

SYMPTOMS OF DEPRESSION IN SIBLINGS OF CHILDREN WITH ADHD

BY

KATHERINE A. WOLCOTT

A DISSERTATION
SUBMITTED TO THE FACULTY OF

ALFRED UNIVERSITY

IN PARTIAL FULFILLMENT OF THE REQUIRMENTS
FOR THE DEGREE OF

DOCTOR OF PYSCHOLOGY

IN

SCHOOL PSYCHOLOGY

ALFRED, NEW YORK

April 20, 2016

SYMPTOMS OF DEPRESSION IN SIBLINGS OF CHILDREN WITH ADHD

BY

KATHERINE A. WOLCOTT

UNIVERSITY AT BUFFALO, B.A. (2008)

ALFRED UNIVERSITY, M.A. (2010)

ALFRED UNIVERSITY, CAS (2011)

AUTHOR _____ Katherine A. Wolcott

APPROVED BY _____ Dr. Cris Lauback
Committee Chairperson

_____ Dr. Jana Atlas
Committee Member

_____ Dr. Larry Greil
Committee Member

_____ Dr. Hannah Young
Committee Member

ACCEPTED BY _____ Mark Fugate, Ph.D.
Chairperson, Division of Counseling & School Psychology

ACCEPTED BY _____ Nancy J. Evangelista, Ph.D.
Associate Provost & Director of Graduate Studies
Dean, College of Professional Studies

ACCEPTED BY _____ W. Richard Stephens, Ph.D.
Provost & Vice President for Academic Affairs

Acknowledgements

It is my sincere pleasure to thank those who made it possible for me to achieve my long-awaited personal goal of receiving my Doctor of Psychology degree from Alfred University. I first need to thank God for continually reminding me over the past five years that His timing is perfect and that not achieving a desired goal within my timeframe does not mean that the result was not meant to be, but rather, I was not ready for the outcome of the result.

I would also like to acknowledge and thank my committee members: Drs. Jana Atlas, Larry Greil, and Hannah Young for their thoughtful guidance, expertise, and patience throughout this process. A special thank you goes out to my Committee Chairperson, Dr. Cris Lauback. Thank you for always being there to listen, encourage, and offer new suggestions/possible solutions. I truly appreciate your dedication to your students and the field of school psychology.

Thank you, mom and dad for always being my biggest fans and believing in me. From an early age, you have demonstrated and instilled in me that hard work, perseverance, and an unfailing belief and love for God is always the answer. Without this guidance, I am not sure I would be where I am today.

Lastly, I would like to thank my husband and best friend, Ben. Thank you for graciously dealing with the countless days, weeks, months, and years of researching and writing (not to mention tuition payments). Despite the countless setbacks, you had a way of remaining positive. You never gave up on me, and you encouraged me to keep going.

Table of Contents

Acknowledgements.....	iv
Table of Contents.....	v
Abstract.....	viii
Chapter1: Introduction.....	1
Depression and Having a Sibling with ADHD.....	1
Limitations of the Reviewed Literature.....	3
Conclusions.....	3
Chapter 2: Literature Review.....	5
Description of Disabilities.....	5
ADHD.....	5
Depression.....	7
Past Research on the Effects of Having a Sibling with a Disability.....	11
Depression and Having a Sibling with ADHD.....	14
Conclusions.....	17
Research Hypotheses.....	18
Chapter 3: Method.....	19
Participants and Demographic Data.....	19
Instrumentation.....	20
Parent Measures.....	20
Demographic Questionnaire.....	20
Conners Rating Scale for ADHD, Third Edition, Short Form (Conners-3).....	21
Target Participant Measures.....	22

Center for Epidemiological Studies Depression Scale for Children (CES-DC).....	22
Procedure.....	22
Data Analysis.....	23
Chapter 4: Results.....	25
T-Test Results.....	25
Regression Results.....	25
Seventeen Participant Sample.....	25
Eighteen Participant Sample.....	26
Sensitivity Analysis.....	27
Chapter 5: Discussion.....	28
Limitations.....	29
Future Research.....	31
Implications for Practice.....	34
Conclusion.....	35
References.....	36
Table 1: Participant Demographic Information.....	40
Table 2: Independent Samples T-Test Results for CES-DC Scores.....	41
Table 3: Multiple Regression Results for the 17 Participant Sample.....	42
Table 4: Multiple Regression Results for the 18 Participant Sample.....	43
Appendices	
Appendix A: Demographic Questionnaire.....	44
Appendix B: Explanation of Research & Informed Consent.....	48
Appendix C: Assent for Participation.....	51

Appendix D: Cover Letter for Parent/Guardian Questionnaires in the ADHD Group.....	53
Appendix E: Cover Letter for Parent/Guardian Questionnaires in the Control Group.....	54
Appendix F: Cover Letter for Target Participant Questionnaire.....	55
Appendix G: Thank you Letter.....	56

Abstract

Having a sibling with a disability has been found to have negative psychological effects, such as depression; however, very little research has focused solely on siblings of children with attention deficit hyperactivity disorder (ADHD). The current study attempted to highlight whether siblings of children with ADHD experience depression symptomology to a greater degree than siblings of children without disabilities. Participants were included in the current study based on meeting the following criteria: target participants were between the ages of 6 and 17 with a biological sibling who may or may not carry a diagnosis of ADHD. Families came from 2 groups based on the siblings' diagnosis. Seven families with at least 1 child with ADHD, and 11 families with all non-disabled children participated. Parents were asked to complete an informed consent and demographic questionnaire, as well as the Conners Rating Scale for ADHD, Third Edition, Short Form (Conners-3) on the target participant to ensure that he/she did not meet the diagnostic criteria for ADHD. Target participants were asked to complete an assent form, as well as the Center for Epidemiological Studies Depression Scale for Children (CES-DC). Two multiple regressions were completed. Results, omitting a statistical outlier within the group consisting of families with a child with ADHD, indicated that siblings of non-disabled children experienced more symptoms of depression than siblings of children with ADHD; however, results including the statistical outlier indicated that both groups of siblings experience similar symptomology of depression. Both results were contrary to the researcher's hypothesis. Given the small sample size of the current study, the individuals that participated in the study may not be a representative sample, and additional research is therefore needed. Overall, the findings of the current study will guide researchers in further investigating this most important topic, and therefore, addressing how to better support families with children with ADHD.

Chapter 1: Introduction

To date, there is an abundance of empirically-based literature highlighting the negative psychological effects of having a sibling with a disability (Bågenholm & Gillberg, 1991; Breslau & Prabucki, 1987; Coleby, 1995; Fisman, Wolf, Ellison, & Gillis, 1996; Gold, 1993; Kendall, 1999; Lyons-Sjostrom, 2004; Macks & Reeve, 2006; McHale & Gamble, 1989; Petalas, Hastings, Nash, Lloyd, & Dowey, 2009; Rossiter & Sharpe, 2001; Singer, 1997). For instance, siblings of children with autism (Bågenholm & Gillberg, 1991; Fisman et al., 1996; Gold, 1993; Macks & Reeve, 2006), as well as those with attention deficit hyperactivity disorder (ADHD) (Kendall, 1999; Singer, 1997) have often exhibited greater symptoms of depression than siblings of non-disabled children. Given that Individualized Family Service Plans (IFSPs) are meant to support families of children with disabilities, and school psychologists are tasked with understanding family influences that shape student wellness and academic achievement, it is imperative that service providers have an understanding of the issues faced by siblings of children with disabilities (American Legion Child Welfare Fund, 2009; Thomas & Grimes, 2008).

Depression and Having a Sibling with ADHD

Since the early 1980s, a large body of research has developed regarding the effects of having a sibling with a disability. Researchers have assessed numerous characteristics of the non-disabled sibling, including his/her self-concept, behavior, locus of control, self-efficacy, symptoms of depression, relationship with the sibling with a disability, and parentification. Much of the research is split or more supportive of the theory that siblings of children with disabilities are no different than siblings of non-disabled children, with the exception of depressive symptomology. It appears that the majority of research supports the premise that siblings of

children with disabilities exhibit more symptoms of depression than siblings of non-disabled children (Stoneman, 2005). Although there have been significantly fewer studies that have assessed symptoms of depression in siblings of children with ADHD than studies addressing siblings of children with autism (Bågenholm & Gillberg, 1991; Fisman et al., 1996; Gold, 1993; Macks & Reeve, 2006; Petalas et al., 2009), existing research has shown that siblings of children with ADHD often suffer from symptoms of depression (Kendall, 1999; Singer, 1997).

Kendall (1999) conducted a qualitative study focusing on an individual's interpretation of interactions with others to examine how siblings of children with ADHD cope with having a sibling with a disability. Results revealed that siblings of children with ADHD regarded disruption, such as aggression, hyperactivity, immaturity, limited academic achievement, learning problems, family conflict, and poor relationships with peers and extended family members, caused by the symptoms of ADHD, as the most significant problems. Kendall (1999) also discovered that siblings of children with ADHD often experienced disruption through sorrow and loss. Non-disabled siblings identified what they thought they missed out on in life because of having a sibling with ADHD (i.e., having a typical childhood), and they indicated that they felt as though they were expected to be invisible and not require a lot of attention because their parents were preoccupied with their sibling with ADHD.

Similarly, Singer (1997) conducted a qualitative study focusing on life experiences of individuals to explore the effects of having a sibling with ADHD. Results indicated that 50% of siblings endorsed arguing and fighting with his/her sibling as common aspects of everyday life. It was also revealed that sibling and parent-child power struggles using manipulation and intimidation frequently occurred within families. In addition, many siblings described the limited parental attention they receive, double standards that exist, and the high parental expectations to

which he/she is often held. Siblings disclosed a variety of emotions (i.e., jealousy, resentment, anger, annoyance, embarrassment, frustration, guilt, and concern) which they frequently experienced due to differential treatment by their parents and their siblings' misbehavior.

However, Singer (1997) revealed that siblings may refrain from sharing their feelings about their sibling with parents. Instead, they may communicate with peers or not tell anyone.

Limitations of the Reviewed Literature

Further investigation into the methodology of these studies suggests caution in their interpretation. In particular, many of the studies have inadequate sample sizes (Bågenholm & Gillberg, 1991; Gold, 1993; Kendall, 1999; Petalas et al., 2009; Singer, 1997); large age ranges for either the target participant, sibling, or both (Bågenholm & Gillberg, 1991; Fisman et al., 1996; Gold, 1993; Kendall, 1999; Lyons-Sjostrom, 2004; Petalas et al., 2009); the absence of a typically developing comparison group (Kendall, 1999; Petalas et al., 2009; Singer, 1997); mixed disability groups (Kendall, 1999; Lyons-Sjostrom, 2004); solely collected maternal reports (Petalas et al., 2009); used too many questionnaires which could have led to fatigue and consequently a response bias (Fisman et al., 1996); and/or exclusively used qualitative interviews (Kendall, 1999; Singer, 1997). These limitations may have interfered with determining the significance, as well as reducing the generalization of results from the aforementioned studies.

Conclusions

While depression in siblings of children with developmental disabilities, such as autism, has been extensively researched, the same cannot be said about siblings of children with ADHD. Furthermore, it is imperative that service providers, such as school psychologists, have an understanding as to how children are affected by having a sibling with a disability in order to better support families. As a result, the present study sought to enhance existing research on the

psychological effects of having a sibling with a disability by empirically comparing the severity of depressive symptoms experienced by siblings of children with ADHD and siblings of non-disabled children. Specifically, the present study, quantitatively, examined whether there is a difference in the severity of depressive symptomology among siblings of children with ADHD and siblings of typically developing children. As a result, the study began to highlight how agencies can begin to better support families of siblings with ADHD. This disability was chosen due to the researcher's interest and personal connection to it.

Chapter 2: Literature Review

The reviewed literature regarding the severity of depressive symptoms experienced by siblings of children with ADHD is limited compared to the literature on siblings of children with various other disabilities (e.g., autism). To better understand the existing literature on the severity of depressive symptomology in siblings of children with ADHD, the following are summarized below: (a) the descriptions of ADHD and depression; (b) existing research on the various negative effects of having a sibling with a disability, including the limited literature that has assessed symptoms of depression in siblings of children with ADHD; and finally (c) the hypothesis of the proposed study.

Description of Disabilities

ADHD. According to the DSM-V (2013), ADHD is commonly diagnosed during childhood or adolescence, and it is more prevalent in males. In most cultures, it occurs in approximately 5% of children and 2.5% of adults. Individuals with ADHD may be diagnosed as predominantly inattentive, hyperactive-impulsive, or both. Predominately inattentive and combined presentations are often characterized by persistent carelessness, attention difficulty, failure to follow through on directions and/or assignments, difficulty with organization, avoidance of activities requiring sustained attention, and forgetfulness. Predominately hyperactive-impulsive and combined presentations are distinguished by persistent fidgeting, difficulty remaining seated when expected, restlessness, inability to quietly participate in leisure activities, excessive loud talking, difficulty waiting one's turn, and often interrupting others. Moreover, these symptoms must be present before the age of 12 for a minimum of six consecutive months; they must cause clinically significant impairment in two or more settings (e.g., school and home); sound evidence indicates that the symptoms interfere with functioning

within the school, community, and/or work environments; and the symptoms cannot be more appropriately explained by another mental disorder (e.g., mood disorder, anxiety disorder, dissociative disorder, personality disorder, substance intoxication, or withdrawal). When diagnosing ADHD, clinicians should also specify whether the individual is in partial remission, as well as the severity of the symptoms (i.e., mild, moderate, or severe).

In addition to the above diagnostic criteria, ADHD has a variety of associated features and diagnoses that individuals may experience. Such features include, “low frustration tolerance, irritability, or mood lability” (DSM-V, 2013, pp. 61). Individuals may also have poor family and peer relationships and difficulty succeeding in school. In fact, roughly 30 to 40% of individuals with ADHD receive special education. Individuals with ADHD may also have poor health outcomes due to stress, growth defects and/or delayed maturity, accident proneness, automobile accidents, and sleep problems (Barkley, 2003). The most common associated diagnoses include oppositional defiant disorder and conduct disorder; however, disruptive mood dysregulation disorder, specific learning disorder, anxiety disorders, major depressive disorder, intermittent explosive disorder, substance use disorders, antisocial and other personality disorders, obsessive-compulsive disorder, tic disorder, and autism spectrum disorder are also comorbid (DSM-V, 2013).

Treating ADHD typically involves psychotropic medication and/or behavior management interventions, which have shown to be effective short-term treatments (DuPaul, Stoner, & O'Reilly, 2008; Pelham & Waschbusch, 1999). According to Carlson (2008), the most common medications available to help treat ADHD are stimulants and include Adderall, Concerta, Dexedrine, Dextrostat, Focalin, Metadate, Methylin, and Ritalin. Further, the only non-stimulant medications that are available include Strattera (Carlson, 2008) and Intuniv (Goodman, 2010).

According to Pelham and Waschbusch (1999), contingency-management programs (e.g., token economy, response-cost, contingent attention, time-out, and removal of privileges) that include sufficient parent training are the most effective behavior management interventions. These interventions often occur at mental health facilities, schools, and at home (DuPaul et al., 2008; Pelham & Waschbusch, 1999), and therefore, can be broken down into teacher-mediated, parent-mediated, peer-mediated, computer-assisted, and self-directed interventions. Nevertheless, Pelham and Waschbusch (1999) conclude that treatments including both psychotropic medication and behavior management tend to be more comprehensive and may have more long-term treatment effects. The goal of both medication and behavior management interventions is to help the individual take control over his/her behavior and concentration (DuPaul et al., 2008).

Depression. According to the DSM-V (2013), there are eight depressive disorders, including disruptive mood dysregulation disorder, major depressive disorder, persistent depressive disorder (dysthymia), premenstrual dysphoric disorder, substance/medication-induced depressive disorder, depressive disorder due to another medical condition, other specified depressive disorder, and unspecified depressive disorder; however, given the topic of the current study, this review will only cover the following depressive disorders: disruptive mood dysregulation disorder, major depressive disorder, persistent depressive disorder (dysthymia), other specified depressive disorder, and unspecified depressive disorder.

Disruptive mood dysregulation disorder is distinguished by severe and persistent temper outbursts (i.e., verbal or physical) that are more intense than would be expected given the situation in two to three settings (e.g., home, school, and community), temper outbursts contradictory to developmental level that occur three or more times in a given week, and a general irritable or angry mood between outbursts noticed in two to three settings (e.g., home,

school, and community). Symptoms must be present for 12 or more months, and there must not have been a three or more month time period without all symptoms present. Individuals also cannot have had a manic or hypomanic episode, the symptoms cannot occur solely during an episode of major depressive disorder, and the symptoms cannot be better explained by another mental disorder (e.g., autism spectrum disorder, posttraumatic stress disorder, separation anxiety disorder, or persistent depressive disorder) or physiological effects of a substance or medical/neurological condition (DSM-V, 2013).

Disruptive mood dysregulation disorder is generally made prior to the individual's 10th birthday; however, the diagnosis cannot be made before age 6 or after age 18. It is more commonly diagnosed in males. Unfortunately, prevalence estimates are unclear at this time; however it is estimated that 2 to 5% of children and adolescents (i.e., 7 to 18 years old) carry this diagnosis, with it being more commonly diagnosed in males (DSM-V, 2013).

Major depressive disorder is distinguished by the occurrence of one (for single episode) or more (for recurrent) major depressive episodes. Such episodes are marked by five of the following symptoms occurring nearly every day for two consecutive weeks, with at least one of the first two symptoms being essential for a diagnosis: persistent depressed mood or irritable mood in children and adolescents; a significant decrease in one's interests and pleasures; considerable weight loss not due to dieting, weight gain, changes in appetite, or failure to make expected weight gains for children and adolescents; insomnia or hypersomnia; psychomotor agitation; fatigue; significant low self-esteem; inability to concentrate or make decisions; and suicide ideation and/or attempts. These symptoms must cause clinically significant distress or impairment in one's functioning and cannot be better accounted for by schizophrenia or other psychotic disorders. They also cannot be the result of substance abuse or a medical condition.

Furthermore, the individual cannot have ever experienced a manic or hypomanic episode (DSM-V, 2013).

Approximately 7% of the population carries a diagnosis of major depressive disorder. The prevalence in individuals between the ages of 18 and 29 is three times the prevalence in individuals age 60 or older. Furthermore, it is more prevalent in females in early adolescence (DSM-V, 2013).

Persistent depressive disorder (dysthymia) is characterized by persistent depressed mood for two years; however, in children and adolescents, this may be seen as irritability or depressed mood lasting for at least one year. The individual must also exhibit two or more of the following symptoms: “poor appetite or overeating, insomnia or hypersomnia, low energy or fatigue, low self-esteem, poor concentration or difficulty making decisions, and feelings of hopelessness” (DSM-V, 2013, p. 168). Criteria also include not being without these symptoms for more than two months and never having a manic or hypomanic episode. Criteria cannot be met for cyclothymic disorder, and the symptoms cannot be better explained by psychotic disorders, physiological effects of a substance or other medical condition, and symptoms must cause clinically significant distress or impairment in functioning (DSM-V, 2013).

Approximately, 0.5% of the population carries a diagnosis of persistent depressive disorder (dysthymia). It is more commonly diagnosed in childhood, adolescence, and early adult life (DSM-V, 2013).

Other specified depressive disorder is diagnosed when the individual presents with symptoms characteristic of a depressive disorder that causes clinical distress or impairment in functioning; however, the individual does not meet the full diagnostic criteria for any of the other depressive disorders. This diagnosis allows the clinician to specify the reasoning for not meeting

criteria for any of the other depressive disorders. Examples include recurrent brief depression, short-duration depressive episode, and depressive episode with insufficient symptoms (DSM-V, 2013).

Similarly, unspecified depressive disorder is given as a diagnosis when an individual presents with symptoms characteristic of a depressive disorder that causes clinical distress or impairment in functioning; however, the individual does not meet the full diagnostic criteria for any of the other depressive disorders, and the clinician chooses not to specify why the criteria was not met for a specific depressive disorder (DSM-V, 2013).

Treating depression in children, adolescents, and teens typically involves psychotropic and/or psychotherapeutic interventions. Common antidepressant medications approved by the U.S. FDA for children and adolescents include Anafranil, Prozac, Luvox, Sinequan, Tofranil, and Zoloft (Carlson, 2008). Behavior management is often rooted in cognitive-behavioral therapy; may use a manualized or unmanualized treatment approach; and can occur at school, home, and/or with a psychologist not affiliated with the school. Manualized treatment approaches are typically more structured, comprehensive, and longer-term (Huberty, 2008). The Adolescent Coping with Depression Course (Clarke, Lewinsohn, & Hops, 1990) is an example of an evidence-based manualized treatment program for treating depression in adolescents. It includes 16 sessions that address concepts and skills such as pleasant events, relaxation, social skills, negative thoughts, communication, and problem solving through large group lectures, discussions, role-playing exercises, demonstrations, and homework assignments. On the other hand, Friedberg and McClure (2002), identify several nonmanualized cognitive/behavioral techniques for treating depression. Such techniques include keeping a thought diary, role playing, pleasant event scheduling, pleasure prediction, changing thought content, storytelling,

play therapy, and games. The goals of therapy, whether using a manualized or unmanualized approach, are to identify and transform cognitive distortions, improve problem-solving strategies, and reintroduce pleasurable activities back into the individual's life (Huberty, 2008).

Past Research on the Effects of Having a Sibling with a Disability

Beginning with studies conducted in the mid to late 20th century, researchers have associated various psychological, social, and behavioral impairments with having a sibling with a disability (Damiani, 1999; Stoneman, 2005). In particular, Breslau and Prabucki (1987) conducted a longitudinal study with a comparison group to examine the effects of familial stress on the psychopathology of siblings of children with severe medical disabilities including cystic fibrosis, cerebral palsy, myelodysplasia, and multiple physical handicaps. Results indicated that, compared to siblings of non-disabled children, siblings of children with disabilities were significantly more aggressive and anxious at time one of data collection. Furthermore, at time two, siblings of children with disabilities continued to be significantly more aggressive and anxious, but they also were significantly more socially isolated, and they displayed significantly more depressive symptoms.

Similarly, McHale and Gamble (1989) compared the psychological well-being of siblings of children with intellectual disability and siblings of non-disabled children. Results revealed that siblings of children with intellectual disability had elevated levels of depression, anxiety, and social rejection, compared to siblings of non-disabled children.

Likewise, Coleby (1995) conducted a comparison group study to examine whether siblings of children with multiple disabilities experienced poor psychological functioning. Results indicated that siblings of children with disabilities had more restricted contact with

friends, felt less socially accepted, and experienced higher levels of anxiety than siblings of non-disabled children.

In addition, there is an extensive amount of literature on depression in siblings of children with autism. In particular, Bågenholm and Gillberg (1991) investigated the psychological effects of having a sibling with either autism or intellectual disability, compared to having a non-disabled sibling. Results indicated that siblings of children with autism were more likely to disclose feelings of loneliness (e.g., having no friends), than siblings of children with intellectual disability and no disability. Moreover, several mothers of children with autism also disclosed that their non-disabled child appeared “lonely” (p. 304).

Similarly, Fisman et al. (1996) compared the internalizing behaviors of siblings of children with pervasive developmental disorder (PDD), Down syndrome, and no disability. According to parent reports, siblings of children with PDD were significantly more likely to exhibit problematic internalizing behaviors than siblings of non-disabled children. Teacher reports indicated that siblings of children with PDD presented with more problematic internalizing behaviors than siblings of children with Down syndrome and siblings of non-disabled children.

Additionally, Gold (1993) conducted a comparison study to examine differences in symptoms of depression between siblings of male children with autism and siblings of non-disabled male children. Results of the study revealed that siblings of male children with autism were significantly more likely to exhibit symptoms of depression than siblings of non-disabled males. This was especially true for adolescent siblings of male children with autism.

Likewise, Macks and Reeve (2006) compared the psychological well-being of siblings of children with autism and siblings of non-disabled children. Results indicated that, compared to

siblings of non-disabled children, siblings of children with autism were more likely to exhibit symptoms of depression if they were male, the only non-disabled sibling, older than the child with autism, and came from low SES families.

In addition, Petalas et al. (2009) compared the emotional adjustment of siblings of children with autism and intellectual disability and siblings of children with just intellectual disability. Research findings revealed that siblings of children with autism and intellectual disability exhibited more emotional problems than siblings of children with just intellectual disability.

In contrast, some researchers have failed to find differences in psychological, social, and/or behavioral functioning between siblings of children with disabilities and siblings of non-disabled children. For example, Singhi, Malhi, and Perchad (2002) conducted a comparison group study to examine the adjustment of siblings of children with either cerebral palsy, intellectual disability, or no disability. Results revealed no differences in the self-concepts of siblings of children with disabilities and siblings of non-disabled children.

In addition, McMahon, Noll, Michaud, and Johnson (2001) explored the psychopathology of siblings of children with a traumatic brain injury. Results indicated that siblings of children with a traumatic brain injury did not exhibit more depressive symptoms than siblings of children without a traumatic brain injury. However, the study did reveal that siblings of children with a traumatic brain injury did experience an increase in depressive symptoms when their sibling continued to have significant functional deficits after being discharged from the hospital. Bearing in mind that many disorders, such as autism, intellectual disability, and ADHD are currently not curable, these findings support those obtained from Breslau and Prabucki (1987), McHale and Gamble (1989), Bågenholm and Gillberg (1991), Gold (1993),

Coleby (1995), Fisman et al. (1996), Macks and Reeve (2006), and Petalas et al. (2009), as previously discussed.

Finally, Kaminsky and Dewey (2002) compared the psychosocial adjustment of siblings of children with autism, siblings of children with Down syndrome, and siblings of non-disabled children. Results revealed that siblings of children with autism were not more likely to have adjustment difficulties, including internalizing behavior problems such as depression, or experience loneliness than siblings of children with Down syndrome and siblings of non-disabled children. Kaminsky and Dewey suggested that siblings of children with autism may not have had significant adjustment difficulties or elevated levels of loneliness because many families consisted of more than one non-disabled sibling and 77% of families with a child with autism attended support groups.

Depression and having a sibling with ADHD. Compared to developmental disabilities (e.g., autism), there is limited existing research that has examined the effects of having a sibling with ADHD. However, available research has indicated that there are negative psychological effects of having a sibling with ADHD. In particular, Kendall (1999) conducted a qualitative study using grounded theory, which focuses on an individual's interpretation of interactions with others, to examine how siblings of children with ADHD cope with having a sibling with a disability. Thirteen siblings of children with ADHD from 11 families were included in the study. Participants were selected based on their willingness to participate; therefore, siblings came from various family backgrounds and had differing relative ages to their sibling with ADHD. Actual ages of target participants were not included in the article. Furthermore, it is also worth mentioning that 5 out of 12 children with ADHD had an additional diagnosis of oppositional

defiant disorder. Data was collected through audio-taped interviews with the non-disabled sibling, which were transcribed for common themes.

Results revealed that the siblings of children with ADHD regarded disruption, such as aggression, hyperactivity, immaturity, limited academic achievement, learning problems, family conflict, and poor relationships with peers and extended family members, caused by the symptoms of ADHD, as the most significant problem. According to Kendall (1999):

Siblings described their family life as chaotic, conflictual, and exhausting. Much energy was spent on coping with disruption, and none of the siblings said they expected the disruptions to end. Living with an ADHD child meant never knowing what was coming next – what problem would have to be dealt with. The question was always when the next problem would occur, not if it would occur. (p. 127)

Kendall (1999) also discovered that the siblings of children with ADHD often experienced disruption through sorrow and loss. Non-disabled siblings identified what they thought they missed out on in life because of having a sibling with ADHD, which included:

A normal family, normal childhood, quiet times, happy family outings, privacy, and an identity not associated with being the sibling of an ADHD child. Many described yearning for peace and quiet, to be able to do things “like other families” without the general chaos and disruption that accompanied the ADHD. (p. 130)

In addition to wishing to be “like other families” (p. 130), the siblings of children with ADHD felt as though they were expected to be invisible and not require a lot of attention because their parents were preoccupied with their sibling with ADHD. Furthermore, when non-disabled siblings did require additional attention, many felt as if their needs were minimized. One participant described his role in his family as being similar to a pedestrian, “a person who

just walks through the family and takes up space but is not really noticed” (p. 131). Needless-to-say, many participants suffered from depression and anxiety. Additionally, those without actual diagnoses were considered at-risk for having such issues (Kendall, 1999).

Similarly, Singer (1997) conducted a qualitative study using a phenomenological approach, which focuses on life experiences of individuals, to explore the effects of having a sibling with ADHD. Eight siblings of children with ADHD (four male and four female) between the ages of 8 and 12.5 years old participated in the study. Siblings were selected according to a strict set of criteria which included living in a biological, two parent home in which the parents had never been separated or divorced during the children’s lifetime; the sibling with ADHD was male and between the ages of 9 and 15; his diagnosis must have been identified using the DSM-III-R or DSM-IV; he could not have attended a residential school; the non-disabled sibling (male or female) was at least 7.5 years old and no more than five years younger than his/her brother with ADHD; both parents had a minimum of a high school education; families were fluent in English; and the family openly discussed the diagnosis with the sibling with ADHD. Data was collected through audio-taped semi-structured interviews with the non-disabled sibling.

Results were categorized into four themes: family interactions, emotional reactions, perceptions related to ADHD, and communication. With regard to family interactions, 50% of siblings indicated that arguing and fighting with his/her brother were common aspects of everyday life. It was also revealed that sibling and parent-child power struggles using manipulation and intimidation frequently occurred within families. In addition, many siblings described the limited parental attention they receive, double standards that exist, and the high parental expectations to which he/she is often held.

Siblings disclosed a variety of emotions which they frequently experience due to differential treatment by their parents and their brother's misbehavior. Such emotions included jealousy, resentment, anger, annoyance, embarrassment, frustration, guilt, and concern. However, concern appeared to be related to the siblings' knowledge and perceptions of ADHD (i.e., the greater understanding and knowledge of ADHD as a disability, the more concern the sibling held for his/her brother).

In addition, Singer (1997) revealed that siblings may refrain from sharing their feelings about their brother with parents. Instead, they may communicate with peers or not tell anyone. The latter is particularly worrisome and is where therapists may be able to help. However, according to the siblings in Singer's study, individual therapy was evaluated as being more beneficial than family therapy. In particular, one sibling expressed that family therapy was not useful for him because his needs were not addressed; it was all about his brother.

Although Singer (1997) did not assess the presence of depression in siblings of children with ADHD, her study is useful in illustrating patterns of thoughts and feelings particular to siblings of children with ADHD that may increase the likelihood of depression.

Conclusions

While the majority of research to date has concurred that siblings of children with disabilities often experience a greater degree of depressive symptoms than siblings of non-disabled children, many disabilities have been under-represented in these studies. In particular, several studies have examined depression in siblings of children with autism (Bågenholm & Gillberg, 1991; Fisman et al., 1996; Gold, 1993; Kendall, 1999; Macks & Reeve, 2006; Petalas et al., 2009); however, fewer studies have assessed the same in siblings of children with ADHD (Kendall, 1999; Singer, 1997).

Research Hypotheses

The hypothesis is that: siblings of children with ADHD will experience more symptoms of depression than siblings of non-disabled children. This hypothesis was made based on existing research exhibiting differences in depressive symptomology among siblings of children with and without disabilities.

Chapter 3: Method

Participants and Demographic Data

Eighteen children (i.e., target participants) participated in the present study. Participants came from two groups. Group one included children with biological siblings with ADHD, and group two consisted of children with biological siblings without disabilities. Siblings with ADHD were not eligible to participate if they had a secondary diagnosis; however, they could be diagnosed with any of the three types of ADHD: inattentive, hyperactive-impulsive, or combined type. Target participants were between the ages of 6 and 17; however, there was not an age restriction for the target participants' sibling(s). Also, siblings with ADHD were permitted to have had or currently have either an Individualized Education Program (IEP) or a 504 Accommodation Plan; however, non-disabled siblings from the control group and non-disabled target participants could only receive general education without a 504 Accommodation Plan at the time of the study.

Seven families with at least one child with ADHD, and 11 families with all non-disabled children participated. A descriptive analysis determined that there was a range in age for the target participants in each group. Specifically, the age range for the ADHD group was between 9 and 15 years of age, and the age for the control group was between 7 and 17 years old; however, the mean ages were comparable (i.e., ADHD group mean age = 12.57, control group mean age = 12.27). Similarly, there was a range in age for the siblings in each group. In particular, the age range for the ADHD group was between 7 and 22 years old, and the age for the control group was between 6 and 20 years old. Mean ages were not as comparable for siblings (i.e., ADHD group mean age = 13.14, control group mean age = 10.91). Similarly, given that the ADHD and control groups were heterogeneous with regard to the number of families that participated, there

was a disparity in the sex of target participants and siblings in each group. Specifically, the ADHD group included four male and three female target participants, and the control group included six male and five female target participants. The ADHD group was also comprised of four male and three female siblings, while the control group was comprised of one male and 10 female siblings. Lastly, although the descriptive analysis indicated a range in SES between the ADHD and control groups (i.e., ADHD group range = \$12,500-\$150,000, control group range = \$62,500-\$150,000), the mean midpoint SES for the two groups was similar (i.e., ADHD group mean midpoint SES = \$105,357, control group mean midpoint SES = \$114,090). See Table 1 for participant demographic data.

Instrumentation

Parents/guardians and target participants completed a variety of diagnostic scales and questionnaires to assess possible differences in symptoms of depression among the two groups of families. Parents/guardians completed a demographic questionnaire and the Conners Rating Scale for ADHD, Third Edition, Short Form (Conners-3) regarding the target participants. Target participants completed The Center for Epidemiological Studies Depression Scale for Children (CES-DC).

Parent measures. *Demographic questionnaire (see Appendix A).* The demographic questionnaire included questions pertaining to characteristics of the target participant and the family as a whole. Such questions included the target participant's date of birth, age, sex, race, whether he/she has ever had a disability, his/her educational program (e.g., general education, 504, or special education), how many children with disabilities live in the home and their specific disability(s), the ages and sexes of the children with disabilities, the biological connection between the children with disabilities and the target participant, the educational

program of the children with disabilities, the annual household income, and educational level of the parent(s)/guardian(s).

Conners Rating Scale for ADHD, Third Edition, Short Form (Conners, 2008). In the present study, parents/guardians completed the Conners-3 about the target participant. This information was used to rule out the possibility of the target participant having ADHD. If the rating scale indicated a likelihood of the target participant having ADHD, the family was excluded from the study; however, it is important to note that no families were excluded from the present study due to Conners-3 results.

The Conners-3 (Conners, 2008) is a rating scale that can be completed by informed teachers, parents, and/or the target individual to help clinicians identify and diagnose ADHD, conduct disorder, and oppositional defiant disorder in individuals ages 6 to 18. It also is a screening tool for assessing depression and anxiety. Furthermore, questions on the Conners-3 coincide with the diagnostic criteria from the DSM-IV-TR (2000) for the aforementioned diagnoses. There are short and long forms available; however, short forms, consisting of 45 items, were used in the present study to limit the amount of time parents/guardians spent completing questionnaires. Scores ranging from 0 to 59 indicate an unlikely probability of ADHD, 60 to 69 indicate a possible probability, and 70 or higher indicate a very likely probability. With regard to reliability, internal consistency ranges from .77 to .97, test-retest reliability ranges from .71 to .98, and inter-rater reliability ranges from .52 to .94; therefore, adequate reliability has been established for this instrument. The Conners-3 has been positively correlated with other measures of childhood and adolescent psychopathology, therefore, indicating convergent validity. In particular, a correlation ranging from .52 to .89 was established between the Behavior Assessment System for Children, Second Edition (BASC-2) and the

Conners-3 with regard to inattentive behaviors and a correlation ranging from .41 to .91 with regard to hyperactive behaviors. In addition, the Conners-3 has illustrated sufficient discriminative validity by distinguishing between clinical ADHD groups, the general population, and various other clinical groups with approximately 77% accuracy (Conners, 2008).

Target participant measures. *Center for Epidemiological Studies Depression Scale for Children (Weissman, Orvaschel, & Padian, 1980).* The CES-DC is a self-report screening instrument designed to assess the existence and severity of symptoms of depression in children and adolescents between the ages of 6 and 17. The assessment consists of 20 items for which the individual indicates their level of agreement by choosing one of four options (i.e., not at all, a little, some, a lot). The total score ranges from 0 to 60, and a score of 15 or higher has been determined to be indicative of significant levels of depression symptomology (Weissman et al., 1980). Test-retest reliability, internal consistency, and concurrent validity were all determined to be adequate. Specifically, test-retest reliability is .51, and internal consistency is .84. Concurrent validity was established by correlating the scores on the CES-DC with scores on the Children's Depression Inventory. The correlation ($r = .44$) indicates a moderate relationship (Faulstich, Carey, Ruggiero, Enyart, & Gresham, 1986). As previously noted, the CES-DC was completed by target participants to assess the existence and severity of symptoms of depression.

Procedure

After obtaining approval by Alfred University's Human Subjects Research Committee, families were recruited by five school districts in the Finger Lakes Region of New York State. Parents/guardians received the explanation of research with informed consent (see Appendix B) and demographic questionnaire (see Appendix A) to complete, and target participants were asked to sign an assent form (see Appendix C). Once the researcher received the informed consent,

assent form, and completed demographic questionnaire, she verified that families met the aforementioned selection criteria. To avoid overrepresentation, in families with more than one non-disabled sibling, only one sibling was included in the study. In addition, in families with more than two children, the oldest non-disabled child between the ages of 6 and 17 served as the target participant. Qualified families were then mailed the Conners-3 and CES-DC to be completed at home. A cover letter was included detailing directions for completion of the above diagnostic scales and questions (see Appendix D for the ADHD group, Appendix E for the control group, and Appendix F for the target participant). Upon returning all necessary forms, participating families received a brief thank you letter (see Appendix G), as well as a \$1 lottery ticket for their contribution to the current study.

Data Analysis

Data from the demographic questionnaire and CES-DC were analyzed using SPSS Version 23.0 (IBM Corp, 2015) and a simultaneous multiple regression to determine differences in the amount of depressive symptoms exhibited by siblings of children with ADHD and siblings of non-disabled children. The degree of depression served as the dependent variable and the demographic variables and disability group functioned as the independent variables. Given that a multiple regression requires continuous variables, disability and sex of both the target participants and their siblings were transformed into dummy variables. When coding disability into dummy variables, the control group served as the reference category and the ADHD group as 1. Female target participants served as the reference category and male target participants as 1. Likewise, female siblings served as the reference category and male siblings as 1. In addition, given that the SES data that was collected was ordinal (i.e., under \$25,000, \$51,000-\$75,000, \$76,000-\$100,000, greater than \$100,000), the midpoint for each SES category was determined

(i.e., \$12,500, \$62,500, \$88,500, \$150,000), and the midpoints were transformed into z-scores in order to standardize the variable and make it more appropriate for a multiple regression. When running the multiple regression, CES-DC scores were regressed on demographic variables (i.e., age and sex of target participants, the siblings' age and sex, and SES) and disability group (i.e., ADHD and control). Race was not included as an independent variable, as all participants happened to be White/Caucasian. A 95% confidence level was used when determining significant differences in the degree of depression symptomology exhibited by siblings of children with ADHD and siblings of non-disabled children.

Chapter 4: Results

T-Test Results

A descriptive analysis of the CES-DC scores revealed a statistical outlier in the ADHD group. Specifically, one target participant had a raw score of 41, where the remaining six target participants' CES-DC scores ranged from 0-8. With that said, separate analyses (i.e., one including the statistical outlier and one excluding the statistical outlier) were completed. The outlier was maintained in the study given that its inclusion possibly made the sample more representative of the population of siblings of children with ADHD.

In general, some difference in test scores was evident among the ADHD and control groups, regardless of the presence of the statistical outlier. Specifically, within the 17 participant sample (i.e., excluding the statistical outlier), the ADHD group's scores ranged from zero to eight ($M = 3.67$, $SD = 3.266$), and the control group's scores ranged from zero to 12 ($M = 4.45$, $SD = 3.503$). Within the 18 participant sample (i.e., including the statistical outlier), the ADHD group's scores ranged from zero to 41 ($M = 9.00$, $SD = 14.422$), and the control group's scores ranged from zero to 12 ($M = 4.45$, $SD = 3.503$). However, based on an independent samples t-test, these differences were not significant for either sample (17 participant sample: $p = 0.657$; 18 participant sample: $p = 0.325$). See Table 2 for t-test results.

Regression Results

Seventeen participant sample.

After regressing CES-DC scores on the participants' demographic variables (i.e., age and sex of target participants, the siblings' age and sex, and SES) and disability group (i.e., ADHD and control), the resulting model explained 68.4% of the variance in the degree of depression symptomology disclosed by target participants ($R^2 = .684$). This result is significant at the .036

significance level ($F = 3.603$ [6, 10]). The participant group ($t = -3.035$) was significantly related to the degree of depression symptomology disclosed by the target participant at the .013 level. Although contrary to the researcher's hypothesis, siblings of children with ADHD experienced less depression symptomology by 4.988 points; therefore, target participants with non-disabled siblings divulged symptoms of depression at a greater degree than did target participants in the ADHD group. The age of the target participants' sibling ($t = 3.597$) was also significantly related to the degree of depression symptomology disclosed by the target participant at the .005 level. Specifically, for every unit increase in the target participants' sibling's age, the degree of depression symptomology disclosed increased by 0.730 points; therefore, having an older sibling was associated with more depressive symptomology. In addition, sex of the sibling ($t = 3.313$) was significantly related to the degree of depression symptomology disclosed by the target participant at the .008 level. In particular, having a male sibling increased the degree of depression symptomology disclosed by 6.747 points. The constant, or intercept, was 4.415, and of the three related variables (i.e., the sibling's age, sibling's sex, and participant group), the sibling's age ($Beta = 1.127$) had the greatest impact on the degree of depression symptomology disclosed, compared to the sibling's sex ($Beta = 0.883$) and participant group ($Beta = -0.736$). See Table 3 for multiple regression results for the 17 participant sample.

Eighteen participant sample.

After, again, regressing CES-DC scores on the participants' demographic variables (i.e., age and sex of target participants, the siblings' age and sex, and SES) and disability group (i.e., ADHD and control), the resulting model explained 37.2% of the variance in the degree of depression symptomology disclosed by target participants ($R^2 = .372$). This result was not significant ($p = .427^b$, $F = 1.087$ [6, 11]) using a 95% confidence level; therefore, none of the

dependent variables were noted to have a significant impact on the degree of depression symptomology disclosed by target participants, as compared to the aforementioned model which excluded the statistical outlier. See Table 4 for multiple regression results for the 18 participant sample.

Sensitivity Analysis.

As previously mentioned, the ADHD and control groups were heterogeneous with regard to the siblings' sex. In particular, there were more female siblings, and this was especially true for the control group. In an effort to detect confound variables, a sensitivity analysis was completed for both the 17 and 18 participant groups. Results indicated that the presence of more female siblings did not substantially affect regression results.

Chapter 5: Discussion

The current study attempted to gain a better understanding of whether or not siblings of children with ADHD experience depressive symptomology to a greater degree than siblings of non-disabled children. Unique from previous research on siblings of children with ADHD (Kendall, 1999; Singer, 1997), this study collected quantitative data to determine whether or not there is a significant difference in the amount of depressive symptomology experienced by siblings of children with ADHD.

For the current study, it was hypothesized that siblings of children with ADHD would experience more symptoms of depression than siblings of non-disabled children; however, results indicated the opposite. Specifically, siblings of non-disabled children in the 17 participant group disclosed that they experienced more symptoms of depression than siblings of children with ADHD. In addition, in the 18 participant group, there was not a difference in depressive symptomology experienced by siblings of children with ADHD and siblings of non-disabled children. With that said, it is important to note that, with the exception of the statistical outlier (i.e., one target participant), all CES-DC scores were within the acceptable range, thus indicating that most target participants were not experiencing clinically significant levels of depressive symptomology.

Despite results contrary to the researcher's hypothesis, similar to the qualitative data collected by Kendall (1999) and Singer (1997), during informal discussions with the families that participated in the current study, some parents of target participants in the ADHD group shared that they often feel as though their non-disabled child is overlooked because of the amount of time and energy devoted to the needs of their child with ADHD. Although Kendall (1999) and

Singer (1997) collected data specifically from siblings of children with ADHD, and not parents, it is interesting to see the similarity among the three studies.

At the same time, it is also important to note the differences among the studies. First, as was discussed in the literature review, Kendall (1999) and Singer (1997) collected qualitative data; therefore, there was no means of determining whether there was a significant difference in depressive symptomology experienced by siblings of children with ADHD and siblings of non-disabled children. Second, neither Kendall (1999) nor Singer (1997) included a comparison group in their study; consequently, it is unknown how dissimilar the thoughts and feelings of siblings of children with ADHD were from siblings of non-disabled children. Third, according to Kendall (1999), 5 out of 12 children with ADHD had an additional diagnosis of oppositional defiant disorder; hence, it is unclear how the presence of an additional diagnosis contributed to the thoughts and feelings of the non-disabled siblings. Fourth, Kendall (1999) did not share the ages of the non-disabled or disabled siblings, and as a result, it is difficult to know the appropriateness of comparing studies. It is also important to note that there is a 17 to 19 year difference between the current study and the studies conducted by Kendall (1999) and Singer (1997). With that said, changes in knowledge of and interventions for ADHD may have contributed to the difference in results.

Limitations

Although current research findings did not support the researcher's hypothesis that siblings of children with ADHD would experience more symptoms of depression than siblings of non-disabled children, it is important to keep in mind that certain components of the research study could have had a negative impact on the overall results. In general, siblings of children with ADHD were a difficult population to access. In fact, the researcher changed components of

her study on several occasions in an attempt to recruit more participants. Furthermore, the criteria for participating (e.g., no co-occurring diagnoses) and the researcher's desire to create neat and orderly groups may have had some bearing on this. Regardless, the total number of participants (i.e., sample size) was a major limitation. A small sample size could have contributed to the current results indicating that siblings of non-disabled children experience more symptoms of depression. With a larger sample size this result may or may not continue to hold true. For example, adding one sibling in the ADHD group with elevated depressive symptomology changed the results drastically. In general, a small sample size causes representativeness issues. Specifically, it is likely that the present study's sample does not accurately depict the overall population of siblings of children with ADHD or siblings of non-disabled children. According to Soper (2011), 97 participants are needed to avoid representativeness issues and have an 80% chance of detecting a medium effect size ($f^2 = 0.15$). The current study used a sample less than one fifth of the recommended sample size.

In regard to accessing the target participants, their siblings with ADHD needed to first be identified. From there, families were contacted to see if there was also a non-disabled biological sibling between the ages of 6 and 17 who lived in the home. There were a number of families that met the eligibility criteria for the current study, but decided not to participate for unknown reasons. With that said, it is possible that families that decided not to participate had some significant concerns that they were worried about sharing with a researcher, rather than a counselor/therapist. Although sharing concerns with a researcher may help answer difficult questions for the families, the process is not as solution-focused as seeking the help of a counselor/therapist. Regardless, this factor (i.e., eligible families deciding not to participate) may

have impacted the overall results, due to the fact that the ADHD group may not have fully represented the population that it was intended to.

In addition, some of the demographic variables may have limited the results of the current study. Specifically, many of the families (i.e., 6 out of 7) that participated in the ADHD group had an annual income greater than \$50,000. In fact, 4 out of 7 families reported an annual income greater than \$100,000. Similarly, all 11 families in the control group reported an annual income greater than \$50,000, and five of the families earned more than \$100,000 annually. In addition, all siblings (i.e., in both the ADHD and control group) were White/Caucasian. Taking all of these components into consideration, it is again possible that the ADHD group did not fully represent the intended population.

Another limitation to the current study is the heterogeneity between the ADHD and control groups. As previously noted, the two groups differed in the number of participants, sex of target participant and sibling, as well as the sibling's age. However, given the already small sample size, the researcher chose to have differences between groups rather than decrease the total sample size by 29.41%.

Future Research

As previously discussed, few studies on depression in siblings of children with ADHD have been conducted and published. Furthermore, the existing published research is qualitative in nature. The current study attempted to quantitatively analyze this topic to determine if, indeed, there is a difference in depression symptomology experienced by siblings of children with ADHD and siblings of typically developing children. Although the findings were contrary to the researcher's hypothesis, and siblings of typically developing children disclosed depression

symptomology to either a greater degree than or similarly to siblings of children with ADHD, it is important to note that there is much work to be done on this subject matter.

Most importantly, future research should include a larger sample size more representative of the population as a whole (i.e., include families from multiple geographical locations [urban, suburban, rural], SES groups, racial/ethnic groups). It will also be important that the ADHD and control groups are more similar with regard to number of participants and demographic variables in order to more accurately compare the groups.

In the current study, in order to limit the independent variables given the small sample size, the researcher asked that the oldest non-disabled child between the ages of 6 and 17 participate in the study; however, future research may want to explore birth order (e.g., is there a difference in experienced depression symptomology between the youngest, middle, and oldest child).

Regardless of the findings (i.e., whether or not siblings of children with ADHD experience depression symptomology to a greater degree than siblings of non-disabled children), a next step in research may be to study support service utilization (e.g., individual counseling for the sibling, family counseling, and support groups). It may also be interesting to know if there is a difference between smaller and larger families, given the extra pairs of hands characteristic of the latter.

If future findings corroborate current findings, future research may want to explore why it is that siblings of children with ADHD experience less depression symptomology than siblings of typically developing children, despite qualitative data indicating the contrary. Is it possible that siblings of children with ADHD are more resilient than siblings of non-disabled children? Could having a sibling with ADHD foster responsibility and independence? On the contrary, is it

possible that siblings of children with ADHD are not accurate reporters of their own psychological wellbeing? With that said, future research may want to include another measure of depression symptomology that is completed by either a parent or teacher to then compare with what the child reported.

Given that the current study found similar qualitative data to the Kendall (1999) and Singer (1997) studies but did not find that siblings of children with ADHD experience depression symptomology to a greater degree than siblings of non-disabled children, future studies may want to explore whether depression is the most appropriate construct to measure. Could it be that the current study, along with the Kendall (1999) and Singer (1997) studies mistook sibling stress or some other construct that encompasses the thoughts and feelings experienced by siblings of children with ADHD for symptoms of depression?

Another question that comes to mind is what is the difference between siblings of children with ADHD and siblings of children with other disabilities, such as autism, given that numerous studies have established a significant difference in depression symptomology between siblings of children with autism and siblings of typically developing children? Is it possible that there is a difference in depression symptomology experienced by siblings of lower functioning disabilities (e.g., developmental disabilities such as autism and Down syndrome) and higher functioning disabilities (e.g., ADHD). Comparing lower functioning and higher functioning disabilities may be an interesting next step for research regardless of whether siblings of children with ADHD experience more or less depression symptomology than siblings of typically developing children.

Implications for Practice

Although the findings of the current study were divergent to the research's hypothesis, as previously mentioned, some parents shared that they felt as though their typically developing child was often overlooked because of the amount of time, energy, and attention their child with ADHD required of them. These parents were often worried about their child's results on the CES-DC and needed to be re-assured that if their child's ratings were significant, they would be notified and provided with local options for addressing the concern. With that said, it was clear to the researcher that, despite the current results, families of children with ADHD do seem to be looking for help and guidance from professionals. This might be a perfect opportunity for school psychologists to consult with parents and/or establish systems to support families (e.g., support groups).

In general, school psychologists, school counselors, and school social workers spend most of their time working with children who carry a diagnosis or classification or are suspected of having a diagnosis or classification, and unfortunately, their focus is not drawn to the other siblings in the family. Regardless of the findings in this study and future studies, it appears that these school service providers may need to spend more time focusing on the family unit as a whole.

Although it is uncertain as to why so many eligible families chose not to participate in the current study, it is possible that families are lacking knowledge of the importance of advancing such research. As previously noted, it is possible that families chose not to participate because they did not see a direct benefit (i.e., compared to sharing such information with a counselor/therapist that was focused on helping the family solve a specific problem); however, it would be interesting to see if there was a difference in response if parents were informed of the

importance of such research prior to being asked to participate. In general, the importance of research in the field of school psychology needs to be exposed to the public so that families, communities, and schools are more aware of the needs of our students and are more apt to participate in research that may further their knowledge and enhance child outcomes.

Conclusion

Regardless of the present study's results, the researcher continues to hypothesize that siblings of children with ADHD experience symptoms of depression to a greater degree than siblings of non-disabled children. She believes that, in addition to needing a larger sample size that is more representative of the population, parents or teachers should also complete a rating scale on the target participant to then compare to the target participant's self-report. The researcher believes that Kendall (1999) highlighted a dilemma to studying siblings of children with ADHD: siblings of children with ADHD feel as though they are expected to be invisible and not require a lot of attention because their parents are pre-occupied with their sibling with ADHD. Siblings of children with ADHD may not be accurate reporters due to this finding. In addition, she believes that time would be well spent using the existing qualitative data on siblings of children with ADHD to create a new construct that might better highlight the issues faced by siblings. Although the present study advanced current research in that it was quantitative in nature, there is a need for additional research on this topic to ensure that the needs of siblings of children with ADHD are being met.

References

- American Legion Child Welfare Fund (n.d.). *What is an individualized family service plan, or IFSP?* Retrieved from <http://www.cdrhelpdesk.org/americanlegion/?q=node/11>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (5th Edition.)*. Washington, D.C: Author.
- Bågenholm, A., & Gillberg, C. (1991). Psychosocial effects on siblings of children with autism and mental retardation: A population-based study. *Journal of Mental Deficiency Research*, 35, 291-307.
- Barkley, R. A. (2003). Attention-deficit/hyperactivity disorder. In E. J. Mash & R. A. Barkley (Eds.), *Child psychopathology* (pp. 75-143). New York: The Guilford Press.
- Breslau, N., & Prabucki, K. (1987). Siblings of disabled children: Effects of chronic stress in the family. *Archives of General Psychiatry*, 44, 1040-1046.
- Carlson, J. S. (2008). Best practices in assessing the effects of psychotropic medications on student performance. In A. Thomas & J. Grimes (Eds.). *Best practices in school psychology V* (pp. 1377-1388). Bethesda, MD: NASP.
- Clark, G., Lewinsohn, P., & Hops, H. (1990). *Adolescent coping with depression course*. Portland, OR: Kaiser Permanente Center for Health Research.
- Coleby, M. (1995). The school-aged siblings of children with disabilities. *Developmental Medicine & Child Neurology*, 37, 415-426.
- Conners, C. K. (2008). *Conners 3rd edition manual*. Toronto, Ontario: Multi-Health Systems, Inc.
- Damiani, V. B. (1999). Responsibility and adjustment in siblings of children with disabilities: Update and review. *The Journal of Contemporary Human Services*, 80, 135-147.

- DuPaul, G. J., Stoner, G., & O'Reilly, M. J. (2008). Best practices in classroom interventions for attention problems. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology V* (pp. 1421-1438). Bethesda, MD: NASP.
- Faulstich, M. E., Carey, M. P., Ruggiero, L., Enyart, P., & Gresham, F. (1986). Assessment of depression in childhood and adolescence: An evaluation of the Center for Epidemiological Studies Depression Scale for Children. *American Journal of Psychiatry*, 143, 1024-1027.
- Fisman, S., Wolf, L., Ellison, D., & Gillis, B. (1996). Risk and protective factors affecting the adjustment of siblings of children with chronic disabilities. *Journal of the American Academy of Child & Adolescent Psychiatry*, 35, 1532-1541.
- Friedberg, R. D., & McClure, J. M. (2002). *Clinical practice of cognitive therapy with children and adolescents: The nuts and bolts*. New York, NY: Guilford Press.
- Gold, N. (1993). Depression and social adjustment in siblings of boys with autism. *Journal of Autism and Developmental Disorders*, 23, 147-163. doi: 10.1007/bf01066424
- Goodman, D. W. (2010). The black book of ADHD. *Primary Psychiatry*, 2, 46-63.
- Huberty, T. J. (2008). Best practices in school-based interventions for anxiety and depression. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology V* (pp. 1473-1486). Bethesda, MD: NASP.
- IBM Corp. Released 2015. IBM SPSS Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp.
- Kaminsky, L., & Dewey, D. (2002). Psychosocial adjustment in siblings of children with autism. *Journal of Child Psychology and Psychiatry*, 43, 225-232. doi: 10.1111/1469-7610.00015
- Kendall, J. (1999). Sibling accounts of attention deficit hyperactivity disorder (ADHD). *Family Process*, 38, 117-136.

- Lyons-Sjostrom, K. A. (2004). *Adjustment in siblings of children with disabilities* (Unpublished doctoral dissertation). Chicago School of Professional Psychology, IL.
- Macks, R. J., & Reeve, R. E. (2007). The adjustment of non-disabled siblings of children with autism. *Journal of Autism and Developmental Disorders*, 37, 1060-1067. doi: 10.1007/s10803-006-0249-0
- McHale, S. M., & Gamble, W. C. (1987). Sibling relationships and adjustment of children with disabled brothers and sisters. *Journal of Children in Contemporary Society*, 19, 131-158.
- McMahon, M. A., Noll, R. B., Michaud, L. J., & Johnson, J. C. (2001). Sibling adjustment to pediatric traumatic brain injury: A case-controlled pilot study. *Journal of Head Trauma Rehabilitation*, 16, 587-594.
- Pelham, W. E., & Waschbusch, D. A. (1999). Behavioral intervention in attention deficit hyperactivity disorder. In H. C. Quay & A. E. Hogan (Eds.), *Handbook of disruptive behavior disorders* (pp. 255-278). New York: Kluwer Academic/Plenum.
- Petalas, M. A., Hastings, R. P., Nash, S., Lloyd, T., & Dowey, A. (2009). Emotional and behavioural adjustment in siblings of children with intellectual disability with and without autism. *Autism*, 13, 471-483.
- Rossiter, L., & Sharpe, D. (2001). The siblings of individuals with mental retardation: A quantitative integration of the literature. *Journal of Child and Family Studies*, 10, 65-84. doi: 10.1023/a:1016629500708
- Singer, B. (1997). *The psychological experience of siblings of children with ADHD* (Unpublished doctoral dissertation). Massachusetts School of Professional Psychology, MA.

- Singhi, P., Malhi, P., & Pershad, D. (2002). Psychological adjustment of siblings of children with disabilities. *Journal of Personality and Clinical Studies, 18*, 9-18.
- Soper, D. (2011, February 13). *A-priori sample size calculator (multiple regression)*. Retrieved from <http://danielsoper.com/statcalc/calc01.aspx>.
- Stoneman, Z. (2005). Siblings of children with disabilities: Research themes. *Mental Retardation, 43*, 339-350.
- Thomas, A., & Grimes, J. (2008). Appendix I – NASP Principles for Professional Ethics. In A. Thomas & J. Grimes (Eds.), *Best Practices in School Psychology V* (pp. xxi-xxx). Bethesda, MD: National Association of School Psychologists.
- Weissman, M. M., Orvaschel, H., & Padian, N. (1980). Children's symptom and social functioning self-report scales: Comparison of mothers' and children's reports. *Journal of Nervous Mental Disorders, 168*, 736-740.

Table 1

Participant Demographic Information

	ADHD Group		Control Group	
	Target Participants	Siblings	Target Participants	Siblings
Number of Participants	7	7	11	11
Age Range	9-15	7-22	7-17	6-20
Mean Age	12.57	13.14	12.27	10.91
Male	4	4	6	1
Female	3	3	5	10
SES Less Than \$25,000	1		0	
SES \$25,000-\$50,000	0		0	
SES \$51,000-\$75,000	2		1	
SES \$76,000-\$100,000	0		5	
SES Greater Than \$100,000	4		5	
SES Midpoint Range	\$12,500-\$150,000		\$62,500-\$150,000	
Mean SES Midpoint	\$112,500		\$114,090	

Table 2

Independent Samples T-Test Results for CES-DC Scores

	ADHD Group	Control Group	ADHD Group	Control Group
Number of Participants	17	17	18	18
Range	0-8	0-12	0-41	0-12
Mean	3.67	4.45	9.00	4.45
Standard Deviation	3.266	3.503	14.422	3.503
T-Test Significance (2-Tailed)	0.657		0.325	

*Note. Significant at .05 level

Table 3

Multiple Regression Results for the 17 Participant Sample

Variable	B	Standard Error	Beta	t	Significance
(Constant)	4.415	3.193		1.383	.197
Age of Target Participant	-0.566	0.285	-0.491	-1.987	.075
Age of Sibling	0.730	0.203	1.127	3.597	.005*
Male Target Participant	-2.973	1.564	-0.452	-1.900	.087
Male Sibling	6.747	2.037	0.883	3.313	.008*
ADHD Group	-4.988	1.644	-0.736	-3.035	.013*
Zscore: SES Midpoint	2.001	0.959	0.599	2.086	.064
R ²	.684				
Regression <i>p</i>	.036*				

*Note. Significant at .05 level

Table 4

Multiple Regression Results for the 18 Participant Sample

Variable	B	Standard Error	Beta	t	Significance
(Constant)	16.575	11.718		1.415	.185
Age of Target Participant	-1.017	1.085	-0.322	-0.938	.368
Age of Sibling	0.212	0.763	0.117	0.277	.787
Male Target Participant	-4.644	5.986	-0.256	-0.776	.454
Male Sibling	7.168	7.822	0.357	0.916	.379
ADHD Group	0.890	6.042	0.048	0.147	.886
Zscore: SES Midpoint	-0.821	3.609	-0.089	-0.227	.824
R ²	.372				
Regression <i>p</i>	.427				

*Note. Significant at .05 level

Appendix A

Demographic Questionnaire

If you choose to participate in this study, please fill out the following information and return with the signed Parent/Guardian Informed Consent and Assent to Participate in Research. Once I have received this information and it is confirmed that your family meets the criteria to participate in this study, you will receive one brief questionnaires and your child will receive one brief questionnaire to complete.

Note: the participating child must be your oldest, non-disabled child between the ages of 6 and 17

Target Participant's Date of Birth: ____/____/____

Target Participant's Age: _____

Please indicate the target participant's sex.

- ☐ Male
- ☐ Female

Please indicate the target participant's race/ethnicity.

- ☐ Hispanic
- ☐ Asian
- ☐ Native Hawaiian/Pacific Islander
- ☐ Black, African American
- ☐ American Indian and Alaskan Native
- ☐ White, Caucasian
- ☐ Other _____ (Please Specify)

Does the target participant have a disability?

- ☐ Yes
- ☐ No

Did/does the target participant have any of the following? (Check all that apply)

- ☐ Individualized Education Program (IEP)
- ☐ 504 Plan

Please indicate your annual household income.

- ☐ Under \$25,000
- ☐ \$25,000 - \$50,000
- ☐ \$51,000 - \$75,000
- ☐ \$76,000 - \$100,000
- ☐ Greater than \$100,000

Please indicate your highest educational level completed. (If both parents/guardians live in the home, please identify both)

Mother	Father	
<input type="checkbox"/>	<input type="checkbox"/>	Did not finish high school
<input type="checkbox"/>	<input type="checkbox"/>	High school graduate or GED
<input type="checkbox"/>	<input type="checkbox"/>	Greater than high school, but less than 4-year college degree
<input type="checkbox"/>	<input type="checkbox"/>	College graduate
<input type="checkbox"/>	<input type="checkbox"/>	M.A. or equivalent
<input type="checkbox"/>	<input type="checkbox"/>	Ph.D., M.D., or other doctoral degree

How many children with disabilities live in your home? _____

For each sibling with a disability, please provide the following information:

- Sibling #1
 - Disability _____
 - Age _____
 - Sex
 - ☐ Male
 - ☐ Female
 - Is he/she a biological sibling of the target participant?
 - ☐ Yes
 - ☐ No
 - Please indicate whether the sibling had or has one of the following. (Check all that apply)
 - ☐ 504
 - ☐ Special Education/Individualized Education Program (IEP)
- Sibling #2
 - Disability _____
 - Age _____
 - Sex
 - ☐ Male
 - ☐ Female

- Is he/she a biological sibling of the target participant?
 - ☐ Yes
 - ☐ No
 - Please indicate whether the sibling had or has one of the following. (Check all that apply)
 - ☐ 504
 - ☐ Special Education/Individualized Education Program (IEP)
- Sibling #3
 - Disability _____
 - Age _____
 - Sex
 - ☐ Male
 - ☐ Female
 - Is he/she a biological sibling of the target participant?
 - ☐ Yes
 - ☐ No
 - Please indicate whether the sibling had or has one of the following. (Check all that apply)
 - ☐ 504
 - ☐ Special Education/Individualized Education Program (IEP)
- Sibling #4
 - Disability _____
 - Age _____
 - Sex
 - ☐ Male
 - ☐ Female
 - Is he/she a biological sibling of the target participant?
 - ☐ Yes
 - ☐ No

- Please indicate whether the sibling had or has one of the following. (Check all that apply)
 - ☐ 504
 - ☐ Special Education/Individualized Education Program (IEP)
- Sibling #5
 - Disability _____
 - Age _____
 - Sex
 - ☐ Male
 - ☐ Female
 - Is he/she a biological sibling of the target participant?
 - ☐ Yes
 - ☐ No
 - Please indicate whether the sibling had or has one of the following. (Check all that apply)
 - ☐ 504
 - ☐ Special Education/Individualized Education Program (IEP)

Please use the back of this form if needed.

Appendix B

Explanation of Research

Dear Parent/Guardian,

My name is Katherine Wolcott and I am a school psychology graduate student at Alfred University, located in Alfred, NY. I am currently working toward attaining a doctorate degree, and in doing so, I am required to create and conduct a research project in an area of interest to me and relevant to the field of school psychology. I have designed a project that has been approved by the Human Subjects Research Committee at Alfred University to assess whether or not siblings of children with a diagnosis of ADHD exhibit symptoms of depression to a different degree, as compared to siblings of children who are considered to be typically developing. I hope you will choose to take part in this much needed study.

If you decide to participate, please complete and return the attached informed consent and demographic questionnaire. Your oldest, non-disabled child, between the ages of 6 and 17, will be asked to complete an assent form that indicates his/her willingness to participate as well. This should be returned with your completed informed consent and demographic questionnaire. Once I have ensured that your family meets the requirements of the study, you will then receive the Conners Rating Scale for ADHD, Third Edition, Short Form to complete. Also included with these forms will be the Center for Epidemiological Studies Depression Scale for Children to be completed by your participating child. This rating scale will assess your child's symptoms of depression. The entire process is expected to take less than one hour.

Your participation in this study is completely voluntary and you may withdraw from the study at anytime. If you decide to participate, all information gathered about your family will remain confidential. The identity of your family will be protected, as it will be identified through a randomly assigned number. All identifying information will be kept on a password protected computer, and only I will have access to this information. Upon request, results of the project will be reported to participating families based on large group comparisons. All participating families will receive a lottery ticket as a thank you for taking part in my research study.

It is unlikely that you or your child will receive any direct benefit from participating in this project; however, it is possible that the information gained from this project will help participants better understand the effects of having a sibling with a disability and how to positively influence a child's psychological development. There are no reasonably foreseeable risks to you or your child; however, there is a slight possibility that you or your child may experience distress or discomfort due to the nature of the rating scales (i.e., ADHD and depression). In the event that you or your child does experience distress or discomfort as a result of this study, it is recommended that you contact a medical or mental health professional immediately. In addition, if your participating child scores within the severe symptomology range on the depression rating scale and/or endorses thoughts/feelings critical to a diagnosis of depression, you will be contacted by mail or phone (i.e., depending on the severity) and provided with contact information of medical or mental health professionals within your geographic area that may be able to help. Neither myself nor Alfred University is liable for compensation or medical treatments should distress, discomfort, or injury occur.

Please feel free to contact me with questions/concerns about this project at any time. You can reach me at (585) 703-1508 or kab9@alfred.edu. You may also contact my dissertation chairperson, Dr. Cris Lauback, Division of Counseling and School Psychology, Alfred University, 1 Saxon Drive, Alfred, NY 14802, (607) 871-2732, laubackc@alfred.edu; or Dr. Danielle Gagne, Chair of the

Human Subjects Research Committee, Alfred University, 1 Saxon Drive, Alfred, NY 14802, (607) 871-2873, gagne@alfred.edu.

Sincerely,

Katherine A. Wolcott, M.A./CAS, NCSP

Parent/Guardian Informed Consent

I have read the explanation of research for the research project being conducted by Katherine Wolcott from Alfred University. I recognize that if I choose to participate in the study, I may withdraw at any time without penalty to me or my child. I also understand that my child will be asked to complete a rating scale designed to assess symptoms of depression. I agree to complete the demographic questionnaire included with this permission slip, as well as the Conners Rating Scale for ADHD, Third Edition, Short Form that I will receive as long as my family meets the criteria required of the study. I further understand that care will be taken to protect my family's identity, including but not limited to, using a number rather than names on all documents related to this study and keeping all identifying information on a password protected computer.

_____ I choose to participate in this research. I have completed and enclosed the demographic questionnaire.

_____ I choose to NOT participate in this research study.

Name of Legal Guardian

Date

Signature of Legal Guardian

Date

Name of Participating Child

Appendix C

Assent to Participate in Research

My name is Katherine Wolcott and I am a school psychology graduate student at Alfred University, which is located in Alfred, NY. I am conducting a research study, which has been approved by the Human Subjects Research Committee at Alfred University, entitled *Symptoms of depression in siblings of children with ADHD*. I am asking you to take part in this research study because I am trying to learn more about whether siblings of children diagnosed with ADHD exhibit symptoms of depression to a different degree than siblings of children who are considered to be typically developing. I hope you will choose to take part in this much needed study. Participation will take less than 15 minutes and all participating families will receive a lottery ticket as a thank you for taking part in my study.

If you agree to be in this study, you will be asked to complete a questionnaire. Your participation is voluntary; therefore, you may stop participating at any time without any consequences. In addition, no one will be able to know how you responded to the questions and your name will never be used.

It is unlikely that you will receive any direct benefit from participating in this project; however, it is possible that the information gained from this project will help participants better understand the effects of having a sibling with a disability and how to positively influence a child's psychological development. There are no reasonably foreseeable risks to you; however, there is a slight possibility that you may experience distress or discomfort due to the nature of the rating scale that you will complete if you choose to participate (i.e., depression). In the event that you experience distress or discomfort as a result of this study, it is recommended that you inform your parents and contact a medical or mental health professional immediately. In addition, if you score within the severe symptomology range on the depression rating scale and/or endorses thoughts/feelings critical to a diagnosis of depression, your parents will be contacted by mail or phone (i.e., depending on the severity) and provided with contact information for medical or mental health professionals within your geographic area that may be able to help.

Please talk about this study with your parents before you decide whether or not to participate. I will also ask your parents to give their permission for you to participate. Even if your parents say "yes" you can still decide not to participate. No one will be upset with you if you do not want to participate or if you change your mind later and want to stop.

Please feel free to contact me with questions/concerns about this project at any time. You can reach me at (585) 703-1508 or kab9@alfred.edu. You may also contact my dissertation chairperson, Dr. Cris Lauback, Division of Counseling and School Psychology, Alfred University, 1 Saxon Drive, Alfred, NY 14802, (607) 871-2732, laubackc@alfred.edu; or Dr. Danielle Gagne, Chair of the Human Subjects Research Committee, Alfred University, 1 Saxon Drive, Alfred, NY 14802, (607) 871-2873, gagne@alfred.edu.

By signing below, you are agreeing to participate with the understanding that your parents have given permission for you to take part in this project. You are participating in this study because you want to.

By signing below, you are agreeing to participate with the understanding that your parents have given permission for you to take part in this project. You are participating in this study because you want to.

Print Name

Signature

Date

Appendix D

Cover Letter for Parent/Guardian Questionnaires – ADHD Group

Dear Parent(s)/Guardian(s),

Thank you for agreeing to participate in my research project. Please complete the Conners Rating Scale for ADHD, Third Edition, Short Form with the participating child in mind, not your child with ADHD. Also enclosed is a rating scale for your participating child to complete. I have attached a cover letter with directions to aid in the process. This should be returned along with your completed rating scale in the enclosed envelope within the next 2 weeks (date indicated). Do not write your child's name on the rating scales, as he or she has already been assigned a random number. Once I receive your completed rating scales, your family will receive a \$1 Lottery Scratch Off Ticket.

If you have any questions or concerns, please do not hesitate to contact me: Katherine Wolcott, kab9@alfred.edu, (585) 703-1508. You may also contact my dissertation chairperson, Dr. Cris Lauback, laubackc@alfred.edu, (607) 871-2732; or Dr. Danielle Gagne, Chair of the Human Subjects Research Committee, Alfred University, 1 Saxon Drive, Alfred, NY 14802, (607) 871-2873, gagne@alfred.edu.

Thank you!

Katherine A. Wolcott, M.A./CAS, NCSP

Appendix E

Cover Letter for Parent/Guardian Questionnaires – Control Group

Dear Parent(s)/Guardian(s),

Thank you for agreeing to participate in my research project. Please complete the Conners Rating Scale for ADHD, Third Edition, Short Form with the participating child in mind. Also enclosed is a rating scale for your participating child to complete. I have attached a cover letter with directions to aid in the process. This should be returned along with your completed rating scale in the enclosed envelope within the next 2 weeks (date indicated). Do not write your child's name on the rating scales, as he or she has already been assigned a random number. Once I receive your completed rating scales, your family will receive a \$1 Lottery Scratch Off Ticket.

If you have any questions or concerns, please do not hesitate to contact me: Katherine Wolcott, kab9@alfred.edu, (585) 703-1508. You may also contact my dissertation chairperson, Dr. Cris Lauback, laubackc@alfred.edu, (607) 871-2732; or Dr. Danielle Gagne, Chair of the Human Subjects Research Committee, Alfred University, 1 Saxon Drive, Alfred, NY 14802, (607) 871-2873, gagne@alfred.edu.

Thank you!

Katherine A. Wolcott, M.A./CAS, NCSP

Appendix F

Cover Letter for Target Participant Questionnaire

Dear Participant,

Thank you for agreeing to participate in my research project. Please fill out the attached rating scale and return it, along with the rating scale completed by your parent(s)/guardian(s), in the enclosed envelope within the next two weeks (date included). Do not write your name on the rating scale, as you have already been assigned a random number to protect your identity. Once I receive your family's completed rating scales, your family will receive a \$1 Lottery Scratch Off Ticket.

If you have any questions or concerns, please do not hesitate to contact me: Katherine Wolcott, kab9@alfred.edu, (585) 703-1508. You may also contact my dissertation chairperson, Dr. Cris Lauback, laubackc@alfred.edu, (607) 871-2732; or Dr. Danielle Gagne, Chair of the Human Subjects Research Committee, Alfred University, 1 Saxon Drive, Alfred, NY 14802, (607) 871-2873, gagne@alfred.edu.

Thank you!

Katherine A. Wolcott, M.A./CAS, NCSP

Appendix G

Thank You Letter

Dear _____ Family,

Thank you again for your willingness to participate in my research study! Please accept the enclosed lottery ticket as a very small token of my appreciation.

As previously stated, upon request, results of the project will be reported to participating families based on large group comparisons. You can contact me with questions/concerns about this project at any time. You can reach me at (585) 703-1508 or kab9@alfred.edu. You may also contact my dissertation chairperson, Dr. Cris Lauback, Division of Counseling and School Psychology, Alfred University, 1 Saxon Drive, Alfred, NY 14802, (607) 871-2732, laubackc@alfred.edu; or Dr. Danielle Gagne, Chair of the Human Subjects Research Committee, Alfred University, 1 Saxon Drive, Alfred, NY 14802, (607) 871-2873, gagne@alfred.edu.

Sincerely,

Katherine A. Wolcott, M.A./CAS, NCSP