ___ female, ___ male.

3. I am in the ___ 9th, ___ 10th, ___ 11th ___ 12th grade.

4. Which best describes you?
 ___ Black/African American ___ Asian/Asian American/Pacific Islander

 ___ White (non-Hispanic) ___ Hispanic/Latino ___ Native American

 ___ Other (please specify _____)

5. Which best describes you?
 ___ Currently, I **receive** free / reduce lunch

 ___ Currently, I **do not receive** free / reduce lunch

6. Do you receive any Special Education services? ___ Yes ___ No
 I you answered yes, please mark all that apply to you.

 ___ I am allotted extended time for test, ___ I attend resource classes,
 ___ Other (please specify: _____)

Appendix J

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:

0 = Not at all 3 = A lot
 1 = A little 4 = Extremely
 2 = Moderately

- | | | | | | |
|---|---|---|---|---|---|
| 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 | 3 | 4 |
| 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 | 2 | 3 | 4 |
| 15. I need things to be arranged in a particular order. | 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 K

Child OC Impact Scale - Revised (COIS - R)
Child Self-Report

Please rate how much your “unwanted thoughts” and/or “rituals” you reported earlier have caused problems for you in the following areas over the past month. If a specific question does not apply, mark “Not at all”.

	Not at all	Just a Little	Pretty Much	Very Much
1. Taking tests or exams	0	1	2	3
2. Being with a group of strangers	0	1	2	3
3. Being absent from school	0	1	2	3
4. Going shopping or trying on clothes	0	1	2	3
5. Making new friends	0	1	2	3
6. Going to a friend’s house during the day	0	1	2	3
7. Writing in class	0	1	2	3
8. Eating in public other than a restaurant, like on a picnic, in the park, or at a friend’s house	0	1	2	3
9. Eating meals at home	0	1	2	3
10. Getting to school on time in the morning	0	1	2	3
11. Going on a date	0	1	2	3
12. Visiting relatives	0	1	2	3
13. Going to the bathroom	0	1	2	3
14. Watching television or listening to music	0	1	2	3
15. Reading books or magazines for fun	0	1	2	3
16. Being with a group of people you know	0	1	2	3
17. Going on a family vacation	0	1	2	3
18. Having relatives visit	0	1	2	3
19. Having a friend come to your house during the day	0	1	2	3

Please rate how much your unwanted thoughts and/or rituals you reported earlier have caused problems for you in the following areas over the past month. If a specific question does not apply, mark “Not at all”.

	Not at all	Just a Little	Pretty Much	Very Much
20. Concentrating on your work	0	1	2	3
21. Going to a restaurant or fast food place	0	1	2	3
22. Having a boyfriend/girlfriend	0	1	2	3
23. Going to the movies	0	1	2	3
24. Getting to classes on time during the day	0	1	2	3
25. Keeping friends you already have	0	1	2	3
26. Eating lunch with other kids	0	1	2	3
27. Having someone spend the night at your house	0	1	2	3
28. Being prepared for class, e.g., having your books, paper or pencils ready when needed	0	1	2	3
29. Talking on the phone	0	1	2	3
30. Bathroom or grooming (brushing your teeth or combing his/her hair) in the morning	0	1	2	3
31. Completing assignments in class	0	1	2	3
32. Doing homework	0	1	2	3
33. Getting good grades	0	1	2	3

APPENDIX M

Marlowe-Crowne Social Desirability Scale Form C (Crowne & Marlowe, 1960)

Instructions:

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide **whether the statement is true or false as it pertains to you personally.** Please circle your responses.

- | | | |
|---|------|-------|
| 1. It is sometimes hard for me to go on with my work if I am not encouraged. | True | False |
| 2. I sometimes feel resentful when I don't get my way. | True | False |
| 3. On a few occasions, I have given up doing something because I thought too little of my ability. | True | False |
| 4. There have been times when I felt like rebelling against people in authority even though I knew they were right. | True | False |
| 5. No matter who I'm talking to, I'm always a good listener. | True | False |
| 6. There have been occasions when I took advantage of someone. | True | False |
| 7. I'm always willing to admit it when I make a mistake. | True | False |
| 8. I sometimes try to get even rather than forgive and forget. | True | False |
| 9. I am always courteous, even to people who are disagreeable. | True | False |
| 10. I have never been irked when people expressed ideas very different from my own. | True | False |
| 11. There have been times when I was quite jealous of the good fortune of others. | True | False |
| 12. I am sometimes irritated by people who ask favors of me. | True | False |
| 13. I have never deliberately said something that hurt someone's feelings. | True | False |

APPENDIX N

Summary of OCI-R Subscales by Range and Percentage

Variable	Ranges				
	<u>0</u>	<u>1-3</u>	<u>4-6</u>	<u>7-9</u>	<u>10-12</u>
N = 1075					
OC Behavior					
Obsessing	21%	27%	27%	17%	7%
Washing	16%	32%	26%	19%	6%
Checking	10%	46%	27%	14%	4%
Ordering	10%	29%	27%	21%	13%
Hoarding	8%	37%	30%	18%	7%
Neutralizing	31%	35%	21%	10%	3%

Terry Lynn Pertuit, ABD, LPC, LMFT, NCC
48134 Tin Can Alley
Tickfaw, LA. 70466
(985) 549-3451
tlp201@psu.edu

EDUCATION

Ph.D., Counselor Education and Supervision, August 2009
M.Ed., Community and School Counseling, Southeastern Louisiana University, May 1998
B.M.Ed., Music Education/Instrumental, Southeastern Louisiana University, May 1989

CERTIFICATION OR LICENSURE

Licensed Professional Counselor, LPC #2329, Louisiana, November 2002.
Licensed Marriage and Family Counselor, LMFT #241, Louisiana, December 2002.
National Certified Counselor, NCC #81596, February 2003.

ADMINISTRATIVE AND ACADEMIC EXPERIENCE

Clinical Director, SLU Community Counseling Center for Training, Department of Counseling and Human Development at Southeastern Louisiana University, Hammond, Louisiana, August 2008 to present.

- Manage all facets of the Counseling Center
- Supervise counseling students for Practicum and Internship Experiences

Assistant Director, Academically Gifted and Talented Youth Program at Montclair State University, Montclair, New Jersey, Outreach Program for Primary and Secondary Students, September 2004 – August 2005.

- Oversaw and managed program for over 1200 students with high aptitudes and achievements
- Provided individual, group, and family counseling and educational seminars for student participants and their families

Assistant Director, Upward Bound TRIO Program at Southeastern Louisiana University, Hammond, Louisiana, Outreach Program for Secondary Students bound for University Matriculation, September 2000 – September 2004

- Oversaw and managed federally funded project for over 185 students who were low income, first generation intended college students
- Provided individual, group, and family counseling for students grades 9 – college freshman