2012

Relationship Between Family Communication and Comorbid Diagnoses in Youths Diagnosed with a Bipolar Disorder

Nancy Buccilli Caito
Cleveland State University

RELATIONSHIP BETWEEN FAMILY COMMUNICATION AND COMORBID DIAGNOSES IN YOUTHS DIAGNOSED WITH A BIPOLAR DISORDER

NANCY BUCCILLI CAITO

Bachelor of Business Administration

Cleveland State University

June, 1987

Masters of Arts in Counseling

John Carroll University

May, 1999

Submitted in partial fulfillment of requirements for the degree

DOCTOR OF PHILOSOPHY IN URBAN EDUCATION

COUNSELING PSYCHOLOGY

at the

CLEVELAND STATE UNIVERSITY

May, 2012

This dissertation has been approved for

the Office of Doctoral Studies,

College of Education and Human Services

and the College of Graduate Studies by

Sarah Toman, Chairperson 04/30/2012

Counseling, Administration, Supervision, and Adult Learning

Graham Stead, Methodologist 04/30/2012

Curriculum and Foundations

Katherine MacCluskie, Member 04/30/2012

Counseling, Administration, Supervision, and Adult Learning

R. Elliott Ingersoll, Member 04/30/2012

Counseling, Administration, Supervision, and Adult Learning

Constance Hollinger, Member 04/30/2012

Psychology

DEDICATION

For my father, Mario Buccilli,

whose life sourced my intrigue with and compelling journey into

the world of psychology.

To Mario, Sophia and Skyla -

Pursue your passion.

and

Never give up.

ACKNOWLEDGEMENTS

It is both a blessing and privilege to include the following people in my acknowledgements and to whom I owe great thanks.

Dr. Tom Frazier - I believe I would not have evolved into the person I am today without you. Thank you for your guidance through and help in navigating the road toward an authentic existence.

Dr. Robert Findling and the staff of the Discovery and Wellness Center for Children at University Hospitals of Cleveland - Thank you for giving me access to your data and for all of your assistance. Dr. John Hertzer – Thank you for making a relationship with University Hospitals possible.

Dr. John Heather - For supervising my master's internship and Dr. Felipe Amunategui for supervising my doctoral internship. Thank you for taking me on, for your time, and for all that I learned from you both.

Wanda Pruett-Butler - Your kind and calm never ending stream of assistance helped me more than you can imagine. Thank you.

Dr. Kathy MacCluskie, my advisor for ten years - For your support, your guidance, and your ideas, and for participating as a committee member. It was a wonderful experience to have you for my advisor.

To the other members of my dissertation committee, Dr. Graham Stead, Dr. Constance Hollinger, Dr. Elliott Ingersoll, and Dr. Sarah Toman - Thank you for participating on my committee, for your patience when waiting for pages to read, your attention once given pages to read, and your guidance in refining the work and improving my dissertation.

Jane Caito - For the early years when my three were tiny. Thank you for all your help.

Lisa Perez - For listening, cheerleading, and for always being there for me. For helping me through troubled times and for laughing with me until we cry. Thank you. You are truly a great friend.

Quinling Yuan - Seeing what you have triumphed over has provided me a constant and ongoing example of true drive, determination, and perseverance. It has both humbled me and reminded me of the strength in the human spirit. I thank you for that and for our friendship I hold so dear.

Dr. Aaron Ellington. For the support, guidance, mentoring and help you have given me throughout the entire dissertation process and for the rare and wonderful friendship we have. You are an extraordinary person and it is truly an honor to be your friend.

Dr. Sarah Toman, my dissertation chairman. At a time in my life when I was most depleted, I also knew for many reasons, I had to complete the entire dissertation process. At that time, and unaware of what I was about to embark upon, I thought I could do this. Now that it is done and I understand the dissertation process, I truly realize that there is absolutely no way I could have completed this when I wanted to without you. Your assistance, steering, navigating, deflecting trouble and shielding me from interference was the only reason I could work at the pace I did. It was an incredible act of kindness that overwhelms me. Thank you so very much.

Nancy Buccilli, my mother - Your help made it possible for me to do this my way. Your unwavering emotional support is the kind only a mother can have. I thank you from the bottom of my heart. Your grandchildren thank you too.

Skyla and Sophia - For your tremendous help during the crunch time weeks of “all-nighters”. For bringing me an endless supply of chocolate, coffee, hugs and kisses. I will do the same for you while you write yours. You are wonderful young ladies and you are fantastic daughters.

Mario - You are an exceptional young man and I am proud of you. Thank you for understanding when I had to miss lacrosse games to work on this. For hanging out late. For so many things. But most of all, for making me laugh….the kind of laughter that replenishes energy, washes away worry, and brings joy to being.

Tom Caito, my husband - For sticking with me in the early years of frustration over this choice. For the support and sideline coaching in the later years to help me reach my goal. Your efforts over the past year managing the logistics and demands of our family so that I could complete the dissertation have been tremendous. I love you. Thank you.

Finally, I thank God - For the countless blessings given to me including this calling. It seems I have always chosen a path of significant resistance. Sometimes walking next to me, sometimes carrying me, always lighting the path... Thank You.

RELATIONSHIP BETWEEN FAMILY COMMUNICATION AND COMORBID DIAGNOSES IN YOUTHS DIAGNOSED WITH A BIPOLAR DISORDER

NANCY BUCCILI CAITO

ABSTRACT

Research regarding the relationship between family communication and comorbid diagnoses in youths diagnosed with Bipolar Disorders is scarce. Existing research supports the importance of family communication with psychological development of children and adolescents affected by mental illness. The disruptive nature and increased dangers associated with Bipolar Disorders justifies further research. This dissertation study used archival data to answer research hypotheses to gain understanding the relationship between family communication and a diagnosis of a Bipolar Disorder. General Linear Model analysis and Analysis of Variance were used to test for significant differences in family functioning between families where a youth member had a diagnosis of a Bipolar Disorder versus varied comorbid diagnoses. Comorbid diagnoses configurations were the independent variables. The diagnoses configurations compared were a Bipolar Disorder only, compared to a Bipolar Disorder and any other diagnosis on Axis I; A Bipolar Disorder only, compared to a Bipolar Disorder and ADHD; A Bipolar Disorder only, compared to a Bipolar Disorder and Substance Disorder; and a Bipolar Disorder only, compared to a Bipolar Disorder, ADHD and Substance Disorder. Family functioning was assessed by three dependent variables which were the General Functioning, Problem Solving and Family Communication subscales of the Family Assessment Device (Epstein, Baldwin, & Bishop, 1983). Family communication was not found to be statistically significant for any comorbid combination tested. General

functioning and problem solving were statistically significant but small sample sizes prohibit generalizations. Limitations included small sample sizes, individual rather than multiple family member assessment and the omission of nonverbal behaviors as a form of communication. Discussion explores possible factors accounting for insignificance and low sample sizes.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

There are multiple aspects to psychotherapy. Factors such as the individual in need of assistance, the condition causing impairment, the plethora of factors that may be influencing the impairment, the mental health professional, the techniques used in the process of treatment, and a host of other variables. Both extra-therapeutic and intra-therapeutic variables come into play and may influence the overall process and therefore the outcome of psychotherapy. These various aspects may come together in differing configurations that make each therapeutic milieu unique. This dissertation seeks to address three aspects to psychotherapy. First, who is it that the work aims to benefit? In other words, who is in need of assistance? In this dissertation, the population that is addressed is children and adolescents who have been diagnosed with a Bipolar Disorder and more specifically, youths who have been diagnosed with a Bipolar Disorder who also have a comorbid diagnoses. The next aspect is the factor of family communication in the clinical picture. Out of all the factors that may influence impairment, whether be it mitigating or exacerbating, family communication is the factor of attention in this research. Last, the role of the mental health professional in assisting the effected individual begins with gathering information about the impaired individual's

circumstances. Often a challenge, a clinician typically will use any number of data collecting instruments or diagnostic tools in order to learn as much as possible about the individual's circumstances. Gathering information is necessary in order to set goals with the individual, assess treatment needs, and evaluate strengths and weaknesses. Therefore, the third and final aspect of psychotherapy that this dissertation brings to topic is assessment of the impaired individual's family communication. Collectively, this research combines one specific aspect in each of three main components. In youth diagnosed with a Bipolar Disorder and comorbid diagnoses, how might the diagnoses be related to family communication and how can the clinician gain access to that dynamic?

In this research the label Bipolar Disorder refers to the groups of behavioral and experiential characteristics categorized as such by the American Psychiatric Association and described in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (1994) and the Diagnostic and Statistical Manual of Mental Disorders Fourth Edition, Text Revision (2000).

The relationship between family communication styles and adolescent functioning has been previously researched (Darling & Steinberg, 1993; Koesten, Schrodt, & Ford, 2009; Miklowitz, 2006; Wichstrom, Holte, Husby, & Wynne, 1994). Less research has been conducted regarding family communication styles in families with children and adolescents diagnosed with Bipolar Disorders and more specifically those with comorbid diagnoses. This dissertation research fills that research gap by investigating the relationship between family communication and comorbid diagnoses in youths who have been diagnosed with a Bipolar Disorder. Information about the relationship between family communication and these populations may help the clinician

to assess severity of impairment, discover strengths and weaknesses in the family unit and in the impaired individual, and reveal patterns of communication that may be protective or provocative factors to impairment. Therefore, an enhanced understanding of family communication in families where a youth has been diagnosed with a Bipolar Disorder and comorbid diagnoses could improve construction and navigation of treatment planning and execution.

Chapter one begins with a brief orientation to the concept of family communication and its relevance, followed by an overview of family communication regarding, theory, definitions, and perspectives. Next, the matter of family communications with respect to the population of individuals who are mentally ill is mentioned. Narrowing the topic to children and adolescents with mental illness follows. Finally, the chapter addresses the population of this research, specifically, children and adolescents with the diagnosis of a Bipolar Disorder. The research question derived from this information concludes chapter one.

Family Communication

The relevance of family communication. Research has indicated the importance of family communication on an individual's ego development, self esteem, perception construction, psychosocial aspects, and ultimately their behaviors and overall well-being (Koesten, Schrodt, & Ford, 2009). Family communication patterns have been shown to influence children’s social skill development, risk for psychiatric illnesses (Wichstrom, Holte, Husby, & Wynne, 1994) and conflict management (Koerner & Fitzpatrick, 1997). Communication skills and problem solving skills are considered key

elements to the overall functionality of a family (Leblanc, Self-Brown, Shepard, & Kelley, 2011).

Confirmation and affection by the parents have been linked to self esteem, well-being, and social competence (Schrodt, Ledbetter, & Ohrt, 2007). Schrodt, Ledbetter, and Ohrt (2007) demonstrated that concept overlap links both confirmation and affection to the conversation oriented pattern of family communication (encouraging self expression and affording freedom to cultivate and express one's own ideas). *Confirmation* here is being defined as behaviors that reinforce the child's value, such as acknowledging their feelings or asking for their opinion. *Affection* is being defined as behaviors that express emotional warmth or love. Both confirmation and affection have been demonstrated to be so influential that they can be mediating factors in self esteem and perceived stress (Schrodt, Ledbetter, & Ohrt, 2007). These findings imply that a parent's individual behavior can on its own be just as, if not more influential, on the well being of the paired children than the entire family communication pattern.

Family communication has also been studied with regards to the negative effects it may ultimately have in some way on an individual's development of pathology including, but not limited to, depression, eating disorders, and dementia (Koesten, Schrodt, & Ford, 2009). In individuals where genetic loading for depression is predisposed, poor family communication skills will increase the possibility of the onset of depression (Rice, Harold, Shelton, & Thapar, 2006).

Let us consider the net effects of the culmination of aspects of family communication on behavior and overall well-being. Family communication, interaction and parenting styles affect individuals' behaviors in a vast array of areas. For example,

family communication impacts the entire continuum of self care, ranging from non-life-threatening life skills management like consumer purchases (Kim, Lee & Tomiuk, 2009), to increased self care investment like sexual behaviors (Guilamo-Ramos, 2006), to the continuum end of life threatening behaviors where research has shown a correlation between suicidal ideation and poor family communication (Miklowitz, 2006).

Often the concept of family communication incorporates an assumption that a socialization process is taking place, meaning that younger members of the family are being indoctrinated by certain values, behaviors, beliefs, etc., that the particular family holds to be their norm (Saphir & Chaffee, 2002). The socialization process is typically described or assumed to be unidirectional, in that the parents or older members of the family unit are teaching the younger or new members of the unit (Saphir & Chaffee, 2002). Researchers, Saphir and Chaffee (2002) have brought to our attention that this notion of unidirectional communication is contradictory to the basic premise of interaction, where both parties in the exchange are undergoing a sort of evolution by existing in the interaction. They conducted a study hypothesizing that the bi-directional communication caused socialization of both members of the interaction (in their study, adolescents and their parents). Their research evidenced the bidirectional effect of communication and of the socialization process. These researchers emphasized the importance of the bidirectional effect and encouraged future research to depart from the assumed unidirectional flow (Saphir and Chaffee, 2002).

Social competence outside the family unit is affected by the quality of communication or the social competence that is developed within the family (Wichstrom, Holte, Husby, & Wynne, 1994). This concept was illustrated by research conducted on

social competence and disqualifying family communication (Wichstrom, Holte, Husby, & Wynne, 1994). Disqualifying communication patterns (negating, minimizing, de-validating, and/or ignoring) between the family and one of the children has been shown to increase risk for psychopathology in that child, as well as acquiring lower functioning social skills than that of siblings (Wichstrom, Holte, Husby, & Wynne, 1994).

Family communication: Definitions, theories and perspectives. An introduction to the discipline of family communication is in order to fully appreciate the complexities of the subject matter in this dissertation. A complete and comprehensive description of family communication has the makings of several doctoral courses and goes beyond the scope of this presentation. Never the less, it is important to consider the multitude of variables that come into play when we grapple with the concept of family communication or of the labels and subsequent definitions researchers attach to certain styles, behaviors, or patterns of family communication.

The operational definitions can become convoluted. For the purposes of this work, *communication* will be defined as any message sending medium from one individual to another. Therefore, included in the definition of *communication* is verbally expressed, positive and negative problem solving behaviors, conflict resolution communication, message sending, nonverbal messages and body language communication. Nonverbal body language is a powerful form of communication yet it is one that many researchers do not consider (Daily, 2008). The broader definition of communication used in this dissertation accounts for all message-sending as being some form of communication. Although various elements of communication may be able to be partitioned out as separate dynamics, they are all forms of communicating. Problem

solving and family communication are paired as essential elements in family functioning and protective factors to psychological distress (LeBlanc, Self-Brown, Sheppard & Kelly, 2011). Punctuating the component of problem solving in communications is its' evidenced relationship to treatment outcome (Townsend, et al., 2007). Problem solving as a variable is also considered in this research.

Communication can be considered the means by which a parent creates an operational or functioning atmosphere in which the family exists (Darling & Steinberg, 1993). According to Darling and Steinberg (1993), communication is the parenting style representing the parental attitude and is a vehicle for the parent to act out certain behaviors or parental practices. Behaviors or practices can be goal-directed (for example, a direct verbal delivery), or can be non-goal-directed (for example, a gesture, or a spontaneous expression of emotion), but the style of the behavior reflects the attitude of the parent (Darling & Steinberg, 1993). The style with which parents communicate their attitudes sets the stage for overall family communication.

In an effort to comprehend the philosophical trends amongst the scholars specializing in family communication, Braithwaite and Baxter (2006) conducted a search with respect to theories as well as definitions of family communication. According to Braithwaite and Baxter (2006), there is a shared belief amongst some communication scholars that there is a paucity of literature available for review regarding family communication, as well as the need for this area of study to individuate itself from other areas. There is also shared thinking among researchers regarding the need for improved and shared vocabulary (Braithwaite & Baxter, 2006).

In an effort towards these goals, Braithwaite and Baxter (2006) edited the book, *Engaging Theories in Family Communication: Multiple Perspectives*. These editors gathered authors who write about the current approaches to family communications, including professionals in the communications field, as well as the related fields of psychology, sociology, and feminist studies. The book presents information on each of the 20 theories that have been or are utilized in research from 1990 to 2003. These 20 theories vary in purpose as some address interpersonal communication while others address specific social issues.

For the 20 theories, Braithwaite and Baxter (2006) assumed the definition of family to be, "a social group of two or more persons, characterized by ongoing interdependence with long term commitments that stem from blood, law or affection" (p. 3). Communication refers to "symbol use between persons through verbal and nonverbal means" (p. 3). These editors specifically did not include theories focusing on couples, marriage, or interpersonal relationships. The theories or descriptions of family communication processes are born out of broader, larger, and more encompassing philosophical concepts. Braithwaite and Baxter (2006) referred to the philosophical frameworks of the 20 theories as "*metatheoretical backdrops,*" highlighting the three frameworks of "logical-empirical," "interpretive," and "critical" (p. 3-7).

The Logical-Empirical Perspective assumes that there is an objective reality of the situation in which cause and effect relationships amongst variables can be observed. In the Logical –Empirical Perspective the researcher is developing and testing hypotheses to determine relationships amongst variables. The Logical-Empirical Perspective accounted

for 76% of research conducted focusing on family communication between 1990 and 2003 (Braithwaite & Baxter, 2006).

The Interpretive Perspective assumes there are a number of perspectives, referred to as realities, as there are a number of involved individuals. In the Interpretive Perspective, the context in which the communication takes place and the meaning that the subject imparts onto that communication is the emphasis. Rather than testing a hypothesis, the interpretive researcher would use the theory as a navigational tool to travel with the subject through an experience and in assigning meaning to those experiences. The Interpretive Perspective accounted for 20% of research focusing on family communication (Braithwaite & Baxter, 2006).

The Critical Perspective assumes that a power struggle exists amongst the family members and uses the theory to assist the silenced in regaining a voice in the family system. Critical Perspective research often includes larger numbers and socially deemed groups of individuals who have had a history of being dominated. Examples could be women, or people with disabilities or any minority group. Both in the larger forum and in a smaller single family work setting, the researcher or clinician with a Critical Perspective would be working toward empowerment of the persons in the family or community group/s that have been deprived equal power. Less than 4% of research focused on family communication was conducted from the Critical Perspective (Braithwaite & Baxter, 2006).

Braithwaite and Baxter (2006) considered it essential that a reader detect very early the theoretical perspective of the research. They believe that knowing the theoretical perspective gives the reader an idea of the ideals to which the researcher is

committed, the style in which they gathered information, and therefore provides some guidelines for the usefulness of the information gathered. In other words, they believe it is theory that organizes the research and that creates a functional and communicable way to present and explain research findings as well as lay the foundation for continued research. In actuality, and much to the expressed concern of these editors, they found that in over half (50%) of the articles they reviewed in the compilation of these 20 theories, the researcher(s) did not align themselves with any theoretical approach. This discovery bolstered their call for a stronger presence of theory in family communication research. They also called for a better balance among the metatheoretical approaches, as currently the logical-empirical perspective dominates research. Lastly, Braithwaite and Baxter (2006) encouraged those interested in family communication to forge forth in efforts of strengthening and individuating the discipline of family communication. The next several paragraphs will review a sampling of the 20 theories, providing the chapter author names, and a brief description of the theories' basic concepts.

Relational dialectics theory: Multivocal dialogues of family communication.

Relational Dialectics Theory is a member of the interpretive metatheoretical family and was used the most of any theory reviewed by Braithwaite and Baxter (2006). The chapter about Relational Dialectics Theory (Chapter 9) was written by Baxter (2006,). Rational Dialectics Theory focuses on making meaning out of the dialogue and the competition amongst the various family members' perspectives. The theory, according to Baxter, should be utilized to gain insight into how family members interpret their communication experiences with one another. The essential component here is the concept of the dialogue amongst the family members. It is the dialogue that brings the communication

process to life. Relational Dialectics is a contrast to other theories, predominantly because other theories tend to assign a positive or negative connotation to certain possible conditions whereas Relational Dialectics is only concerned with the meaning the family makes of the condition. For example, proximity and closeness is considered by many theories to be a positive quality, while distance is problematic or negative. In Relational Dialectics Theory, no condition would be given any judgment or value any more or less than any other. The main thrust of this theory is the interaction between and within various perspectives. According to Baxter (2006), dialogue can be considered as a dialectical flux (fusing while simultaneously maintaining individuality), constitutive process (constructed multivocal), utterance (the words or phrases used to represent two opposing concepts coexisting with one another, or aesthetic moment (when communicative order is momentarily achieved).

Family communications patterns theory: A social cognitive approach. Chapter 4 in Braithwaite and Baxter (2006) was written by Koerner and Fitzpatrick (2006). Family Communications Patterns Theory is a logical-empirical theory focusing on how cognitive orientation is the foundation for why family members communicate the way they do. This theory assumes intrapersonal as well as interpersonal processes, in other words processes that are going on within the person as well as within the family system. There is an assumption that there is a certain similarity among family members in interpretation of behaviors as well as differences. The family members have a shared social reality that was created by cognitive processes. In this shared reality, the family communicates in one of two styles, conversation or conformity. Conversation oriented families have created a climate where all individuals in the family are encouraged to evaluate a

situation freely, explore meanings and create their own perception with the help from others and parents, but not imposed on by others and parents. Social position in the family does not affect or impose a forced meaning or perception. Open conversation takes place often, since parents with this orientation see the open conversation as the essential component to educating and socializing children. Conformity-oriented families focus on a cohesive set of attitudes, beliefs and values. Harmony, conflict avoidance and interdependence are essential components to this orientation, (varying degrees of conversation and conformity will result in different family types). The theory does not implicate functional or non-functional, but rather varying types yield different levels of functionality for each family.

Communication accommodation theory: An intergroup approach to family relationships. This chapter (Chapter 2) was authored by Harwood, Soliz, and Lin (2006). This logical-empirical theory focuses on cause and effect explanations for why members of a family communicate the way they do. Intergenerational, gender, and sometimes multicultural aspects are included. For example, stereotyping and prejudice can exist within a single family unit made up of these varying sub group memberships. Sub-group membership differences, and how those differences impact interpersonal communication, as well as how those differences intersect with shared identity components are all considered. Prediction can take place regarding the level of unity and the degree to which the individual members perceive group identity.

Communication privacy management theory: Understanding families. This chapter (Chapter 3) was written by Petronio and Caughlin (2006). This theory, which is logical-empirically grounded, focuses on boundaries in the family structure or in dyads

within the family unit. An essential element that is reviewed in this research is the individual member's variation in degree of disclosure and in disclosure recipient. The dialectical nature of disclosure between the deliverer and the recipient of private information is examined. The processes by which the dialectics regarding privacy and disclosure are managed among family members are reviewed for patterns, in efforts of understanding the communication dynamics within the family. Private information (kept within self only), and the decision to extend that information to collective private information (that has been disclosed to another in confidence) is a multifaceted decision. Decision making elements that come into play include cultural issue situational factors, gender criteria, cost of revealing, motivational factors and more. Guidelines, socially and family implemented, and unspoken protocols for privacy management are developed within the family. The result is what Petronio and Caughlin (2006) called privacy rules. Privacy rules are created in order to keep boundaries and disclosure levels intact. Yet, the configuration of information disclosures and recipients may frequently fluctuate. In families that are newly forming, varying privacy/disclosure conditions often indicates acceptance or rejection in to the family group. Petronio and Caughlin (2006) have developed a theory to help understand privacy aspects in family communication (Braithwaite & Baxter, 2006).

Cognitive flexibility. Research has shown that the family communication style is not a force that can be isolated as there are other dynamics that alter the effects of family communication (Koesten, Schrodt, & Ford, 2009). In fact, Koesten, Schrodt, and Ford (2009) hypothesized that there may be multiple factors that not only impact but are impacted by family communication processes. One such factor to be considered has been

termed *cognitive flexibility* (Koesten, Schrodt, & Ford, 2009). These researchers focused on *cognitive flexibility* as a possible mediating factor in family communication, ultimately effecting well-being (defined by these researchers as self-esteem, absence of health distress or psychiatric disturbance, and perceived physical health). Their study yielded results that confirmed their hypothesis that there are other dynamics that work with family communication styles and patterns. These researchers described family communication style as a confluence of shared beliefs and or perceptions and that serve as a foundation or language for the family members to interpret one another (Koesten, Schrodt, & Ford, 2009). In other words, family communication style is a type of psychological and expressive nomenclature within which the family communicates.

Family communication style or environment helps to shape cognitive development (Koesten, Schrodt, & Ford, 2009). Optimally a child develops a framework or a paradigm from which they interpret life and experiences. If cognitive flexibility is built into the individual's paradigm then they would, in theory, possess within their psychological capabilities a library of interpretations to choose from (Koesten, Schrodt & Ford, 2009). In the optimal case, the individual does not assume a single theoretical framework to adhere to, but rather possesses the attitude and understanding that a variety of theoretical frameworks exist from which to interpret life's encounters and experiences. The individual with cognitive flexibility would recognize that there are multiple interpretations and therefore options from which to choose for managing life, thoughts, situations, experiences, stressors, choices (Koesten, Schrodt, & Ford, 2009) and perhaps even their own cognitive creations.

Higher experienced levels of psychological, physical and emotional well being are associated with higher levels of interpersonal skills. Higher levels of interpersonal skills are brought about by cognitive flexibility. Cognitive flexibility is an essential component to being an effective communicator. Cognitive flexibility encompasses the ability to include details and to recognize the need to self-adjust one's own behavior. Therefore, cognitive flexibility is thought to be the essential component to an individual believing they can advantageously guide or alter their own situation, in other words, perceived self-efficacy. One could reason, then, that a person with cognitive flexibility would be better equipped to negotiate life's stressors (Koesten, Schrodt, & Ford, 2009).

Higher expressiveness, defined as encouragement to share points of view and opinions and to disagree with others, is associated with higher cognitive flexibility (Koesten, Schrodt, & Ford, 2009). A person presents their thoughts, but is also told other's thoughts which may differ from their own, listening to the logic and or emotions that substantiates another's thoughts. When a difference of opinion is welcome and individual expression encouraged, it makes room for listening skill refinement as well as creating conditions ripe for critical thinking. This concept would then indicate a sort of feedback loop where family communication helps to develop cognitive frameworks, which would optimally be flexible, and would then effect family communication.

The metatheoretical backdrop and theory of this dissertation research. The metatheoretical backdrop of the research in this dissertation would be considered logical-empirical, due to the nature of the hypotheses testing. The logical-empirical perspective assumes that there is an objective reality of the situation in which cause and effect relationships among variables can be observed. In the logical–empirical perspective the

researcher is developing and testing hypotheses to determine relationships amongst variables. The review of the literature in Chapter 2, guides hypotheses formulation in efforts to determine existing relationships among variables involved with family communication. It should be noted however, that the research conducted here with a logical-empirical backdrop is intended to contribute to research and clinical work done from any of the three metatheoretical frameworks that Braithwaite and Baxter (2006) referred to which are "logical-empirical," "interpretive," and "critical" (p. 3-7). The concluding point of this research may be the initiation point for additional logical-empirical work conducted through further hypotheses testing. The findings in this research may provide considerations to clinicians working from both interpretive as well as critical perspectives.

The theory that best describes this dissertation research is Family Communications Patterns Theory. Chapter 4 in Braithwaite and Baxter (2006), written by Koerner and Fitzpatrick (2006), elaborates on the intricacies of this theory. A logical-empirical theory, Family Communications Patterns Theory assumes that family members communicate in one of two styles, *conversation* or *conformity*. Conversation oriented families encourage free expression and explore differences in perception. Conformity oriented families focus on a cohesive set of attitudes, beliefs, values and harmony. Varying degrees of conversation and conformity will result in different family types with different levels of functionality. The research conducted in this dissertation aims to provide contributory information to researchers and clinicians, who may utilize family communication styles and patterns, work in bringing about increased functionality in populations presenting with such a need.

Family communication and mental illness. Given what was reviewed, it is possible to summarize that family communication is of importance, as it effects the development of the individual, serves as a backdrop from which all the family members operate and is the origination point from which any individual trajectory will take place. Clinical populations are not exempt from relationship impact and the influence of family communication. On the contrary, the clinical population brings with it a heightened sensitivity to the importance of family communications (Schon, Denhov, & Topor, 2009). Many individuals recovering from a serious mental illness consider social relationships to be one fundamental factor in their recovery, with friends and family having the most important impact on their recovery (Schon, Denhov, & Topor, 2009). Often, when a family member is mentally ill, the nature of the family communication will change (Champlin, 2009). If a member of the family has a serious mental illness, the family communication almost always changes. In some drastic cases, the ill family member may not have the same personality they had prior to the illness, reconfiguring the communication style of the family. The new communication system may involve gaining assistance from a network of resources outside the family unit. Boundaries that were in place before will more than likely require readjustment, even radical changes. The evolution in the process on the part of the other family members includes, but is not limited to, acceptance, the willingness to take action in certain situations, realizing the unpredictability of the circumstances, isolation, dealing with the ambiguity over what is the best thing to do, waiting for the loved on who is sick to display symptomology (Champlin, 2009). For most families who have a family member with a mental illness less severe, the family communication process accommodates the situation, but still more

closely resembles the configuration that enables functioning including dialogues, various levels of reciprocity and power, privacy factors, and typically adheres to patterns that govern the process. Focusing further, we will look at children and adolescents with mental illness.

Children and adolescents diagnosed with mental illness. The Diagnostic Statistical Manual of Mental Disorders (4th ed., text rev; DSM-IV-TR; American Psychiatric Association, 2000) includes diagnoses that go beyond the scope of this dissertation. However, a sampling of diagnoses provides context for this research and includes disorders whose primary feature is depression and disorders whose features qualify them as one of the Bipolar Disorders. Research has indicated that problematic family communication is associated with a member of the family having a diagnosis of schizophrenia but whether that problematic communication is a contributory factor to the onset of the illness or a symptom of having a diagnosed family member has yet to be determined (Otero, et al., 2011).

Not unlike in the research with factors related to other serious mental illnesses, researchers who study Depression and Bipolar Disorders examine family functioning for clues to etiology, contributory factors in severity, possible attributions of resilience, assistance in recovery, and ultimately on the relationship to treatment outcomes. Expressed emotion has been researched (Kim & Miklowitz, 2004) and maternal mood has been studied (Esposito-Smythers et al. 2006).

For Bipolar Disorders, much of the research focuses on the expressed emotion of the identified patient's family (Kim & Miklowitz, 2004). Expressed emotion here, is comprised of critical comments and emotional over-involvement and has been implicated

in research (Kim & Miklowitz, 2004), as having the greatest impact or as a predictor variable of mania and depression at follow up. The research indicated that a higher level of critical comments was associated with higher levels of manic and depressive symptoms by follow up period (Kim & Miklowitz, 2004). Research also indicated that family therapy may lessen the critical comment behaviors, therefore altering the communication style and impacting relapse (Kim & Miklowitz, 2003).

Another dynamic that has been researched is the relationship between the mother's mood and family functioning. In many areas of research we see the mother/child relationship emphasized regarding child development outcomes (Esposito-Smythers, et al., 2006). In the U.S. culture and history to date, the mother has had disproportionate amounts of responsibility for all aspects of child well-being. Research has also evidenced that the mental health of the child is largely dependent on the mental health of the mother (Levine, 2006). Whether the mother of the family has a mood disorder or not, may impact siblings' perceptions about functioning in the homes of adolescents diagnosed with a Bipolar Disorder (Esposito-Smythers, et al., 2006).

Maternal mood disorder is associated with lower family functioning and lower family cohesion (Esposito-Smythers, et al., 2006). An interesting reversal to note is that, although externalizing behaviors on the part of the identified adolescent patient diagnosed with Bipolar Disorder are associated with higher levels of family conflict, in families where the mother is depressed, the family conflict is lower (Esposito-Smythers, et al., 2006). Although, there are several theories as to how this reversal unfolds, Esposito-Smythers et al.(2006) suggested that the mother disengages in parenting as a function of her poor coping skill, sense of helplessness, and other combined

symptomology of the depressive disorders. The disengagement then accounts for the lower conflict levels (Esposito-Smythers, et al., 2006).

To summarize, the general trend in research for adolescents with a Depression or a Bipolar Disorder diagnosis implies good or positive family communication will have a positive impact on treatment outcome.

Children and adolescents diagnosed with a bipolar disorder. The diagnosis of the Bipolar Disorders is a current topic of discussion within the therapeutic community. There is controversy around the diagnosis of Bipolar Disorder in children and adolescents, as the characteristics overlap with those of Attention-Deficit/Hyperactivity Disorder (Rucklidge, 2006). Comorbid diagnosis makes accuracy of diagnosing a Bipolar Disorder even more of a challenge (George, Taylor, Goldstein, & Miklowitz, 2011). Research has evidenced a delay in diagnosis or an initial misdiagnosis of a different disorder for many individuals who are later accurately diagnosed with a Bipolar Disorder (McIntyre, 2010).

The rapid increase in children and adolescents diagnosed with a Bipolar Disorder over the past twenty years is cause of concern in the mental health community especially with respect to the psychotropic medication use for treating this population (Parry, Allison, Jureidini, et al., 2008). Despite the numerous areas of disagreement, behavior descriptions and challenges for accurate diagnosis, evidence indicates that the diagnosis of the Bipolar Disorders is valid in children and adolescents (Youngstrom, Birmaher, & Findling, 2008) .Concurrently, the diagnosis of the Bipolar Disorders are supported by the Diagnostic Statistical of Mental Disorders, Fourth Edition, Text Revision (American Psychiatric Association, 2000). This research proceeds with the American Psychiatric

Associated supported understanding that Bipolar Disorders are valid diagnoses in children and adolescents. This research also acknowledges the current concerns and diagnostic challenges that exist for this particular family of disorders with the hope that future researchers can help resolve controversy about the diagnosis.

Does poor family communication worsen the functioning of the family to a greater degree than the compromised functioning that is attributable to one member having a Bipolar Diagnosis? Researchers (Esposito-Smythers, et al., 2006) have described the benefits of having the answer to this question. Many behaviors associated with a Bipolar Disorder are externally and internally disruptive to the individual. This may cause additional family functioning challenges. Comorbid diagnoses are common with a Bipolar Disorder (Esposito-Smythers, et al., 2006). Comorbid mood and externalizing disorders like oppositional defiant disorder are associated with greater family conflict and lower family cohesion (Esposito-Smythers, et al., 2006). Comorbid internalizing disorders, like those in the anxiety family of disorders, are associated with less family conflict (Esposito-Smythers, et al., 2006). Therefore, certain comorbid disorders may serve as a preventative factor and certain comorbid disorders may serve as an exacerbating factor to family conflict in families where an adolescent member has either depression or a Bipolar Disorder (Esposito-Smythers, et al., 2006).

Given the disruptive nature of the Bipolar Disorders, and the challenges to family functioning that this may create, it would be beneficial to research the relationship between family communication and diagnosed Bipolar Disorder. Individuals diagnosed with a Bipolar Disorder experience a higher proportion of suicide ideation and attempts than non diagnosed individuals (Miklowitz & Taylor, 2006). Half of the individuals

diagnosed with a Bipolar Disorder will attempt suicide at some point in their lives and are at 15-times greater risk for committing suicide than people in the general population (Miklowitz & Taylor, 2006). These risks are especially high in individuals who had a pediatric onset of the disorder. Due to the fact that suicidal thoughts often coincide with episodic experiences of Bipolar, effected individuals may experience frequent suicidal thoughts (Miklowitz & Taylor, 2006). Suicidal behavior is associated with poor family communication (Miklowitz & Taylor, 2006). Logic would indicate that improved family communication may be a protective factor against the suicidal ideation frequently experienced in those diagnosed with a Bipolar Disorder.

The high rate of disruptive, self harming and suicidal behavior in individuals diagnosed with a Bipolar Disorder and the association of suicide with poor family communication substantiates the research of this dissertation. Investigation into improved and alternative tools to assist in the assessment of families' communication could benefit treatment of children and adolescents diagnosed with a Bipolar Disorder. Knowledge gained in this dissertation may contribute information regarding the relationship between family communication and Bipolar Disorders, identifying individuals at high risk for relapse, treatment modalities, family involvement, individualized treatment needs, and parent training for families where the youth has been diagnosed with a Bipolar Disorder.

Research Question

To further study the proposed relationship between family communication and the diagnosis of a Bipolar Disorder for children and adolescents, the following research question has been formed.

Is there a difference in family communication, problem solving and/or overall functioning between families of a child or an adolescent who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a child or an adolescent who has a comorbid diagnosis of a Bipolar Disorder and another disorder on Axis I?

In order to refine this research question into testable hypotheses that prove to be relevant and uniquely contributory to the field of psychology, a review of the literature was conducted. Chapter two presents the review of literature presenting recent research in the three aspects of psychotherapy of this investigation. Literature is presented regarding areas of family communications. Literature is presented regarding the population of youth that have been diagnosed with a Bipolar Disorder and comorbid diagnoses. Chapter Two also reviews literature about assessment of family communication, focusing on The McMaster Approach (Epstein, Baldwin, & Bishop, 1983).

CHAPTER II

LITERATURE REVIEW

This chapter is a review of the literature that motivates, contributes to, and justifies the research in this dissertation. The information is presented in five major sections. The first section presents materials about the role family communication plays in the functioning of the family and more specifically with children and adolescents. Positive communication styles are noted and problem solving is addressed. The second section presents Bipolar Disorders with respect to these disorders' characteristics, prevalence and the relevance of researching these disorders. The third section offers information on the comorbidity of Bipolar Disorder and Attention-Deficit/Hyperactivity Disorder. Information is presented about the characteristics of Attention-Deficit/Hyperactivity Disorder and its prevalence and relevance. The fourth section presents information on the comorbidity of Bipolar Disorders and Substance-Related Disorders. Information is provided about the characteristics of Substance-Related Disorders, prevalence, and relevance. The fifth section presents family assessment, most notably The McMaster Approach (Epstein, Baldwin, & Bishop, 1983), due to its role in this dissertation research. The research hypotheses will conclude Chapter two.

Family Communication

Over a decade ago it was determined that research with adolescents was lacking (Friedman, Fisher, Schonberg, & Alderman, 1998). Friedman et.al., had stated that the three main reasons for the lack of available literature for clinicians was that there were few available evaluation forms, there was an over emphasis on cognitive-behavioral approaches, as opposed to the consideration of humanistic, psychodynamic, or family/system approaches, and that there remains inconsistency amongst therapeutic styles. This dissertation research includes an available assessment tool, as used within a systems model.

Modalities and therapeutic techniques have evolved over time, pairing both the definition and conceptualization of adolescence the adolescent in each historical time period with the therapeutic paradigm of that same period. In the early 1950's reports implicating the ineffectiveness of therapy as a treatment modality for adolescents motivated researchers toward the discovery of effective treatments and improved documentation for treatment with adolescents (Ellington, 2008). The mid 1970's marks the beginning of empirical research with families and adolescents from a systemic or family perspective (Steinberg, 2001).

According to Steinberg (2001), conflict was considered an essential component to successful travel through this time period of development and if conflict was absent, it was assumed the adolescent was not appropriately individuating. In keeping with Erikson's (1959) theory, the 1970's brought with it a more subtle viewpoint of the conflict as an accepted forum for adolescents to develop, individuate and nurture their own autonomy.

The mid 1970's also brought research that challenged the preconceived notion that conflict is a baseline ingredient for successful navigation through adolescence. Rutter and colleagues (1976) confirmed that 75% of non-clinical adolescents were happy at home and had an absence of conflict in their families and that the 25% who did present conflict had a history of family conflict prior to the onset of adolescence (Rutter, Graham, Chadwick, & Yule, 1976). Steinberg (2001) concludes that researchers were in error by taking findings based on a clinical population and then generalizing them to the entire population. Subsequently, however, this paired association of conflict and rebellion accompanying the developmental period of adolescence made a long lasting impression on our culture that has taken on various forms and presentations throughout the years (Steinberg, 2001).

Today, many scholars in the field of family communication, and/or the study of adolescence, share the viewpoint of researcher Baumrind (1991). The essential element of Baumrind's theory is that the adolescent can develop independence and individuation while exploring behavior and acquiring self-regulation in the context of their own family (Baumrind, 1991). The parents and their styles of communication create the forum for this development to take place. The parents' styles of parenting reside on two intersecting continuums of demandingness and responsiveness. Demandingness is the set of limits and requirements placed on the adolescent by the parents, based on maturity needs, supervision, discipline, family requirements. Responsiveness is the degree to which the parents create an atmosphere for individual development and psychological separation (Baumrind, 1991). Optimal demandingness, along with optimal responsiveness would

create an atmosphere for adolescents to experience connectedness and individuality in tandem (Baumrind, 1991).

Steinberg (2001) explained that different perspectives by different members of the family can account for some believing there is conflict while others do not and why members of a family experience interactions with one another from completely different perspectives. According to Darling and Steinberg (1993) both perspective and expectation help to shape the parents' communication style and therefore the style of communication in the family (Darling & Steinberg, 1993).

Steinberg and other contemporary researchers (Hillaker, Brophy-Herb, 2008; Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Steinberg, Lamborn, Dornbusch, & Darling, 1992) have launched their research from Baumrind's (1991) theory and have organized the various parenting styles by the categories authoritative, authoritarian, indulgent and neglectful. The style by which parents communicate their attitudes sets the stage for overall family communication (Darling & Steinberg, 1993). The styles of communication empirically associated with higher levels of well being are presented next.

Positive family communication styles.

Authoritative parenting style. Authoritative parenting style communicates warmth, firmness, and acceptance. The authoritative style cultivates an atmosphere that recognizes an encouraged psychological autonomy. Emotional context is critical to this style (Steinberg, Lamborn, Dornbusch, & Darling, 1992). Behaviors alone do not satisfy the style or inclusion into the description of authoritative. Research with 6,400 American 14-18 year olds was conducted regarding authoritative parenting styles and its

relationship to academic performance (Steinberg, Lamborn, Dornbusch, & Darling, 1992). The participants filled out surveys regarding various aspects of their families, parenting style of their parents, and level of their parents' engagement. This information was compared to the participants' actual performance in school measured by a self–report survey gathering data on the participants' grade point average, perceived level of engagement in the classroom, homework efforts, and educational expectations. This study showed that parents' behaviors are only effective as a function of their attitudes (Steinberg, Lamborn, Dornbusch, & Darling, 1992). Participants who perceived their parents to have an authoritative parenting style performed better than participants whose parents were perceived as behaviorally engaged but with a non-authoritative parenting style. Darling & Steinberg (1993) explained that fundamental to the development of competence and psychological well-being, the authoritative parenting style has been linked with aspects of healthy child and adolescent functioning.

The authoritative style resonates with elements from Family Communications Theory (Koerner & Fitzpatrick, 2002), as presented in Chapter One. Specifically, a fundamental component of the authoritative style of parenting, cultivating an atmosphere that encourages psychological autonomy, is congruent with Family Communications Theory. Conversation oriented families create a climate where all individuals in the family are encouraged to evaluate a situation freely, explore meanings and create their own perceptions.

Lamborn, Mounts, Steinberg and Dombusch (1991) assessed levels of competence with 4,100 youths who rated their parents' on parenting style and dimensions of supervision and acceptance. Those ratings were compared to actual experiences of

school performance, problematic behaviors, and perceptions of psychosocial issues and stress. Correlations amongst these variables indicated an authoritative parenting style as being most effective with healthy functioning youth (Lamborn, Mounts, Steinberg, & Dornbusch, 1991). Both positive overall academic performance and more advanced psychosocial development were evident, when compared to their peers whose parents were assessed to have a non-authoritative parenting style. These researchers were also able to associate lower levels of psychological problems with authoritativeness (Lamborn, Mounts, Steinberg, & Dornbusch, 1991). The findings from this study also imply parental acceptance and parental involvement may be essential factors for both the development of high self-confidence and the promotion of psychological health (Lamborn, Mounts, Steinberg, & Dornbusch, 1991). There is a realized difference in youth behavior when parents are permissive due to indulgence or are permissive due to neglect (Lamborn, Mounts, Steinberg, & Dornbusch, 1991).

Confirmation and affection. Confirmation (behaviors that reinforce the child's value) and affection (behaviors that express emotional warmth or love) by parents have been linked to self esteem, well-being, and social competence (Schrodt, Ledbetter, & Ohrt, 2007). Schrodt, Ledbetter, and Ohrt (2007) also linked both confirmation and affection to the conversation oriented communication style (encouraging the cultivation and expression of all family members' ideas). Both confirmation and affection are protective agents against circumstances that could negatively impact self esteem and perceived stress (Schrodt, Ledbetter, & Ohrt, 2007).

Research conducted by Knafo and Schwartz (2003) demonstrated that parental communication styles that incorporate warmth contributed to the youth's perception

accuracy. A study including 547 Israeli youths self-reporting on various aspects of their parents' style of parenting, compared to their parent's self report on values, indicated that the youth's perception of their parents' affection influenced the accuracy of perception of their parent's values. Schrodt, Ledbetter, and Ohrt (2007) stated that confirming communication may decrease risk for the development of pathology. Confirmation communication may be more influential than the overall pattern of family communication as a deterrent to the development of psychopathology (Schrodt, Ledbetter, & Ohrt, 2007).

Cognitive flexibility. Cognitive flexibility is one characteristic of cognitive development that can emerge from the style of family communication (Koesten, Schrodt, & Ford, 2009). In their research, Koesten, Schrodt and Ford (2009) referred to expressiveness in family communication as openness and encouragement to self express, leading to the development of cognitive flexibility. Children develop frameworks from which they interpret life and experiences. If cognitive flexibility is built into the individual's framework, then they would, in theory, possess within their psychological capabilities to generate and choose options (Koesten, Schrodt, & Ford, 2009). The individual with cognitive flexibility would recognize that there are multiple interpretations, attitudes and styles for managing life, experiences, and circumstances (Koesten, Schrodt, & Ford, 2009). Cognitive flexibility is associated with higher interpersonal skills which are associated with over-all well-being; cognitive flexibility enables self-adjustment of one's own behavior and therefore perceived self-efficacy (Koesten, Schrodt, & Ford, 2009). In other words, individuals who have developed cognitive flexibility were able to psychologically navigate stressors and circumstances

within other family communication contexts better than those individuals who had not developed cognitive flexibility (Koesten, Schrodt, & Ford, 2009).

Other family communication style aspects. The importance of family communication style and an individual's ego development, self esteem, perception construction, psychosocial aspects, and ultimately their behaviors and overall well-being have been researched (Koesten, Schrodt, & Ford, 2009). Family communication patterns have been shown to influence children's social skill development, risk for psychiatric illnesses (Wichstrom, Holte, Husby, & Wynne, 1994) and conflict management (Koerner & Fitzpatrick, 1997).

Family communication has also been studied with regards to the negative effects it may ultimately have on an individual's development of pathology including, but not limited to, depression, eating disorders, and dementia (Koesten, Schrodt, & Ford, 2009). In individuals with a generational history of depression, poor family communication skills will increase the possibility of the onset of depression (Rice, Harold, Shelton, & Thapar, 2006). Research has shown a relationship between suicidal ideation and poor family communication (Miklowitz & Taylor, 2006). Disqualifying communication patterns (negating, minimizing, de-validating, and/or ignoring) between the family and one of the children has been shown to increase risk for psychopathology in that member (Wichstrom, Holte, Husby, & Wynne, 1994).

Since adolescence is a developmental period that carries with it unique characteristics that effect family communications, researchers stress the importance of healthy parenting styles and therefore healthy family communication during this developmental stage (Morris, Silk, Steinberg, Meyers & Robinson, 2007). Optimally,

parents are striving to achieve the healthy balance of freedom and supervision. Yet researchers also note the complexity of striving for increased autonomy, while the adolescent's brain development is still evolving but not yet complete (Morris et al., 2007). The occurring developmental changes are thought to cause emotional regulation challenges for the adolescent (Morris et al., 2007). Family conditions where there is a lack of supervision or emotional support has been associated with emotional dysregulation and externalizing behaviors (Morris et al., 2007).

Problem solving. Problem solving skills and communication skills are both considered important factors for general functioning of the family (LeBlanc, Self-Brown, Shepard, & Kelly, 2011). Research has demonstrated that both problem solving capabilities of the family and the quality of the family communication is related to adolescent perceived psychological distress (LeBlanc, Self-Brown, Shepard, & Kelly, 2011). Ninety adolescents in grades 7-12 and their parents who were residing in high crime areas completed questionnaires regarding their exposure to violence in their schools and neighborhoods, overall functioning, perceived stress, communication skills, and problem solving skills. Increased problem solving skills and increased communication skills were associated with decreased perceived distress (LeBlanc, Self-Brown, Shepard, & Kelly, 2011).

Individual problem solving is considered in this dissertation research as distinct from the problem solving skills of the family as a unit. This dissertation focuses on family communication and logically that extends to family problem solving capabilities. A review of research that extends to the analysis of individual problem solving capabilities goes beyond the scope of this chapter. However, several concepts are

important to bear in mind as shared aspects to the research of this dissertation. First, social problem solving is a skill not completely developed until adulthood (Jaffee & D'Zurilla, 2003). Additionally, research has produced evidence that there is a connection between a family's problem solving abilities and that of the individual members (Jaffee & D'Zurilla, 2003). Jaffe and D'Zurilla (2003) found that adolescent's problem solving skills were significantly less functional than their parent's problem solving skills and significantly correlated with their mother's problem solving skills. Adolescents in the their research used less effective problem solving skills, used more impulsive problem solving skills, and were more avoidant to engaging in problem solving than their parents. The researchers also reported that adolescents' problem solving skills were a predictor of aggression, reckless driving and substance use (Jaffee & D'Zurilla, 2003).

The previous paragraphs of this literature review have presented the case for both the importance of family communication and the role it plays in the development of children and adolescents, as well as justifying the need for continued research. Research revealing increased upheaval in the homes of adolescents with a psychiatric illness (Rutter, Graham, Chadwick, & Yule, 1976) provides an even stronger argument for continued research in the area of family communications in families where a child or adolescent has a mental illness. The lifetime prevalence for adolescents in the United States with mental disorders is 22.2% (Merikangas, et.al. 2010). Mood disorders affect 14.3% of the American adolescent population (Merikangas, et.al. 2010). Family communication in these populations is presented next.

Family Communication in Families of Adolescents Diagnosed with a Bipolar Disorder

The Bipolar Disorders include Bipolar I Disorder, Bipolar II Disorder, Cyclothymic Disorder, and Bipolar Disorder Not Otherwise Specified. The predominant characteristic of this family of disorders is the presence, or history, of manic episodes, mixed episodes or hypomanic episodes and is usually accompanied by the presence, or history, of a major depressive episode (Diagnostic Statistic Manual of Mental Disorders-IV-TR, 2000). Lifetime prevalence of the Bipolar Disorders in adolescents in the United States (ages 13 to 18) is 2.9% with 2.6% experiencing severe impairment (Merikangas, et.al. 2010). Prevalence increases with age and there is no gender differentiation among the severely impaired group (Merikangas, et al. 2010). Approximately 40% of the individuals who have a Bipolar Disorder have a comorbid diagnosis (Merikangas, et.al. 2010). It is estimated that 20% to 40% of adults diagnosed with a Bipolar Disorder had childhood or adolescent onset (Miklowitz et al., 2004). A fifth of children who have depression will develop a Bipolar Disorder (Miklowitz et al., 2004).

Early onset has been correlated with higher genetic contributory factors, less positive response to pharmacotherapy and continued symptomology into adulthood (Miklowitz et al., 2004). The complicated behavioral presentation of adolescent clients or patients convolutes the diagnostic process and challenges treatment. Pharmacological treatment is the fundamental treatment for this disorder, but is often thwarted by noncompliance with the population of adolescents (Miklowitz et al., 2004). Treatment aimed at increasing the adolescents' understanding of their disorder in efforts of increasing medication compliance combined with improving problem solving and

communication skills could be beneficial. Since studies with adults have indicated that individuals with a Bipolar Disorder who live with family members and who are emotionally expressive have a poorer illness course (Miklowitz et al., 2004). Researchers have considered that the expressed emotion in the family unit could be a focus point for change (Miklowitz et al., 2004). Originally crafted for the families of individuals diagnosed with schizophrenia in 1995, the therapeutic approach, Family Focused Therapy or FFT was initiated for used with the families of individuals diagnosed with a Bipolar Disorder in 1997 and later adjusted for use with adolescents (Miklowitz et al., 2004).

Much of the research with Bipolar Disorders focuses on the expressed emotion of the identified patient's family (Kim & Miklowitz, 2004). Expressed emotion here, is comprised of critical comments and emotional over-involvement (Kim & Miklowitz, 2004). Expressed emotion as defined here, has been implicated in research (Kim & Miklowitz, 2004) as having the greatest impact or as a predictor variable of mania and depression at follow up. The research indicated that a higher level of critical comments was a associated with higher levels of manic and depressive symptoms at time of follow up (Kim & Miklowitz, 2004). Research on the connection between expressed emotion and manic episodes has been inconsistent (Yan, Hammen, Cohen, Daley, & Henry, 2004).

Recent research has branched out beyond the expressed emotion component as a focal point for intervention, as studies have revealed other relevant family dynamics that should be considered as aspects for family treatment (Sullivan & Miklowitz, 2010). Lower family problem solving ability predicts residual depressive symptoms (Townsend,

Demeter, Youngstrom, Drotar, & Findling, 2007). Lower social support may increase risk for subsequent depression (Weinstock & Miller, 2010).

The perceptions of adolescents that have been diagnosed with Bipolar Disorder about the functioning of their family may be altered by the mental health of the mother (Esposito-Smythers, et al., 2006). Maternal mood disorder is associated with lower family functioning and lower family cohesion (Esposito-Smythers, et al., 2006). However, disengagement, when due to maternal depression, tends to result in lower family conflict levels (Esposito-Smythers, et al., 2006). Increased maternal warmth is associated with a decrease in relapse (Sullivan & Miklowitz, 2010).

Many behaviors associated with bipolar disorder are externally and internally disruptive to the individual (Esposito-Smythers, et al., 2006). The disruption may cause additional family functioning challenges. Individuals diagnosed with a Bipolar Disorder experience a higher proportion of suicide ideation and attempts than non bipolar individuals (Miklowitz & Taylor, 2006). Fifty percent of individuals with this diagnosis attempt suicide at some point and risk of a suicide attempt is fifteen times greater than individuals in the non-clinical population. Risk is higher if the individual had an early (pediatric) onset (Miklowitz & Taylor, 2006.) Due to the fact that suicidal thoughts often coincide with episodic experiences of Bipolar Disorder, effected individuals may experience frequent suicidal thinking (Miklowitz & Taylor, 2006). Suicide behavior is also associated with poor family communication (Miklowitz & Taylor, 2006).

In adult populations we know that improvement in functioning, due to impairment, increases as impairment intensifies (Miller, et al., 2008). Family therapy that focuses on improved non-verbal communication in adults diagnosed with a Bipolar

Disorder was associated with improved non-verbal communication, and symptom improvement (Simoneau, Miklowitz, Richards, Saleem, & George, 1999). In their study, the inability to detect if the improved symptomology enhanced communication or if the enhanced communication created the improved symptomology, calls for repeated research in this arena (Simoneau et.al., 1999).

Comorbid diagnoses are common with Bipolar Disorders (Esposito-Smythers, et al., 2006). Approximately 40% of adolescents who have a Bipolar Disorder have a comorbid diagnosis (Merikangas et al., 2010). Comorbid mood and externalizing disorders result in greater family conflict while comorbid internalizing disorders, such as anxiety disorders, are associated with less family conflict (Esposito-Smythers, et al., 2006).

Bipolar Disorders and Attention-Deficit/Hyperactivity Disorder

Attention-Deficit/Hyperactivity Disorder (ADHD) is distinguished by the characteristics of marked inattentiveness with or without hyperactivity-impulsivity. The three subtypes are Attention-Deficit/Hyperactivity Disorder, Combined Type, Attention-Deficit/Hyperactivity Disorder, Predominantly Inattentive Type, and Attention-Deficit/Hyperactivity Disorder, Predominantly Hyperactive-Impulsive Type (Diagnostic Statistic Manual of Mental Disorders-IV-TR, 2000). Lifetime prevalence of Attention-Deficit/Hyperactivity Disorder in adolescents in the United States (ages 13 to 18) is 8.7% with 4.2 experiencing severe impairment (Merikangas, et al., 2010). Three times as many boys are affected as girls, in general, and twice as many boys as girls experience severe impairment (Merikangas, et al. 2010). Approximately 40% of the individuals who have this mental illness have a comorbid diagnosis (Merikangas, et al., 2010). Comorbidity of

a Bipolar Disorder and Attention-Deficit/Hyperactivity Disorder is common (George, Taylor, Goldstein, & Miklowitz, 2011).

There is some controversy around the diagnosis of Bipolar Disorders in children and adolescents, as the characteristics overlap with those of Attention-Deficit/Hyperactivity Disorder (Rucklidge, 2006). Specifically, the three characteristics of mania that overlap with ADHD are over talkativeness, psychomotor agitation and distractibility (Rucklidge, 2006). Neurocognitive functioning differs among adolescents who have a Bipolar Disorder diagnosis, exclusively, ADHD exclusively, and Bipolar with a comorbid diagnosis of ADHD. The participants with comorbid diagnoses in Rucklidge's (2006) study displayed the most significant impairment in tests of processing speed, naming speed, memory and executive functioning. The individuals who had an exclusive diagnosis of ADHD showed some impairment on the cognitive tests. The individuals who had an exclusive diagnosis of a Bipolar Disorder showed no impairment with the same cognitive tests (Rucklidge, 2006). Rucklidge noted the additional deficits associated with ADHD as just one example of the importance for the continued identification of factors that put children and adolescent diagnosed with a Bipolar Disorder at an increased risk for poor outcomes (2006). The results found by Adler, et al., (2005) of decreased activity in the prefrontal regions in the brains of adolescents with a comorbid diagnosis of a Bipolar Disorder and ADHD, as compared adolescents with an exclusive diagnosis of a Bipolar Disorder, may account for the diminished functioning on cognitive tests found by Rucklidge (2006) and emphasizes the additional detrimental effects comorbid diagnoses can have.

One study (Ghanizadeh & Shams, 2007) researched the perceptions of children diagnosed with ADHD compared to perceptions of children in the general population of their family's functioning, using the McMaster Family Assessment Device (Epstein, Baldwin, & Bishop, 1983). The findings reflected the children who had been diagnosed with Attention-Deficit/Hyperactivity Disorder had a perception of their family functioning as having greater dysfunction, greater difficulties in their family relationships and a belief that their families could perform their expected roles, lower ability in problem solving and poorer communications. It was noted that this study had limitations as it relied on only the child self-report and also did not assess the parents for any pathology. Nevertheless, these results cannot be ignored in that they represent the child's perception of their own family.

Research (Barkley, Anastopoulos, Guevremont & Fletcher, 1992) has demonstrated a relationship between increased family conflict and one member of the family having a diagnosis of ADHD. Children diagnosed with ADHD are more likely to report higher negative discipline, lower levels of social support and lower levels of parent-child attachment (Baumauermeister, et al., 2007). Having Attention-Deficit/Hyperactivity Disorder is considered a risk factor to the later diagnosis of a Bipolar Disorder (Tijssen, Os, Wittchen, Lieb, Beesdo, & Wichers, 2010).

Bipolar Disorders and Substance-Related Disorders

Substance-Related Disorders are divided into two groups of Substance Use Disorders which can involve dependence or abuse and Substance Induced Disorders. Eleven classes of substances coordinated with one of the thirteen *use* or *induced* classifications create the distinguishing labels for each disorder (Diagnostic Statistic

Manual of Mental Disorders-IV-TR, 2000). Lifetime prevalence of the Substance-Related Disorders in adolescents in the United States (ages 13 to 18) is 11.4% with 11.4% experiencing severe impairment (Merikangas, et al., 2010). Affecting slightly more boys than girls, the prevalence of substance disorders increases significantly with age (Merikangas, et al. 2010). Approximately 40% of the individuals who have a substance related disorder have a comorbid diagnosis (Merikangas, et al., 2010). Approximately 20% of the adolescents who have a Bipolar Disorder will also have a comorbid substance disorder (George, Taylor, Goldstein, & Miklowitz, 2011). Sixty percent of all mood disorders are associated with prior substance abuse. The prevalence of a comorbid substance disorders amongst the population who already has a Bipolar Disorder diagnosis is higher than in the populations falling under other psychiatric diagnoses (George, Taylor, Goldstein, & Miklowitz, 2011). The course of the illness tends to be worse for individuals with a comorbid diagnosis of a substance disorder, including increased legal issues, poorer academic performance and triple the likelihood of experiencing a suicide attempt (George, Taylor, Goldstein, & Miklowitz, 2011).

Comorbidity of substance disorder is associated with multiple high risk behaviors including, but not limited to, delayed recovery, shorter periods between relapses, legal problems, treatment non-compliance, and suicidality (Goldstein, et al., 2008). Having a substance disorder is considered a risk factor in the development of a Bipolar Diagnosis (Tijssen, Os, Wittchen, Lieb, Beesdo, & Wichers, 2010). Cannabis use is associated with a higher rate of mania (Tijssen, Os, Wittchen, Lieb, Beesdo, & Wichers, 2010).

The link between adolescent substance abuse and dependence and the deleterious effects it has on the course of a diagnosis and the life of the adolescent is pronounced.

Researchers strive to educate parents on optimal styles of communicating and parenting to lower risks to adolescents' well-being and at the same time improve family functionality. Baumrind (1991) presented her findings, on the Influence of Parenting Style on Adolescent Competence and Substance Use. In this paper, Baumrind reported results accumulated for over 13 years and including 139 families. She described the demandingness/responsiveness model and provided evidence of the success of the authoritarian style parenting. In this longitudinal study, authoritarian style had the highest connection to adolescent low social problems, low substance use issues, and high level of competence. The most opposing style was that of the disengaged parent who had a strong connection with the adolescent who had anti-social tendencies lacking self-regulation, competence and responsibility, and high substance use (Baumrind, 1991). Baumrind's work evidences how parenting style or family communication style often serves as a protecting agent against the adolescents' possible destructive behaviors. Supporting Baumrind's work, research has indicated that the adolescents' perceptions of the parents as being authoritative had a significant influence in reduced drug use, and improved decision making for both male and female adolescents (Fletcher & Jeffries, 1999). Although Fletcher and Jeffries' (1999) research indicated a more pronounced influence in that of females, as opposed to males, it is clear that the adolescents' perceptions of their parents' styles as being authoritative (expressing warmth, acceptance of individuality, but having clear guidelines) was shown to influence decision making away from drug engagement.

The prevalence and detriments of Bipolar Disorders justify continued research. Additionally, the high rate of disruptive, self harming and suicidal behaviors of

individuals diagnosed with bipolar disorder and the association of suicide with poor family communication substantiates the research of this dissertation. Investigation into for improved and alternative tools to assist in the assessment of families' communication is necessary in order to further treat children and adolescents diagnosed with a Bipolar Disorder. More narrowly, little is known about how families perceive and interpret communication when comorbid disorders exist (Townsend, et al., 2007), as well as how assessment devices may assist in this process. The next section presents an overview of relevant assessment devices in this domain and provides an in depth look at the McMaster Family Assessment Device (Epstein, Baldwin, & Bishop, 1983).

Family Assessment

It is intended that professional assessment of the family follows guidelines set by the U.S. Department of Health and Human Services (Johnson et al., 2006). The 2006 guidelines are the most current at this time. Despite the number of areas covered in the guidelines, no recommendations were made for specific tools or assessment instruments (Johnson et al., 2006). Johnson, et al. (2006), out of the Center for Social Services in the School of Welfare at the University of California at Berkeley, evaluated family assessment devices in order to address the guidelines set forth by the U.S. Department of Health and Human Services. The four areas defined by the Department of Health and Human Services included social interaction patterns or relationships, parenting practices, background and history, and problems in access of basic necessities (Johnson et al., 2006). These researchers sought to compile the most reliable and valid instruments available to clinicians to assess the defined four areas of the family. The reviewed literature included family systems theory and developmental psychology. Overall, family

functioning assessment was primary with the family considered as a unit. Parenting assessment was based on the history of developmental psychology. Family functioning included overall structure, communication, and affect. Parenting assessment encompassed parents' beliefs about the child, parental perceived efficacy, style, parent-child relational aspects, and skills and behaviors. Instrumentation format was either self-report, observation, or interview.

The ultimate instrument choice by the clinician depends on multiple considerations. The six criteria used in instrumentation choice are purpose (for example, single assessment vs. monitoring), domain assessment (family house condition or individual characteristic), estimated time to administer, age focus of client, usefulness to the population of client, advantages and disadvantages to use, what information the assessment provides, and reliability and validity. Of the 85 evaluated instruments, 58 assessed the family unit, 43 parent practices, 20 demographics and background, 23 assessed access to basic needs, and 18 assessed other behaviors (Johnson et al., 2006).

This dissertation research is focused on family communications and therefore considers the assessment devices that address the family as a unit. The family as a unit fell into the category of social interaction. The four assessment devices that addressed this category were the McMaster Model (Epstein, Baldwin, & Bishop, 1983), the Assessment of Strategies in Families- Effectiveness (Skinner, Steinhauer, & Santa-Barbara, 1983), the Circumplex Model (Olson, Sprenkle & Russell, 1979) and the Family Assessment Measure III (Skinner, Steinhauer, & Santa-Barbara, 1983).

The Assessment of Strategies in Families-Effectiveness (Skinner, Steinhauer, & Santa-Barbara, 1983) is a 20 question survey to assess the perceived need of intervention

and also to monitor progress of intervention. The Circumplex Model (Olson, Sprenkle & Russell, 1979) utilizes multiple instruments in the assessment of a family's communication, cohesion, and flexibility. In addition to a variety of scales used to gage status in the areas of communication satisfaction, strengths and stress, the Circumplex Model uses the Family Adaptability and Cohesion Scale (Olson, Sprenkle & Russell, 1979), a self-report questionnaire currently being administered in its fourth revision. The Family Assessment Measure III (Skinner, Steinhauer, & Santa-Barbara, 1983) is a set of self-report surveys that assess a family's functioning regarding strengths and weaknesses addressed via self, didactic, and family, and perception scales. The McMaster Model (Epstein, Baldwin, & Bishop, 1983) was determined to be the most efficient in detecting families with clinical components and in providing a theoretically consistent treatment model (Johnson et al., 2006). The McMaster Model is of specific interest in this dissertation and a thorough presentation follows.

Steinberg (2001) made a case for the use (and development) of different types of family assessment devices that would incorporate the viewpoint of all the family members, creating a forum for the adolescents' perceptions to be reported. This acknowledgment of the need for improved assessment for families and adolescents bolsters the case for use of the McMaster Family Assessment Device (FAD; Epstein, Baldwin, & Bishop, 1983) in this dissertation research.

The FAD is designed to be completed by any member of the family (above 12 years old). Additionally, it has been determined that the General Functioning Subscale of the FAD encapsulates the essence of the six dimensional subscales of the FAD and can be administered as a mini version of the full 60-item questionnaire. This shorter option

makes the assessment a fast, easy to administer, cost effective way to quickly assess family functionality. Some who have used the general functioning subscale of the FAD highly recommend it in situations where test administration may be complicated or hindered by family cooperation, time, or cost (Byles, et al., 1988). A closer look at the McMaster Family Assessment Device is presented next.

The McMaster approach. To assess family communication this dissertation research will use the Family Assessment Device (Epstein, Baldwin, & Bishop, 1983). For the purposes of this research, the McMaster Approach provides basic understanding of the concept of family, to bring meaning to terms and concepts and to assess the functionality of the family. The McMaster approach, development of the McMaster Model of Family Functioning and the seeds of the McMaster assessment instruments began over 50 years ago. After 20 years of working with families Epstein, Bishop and Levine, sought to create a comprehensive model for family intervention and the accompanying instruments to assist clinicians in assessment and treatment of families in need (Miller, Ryan, Keitner, Bishop, & Epstein, 2000). In 1978, the researchers presented a comprehensive model called the McMaster Model of Family Functioning (Epstein, Bishop, & Levin, 1978). In addition to the instruments being capable of producing valid and reliable data, a goal of the authors was for the tools they designed to capture the critical components a family needed for successful change and that they be simple enough for efficient and swift training, cost effective, and usable across a variety of situations (Miller et al., 2000). The assessment tools created were the Family Assessment Device, The McMaster Clinical Rating Scale and the McMaster Structured Interview of Family Functioning (Miller et al., 2000). The treatment model was based on Problem

Centered Systems Therapy (Epstein & Bishop, 1981). The development of the assessment tools continues to evolve as the authors are constantly reconfiguring any problematic areas in efforts of an improved system (Miller et al., 2000).

The McMaster Model is built on a systemic philosophy (Ryan, Epstein, Keitner, Miller, & Bishop, 2005). Therefore a fundamental aspect to the McMaster Model is that the various components to the family system (structure, behavioral and communication patterns, etc) all affect one another. Additionally, system implies that bringing about change to the system could bring about change to the overall system functioning and to the health of the individual members of the system (Ryan et al., 2005). Despite this common philosophical underpinning, a systems approach can vary what will be the focus for change and how to go about achieving that change (Ryan et al., 2005). For example, just one of the multiple areas of focus may be family communication style and also how to achieve change, for example, educating families and facilitating behavior change. Ultimately, however, Ryan et al. (2005) worked from the theory that all mechanisms of change are rooted in communication.

Authors of the McMaster Approach differentiate their approach from other systems models in several ways. Three of the more pronounced differences are what is thought to be included in the system, the duration of the therapy and the role of the therapist. Where most family systems models focus in the immediate family as the system, the McMaster Model includes both smaller relational components to the system like the marriage of the parents and larger relational components to the system like school. Additionally this model is different from other models in that it has a shorter therapeutic cycle which is typically six to twelve sessions. The strong role of the therapist

is noted to be different as the therapist here is more direct and takes on a more involved role than with other systemic approaches (Ryan et al., 2005). There are five critical assumptions of systems theory that are the foundation of the McMaster Model. The first is all members of the family are interrelated. The second is that no one part or member of the family can be understood in isolation. The third is that family functioning is more than just the functioning of the individual members. The fourth states that the family structure itself influences members' behaviors. Fifth is that common exchanges or interactions between family members, or what is referred to as *transactional patterns,* shape the members' behaviors (Miller et al., 2000).

There are many aspects to family functioning. However, the McMaster Model focuses on the essential aspects that are involved with families in functional distress. In the effort of focusing on clinically presenting families, the model organizes family functioning into six dimensions typically involved with clinically presenting families (Miller et al., 2000). The six dimensions are problem solving, communication, roles, affective responsiveness, affective involvement, and behavior control (Miller et al., 2000).

Problem solving refers to the ability to solve family problems or problems that affect the functioning of the family. Problems can be emotional/feelings oriented and are referred to as affective, or problems can be logistical which are referred to as instrumental.

Communication, also instrumental or affective, refers to information transfer and regards only verbal communication due to the complexities of accurately measuring non-verbal communications (Miller et al., 2000).The dimension of communication also

includes the aspects of clarity of the message and how clearly the informational content is understood. Additionally, the communication dimension looks at whether the message is direct or indirect (Miller et al., 2000).

The roles dimension refers to the typical behaviors members routinely perform. In addition to these roles being categorized as either instrumental or affective, they are also categorized as necessary or not (referred to as other) (Miller et al., 2000).

Affective responsiveness is a dimension that helps assess if the family can respond appropriately to circumstances in the areas of range of affect, appropriateness of affect matching to situational content, as well as frequency (Miller et al., 2000). Affective involvement refers to the family's overall involvement in individual member's interests (Miller et al., 2000).

Behavior control looks at the typical style a family has learned to manage body maintenance, danger, and socialization. The dimension of behavior control takes into account all the family members' behaviors in these three situations. The assumption is made that the family has developed its own set of rules, standards and what is acceptable.

An additional component of the McMaster Model that compliments the dimensions is the assessment of transactional patterns, or typical exchanges between family members. In particular the McMaster Model is concerned and pays attention to the dysfunctional transactional patterns, or the way in which a family has compensated for or learned to navigate function in their family system.

McMaster instruments. There are three assessment devices in the McMaster Approach. This dissertation research will utilize the first assessment device, the Family Assessment Device (Epstein, Baldwin, & Bishop, 1983), a self-report questionnaire

which is reviewed in greater detail in Chapter Three. The second assessment device, the McMaster Clinical Rating Scale (Miller, Kabacoff, Bishop, Epstein, & Keitner, 1994) is completed by a mental health professional or an individual who has been trained specifically in utilizing this instrument. The McMaster Clinical Rating Scale evaluates a family along the same dimensions as the McMaster theoretical model. The same six dimensions of the model mentioned earlier are assessed, plus an overall pathology or health rating is included. A rating value is given for each of the seven scales with a value of 1 to 7 with 1 being the most dysfunctional. Raters follow a manual which outlines the criteria to meet numerical values within the 1 to 7 scale (Miller et al., 2000).

The third assessment device is the McMaster Structured Interview of Family Functioning,(Miller, Kabacoff, Epstein, & Bishop, 1994) designed to be completed by a mental health professional or someone trained specifically in its use. Unlike the rating scale described above, the interview instrument is designed to be completed by an individual who is more seasoned in utilizing such instruments, as the interview is a more complicated assessment. As time progressed in using the rating scale it was clear that in order to achieve an accurate rating, a clinician would have had to conduct a thorough interview. Therefore, the structured interview was developed after the rating scale. The rating scale and the FAD subscales each result in a single score which does not provide the opportunity for contextual information. The interview allows for description of features and differentiation among dimensions or processes within the family. This adds value to the assessment process, as it provides information about the family functioning following the dimensions outlined in the theoretical model. Several forms are available accommodating common family membership configuration possibilities. The assessment

authors specifically designed these three instruments to assess constructs that influence one another. This is consistent with the development of the McMaster approach to family functioning and the major assumptions that are the foundation for this systems theory (Epstein et al., 2000).

Treatment model. The results obtained on the three assessments influence the family treatment approaches. The treatment modality for the McMaster Approach to Families, the Problem Centered Systems Therapy, was presented in 1981 by Epstein and Bishop, with the development of a manual in 1988 by Epstein, Bishop, Miller and Keitner (Epstein et al., 2000). Problems Centered Systems Therapy is very structured, short term, cost effective therapy that addresses the dimensions of the McMaster Model and yet will allow for variation in approach. Essentially, this therapy is short term therapy occurring in 4 smaller and outlined stages of treatment, through collaborative and direct communication between the therapist and the entire family, focused on the family's strengths and their responsibility for behavioral change to solve current problems (Epstein et al., 2000).

The McMaster Instruments have been utilized in a variety of research and in a number of domains. Specifically, in assessing family functionality where an adult family member has been diagnosed with Bipolar Disorder, the FAD has been used in longitudinal research in determining the family functioning relationship to episode status (Uebelacker, et.al. 2006). The ability of the FAD to provide the clinician with additional and useful information regarding a family's functioning, problem solving, and communication skills, is a primary focus of this research.

Summary of the Literature Review

The importance of family functioning has been presented both with respects to general functioning and to the adolescent. Family communication in families with a mentally ill member has been included and Bipolar Disorder has been discussed. Throughout the literature, researchers stated their encouragement to continue work in areas that have either been neglected or are still in elementary phases of research. The areas of adolescents diagnosed with Bipolar Disorder, family communication, family assessment tools, and disorder comorbidity all have gaps in the research. This dissertation can contribute to these areas by addressing the hypotheses as described next.

Research Hypotheses

To further study the proposed relationship between family communication and the diagnosis of Bipolar Disorder for children and adolescents, the following hypotheses will be tested:

1. There will be a statistically significant difference in family functioning, as measured by scores on the General Functioning, Family Communication and Problem Solving subscales of the Family Assessment Device between families of a child or an adolescent who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a child or an adolescent who has a comorbid diagnosis of a Bipolar Disorder and another disorder on Axis I.
2. There will be statistically significant difference in family functioning, as measured by scores on the General Functioning, Family Communication and Problem Solving subscales of the Family Assessment Device between

families of a child or an adolescent who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a child or an adolescent who has a comorbid diagnosis of a Bipolar Disorder and Attention-Deficit/Hyperactivity Disorder on Axis I.

3. There will be a statistically significant difference in family functioning, as measured by scores on the General Functioning, Family Communication and Problem Solving subscales of the Family Assessment Device, between families of a child or an adolescent who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a child or an adolescent who has a comorbid diagnosis of a Bipolar Disorder and a Substance-Related Disorder on Axis I.

4. There will be a statistically significant difference in family functioning measured by scores on the General Functioning, Family Communication and Problem Solving subscales of the Family Assessment Device, between families of a child or an adolescent who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a child or an adolescent who has a comorbid diagnosis of a Bipolar Disorder, Attention-Deficit/Hyperactivity Disorder, and a Substance-Related Disorder on Axis I.

CHAPTER III

METHODOLOGY

This Chapter reviews the research design, sample, instruments and procedure used in this dissertation research. Information about the data source is presented, followed by a section describing the specifics of the sample. The next section describes the instrumentation and provides a brief foundation for the McMaster (Epstein, Baldwin, & Bishop, 1983) approach to families, the three instruments used in the McMaster approach, and specifics about reliability and validity. A strong emphasis is placed on one assessment device in particular, the Family Assessment Device (FAD; Epstein, et al., 1983), as it is the instrument of focus in this dissertation research. The final section presents the statistics chosen for analysis of the data. This chapter concludes with an overall summary of the methodology.

Hypotheses

The purpose of this dissertation is to answer the following research hypotheses:

1. There will be a statistically significant difference in family functioning, as measured by scores on the General Functioning, Family Communication and Problem Solving subscales of the Family Assessment Device between families of a child or an adolescent who has an exclusive diagnosis of a

Bipolar Disorder on Axis I and families of a child or an adolescent who has a comorbid diagnosis of a Bipolar Disorder and another disorder on Axis I.

2. There will be statistically significant difference in family functioning, as measured by scores on the General Functioning, Family Communication and Problem Solving subscales of the Family Assessment Device between families of a child or an adolescent who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a child or an adolescent who has a comorbid diagnosis of a Bipolar Disorder and Attention-Deficit/Hyperactivity Disorder on Axis I.
3. There will be a statistically significant difference in family functioning, as measured by scores on the General Functioning, Family Communication and Problem Solving subscales of the Family Assessment Device, between families of a child or an adolescent who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a child or an adolescent who has a comorbid diagnosis of a Bipolar Disorder and a Substance-Related Disorder on Axis I.
4. There will be a statistically significant difference in family functioning measured by scores on the General Functioning, Family Communication and Problem Solving subscales of the Family Assessment Device, between families of a child or an adolescent who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a child or an adolescent who has a comorbid diagnosis of a Bipolar Disorder, Attention-

Deficit/Hyperactivity Disorder, and a Substance-Related Disorder on Axis I.

Research Design

To address the four research hypotheses of this dissertation research, archived results obtained on the Family Assessment Device (FAD; Epstein, et al., 1983) and diagnostic data were analyzed. The archived data (Findling et al., 2004) used in this research were previously collected by the Division of Child and Adolescent Psychiatry of University Hospitals of Cleveland in their Discovery and Wellness Center for Children. Dr. Robert Findling oversees and guides the research at the Discovery and Wellness Center for Children. Together, Findling and his team of specialists have collected a plethora of data through their research efforts.

The research design they used was the collection of observational analytical data (D. Bedoya, personal communication, February 1, 2012). By this, it is meant that the collected data (Findling et al., 2004) were from an uncontrolled source and recorded and presented descriptively (Agresti & Finlay, 1997). The archived data were collected by the research teams of the Discovery and Wellness Center for Children by an intake process where initial screening was conducted to determine program eligibility. Upon determination of eligibility, the participants proceeded through the series of steps as outlined by their project participation. Each individual, and their parent or guardian, was administered a battery of assessment instruments along with demographic data questions. A summary of the steps and assessments is included in Appendix A. The information was collected for phenomenology data and to determine if a participant was eligible for other studies. The participants were seen one time. If participants were eligible for other

studies, they signed additional consent forms and proceeded with the protocol for those individual projects. For these, subsequent projects, a participant could be seen multiple times (visit frequency was study dependent). All the studies had screening parameters with a variety of inclusion and exclusion criteria. Therefore, while all the potential participants completed the screening protocol and a battery of assessment instruments, only subsets of the participants were included as participants in any given research study.

Sample

The sample used for this dissertation research was originally obtained by Dr. Findling's research team at the Discovery and Wellness Center for Children. Within the division of Child and Adolescent Psychiatry at University Hospitals Case Medical Center of Cleveland, resides the Discovery and Wellness Center for Children. Through their research, a team of specialists provides knowledge toward the understanding, prevention, and treatment of child and adolescent psychiatric illnesses. These researchers strive to create a research atmosphere that is family centered, safe, kind, considerate and attentive. They have also conducted research in, but not limited to, Schizophrenia, Bipolar Disorder, Attention-Deficit/Hyperactivity Disorder, and Autism. Members of the clinical research team and child psychiatrists attend to each research participant individually.

Originally collected for use in developing accurate and consistent characteristic descriptions of psychiatric illness in children and adolescents, Dr. Findling and his team collected data between 1999 and 2004 (Findling et al., 2004) from 463 participants between the ages of 5 and 18 years. Their only exclusion criterion was that the child had no history of significant medical or neurobiological events that could affect mood or behavior. A parent or guardian of each participant completed a shortened version of the

FAD. The participants were seen one time for this phenomenology data collection project.

The number of participants that included in this dissertation research is reduced from Dr. Findling's 463 participants by the prerequisite of having a diagnosis of a Bipolar Disorder. Any participants that did not have a diagnosis of a Bipolar Disorder were excluded from this dissertation research. The diagnostic labels included in the diagnostic category of Bipolar are Bipolar I Disorder, Bipolar II Disorder, Cyclothymic Disorder, and Bipolar Disorder Not otherwise Specified, along with any applicable specifiers. Thirteen diagnostic codes were included in the sample in the category of the Bipolar Disorder diagnosis, yielding a new sample total number of 233.

All data was collected under the same diagnostic criteria as stated in the Diagnostic and Statistical Manual of Mental Disorders IV (American Psychiatric Association, 1994) and the Diagnostic and Statistical Manual of Mental Disorders IV TR (American Psychiatric Association, 2000). Because the original demographic data revealed that the original diagnosis may have been determined by a number of professionals and in a variety of health service oriented disciplines, it was determined that only the data collected from participants that had been administered the Schedule for Affective Disorders and Schizophrenia for School Aged Children Present and Lifetime (K-SADS-PL; Kaufman, et al, 1997) would be included.

The K-SADS-PL yields a psychiatric diagnosis based on information from the identified patient and the parent or guardian. Evidence indicates that the K-SADS-PL generated reliable and valid psychiatric diagnosis in children and adolescents (Kauffman, Birmaher, Brent & Rao, 1997). Of the 233 sets of data that were designated with a

Bipolar Disorder, 211 participants had a diagnosis confirmation by the administration of the K-SADS-PL and comprise the data to be used in this research. Twelve additional cases were removed from the data base for this research because the participant appeared to have completed the FAD, yet one or more questions on the FAD were not answered. The dataset used in this research study had data from 199 participants who had a Bipolar Diagnosis as assessed by the K-SADS-PL (1997).

The demographic breakout of the 199 participants whose data was included in this research project includes gender, ethnicity, and age (parental income information was collected but not evaluated in this study). Of those 199 participants, 120 or 60% were male and 79 or 40% were female. Regarding ethnicity, 165 or 83% were White/non-Hispanic, 14 or 7% were African American, 8 or 4% were Hispanic, 2 or 1% were either Native American or Alaskan Native, and 10 or 5% were another ethnic background. The average age was 10.89 years old with a standard deviation of 3.55. The ages ranged from 5 years old to 18 years old. Fifty two percent of the participants were between the ages 5 and 10.

Physicians, master's-level or bachelor's-level interviewers administered the K-SADS interviews. Inter-rater reliability on the K-SADS was assessed with the kappa statistic. Before leading a K-SADS interview, all research assistant raters needed to demonstrate adequate inter-rater reliability (kappa $\geq$ 0.85) based on the results of 5 K-SADS interviews. Subsequently, inter-rater reliability was maintained (kappa $\geq$ 0.85) by having joint assessments at every tenth interview. (C. Demeter, personal communications, March 8, 2012).

The hypotheses of this dissertation call for additional partitioning of the data into five smaller subsets. The first subset (N = 34) contained data of individuals who have a single diagnosis on Axis I of a Bipolar Disorder as previously described. The second subset (N = 165) contained data of individuals with a comorbid diagnosis on Axis I of a Bipolar Disorder and any other Axis I disorder. The third subset (N = 44) contained data of individuals with a comorbid diagnosis on Axis I of a Bipolar Disorder and Attention-Deficit/Hyperactivity Disorder. Attention-Deficit/Hyperactivity Disorder may include any of four categories: Attention-Deficit/Hyperactivity Disorder, Combined Type; Attention-Deficit/Hyperactivity Disorder, Predominantly Inattentive Type; Attention-Deficit/Hyperactivity Disorder Predominantly Hyperactive-Impulsive Type; and Attention-Deficit/Hyperactivity Disorder Not Otherwise Specified. The fourth subset (N = 1) contained data of individuals with a comorbid diagnosis on Axis I of a Bipolar Disorder and a Substance-Related Disorder. Substance–Related Disorders may include any of the Substance Use Disorders (use or dependence) or any of the Substance Induced Disorders (intoxication, withdrawal, delirium, dementia, amnestic, psychotic, mood, anxiety, sexual dysfunction, and/or sleep disorders) for any of 11 substances cited by the Diagnostic and Statistic Manual of Mental Disorders (DSM-IV-TR) (4^{th} ed., text rev; DSM-IV-TR; American Psychiatric Association, 2000). The fifth (N = 4) subset contained data of individuals with a comorbid diagnosis on Axis I of a Bipolar Disorder, Attention- Deficit/Hyperactivity Disorder, and a Substance-Related Disorder.

Instruments

The McMaster Family Assessment Device. There are three assessment devices in the McMaster Approach. This dissertation research utilized the first assessment device,

the Family Assessment Device (Epstein, Baldwin, & Bishop, 1983), a self-report questionnaire. The purpose of this instrument was to screen for problem areas in family functioning (Epstein et al., 1983). The second assessment device, the McMaster Clinical Rating Scale (Miller, Kabacoff, Bishop, Epstein, & Keitner, 1994) was completed by a mental health professional or an individual who had been trained specifically in utilizing this instrument. The McMaster Clinical Rating Scale evaluates a family along the same dimensions as the McMaster theoretical model (Miller et al., 2000). The third assessment device was the McMaster Structured Interview of Family Functioning, (Miller, Kabacoff, Epstein, & Bishop, 1994) designed to be completed by a mental health professional with more advanced clinical experience.

The McMaster Family Assessment Device, (Epstein, Baldwin, & Bishop, 1983) often referred to as the FAD, is the instrument of focus in this dissertation research. The FAD was designed to assess the six dimensions of family functioning outlined in the McMaster Family Model from the family members' perceptions. This self- report questionnaire divides 60 statements into seven subscales. Six of the subscales represent the six dimensions of the McMaster approach including problem solving, communication, roles, affective responsiveness, affective involvement, and behavior control (Miller et al., 2000). The seventh subscale is a general functioning subscale assessing overall functioning. The three subscales used in this research are communications, problem solving and general functioning and are presented next. Research conducted on the subscales has demonstrated reliability and validity when used independently (Townsend, Demeter, Youngstrom, Drotar, & Findling, 2007).

Fifty-three items were included in the psychometric analyses of the FAD (Epstein, Baldwin, & Bishop, 1983) as published by Kabacoff, Miller, Bishop, Epstein, and Keitner (1990). The data collected and used for this dissertation research was from a shorter version of the McMaster Family Assessment Device which consisted of twenty-seven statements in three scales, problem solving, communication, and general functioning (Townsend, Demeter, Youngstrom, Drotar, & Findling, 2007). This dissertation research focuses on these same three subscales with a particular emphasis on the communications scale. The communication subscale consists of the same six statements as given in the fifty-three item version, plus three additional communication items. Therefore, there are nine statements that make up the communication subscale examined in this research.

Subscales. *Problem solving.* The purpose of the Problem Solving Scale is to assess "the family's ability to resolve problems to a level that maintains effective functioning" (Ryan, Epstein, Keitner, Miller, & Bishop, 2005, p.26). The Problem Solving dimension of family functioning is represented by five items which assess family decisions, emotions, and thoughts related to resolving family problems. One statement is, "We confront problems involving feelings" (Epstein, Baldwin, & Bishop, 1983).

Communication. The purpose of the Communications Scale is to assess verbal communication patterns in both the affective (feeling) and instrumental (logistics) domains incorporating both the level of clarity (or masked) of the message and the level of directness (or indirectness) for whom the communication is intended (Ryan, Epstein, Keitner, Miller, & Bishop, 2005). Healthiest communications would be described as being clear and direct in both the affective and instrumental domains (Ryan, Epstein,

Keitner, Miller, & Bishop, 2005). This family functioning dimension is assessed with nine items which ask the respondent about how the family communicates when someone is upset, angry, or does not like what another family member has done. One statement is, "People come right out and say things instead of hinting at them" (Epstein, Baldwin, & Bishop, 1983).

General functioning. The purpose of the General Functioning scale is to assess the family's overall health and functioning with twelve items about planning and decision making, acceptance, discussing and expressing feelings, and communication. One statement is, "We feel accepted for what we are" (Epstein, Baldwin, & Bishop, 1983). The General Functioning scale is designed to encapsulate the essence of the six noted family dimensions and the essential components of their corresponding subscales. The General Functioning scale is considered a shortened version of the Family Assessment Device. The General Functioning scale has been used as an independent measure of family functioning (Byles, Byrne, Boyle, Offord, 1988), in that each question/statement illustrates a component of family functioning and the participant responds as to whether or not this statement accurately reflects their family dynamic. The response choices are strongly agree, agree, disagree, and strongly disagree. The assessment can be completed by anyone in the family over 12 years old (Epstein, et al., 2000).

Scoring. Each item on the Family Assessment Device (Epstein, Baldwin, & Bishop, 1983) gives four choices of descriptors. The participant is to indicate which descriptor best describes their family regarding the corresponding statement. Response choice "SA" represents strongly agree and is chosen if the subject feels the statement describes his or her family accurately. The next choice is "A" representing agree. Agree

is chosen if the subject feels the statement describes his or her family most of the time. The third choice is “D” representing disagree. Disagree is chosen when the subject does not feel the statement describes his or her family for the most part. The fourth option is “SD” representing strongly disagree. Strongly disagree is chosen when the subject feels that the statement does not describe his or her family at all. Each of the four response options has a numerical value assigned to it with SA=1, A=2, D=3, and SD=4.The final score is the total score for the items in a subscale divided by the number of items in that subscale. The final score of each subscale, in other words, is the mean for that subscale. The overall scoring system is organized such that the lower FAD score indicates a healthier family functioning, while high scores on the FAD indicate poor family functioning. Scoring is completed by subscale without one overall score for the six dimensions as a whole. The scores on all of the family assessment devices completed by the participants was calculated by the team of researchers at University Hospitals’ Discovery and Wellness Center for Children in Cleveland.

Reliability and validity. Test-retest reliability research produced coefficients between .66 and .76 on all six scales (Miller, Bishop, Epstein, & Keitner, 1985). Coefficients for the Problem Solving scale was .66 and for the Communications Scale it was .72 (Miller, Bishop, Epstein, & Keitner, 1985). Several years later, Byles, Byrne, Boyle, and Offord, (1998), conducted a study demonstrating the reliability and validity of the General Functioning Scale of the FAD. In a sample of 1869 participants of the Ontario Child Health Study, Byles et al., collected data through structured interviews and participant completed General Functioning scale questions. Byles et al. (1998) evaluated the collected data from the General Functioning scale against demographic variables that

had been empirically demonstrated to be associated with family dysfunction (for example, parental deviance) as well as demographic variables considered unrelated to family dysfunction (for example geographic location). Analysis of the data (using correlation for continuous variables and t-tests for the means of discrete variables) demonstrated an association with the General Functioning Scale items and only the variables related to family dysfunction (Byles et al., 1998). This result demonstrated the validity of the General Functioning subscale of the FAD (Epstein, Baldwin, & Bishop, 1983).

Research was also conducted to test the reliability and validity of the FAD (Epstein, Baldwin, & Bishop, 1983) with larger samples of 2063 participants in the Brown University Family Research Program (Kabacoff, Miller, Bishop, Epstein, & Keitner, 1990). Participants were divided into psychiatric, medical, or nonclinical subgroups and administered the FAD. Using factor invariance analysis, the subscales were determined to be stable across medical, non-medical, and psychiatric groups (Kabacoff et al., 1990). Invariance refers to the instrument's ability to produce valid data across different populations (Millsap, 2011). Bias, therefore, would be a violation of invariance (Millsap, 2011). The analysis of invariance yields a coefficient that represents the instruments invariance. When coefficients derived from testing different populations with the same instrument are highly correlated, the instrument is considered invariant. In this case, the coefficients ranged from .95 to .99 exampling the FAD's stable factor structure when used with medical, non-medical, and psychiatric populations (Kabacoff, Miller, Bishop, Epstein, & Keitner, 1990).

The scales on the FAD (Epstein, Baldwin, & Bishop, 1983) have been determined to be internally consistent. The seven scales are moderately correlated, (r = .4 to .6) which the scale authors find consistent with the McMaster theoretical orientation of all components of family functioning affecting all other components (Miller, Bishop, Epstein, & Keitner, 1985). When the General Functioning Scale is removed the subscales correlation coefficient reflected independence (Miller et al., 1985). Items from the FAD were chosen from larger collections of statements that had been compiled regarding the six dimensions and an overall general functioning area (Miller, Bishop Epstein, Keitner, & Brown, 1985). The statements chosen for each scale were selected based on their internal consistency and independence. Internal consistency on the seven scales ranged from .72 to .92 (Miller et al., 1985).

Additional psychometric evaluations have shown the FAD (Epstein, Baldwin, & Bishop, 1983) to have low correlations with social desirability. Miller et al. (1985) administered the FAD and the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960) to 164 participants in a Canadian University. The correlations between the FAD and the Marlowe Crown Desirability Scale were all low, ranging from between -.06 to -.19 (Miller et al., 1985), suggesting that there is little correlation with the way participants answered the FAD and their desire to be viewed in a socially favorable light (Beretvas, Meyers, & Leite, 2002). The correlation with social desirability and problem solving was -.13 and for communication it was -.13. This indicates that the information collected from the FAD is not compromised by social desirability bias.

It has been evidenced that FAD (Epstein, Baldwin, & Bishop, 1983) scores are concurrent with scores of other tests designed to evaluate similar constructs. Concurrent

validity was tested by administering the FAD along with the FACES II (Olson, Sprenkle, & Russell, 1979) and the Family Unit Inventory (also referenced as the Family Concept Test; Van der Veen, Howard, & Austria, 1970) to a research sample. The FACES II is a part of the Olson Circumplex Model of Family Functioning (Olson, Sprenkle & Russell, 1979) designed to assess adaptability and cohesion of the family. The FACES II is typically intended to yield scores that represent a curvilinear relationship to family functioning with scores at either end indicating dysfunction. The Family Unit Inventory was designed to assess, among other constructs, family integration (considerate, committed, close) and adaptive coping. Concurrency was strongest between the Problem Solving (.67), Communication (.66), and General Functioning (.75) of the FAD and the Integration of the Family Unit Inventory (Van der Veen, Howard, & Austria, 1970). The FAD and the FACE II instruments are concurrent and produce scores that are correlated when FACES II scores are considered to have a linear relationship to family function. Once again, concurrency was strongest between the Problem Solving (.53), Communication (.49), and General Functioning (.61) of the FAD and the adaptability aspect of the FACES II.

Discriminative validity was demonstrated in the FAD (Epstein, Baldwin, & Bishop, 1983) by comparing FAD scores to scores of an experienced clinician with the same family (Miller, Bishop, Epstein, & Keitner, 1985). In a sample of 42 participating families where one of the family members either had a psychiatric or medical diagnosis, the rating of a professional clinician using the McMaster Family Assessment Model was compared to the scores of all of the family members on the FAD. Scores corresponded on

all six of the dimensions intended to be assessed by the FAD. This demonstrates the discriminate validity of the FAD (Miller, Bishop, Epstein, & Keitner, 1985).

Instrumentation summary. The McMaster Approach has brought to mental health practitioners a comprehensive, reliable, and valid set of tools from which clinicians can assess family functioning on a variety of dimensions that affect families with a clinical presentation. The three instruments have been deemed to produce reliable and valid scores, and are cost effective, and relatively easy to teach and therefore utilize. In particular, the Family Assessment Device (Epstein, Baldwin, & Bishop, 1983) provides the opportunity for individual family members to present their perceptions of their own family functioning. These perceptions have been shown to be an integral component to the overall assessment process. The subscales address particular dimensions of family functioning. Of particular interest in this dissertation research are the communication subscale, problem solving subscale, and general functioning subscale and their ability to provide meaningful information in assisting families with a clinical presentation.

Procedure

Dr. Findling has granted permission for the use of his department's archived data (Findling et al., 2004) for the purposes of the research conducted for this dissertation. The documentation for use of University Hospital's data is included in Appendix B. Despite this dissertation research being conducted from an archived data source, approval to proceed was granted by both Cleveland State University's Institutional Revenue Board (Appendix C), as well as University Hospital's Institutional Revenue Board (Appendix D).

Data was de-identified by the research team at University Hospitals. De-identification was accomplished by giving the participants numbers in place of their names or initials. The data has been maintained in locked file cabinets in a locked room at University Hospitals. All the data was collected by hand and entered into a computer database by the University Hospital research team. A copy of the 27 item form that Dr. Findling's research department used is included in Appendix E.

Data Analyses

The hypotheses stated above that motivate this research are multi-variable inclusive. This dissertation research investigated the effect that a certain independent variable had on three dependent variables. Here, the dependent variables are the scores on the three subscales of the Family Assessment Device (Epstein, Baldwin, & Bishop, 1983), the General Functioning Scale, the Communication Scale and the Problem Solving Scale. The independent variable is the comorbid diagnoses or lack thereof on Axis I. To analyze this data both, a univariate analysis of variance, or an ANOVA, and a multivariate analysis of variance, or General Linear Model, was used. An ANOVA was utilized with the General Functioning Scale. The fact that the General Functioning Subscale encompasses the essential components of the other six subscales necessitates that the data generated from this subscale be analyzed independently from data from the other two subscales. A General Linear Model was utilized in working with the Communications Subscale and the Problem Solving Subscale. The General Linear Model and ANOVA formulas were calculated using IBM SPSS Statistics 19. Table 1 outlines the analyses required for each hypothesis.

This dissertation research investigates a quantitative response variable, the scores on the three noted subscales of the Family Assessment Device (Epstein, Baldwin, & Bishop, 1983) and a qualitative explanatory variable (Agresti and Finlay, 1999), the presence or absence of a comorbid diagnosis on Axis I. The following groups are considered the independent variable: A Bipolar Disorder diagnosis alone, a Bipolar and Attention-Deficit/Hyper Activity Disorder, a Bipolar and Substance Related Disorder, and a Bipolar with both Attention-Deficit/Hyper Activity Disorder, and Substance Related Disorder. This method of comparing the means of several groups simultaneously is called an analysis of variance. The analysis of variance method allows the researcher to look for differences among the means of the population. In essence, application of this method would reveal the differences among the means. Subsequent steps in the method determine if the differences yielded are of significance. Essentially both ANOVA and General Linear Model are tests of significance.

Table 1

Research Design

Hypothesis	Dep. Var.	Indep.Var.	Analysis
1. Significant difference in scores on the FAD if the child has a BD alone or a BD and another Axis I diagnosis.	Fam Com Prob Solve	Diagnosis config on Axis I	GLM
	Gen Func	Diagnosis config on Axis I	ANOVA
2. Significant difference in scores on the FAD if the child has a BD alone and a BD with ADHD	Fam Com Prob Solve	Diagnosis config on Axis I	GLM
	Gen Func	Diagnosis config on Axis I	ANOVA
3. Significant difference in the scores on the FAD if the child has a BD alone and a BD with a Substance Disorder	Fam Com Prob Solve	Diagnosis config on Axis I	GLM
	Gen Func	Diagnosis config on Axis I	ANOVA
4. Significant difference in the scores on the FAD if the child has a BD alone and a BD with both ADHD and a Substance Disorder	Fam Com Prob Solve	Diagnosis config on Axis I	GLM
	Gen Func	Diagnosis config on Axis I	ANOVA

Note. FAD = Family Assessment Device (Epstein, Baldwin, & Bishop, 1983); ADHD = Attention-Deficit/Hyperactivity Disorder; BP = Bipolar Disorder; Fam Com =Family Communication scale score; Prob Solve = Problem Solving scale score; Gen Func = General Functioning scale score; GLM = General Linear Model; ANOVA = Analysis of Variance.

A simplified understanding of the statistical methods used here focuses on determining significant differences in the groups by analyzing the variations in the means in those groups. By disassembling the overall variance into separate components the statistical variance can be shown between the means of the groups (between estimate) and variance within the means of the groups (within estimate). The ratio of the *between estimate* to the *within estimate* yields a statistic that helps to describe which variance is accounting for more of the overall variance. When the ratio is greater than 1.0 the variance between the groups is accounting for more of the overall variance. When the ratio is less than 1.0, the variance within the groups is accounting for more of the overall variance. This ratio, the *analysis of variance F statistic*, is used in determining if the difference between the groups is significant.

A multivariate analysis of variance or a General Linear Model is an analysis of variance where there are multiple dependant variables. Because the aim of this data analysis is to determine if there are significant differences in the reported family functioning in families with certain and different configurations of diagnosis comorbidity, it logically follows that the analysis of variance and multivariate analysis of variance are the chosen statistical tools by which the data was evaluated.

Summary

Chapters one and two emphasized the importance of family communication and the various associations it has on overall family functionality, the presence of psychiatric illnesses, the coexistence of dysfunctional behaviors and the risk for future and continued harmful components. Literature was presented regarding the severity and possible repercussions involved with Bipolar Disorders, and the connection with Bipolar

Disorders to Attention-Deficit/Hyperactivity Disorder, and Substance Disorders use and abuse. In efforts of contributing to our discipline and to the larger community of researchers and clinicians who strive to help these clinical populations, this research analyses the Family Assessment Device (Epstein, Baldwin, & Bishop, 1983). In this third chapter, a thorough description of the Family Assessment Device has been provided. Since little work has been completed which considers this particular instrument in conjunction with children and adolescents who have been diagnosed with a Bipolar Disorder, this dissertation research will have relevance to the research and treatment communities. Data archived by the Development and Wellness Center for Children of University Hospitals of Cleveland was utilized. This dissertation research examines the use of the Family Assessment Device and tests for significance of the differences between various groups who have been assessed with this measure. Statistical analyses include an analysis of variance and a General Linear Model. Chapter 4 presents the results and a discussion of the findings follows in Chapter 5.

CHAPTER IV

RESULTS

This chapter presents the results of the statistical analyses in the order of the hypotheses. Each hypothesis is stated and then a presentation of the results follows. Tables are provided for clarification. Data has been truncated to two decimal places as indicated by the sixth edition of the American Psychological Association Publication Manual (American Psychological Association, 2009).

Research Hypothesis 1

There will be a statistically significant difference in family functioning, as measured by scores on the General Functioning, Family Communication and Problem Solving subscales of the Family Assessment Device between families of a child or an adolescent who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a child or an adolescent who has a comorbid diagnosis of a Bipolar Disorder and another disorder on Axis I.

The aim of this data analysis was to determine if there are significant differences in the reported family functioning in families with certain and different configurations of diagnosis comorbidity. It logically follows that the analysis of variance and multivariate analysis of variance are the chosen statistical tools by which the data will be evaluated.

The configuration of diagnosis comorbidity is the independent variable. Scores on the subscales of the Family Assessment Device are the dependant variables. When analysis involves one dependant variable an ANOVA is used. When analysis involves multiple dependant variables a General Linear Model is used.

The General Functioning subscale of the Family Assessment Device incorporates concepts from the Family Communication subscales as well as the Problem Solving Subscale. Therefore the hypothesis requires two separate statistical analysis methods in order to be addressed. A General Linear Model was completed in order to investigate the Family Communication subscale and the Problem Solving subscale. An ANOVA was completed to investigate the General Functioning subscale. A summary of the descriptive statistics for the two groups compared in hypothesis one is presented in Table 2.

Table 2

Descriptive Statistics of a Bipolar Only and a Bipolar With Any Other Diagnoses and Problem Solving, Family Communication, and General Functioning Scale Scores

Scales	Diagnosis on Axis I	Mean	Standard Deviation	*N*
Problem Solving	Bipolar Only	2.16	0.47	34
	Bipolar and All	2.22	0.49	165
	Total	2.21	0.49	199
Family Com	Bipolar Only	2.10	0.39	34
	Bipolar and All	2.11	0.41	165
	Total	2.10	0.41	199
Gen Functioning	Bipolar Only	2.07	0.49	34
	Bipolar and All	2.12	0.47	165
	Total	2.11	0.47	199

Note. Family Com = Family Communication; Gen Functioning = General Functioning.

The number of participants that were diagnosed with only a Bipolar Disorder was 34. The number of participants that were diagnosed with a Bipolar Disorder and any other disorder was 165. The scale scores range from 1.0 to 4.0. The lower the number the healthier the family functioning. The higher the score the more unhealthy the family is considered to be functioning. Any score of 2.0 or above indicates problematic family functioning (Ryan et al., 2005, p. 236).

For the group of participants that were diagnosed with only a Bipolar Disorder, the mean score on the Problem Solving Scale was 2.16 with a standard deviation of 0.47. For the group of participants that were diagnosed with a Bipolar Disorder and any other disorder on Axis I, the mean score on the Problem Solving Scale was 2.22 with a standard deviation of 0.49. For the group of participants that were diagnosed with only a Bipolar Disorder, the mean score on the Family Communications Scale was 2.10 with a standard deviation of 0.39. For the group of participants that were diagnosed with a Bipolar Disorder and any other disorder on Axis I, the mean score on the Family Communications Scale was 2.11 with a standard deviation of 0.41. For the group of participants that were diagnosed with only a Bipolar Disorder, the mean score on the General Functioning Scale was 2.07 with a standard deviation of 0.49. For the group of participants that were diagnosed with a Bipolar Disorder and any other disorder on Axis I the mean score on the General Functioning Scale was 2.12 with a standard deviation of 0.47.

The General Linear Model analysis for the groups diagnosed with a Bipolar Disorder only and a Bipolar Disorder with all other Axis I diagnoses indicated no

statistically significant difference between these two groups in Problem Solving and Family Communications interaction, Wilks' Lambda (2, 196) = 0.996, p =.659.

The ANOVA analysis for the groups diagnosed with a Bipolar Disorder only and a Bipolar Disorder with all other Axis I diagnoses yielded F (1,197) = 0.379, p = .539 for the General Functioning scale. The differences between these two groups on the scores on the General Functioning scale of the FAD were not statistically significant.

Research Hypothesis 2

There will be statistically significant difference in family functioning, as measured by scores on the General Functioning, Family Communication and Problem Solving subscales of the Family Assessment Device between families of a child or an adolescent who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a child or an adolescent who has a comorbid diagnosis of a Bipolar Disorder and Attention- Deficit/Hyperactivity Disorder on Axis I.

The aim of this data analysis was to determine if there are significant differences in the reported family functioning in families with certain and different configurations of diagnosis comorbidity. It logically follows that the analysis of variance and multivariate analysis of variance are the chosen statistical tools by which the data was evaluated. The configuration of diagnosis comorbidity is the independent variable. Scores on the subscales of the Family Assessment Device are the dependant variables. When analysis involves one dependant variable an ANOVA is used. When analysis involves multiple dependant variables a General Linear Model is used.

The General Functioning subscale of the Family Assessment Device incorporates concepts from the Family Communication subscales as well as the Problem Solving

Subscale. Therefore the hypothesis requires two separate statistical analysis methods in order to be addressed. A General Linear Model was completed in order to investigate the Family Communication subscale and the Problem Solving subscale. An ANOVA was completed to investigate the General Functioning subscale. A summary of the descriptive statistics for the two groups compared in hypothesis two are presented in Table 3.

Table 3

Descriptive Statistics of a Bipolar Disorder Only and a Bipolar Disorder with Attention-Deficit/Hyperactivity Disorder and Problem Solving, Family Communication, and General Functioning Scale Scores

Scales	Diagnosis on Axis I	Mean	Standard Deviation	*N*
Problem Solving	Bipolar Only	2.16	0.47	34
	Bipolar and ADHD	2.12	0.47	44
	Total	2.13	0.47	78
Family Com	Bipolar Only	2.10	0.39	34
	Bipolar and ADHD	2.03	0.43	44
	Total	2.06	0.41	78
Gen Functioning	Bipolar Only	2.07	0 .49	34
	Bipolar and ADHD	2.02	0.47	44
	Total	2.04	0.48	78

Note. Family Com = Family Communication; Gen Functioning = General Functioning.

The number of participants that were diagnosed with only a Bipolar Disorder was 34. The number of participants that were diagnosed with a Bipolar Disorder and ADHD

was 44. The scale scores range from 1.0 to 4.0. The lower the number the healthier the family is functioning. The higher the score the more unhealthy the family is considered to be functioning. Any score of 2.0 or above indicates problematic family functioning (Ryan et al., 2005, p. 236).

For the group of participants that were diagnosed with only Bipolar Disorder, the mean score on the Problem Solving Scale was 2.16 with a standard deviation of 0.47.For the group of participants that were diagnosed with a Bipolar Disorder and ADHD, the mean score on the Problem Solving Scale was 2.12 with a standard deviation of 0.47. For the group of participants that were diagnosed with only Bipolar Disorder, the mean score on the Family Communications Scale was 2.10 with a standard deviation of 0.39. For the group of participants that were diagnosed with a Bipolar Disorder and ADHD, the mean score on the Family Communications Scale was 2.03 with a standard deviation of 0.43. For the group of participants that were diagnosed with only a Bipolar Disorder, the mean score on the General Functioning Scale was 2.07 with a standard deviation of 0.49. For the group of participants that were diagnosed with a Bipolar Disorder and ADHD, the mean score on the General Functioning Scale was 2.02 with a standard deviation of 0.47.

The General Linear Model analysis for the groups diagnosed with a Bipolar Disorder only and a Bipolar Disorder with ADHD indicated no statistically significant difference between these two groups in Problem Solving and Family Communications interaction, Wilks' Lambda (2, 75) = 0.992, p =.744.

The ANOVA analysis for the groups diagnosed with a Bipolar Disorder only and a Bipolar Disorder with ADHD yielded F (1, 76) = 0.199, p = .657 for the General

Functioning scale. The differences between these two groups on the scores on the General Functioning scale of the FAD were not statistically significant.

Research Hypothesis 3

There will be a statistically significant difference in family functioning, as measured by scores on the General Functioning, Family Communication and Problem Solving subscales of the Family Assessment Device, between families of a child or an adolescent who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a child or an adolescent who has a comorbid diagnosis of a Bipolar Disorder and a Substance-Related Disorder on Axis I.

The number of participants that were diagnosed with only a Bipolar Disorder was 34. The number of participants that were diagnosed with a Bipolar Disorder and a Substance Disorder only was 1. The low number of participants did not allow for statistical analysis to be conducted. Chapter five includes discussion regarding this issue.

Research Hypothesis 4

There will be a statistically significant difference in family functioning, as measured by scores on the General Functioning, Family Communication and Problem Solving subscales of the Family Assessment Device, between families of a child or an adolescent who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a child or an adolescent who has a comorbid diagnosis of a Bipolar Disorder, Attention- Deficit/Hyperactivity Disorder, and a Substance-Related Disorder on Axis I.

The aim of this data analysis was to determine if there are significant differences in the reported family functioning in families with certain and different configurations of diagnosis comorbidity. It logically follows that the analysis of variance and multivariate

analysis of variance are the chosen statistical tools by which the data was evaluated. The configuration of diagnosis comorbidity is the independent variable. Scores on the subscales of the Family Assessment Device are the dependant variables. When analysis involves one dependant variable an ANOVA is used. When analysis involves multiple dependant variables a General Linear Model is used.

The General Functioning subscale of the Family Assessment Device incorporates concepts from the Family Communication subscales as well as the Problem Solving Subscale. Therefore the hypothesis requires two separate statistical analysis methods in order to be addressed. A General Linear Model was completed in order to investigate the Family Communication subscale and the Problem Solving subscale. An ANOVA was completed to investigate the General Functioning subscale. A summary of the descriptive statistics for the two groups compared in hypothesis four are in Table 4.

The number of participants that were diagnosed with only a Bipolar Disorder was 34. The number of participants that were diagnosed with a Bipolar Disorder and ADHD and a Substance Disorder was 4. The scale scores range from 1.0 to 4.0. The lower the number, the healthier the family functioning. The higher the score the more unhealthy the family is considered to be functioning. Any score of 2.0 or above indicates problematic family functioning (Ryan et al., 2005, p. 236).

Table 4

Descriptive Statistics of a Bipolar Disorder Only and a Bipolar Disorder with Attention-Deficit/Hyperactivity Disorder and a Substance Disorder and Problem Solving, Family Communication, and General Functioning Scale Scores

Scales	Diagnosis on Axis I	Mean	Standard Deviation	*N*
Problem Solving	Bipolar Only	2.16	0.47	34
	Bipolar and ADHD and Substance	2.79	0.42	4
	Total	2.22	0.50	38
Family Com	Bipolar Only	2.10	0.39	34
	Bipolar and ADHD and Substance	2.17	0.11	4
	Total	2.11	0.37	38
Gen Functioning	Bipolar Only	2.07	0.49	34
	Bipolar and ADHD and Substance	2.65	0.52	4
	Total	2.13	0.51	38

Note. Family Com = Family Communication; Gen Functioning = General Functioning.

For the group of participants that were diagnosed with a Bipolar Disorder only, the mean score on the Problem Solving Scale was 2.16 with a standard deviation of 0.47. For the group of participants that were diagnosed with Bipolar Disorder and ADHD and a Substance Disorder, the mean score on the Problem Solving Scale was 2.79 with a

standard deviation of 0.42. For the group of participants that were diagnosed with a Bipolar Disorder only, the mean score on the Family Communications Scale was 2.10 with a standard deviation of 0.39. For the group of participants that were diagnosed with a Bipolar Disorder and ADHD and a Substance Disorder, the mean score on the Family Communications Scale was 2.17 with a standard deviation of 0.11. For the group of participants that were diagnosed with a Bipolar Disorder only, the mean score on the General Functioning Scale was 2.07 with a standard deviation of 0.49. For the group of participants that were diagnosed with a Bipolar Disorder and ADHD and a Substance Disorder, the mean score on the General Functioning Scale was 2.65 with a standard deviation of 0.52.

The General Linear Model analysis for the groups diagnosed with a Bipolar Disorder only and a Bipolar Disorder with ADHD and a Substance Disorder indicated a statistically significant difference between these two groups in Problem Solving and Family Communications interaction, Wilks' Lambda (2, 35) = 0.817, p =.029. Post-hoc tests of between-subjects effects yielded F (1, 36) = 6.660, p = .014 for the Problem Solving scale. Differences between these two groups on the scores on the Problem Solving scale of the FAD were statistically significant. Tests of between-subjects effects yielded F (1, 36) = 0.108, p = .745 for the Communication Scale. The differences between these two groups on the scores on the Family Communication scale of the FAD were not statistically significant.

The ANOVA analysis for the groups diagnosed with a Bipolar Disorder only and a Bipolar Disorder with ADHD and a Substance Disorder yielded F (1, 36) = 4.996, p =

.032 for the General Functioning scale. The differences between these two groups on the scores on the General Functioning scale of the FAD were statistically significant.

Research Hypothesis 4 (expanded)

The small number of participants that fit the criteria for the category in Hypothesis four was inconsistent with current literature regarding Substance-Related Disorders as a comorbid diagnosis in youth that have been diagnosed with a mental illness. This inconsistency instigated an additional statistical analysis be conducted with a broadened parameter of the Substance-Related Disorders criteria. Hypothesis Four Extended is altered by an expanded opportunity for the possibility of a Substance-Related Disorder diagnosis to exist. The exclusive component of the diagnosis configuration being a Bipolar Disorder with ADHD and a Substance-Related Disorder only was adjusted to be a Bipolar Disorder with ADHD and any other diagnosis on Axis 1 as long as a Substance-Related Disorder was among them. The new Hypothesis then is stated below.

There will be a statistically significant difference in family functioning, as measured by scores on the General Functioning, Family Communication and Problem Solving subscales of the Family Assessment Device, between families of a child or an adolescent who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a child or an adolescent who has a comorbid diagnosis of a Bipolar Disorder, Attention- Deficit/Hyperactivity Disorder, and a Substance-Related Disorder and any other disorder on Axis I.

The General Functioning subscale of the Family Assessment Device incorporates concepts from the Family Communication subscales as well as the Problem Solving

Subscale. Therefore the hypothesis requires two separate statistical analysis methods in order to be addressed. A General Linear Model was completed in order to investigate the Family Communication subscale and the Problem Solving subscale. An ANOVA was completed to investigate the General Functioning subscale. A summary of the descriptive statistics for the two groups compared in hypothesis four-expanded are presented in Table 5.

Table 5

Descriptive Statistics of a Bipolar Disorder Only and a Bipolar Disorder with Attention-Deficit/Hyperactivity Disorder and a Substance Disorder and Any Other Diagnosis and Problem Solving, Family Communication, and General Functioning Scale Scores

Scales	Diagnosis on Axis I	Mean	Standard Deviation	*N*
Problem Solving	Bipolar Only	2.16	0.47	34
	Bipolar, ADHD, Substance and All	2.50	0.51	7
	Total	2.22	0.49	41
Family Com	Bipolar Only	2.10	0.39	34
	Bipolar, ADHD, Substance and All	2.17	0.33	7
	Total	2.11	0.38	41
Gen Functioning	Bipolar Only	2.07	0.49	34
	Bipolar, ADHD, Substance and All	2.49	0.44	7
	Total	2.14	0.50	41

Note. Family Com = Family Communication; Gen Functioning = General Functioning.

The number of participants that were diagnosed with only a Bipolar Disorder was 34. The number of participants that were diagnosed with a Bipolar Disorder and ADHD and a Substance Disorder and any other diagnosis was 7. The scale scores range from 1.0 to 4.0. The lower the number the healthier the family is considered to be functioning. The higher the score the more unhealthy the family is considered to be functioning. Any score of 2.0 or above indicates problematic family functioning (Ryan et al., 2005, p. 236).

For the group of participants that were diagnosed with a Bipolar Disorder only, the mean score on the Problem Solving Scale was 2.16 with a standard deviation of 0.47. For the group of participants that were diagnosed with a Bipolar Disorder and ADHD and a Substance Disorder and any other diagnosis, the mean score on the Problem Solving Scale was 2.50 with a standard deviation of 0.51. For the group of participants that were diagnosed with a Bipolar Disorder only, the mean score on the Family Communications Scale was 2.10 with a standard deviation of 0.39. For the group of participants that were diagnosed with a Bipolar Disorder and ADHD and a Substance Disorder and any other diagnosis, the mean score on the Family Communications Scale was 2.17 with a standard deviation of 0.33. For the group of participants that were diagnosed with a Bipolar Disorder only, the mean score on the General Functioning Scale was 2.07 with a standard deviation of 0.49. For the group of participants that were diagnosed with a Bipolar Disorder and ADHD and a Substance Disorder and any other diagnosis, the mean score on the General Functioning Scale was 2.49 with a standard deviation of 0.44.

The General Linear Model analysis for the groups diagnosed with a Bipolar Disorder only and a Bipolar Disorder with ADHD and a Substance Disorder and any other diagnosis indicated no statistically significant difference between these two groups

in Problem Solving and Family Communications interaction, Wilks' Lambda (2, 38) = 0.923, p =.220.

The ANOVA analysis for the groups diagnosed with a Bipolar Disorder only and a Bipolar Disorder with ADHD and a Substance Disorder and any other diagnosis yielded F (1, 39) = 4.442, p = .042 for the General Functioning scale. The differences between these two groups on the scores on the General Functioning scale of the FAD were statistically significant.

Summary

This chapter presented the analyses for each research hypothesis.

There was no statistical difference in family functioning as measured by scores on the General Functioning, Family Communication, and Problem Solving Scales of the Family Assessment Device between families of a child or an adolescent who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a child or an adolescent who has a comorbid diagnosis of a Bipolar Disorder and another disorder on Axis I.

There was no statistical difference in family functioning as measured by scores on the General Functioning, Family Communication, and Problem Solving Scales of the Family Assessment Device between families of a child or an adolescent who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a child or an adolescent who has a comorbid diagnosis of a Bipolar Disorder and Attention-Deficit/Hyperactivity Disorder on Axis I.

A total of one in the data set for participants having been diagnosed with a Bipolar Disorder, and a Substance-Related Disorder prohibited testing for statistical

differences in family functioning, as measured by scores on the General Functioning, Family Communication and Problem Solving subscales of the Family Assessment Device, between families of a child or an adolescent who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a child or an adolescent who has a comorbid diagnosis of a Bipolar Disorder and a Substance-Related Disorder on Axis I.

There was an overall statistically significant difference in family functioning measured by the interaction between in relation to the Problem Solving and the Family Communication subscales of the Family Assessment Device, between families of a child or an adolescent who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a child or an adolescent who has a comorbid diagnosis of a Bipolar Disorder, Attention- Deficit/Hyperactivity Disorder, and a Substance-Related Disorder on Axis I. Further analysis indicated a statistically significant difference existed in the scores of the Problem Solving scale but not the Family Communication scale. There was a statistically significant difference in family functioning measured scores on the General Functioning subscale for this same subgroup.

There was a statistically significant difference in family functioning, as measured by scores on the General Functioning subscale of the Family Assessment Device, between families of a child or an adolescent who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a child or an adolescent who has a comorbid diagnosis of a Bipolar Disorder, Attention- Deficit/Hyperactivity Disorder, and a Substance-Related Disorder and any other disorder on Axis I. There was not a statistically significant difference in family functioning measured by scores on the Family

Communication and Problem Solving subscales of the Family Assessment Device, for this same subgroup. The implications of the results are discussed in chapter five.

CHAPTER V

DISCUSSION

This chapter presents a discussion of the results in this study. The results for each hypothesis analysis are presented, followed by a discussion of the results. The next section presents several implications that may be derived from this work. The next section acknowledges limitations of this dissertation research. Recommendations for future research and a conclusion end the chapter.

Discussion of the Results per Hypothesis

Hypothesis one. There was no statistical difference in family functioning as measured by scores on the General Functioning, Family Communication, and Problem Solving Scales of the Family Assessment Device (Epstein, Baldwin, & Bishop, 1983) between families of youth who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a youth who has a comorbid diagnosis of a Bipolar Disorder and another disorder on Axis I.

The means and standard deviations were similar for each group. The group of participants that had a diagnosis of a Bipolar Disorder and any other disorder diagnosed on Axis I had a higher mean score on all three subscales, indicating worse functioning than the group of participants who were diagnosed with a Bipolar Disorder only on Axis

I. Although consistent with the hypothesis that there would be a difference between the two groups, the differences were not statistically significant on any subscale.

Hypothesis two. There was no statistical difference in family functioning as measured by scores on the General Functioning, Family Communication, and Problem Solving Scales of the Family Assessment Device (Epstein, Baldwin, & Bishop, 1983) between families of a youth who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a youth who has a comorbid diagnosis of a Bipolar Disorder and Attention- Deficit/Hyperactivity Disorder on Axis I.

The means and standard deviations were similar for each group. The group of participants that had a Bipolar Disorder only diagnosis on Axis I had a slightly higher mean score on all three subscales measured indicating worse functioning than the group of participants who were diagnosed with a Bipolar Disorder and Attention-Deficit/Hyperactivity Disorder on Axis I. Research (Barkley, Anastopoulos, Guevremont & Fletcher, 1992) has demonstrated a relationship between increased family conflict and one member of the family having a diagnosis of Attention- Deficit/Hyperactivity Disorder. However, the results of this research study appear to be inconsistent with the literature. Although consistent with the hypothesis that there would be a difference between the two groups, the differences were not statistically significant on any subscale.

Hypothesis three. A total of one participant in the data set for individuals diagnosed with a Bipolar Disorder and a Substance-Related Disorder, prohibited testing for statistical differences in family functioning, as measured by scores on the General Functioning, Family Communication and Problem Solving subscales of the Family Assessment Device (Epstein, Baldwin, & Bishop, 1983), between families of a youth

who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a youth who has a comorbid diagnosis of a Bipolar Disorder and a Substance-Related Disorder on Axis I.

The most glaring observation about this result is that it is a contradiction to the current research regarding youth being diagnosed with mental illness and the high prevalence of Substance Disorders within this population (Merikangas et al., 2010).

Hypothesis four. There was a statistically significant difference in family functioning as measured by scores on the General Functioning, and Problem Solving subscales of the Family Assessment Device, between families of a youth who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a youth who has a comorbid diagnosis of a Bipolar Disorder, Attention- Deficit/Hyperactivity Disorder, and a Substance-Realted Disorder on Axis I. However, there was not a statistically significant difference in family functioning as measured by scores on the Family Communication subscale of the Family Assessment Device (Epstein, Baldwin, & Bishop, 1983), between families of a youth who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a youth who has a comorbid diagnosis of a Bipolar Disorder, Attention- Deficit/Hyperactivity Disorder, and a Substance-Related Disorder on Axis I.

The group of participants that had a Bipolar Disorder and Attention-Deficit/Hyperactivity Disorder diagnoses and a Substance-Related Disorder diagnosis on Axis I had a higher mean score on the Problem Solving subscale and the General Functioning subscale of the Family Assessment Device (Epstein, Baldwin, & Bishop, 1983). These two higher subscale scores indicate worse functioning in those two areas compared to the group of participants who were diagnosed with a Bipolar Disorder only

on Axis I. This is consistent with research that has been presented regarding problem solving skills being a developing characteristic during adolescence, as well as having a relationship with substance use (Jaffee & D'Zurilla, 2003). The differences were consistent with the hypothesis and statistically significant. Differences in the scores on the Family Communications subscale were not statistically significant.

Caution should be used when discussing the results of significance and possible implications as the sample size was too small (N=4) to infer any general aspect to the results. A sample size this small cannot be considered as being representational of the population for this study, which is youth diagnosed with a Bipolar Disorder. Although, one could infer from the fact that the analysis involving these 4 participants did reflect a difference between individuals that were diagnosed with a Bipolar Disorder and individuals diagnosed with a Bipolar Disorder, Attention Deficit-Hyperactivity Disorder and a Substance-Related Disorder that an increased data size may yield similar results. It would require additional testing with a sample size large enough to produce results that could be generalized for that to take place.

The small sample size for this subgroup also is a contradiction to the current literature regarding the prevalence of Substance Disorders among youth who have been diagnosed with a mental illness. Research indicates approximately 40% of the individuals who have a Substance-Related Disorder have a comorbid diagnosis (Merikangas, et al. 2010). Approximately 20% of the adolescents who have a Bipolar Disorder will also have a comorbid Substance Disorder (George, Taylor, Goldstein, & Miklowitz, 2011).

Hypothesis four expanded. There was a statistically significant difference in family functioning, as measured by scores on the General Functioning subscale of the Family Assessment Device, between families of a youth who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a youth who has a comorbid diagnosis of a Bipolar Disorder, Attention- Deficit/Hyperactivity Disorder, and a Substance-Related Disorder and any other disorder on Axis I. However, there was not a statistically significant difference in family functioning measured by scores on the Family Communication and Problem Solving subscales of the Family Assessment Device, between families of a youth who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a youth who has a comorbid diagnosis of a Bipolar Disorder, Attention- Deficit/Hyperactivity Disorder, and a Substance-Related Disorder and any other disorder on Axis I.

The group of participants that had a Bipolar Disorder, Attention-Deficit/Hyperactivity Disorder diagnoses, and a Substance-Related Disorder and any other diagnosis on Axis I had a higher mean score on all three subscales of the Family Assessment Device. Although consistent with the hypothesis that there would be a difference between the two groups, the differences were only statistically significant on the General Functioning subscale.

Caution should be used when discussing the results of significance and possible implications as the sample size is too small to allow for generalizations. The sample size in this group was very low (N=7). A sample size this small cannot be considered as being representational of the population for this study, which is youth diagnosed with a Bipolar Disorder. Although, one could speculate from the fact that the analysis involving these 7

participants did reflect a difference between individuals that were diagnosed with a Bipolar Disorder only and individuals diagnosed with a Bipolar Disorder, Attention Deficit-Hyperactivity Disorder and a Substance-Related Disorder and any other diagnosis on Axis I, that an increased data size may yield similar results. It would require additional testing with a sample size large enough to produce results that could be generalized for that to take place.

The small sample size for this subgroup also is a contradiction to the current literature regarding the prevalence of Substance Disorders among youth that have been diagnosed with a mental illness. Approximately 20% of the adolescents who have a Bipolar Disorder diagnosis will also have a comorbid Substance Disorder Diagnosis (George, Taylor, Goldstein, & Miklowitz, 2011).

General Discussion of the Results

The original research question presented in this research study was:

Is there a difference in family communication, problem solving and/or overall functioning between families of a child or an adolescent who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a child or an adolescent who has a comorbid diagnosis of a Bipolar Disorder and another disorder on Axis I?

The results of this research do not clearly answer this question. It was hypothesized that there would, in fact, be a difference on the scores of the Problem Solving subscale, the Family Communications subscale and the General Functioning subscale of the Family Assessment Device (Epstein, Baldwin, & Bishop, 1983), for all of the comorbidity combinations of concern in this research. For most of the combinations,

there was not a significant difference. In the cases where there was a significant difference on one or two of the subscales, the sample size was very small and implications from the results are therefore extremely limited. Although these results may insinuate the presence of a relationship among the variables involved, they can be considered intriguing at most and an opportunity for continued research. In both hypotheses that involved Substance Disorders, that was large enough to conduct analyses, there was a significant difference between the groups on the General Functioning Subscale. The General Functioning subscale is a composite of all the Family Assessment Device (Epstein, Baldwin, & Bishop, 1983) subscales.

Although the authors of the FAD designed the scales to assess constructs that are often interrelated, each subscale can be evaluated independently and may or may not yield similar scores with one another. Additionally in Hypothesis 4, testing for a statistically significant difference between the group diagnosed with a Bipolar Disorder only and the group that diagnosed with Bipolar Disorder, Attention-Deficit/Hyperactivity Disorder and a Substance-Related Disorder, also showed a statistical significant difference on the Problem Solving Scale. No comorbidity configuration produced scores on the Family Communication subscale that were of statistical significance.

Two general issues emerge from the results of this research that motivate additional discussion. The first is possible reasons why, in this population, family communication scores are not significantly related to diagnoses comorbidity. The second is possible reasons why, in this population, the Substance Disorders sample size was small and contrary to what current research indicates. These issues will be discussed in the next two sections.

Family communication was not significantly affected by diagnosis comorbidity in this population of youths that have been diagnosed with a bipolar disorder. Today, many scholars in the field of family communication, and/or the study of adolescence, share the viewpoint of researcher Baumrind (1991). The essential element of Baumrind's theory is that the adolescent can develop independence and individuation while exploring behavior and acquiring self-regulation in the context of their own family (Baumrind, 1991). The parents and their styles of communication create the forum for this development to take place. This theory implies that a substantial relationship exists between family communication and many aspects of the adolescent experience.

The style by which parents communicate their attitudes sets the stage for overall family communication (Darling & Steinberg, 1993). Communication styles including authoritative engagement (Darling & Steinberg, 1993), confirmation and affection are three of the family communication components associated with positive family functioning and mental health (Schrodt, Ledbetter, & Ohrt, 2007). Darling and Steinberg (1993) explained that fundamental to the development of competence and psychological well-being, the authoritative parenting style has been linked with aspects of healthy child and adolescent functioning. Research has indicated the importance of family communication on an individual's ego development, self esteem, perception construction, psychosocial aspects, and ultimately their behaviors and overall well-being (Koesten, Schrodt, & Ford, 2009). Family communication patterns have been shown to influence children's social skill development, risk for psychiatric illnesses (Wichstrom, Holte, Husby, & Wynne, 1994) and conflict management (Koerner & Fitzpatrick, 1997).

Communication skills and problem solving skills are considered key elements to the overall functionality of a family (Leblanc, Self-Brown, Shepard, & Kelley, 2011). In review of the literature presented in this research study, it was concluded that a relationship between family communication and mental health in youth has been evidenced. It follows then that an alteration in mental health in youth would be reflected in an alteration in family communication. What then, might be the factors involved with this population that may have prevented or moderated this relationship?

One possibility for the lack of difference in subscale scores may be that the parent or legal guardian answered the questions on the Family Assessment Device (Epstein, Baldwin, & Bishop, 1983). The insignificant differences may be a function of one individual's perception. Steinberg (2001) explained that different perspectives by different members of the family can account for some believing there is conflict while others do not and why members of a family experience interactions with one another from completely different perspectives. According to Darling and Steinberg (1993) both perspective and expectation help to shape the parents' communication styles and therefore the style of communication in the family (Darling & Steinberg, 1993). In other words if the parent's perspective and expectation shape the communication, and then the parent is evaluating the communication, conditions are ripe for a completely subjective feedback loop. Without the input of the adolescent, the evaluation loses objectivity.

Another possibility for why the relationship between family communication and youth mental health may be moderated in this population is the family communication baseline under which this population was operating. Clinical populations heighten sensitivity to the importance of family communications (Schon, Denhov, & Topor, 2009).

Bipolar Disorders, by nature, can be an extremely disruptive disorder. Perhaps the level of disruption was already high enough in these families that although comorbid diagnoses may alter the family communications somewhat, it was not enough to be statistically significant. The families entered into the mental health system for a reason. It is logical to suppose that the families, whose data is included in this study, were already having difficulties functioning which led them to seek assistance.

Scores on the subscales of the Family Assessment Device are derived from averaging the score for each question for each subscale. A score of 2.0 or higher on the General Functioning subscale is considered problematic. Every subgroup had a mean score of above 2.0 on the General Functioning subscale. A score of 2.20 or higher on the Family Communication subscale is considered problematic. No subgroup had a mean score of 2.20 or above on the Family Communication subscale. In other words, although the average scores for this population indicated a perception of problematic functioning, average scores did not indicate a perception in problematic communication. Several concepts may address this discrepancy.

One possible cause for the discrepancy between functioning and communications may be that the family has developed a communication style that helps them to adapt to the conditions brought about by a member having a mental illness. Koerner and Fitzpatrick (2002) argued that function or dysfunction is only considered in the context of that particular family's functioning. If a family has already adapted to the potential chaos that often accompanies a member having been diagnosed with a Bipolar Disorder, often their perception of what is typical functioning is now only in reference to their own newly established baseline or style of behaving. In other words, families that adapt to

functioning a certain way in order to accommodate a situation or condition sometime may lose the ability to be objective about their own functioning. Should this be the case, this repercussion of the disorder's disruptive nature could then turn into a contributing factor to symptom severity (Miklowitz et al., 2004).

Another possible cause for the discrepancy between functioning and communications may be that the families of individuals with a Bipolar Disorder may not be aware of the impact that communication style has on functioning and so do not consider it a factor in their current situation. If this is the case, a lack of awareness could alter the way the questions on assessment scales are answered. The individual questions on the subscale presuppose that the responder has an awareness of these conditions in the family. It is possible that in families where a youth has been diagnosed with a Bipolar Disorder, there is already a lack of awareness regarding family communication. Should this be the case, it of course could be either a contributing factor to symptom severity (Miklowitz et al., 2004) or a repercussion of the disorder's disruptive nature (Champlin, 2009).

Another possible cause for the discrepancy between functioning and communications may be the experienced disruption. The disruption often associated with a youth in a family being diagnosed with a Bipolar Disorder may be so intense that additional comorbid diagnoses added into the circumstances simply do not alter the family communications for better or for worse at a statistically significant level. In other words for families where a youth has been diagnosed with a Bipolar Disorder, for other reasons, family communication may be perceived as being less important as an evaluative component.

Experienced disruption may be related to the length of time the family member has been diagnosed. How new the diagnosis is to the family unit may have a relationship to the alteration in family communication. For some families a new diagnosis may bring with it chaos and upheaval. For other families a new diagnosis may not yet have had time to truly infiltrate the family system creating an impact. Accordingly, a family who has had a long enough time to adapt to the changes that this diagnosis is associated with, may no longer perceive a shift or compromise in the quality of their family communications. For other families, a lengthy struggle may mean a depletion of resources and a compromise in the quality of family functioning aspects like communication.

Low Substance-Related Disorder prevalence in this population of youths that have been diagnosed with a bipolar disorder. Comorbid diagnoses are common with Bipolar Disorders (Esposito-Smythers, et al., 2006). Approximately 40% of adolescents who have a Bipolar Disorder diagnosis have a comorbid diagnosis (Merikangas et al., 2010). For the third hypothesis in this research study an attempt was made to analyze a subgroup diagnosed with a Bipolar Disorder and also a Substance Disorder. This exclusive combination yielded a sample size of only one. In hypothesis four a subgroup was derived of any participant who had been diagnosed with a Bipolar Disorder and Attention-Deficit/Hyperactivity Disorder and a Substance Disorder which yielded a subgroup sample size of four. Extending this sample group to include any participants who had been diagnosed with a Bipolar Disorder, Attention-Deficit/Hyperactivity Disorder, and not just exclusively a Substance Disorder but to include a Substance Disorder in conjunction with any other diagnosis on Axis I yielded a sample size of seven. An increase in the sample size when extending the parameter to include any

participant who had been diagnosed with a Substance Disorder anywhere in their comorbid configuration coincides with the literate. However, the sample sizes representing Substance-Related Disorder comorbidity are dramatically low with respect to the literature on the prevalence of this combination.

Lifetime prevalence of the Substance-Related Disorders in adolescents in the United States (ages 13 to 18) is 11.4% (Merikangas et.al. 2010). The prevalence of substance disorders increases significantly with age (Merikangas et al. 2010). Approximately 20% of the adolescents who have a Bipolar Disorder diagnosis will also have a comorbid Substance Disorder (George, Taylor, Goldstein, & Miklowitz, 2011). These figures indicate that our sample would have an estimated sample size of 40 youth for this particular comorbidity configuration. Possible causes for the low sample sizes for these comorbidity configurations may be an under emphasized substance assessment at the time of protocol execution or an uneven age distribution among the sample set.

The prevalence of Substance Disorders increases significantly with age (Merikangas, et al. 2010). The median age of onset for a Substance Disorder is 15 (Merikangas et al. 2010). Additional analyses of the data used in this research shows that the average age of all the participants represented in the data set is under 11 (10.889) years with a standard deviation of 3.546. For this age group the prevalence for Substance-Related Disorders is less than 4%. For the age group of 13-14 years of age prevalence remains less than 4%. For the age group of 15-16 years of age, prevalence is slightly over 12%. For the age group 17-18 years the prevalence rate is over 22%. Approximately 20% of the adolescents who have a Bipolar Disorder diagnosis will also have a comorbid Substance-Related Disorder. Yet prevalence does not reach this rate until the population

of those diagnosed with a Bipolar Disorder is 17 or older. In this research study only 16 participants or 8% of the total participants in the sample were in the 17-18 year old age bracket at the time of data collection. The data set used in this research was made up of a population of youth who were primarily younger than the median onset age for a Substance-Related Disorder.

Implications

The results from this dissertation research provide an opportunity to consider intervention and prevention. It is possible that individuals not aware of the impact on communication style has on functioning do not consider it a factor in their current situation. It is possible that for families where a youth has been diagnosed with a Bipolar Disorder, there is a lack of awareness regarding the importance of family communication. Targeting high risk families and implementing family intervention programs that educate the family on family communication dynamics and the important role family communication plays in overall health of children and adolescents would be optimal. Education including the important role family communication plays in exacerbating disorder symptomology may help reshape family communication in families at high risk for dysfunction. Altering family communication might play a role in the trajectory of a child's or adolescent's disorder. Research also indicates that family therapy may lessen the critical comment behaviors, therefore altering the communication style and impacting relapse (Kim & Miklowitz, 2003).

The results from this dissertation research highlight an opportunity to enhance assessment. Sixty percent of all mood disorders are associated with prior substance abuse (George, Taylor, Goldstein, & Miklowitz, 2011). Approximately 20% of the adolescents

who have a Bipolar Disorder will also have a comorbid Substance Disorder (George, Taylor, Goldstein, & Miklowitz, 2011). The course of the illness tends to be worse for individuals with a comorbid diagnosis of Substance Disorder, including increased legal issues, poorer academic performance and triple the likelihood of experiencing a suicide attempt (George, Taylor, Goldstein, & Miklowitz, 2011). This information justifies the need for increased and improved assessment for substance disorder when assessing any child or adolescent for any mental illness.

The results from this dissertation research encourage a collective effort towards prevention in consideration of potential risk for substance use in later adolescence. Given that the prevalence of Substance Disorders increases significantly with age (Merikangas et al. 2010) and that 20% of the adolescents who have a Bipolar Disorder diagnosis will also have a comorbid Substance Disorder (George, Taylor, Goldstein, & Miklowitz, 2011), justification for prevention efforts is evident. Educating families who have a youth diagnosed with Bipolar Disorder about the prevalence and risk for the development of Substance Disorder should be part of the treatment plan. Working with parents regarding their style of parenting may mediate or change the trajectory of illness progression (Baumrind, 1991). Baumrind's (1991) findings, reported in the Influence of Parenting Style on Adolescent Competence and Substance Use, indicates authoritative style of parenting was the most successful parenting style resulting in low social problems, low substance use issues, and high level of competence as compared to other parenting styles. The most opposing parenting style was that of the disengaged parent. The disengaged parenting style had a strong connection with the adolescent who had anti-social tendencies lacking self-regulation, competence and responsibility, and high substance use

(Baumrind, 1991). Adolescents' perceptions of their parents' styles as being authoritative (expressing warmth, acceptance of individuality, but having clear guidelines) were shown to influence decision making away from drug engagement (Fletcher & Jeffries, 1999).

Limitations

Nonverbal behaviors being excluded from communication assessment may be considered a limitation to this research study. The Family Assessment Device was not designed to incorporate the assessment of nonverbal behaviors in the communication process. This is a limitation because research has evidenced that non verbal behaviors are, in fact, a substantial aspect to communication (Daily, 2008; Simoneau, Miklowitz, Richards, Saleem, & George, 1999). Family therapy that focuses on improved non-verbal communication for adults diagnosed with Bipolar Disorder was associated with improved non-verbal communication, and symptom improvement (Simoneau et al., 1999).

Confirmation (behaviors that reinforce the child's value) and affection (behaviors that express emotional warmth or love) by parents have been linked to self esteem, well-being, and social competence (Schrodt, Ledbetter, & Ohrt, 2007). Confirmation and affection are frequently expressed through nonverbal communication (touch, eye contact, active listening). Both confirmation and affection are protective agents against circumstances that could negatively impact self esteem and perceived stress (Schrodt, Ledbetter, & Ohrt, 2007). Research conducted by Knafo and Schwartz (2003) demonstrated that parental communication styles that incorporate warmth contributed to the youth's perception accuracy. Confirmation communication may be more influential than the overall pattern of family communication as a deterrent to the development of

psychopathology (Schrodt, Ledbetter, & Ohrt, 2007). This dissertation research was limited by not including assessment of family communication of non-verbal communication.

Controversy involving the actual prevalence of Bipolar Disorders may be considered by some to be a limitation of this research study. The complicated behavioral presentation of adolescent clients or patients convolutes the diagnostic process and challenges treatment (Miklowitz et al., 2004). There is some controversy involving the diagnosis of a Bipolar Disorder in children and adolescents, as the characteristics overlap with those of Attention-Deficit/Hyperactivity Disorder (Rucklidge, 2006). Specifically, the three characteristics of mania that overlap with Attention-Deficit/Hyperactivity Disorder are over talkativeness, psychomotor agitation and distractibility (Rucklidge, 2006).

Neurocognitive functioning differs among adolescents who have a Bipolar Disorder diagnosis, exclusively, Attention-Deficit/Hyperactivity Disorder exclusively, and Bipolar with a comorbid diagnosis of Attention-Deficit/Hyperactivity Disorder. These differences in neurocognitive functioning are factors that put children and adolescent diagnosed with a Bipolar Disorder at an increased risk for poor outcomes (2006). The results found by Adler, et al, (2005) of decreased activity in the prefrontal regions in the brains of adolescents with a comorbid diagnosis of Bipolar Disorder and Attention-Deficit/Hyperactivity Disorder, as compared with adolescents with an exclusive diagnosis of Bipolar, may account for the diminished functioning on cognitive tests found by Rucklidge (2006) and emphasizes the additional detrimental effects comorbid diagnoses can have.

Comorbid diagnosis makes accuracy of diagnosing a Bipolar Disorder even more of a challenge (George, Taylor, Goldstein, & Miklowitz, 2011). In order to help control for the possibilities of an inadvertent misdiagnosis regarding a Bipolar Disorder, only those participants who completed the K-SADS-PL, (Kauffman et al., 1997) were included in the data sample in this research. The K-SADS-PL (Kauffman) is a broad based assessment instrument used as a diagnostic tool. It is used by many researchers in Bipolar Disorder studies to assess diagnostic criteria for this disorder (Findling et al, 2004; George, Taylor, Goldstein, & Miklowitz, 2011). The assessment used to diagnose a Bipolar Disorder may not have been sensitive enough to accurately distinguish the comorbid diagnosis of a Substance Disorder (George, Taylor, Goldstein, & Miklowitz, 2011).

Singular perception representation may be considered a limitation to this dissertation research. Scores representing only one family member's perception is a limitation. The youth's perception was not represented. Scores produced from the child's or adolescent's perceptions may have been different and indicate better or worse family communications, problem solving and general functioning. The Family Assessment Device is designed to be completed by any family member ages 12 and above, and is intended to gather multiple perceptions. A family score is the average of all individual scores (Ryan, et al., 2005, p. 232).

One study (Ghanizadeh & Shams, 2007) researched the perceptions of children in the general population compared to perceptions of children diagnosed with Attention-Deficit/Hyperactivity Disorder of their family's functioning, using the McMaster Family Assessment Device (Epstein, Baldwin, & Bishop, 1983). The findings reflected the

children diagnosed with Attention-Deficit/Hyperactivity Disorder had perceptions of greater dysfunction in their family, greater difficulties in their family relationships and a belief that their families could perform their expected roles, lower ability in problem solving and poorer communications than the children in the general population.

Small samples sizes are also a limitation to this dissertation study. Substance Disorders may have been disproportionately under represented. No assessment specifically designed for chemical abuse and dependence was administered as part of the protocol. Given what research has revealed about the prevalence of substance abuse and dependence among youth that have been diagnosed with a Bipolar Disorder, as well as the significant risks possible, future research may want to consider supplementing the use of the K-SADS-PL with an assessment instrument specifically designed for substance assessment.

The young age of the participants whose data was included in this data set was a limitation. Small sample sizes for subgroups that included the Substance-Related Disorders may have been a function of an uneven age distribution in the data set. The data set did not include many older adolescents where the substance abuse was more likely. Small sample sizes limited results and eliminated the possibility of generalizing findings to even this defined population of youth that have been diagnosed with a Bipolar Disorder.

Using archived data may have been a limitation to this research. Utilizing archived data prohibits full knowledge of data collection methods. Despite obtaining documentation of the data collection process, the researcher using archived data is subject to circumstances that are beyond their control. Omitted information regarding the data

collection process and misinterpretation of the documentation are examples of opportunities for error or a less than thorough investigation. Time passing or changes in researcher personnel may result in unanswered questions.

Future Research

Ideas for future research are generated from this research study. Possible areas for investigation include but are not limited to addressing non-verbal communications, capturing the perception of the youth, possible advantages to adding a qualitative interview component, more sample specific studies regarding substance use.

Future research may want to consider an inclusion of non-verbal behavior assessment. Nonverbal body language is a powerful form of communication yet it is one that many researchers do not consider (Daily, 2008). Data collection regarding non verbal communication may provide additional and otherwise omitted information about the communication between family members. Although optimally observation would be conducted with the family in their normal living environment, in home therapy is not always possible. Observation could still be made in family therapy session about non verbal behaviors or gathered via self report forms from multiple family members. In studies like the one that gathered the data used in this research, adding an additional non-verbal behavior assessment instrument to the battery of questionnaires might provide rich information about how the family communicates. The presence of confirmation and affection expressed through non-verbal communication (touch, eye contact, active listening) can be thought of as a strength of the family and can be utilized as a resource to the clinician in treatment planning and in working with the family to achieve communication goals. Additionally, both confirmation and affection are protective agents

against circumstances that could negatively impact self esteem and perceived stress (Schrodt, Ledbetter, & Ohrt, 2007). Likewise the presence of disqualifying non-verbal behaviors (interrupting, not listening to, ignoring) are detrimental style of communication that heighten risk for mental illness in at risk populations (Wichstrom, Holte, Husby, & Wynne, 1994). Educating parents on the impact and long lasting effects these styles may have on their child as an individual and on the family from a communication perspective could be valuable.

Future research may gather information from multiple family member's perspective with a focus on the perception of the identified patient. The most obvious complication to securing valid data on adolescents with severe mental illness is that they are a protected population on two fronts. Their status of being a minor combined with their psychiatric illness creates a paradoxical situation for the researcher. Their conditions push them to the forefront of populations in need of research. At the same time, their conditions push them to the forefront of populations that need protection. One way to circumvent this barrier is to collect data from the guardian of the identified patient. This then leads to another impediment for validity which is collection of data about the adolescent *not* from the adolescent.

Albeit gathering and utilizing data from family members can create richer and more detailed understanding as well as for corroboration of information, only the patient can truly and authentically represent themselves. In many studies the data is gathered by the parent or legal guardian of the patient. How then, is the question, is the perception of the adolescent being heard or their experience being represented? The importance of the perception of the adolescent must not be underestimated. The authors of the Family

Assessment Device designed the instrument to gather multiple family members' perspectives. Family members twelve years of age and above are able to take the family assessment device. Researchers analyzing the McMaster Family Assessment Device concluded that ratings from multiple members are required to assess whole family functioning. They caution future researchers to assess whole family functioning from multiple members instead of inferring whole family functioning from one or two members. There are notable discrepancies in family members' perception (Georgiades, Boyle, Jenks, Sanford, & Lipman, 2008). Although the McMaster developers endorse gathering responses from multiple family members as well as utilizing the interview they devised, and additional component may be to video tape the family carrying out a problem solving task. This would allow for objective observation of communication styles including non-verbal behaviors and problem solving methods of the family.

Future research may include a qualitative assessment device that allows for contextual information and brings depth to the nature of the family dimensions of operating. The Family Assessment Device may not be sensitive enough as a standalone instrument when assessing the nuances that comprise family communication. The McMaster Approach ideally incorporates three assessment devices in the process of a thorough assessment. The assessment tools created were the Family Assessment Device, The McMaster Clinical Rating Scale and the McMaster Structured Interview of Family Functioning (Miller et al., 2000). The interview allows for a qualitative component and a pathway for detailed, complex, or difficult to convey information to make its way to the clinician. This type of an assessment tool may collect the supplemental information needed to illuminate the individual subscale scores on the Family Assessment Device.

However, the McMaster approach does not, in any of the three instruments takes into consideration non-verbal communication. This limitation encourages a supplemental assessment tool regarding non-verbal communication when administering the McMaster instruments.

Future research may include studies that gather data from more specific samples regarding diagnosis and age. Data collection protocols, similar to the one used to collect the data used in this research could be altered or enhanced for different analysis purposes. For example, older age range criteria may yield a sample of participants more appropriate for the analysis of Substance-Related Disorder comorbidity. Additionally, the battery of assessments administered having the additions of a substance specific assessment and an interview allowing for a qualitative component may provide a more complete information gathering regime.

Finally, future research may include studies that compare the various aspects of family functioning between families who have actively sought out assistance and families who have not. In other words, despite having a record reflecting a youth family member having a Bipolar Disorder diagnosis, the family has not pursued obtaining help from professionals of the mental health community. Comparing the aspects of family functioning between these families and those who, along with having a youth family member with a Bipolar Diagnosis, have actively pursued assistance may provide insight into the differences and discrepancies between these families. Information from this type of a study may include what non-help seeking families are doing that allows them to function without professional assistance? Additional information may be revealed about what keeps non-help seeking families in need of help from seeking help?

Conclusion

Literature was presented establishing the relationship between family communication and mental well-being in children and adolescents. Further review revealed a need for research regarding youth that have been diagnosed with a Bipolar Disorder. To further study the proposed relationship between family communication and the diagnosis of a Bipolar Disorder for children and adolescents, the following research question was formed:

> *Is there a difference in family communication, problem solving and/or overall functioning between families of a child or an adolescent who has an exclusive diagnosis of a Bipolar Disorder on Axis I and families of a child or an adolescent who has a comorbid diagnosis of a Bipolar Disorder and another disorder on Axis I?*

Testable hypothesis derived from this research question were analysis to determine if there were statistically significant differences between varying comorbid diagnosis combinations and family functioning. Family functioning was described by incorporating three dimensions of family functioning which were general functioning, problem solving and family communication. Family communication was not statistically significant for any comorbid combination tested. General functioning and problem solving were statistically significant but sample sizes prohibits generalizations.

This research study yields beneficial information toward the continued research of youth diagnosed with Bipolar Disorders. In review of possible factors leading to insignificant analysis results, limitations have been noted and recommendations for future research discussed. One highlighted feature is the need for thorough and specific

substance use and abuse assessment to be incorporated in the overall assessment of children and adolescents when assessing for any mental illness. Another highlighted feature is the need for the youth identified as the patient's perception to be represented along with multiple family members' perceptions when assessing family functioning. Additionally, the Family Assessment Device may yield richer information when administered as part of a group of assessment devices that also includes an interview and allows for the incorporation of non-verbal behaviors to be considered as part of the communication.

REFERENCES

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

American Psychological Association. (2009). Publication *manual of the American Psychological Association* (6th ed.). Washington, DC: Author.

Adler, C. M., DelBello, M. P., Mills, N. P., Schmithorst, V., Holland, S., & Strakowski, S. M. (2005). Comorbid ADHD is associated with altered patterns of neuronal activation in adolescents with bipolar disorder performing a simple attention task. *Bipolar Disorders, 7,* 577-588.

Agresti, A., & Finlay, B. (1997). *Statistical methods for the social sciences 3rd ed.* Upper Saddle River: New Jersey.

Barkley, R. A., Anastopoulos, A. D., Guevremont, D. C., & Fletcher, K. E. (1992). Adolescents with attention deficit hyperactivity disorder: Mother-adolescent interactions, family beliefs and conflicts, and maternal psychopathology. *Journal of Abnormal Psychology, 20(3)* 263-288.

Baxter, L. A. (2006). Relational dialectics theory: Multivocal dialogues of family communication. In D. O. Braithwaite & L.A. Baxter (Eds.), *Engaging theories in family communication: multiple perspectives* (pp. 130-145). Thousand Oaks, CA: Sage Publishing, Inc.

Bauermeister, J. J., Shrout, P. E., Ramirez, R., Bravo, M., Alegria, M., Martinez-Taboas… A., Chavez. (2007). ADHD correlates, comorbidity, and impairment in

community and treated samples of children and adolescents. *Journal Abnormal Child Psychology, 35,* 883-898. doi:10.107/s10802-007-9141-4

Baumrind, D. (1991). The influence of parenting style on adolescent competence and substance use. *Journal of Early Adolescence, 11*(1), 56-95.

Beretvas, S. N., Meyers, J. L., & Leite, W. (2002). A reliability generalization study of the Marlowe-Crowne social desirability scale. *Educational and Psychological Measurement, 62(4),* 570-589.

Braithwaite, D. O., & Baxter, L. A. (Eds.). (2006). *Engaging theories in family communication: Multiple perspectives.* Thousand Oaks, CA: Sage Publications, Inc.

Byles, J., Byrne, C., Boyle, M., H., & Offord, D. R. (1988). Ontario child health study: Reliability and validity of the general function subscale of the McMaster family assessment device. *Family Process, Inc., 27,* 97-104.

Champlin, B.E. (2009). Being there for another with a serious mental illness. *Qualitative Health Research, 19*(11), 1525-153. doi:10.1177/1049732309349934

Crowne, D.P. & Marlowe. (1960). D. A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology, 24*(4), 349-354.

Dailey, R. (2008). Assessing the contribution of nonverbal behaviors in displays of confirmation during parent-adolescent interactions: an actor-partner interdependence model. *Journal of Family Communication, 8,* 62-91.

Darling, N., & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological Bulletin, 113*(3), 487-496.

Ellington, A.T. (2008). *Culturally sensitive in-home psychotherapy for urban low-income African American adolescents.* (Unpublished doctoral dissertation). Cleveland State University, Cleveland, Ohio.

Epstein, N. B., Baldwin, L. M., & Bishop, D. S. (1983). The McMaster family assessment device. *Journal of Marital and Family Therapy, 9*(2), 171-180.

Epstein, N. B., & Bishop, D. S. (1981). Problem centered systems therapy of the family. *Journal of Marital and Family Therapy, 7*(1), 23-31.

Epstein, N. B., Bishop, D. S., & Levin, S. (October 1978). The McMaster model of family functioning. *Journal of Marriage and Family Counseling,* 19-31.

Erikson, E. H. (1959). Identity and the life cycle selected papers. In G. S. Klein (Ed), *Psychological issues* (pp. 1-171). New York, NY: International University Press.

Esposito-Smythers, C., Birmaher, B., Valeri, S., Chiappetta, L., Hunt, J., Ryan, N… Axelson, D. (2006). Child comorbidity maternal mood disorder and perceptions of family functioning among bipolar youth. *Journal American Academy of Child and Adolescent Psychiatry, 45*(8), 955-964. doi:10.1097/01.chi.0000222785.11359.04

Findling, et al. (2004*). The identification of psychiatric disorders in children and adolescents*. Unpublished data.

Fletcher, A. C., & Jefferies, B. C. (1999). Parental mediators of associations between perceived authoritative parenting and early adolescent substance use. *Journal of Early Adolescence, 19*(4), 465-487.

Friedman, S. B., Fisher, M., Schonberg, S. K., & Adlerman, E. M. (1998). *Comprehensive adolescent health care.* St. Louis, MO: Mosby.

George, E. L., Taylor, D. O., Goldstein, B.I., & Miklowitz, D. J. (2011). Family focused therapy for bipolar adolescents: lessons from a difficult treatment case. Cognitive and Behavioral Practice, *18*, 384-393.

Georgiades, K., Boyle, M., Jenkins, J., Sanford, M., & Lipman, E. (2008). A multilevel analysis of whole family functioning using the McMaster family assessment device. *Journal of Family Psychology, 22,* 344-354. doi: 10.1037/0893-3200.22.3.344.

Ghanizadeh, A., & Shams, F. (2007). Children's perceived parent-child relationships and family functioning in attention-deficit/hyperactivity disorder. *Child & Family Behavior Therapy, 29*(3), 1-11. doi:10.1300/J019v29n03_01

Guilamo-Ramos, V. Jaccard, J., Dittus, P., & Bouis, A. (2006). Parental expertise, trustworthiness, and accessibility: parent-adolescent communication and adolescent risk behavior. *Journal of Marriage and Family*. *68*, 1229-1246. doi: 10.1111/j.1741-3737.2006.00325.x.

Goldstein, B. I., Strober, M. A., Birmaher, B., Axelson, D., A., Esposito-Smythers, C., Goldstein, T. R., & Leonare, H. D. (2008). Substance use disorders among adolescents with bipolar spectrum disorders. *Bipolar Disorders, 10,* 469-478.

Harwood, J., Soliz, J., & Lin, M. (2006). Communication accommodation theory: An intergroup approach to family relationships. In D. O. Braithwaite & L.A. Baxter (Eds.), *Engaging theories in family communication: multiple perspectives* (pp. 19-34). Thousand Oaks, CA: Sage Publishing, Inc.

Hillaker, B.D., Brophy-Herb, H.E., Villarruel, F.A., & Haas, B.E. (2008). The contributions of parenting to social competencies and positive values in middle

school youth: Positive family communication, maintaining standards, and supportive family relationships. *Family Relations, 57*(5), 591-601.

Jaffee, W. B., & D'Zurilla, T. J. (2003). Adolescent problem solving, parent problem solving, and eternalizing behavior in adolescents. *Behavior Therapy, 34*, 295-311.

Johnson, M.A., Stone, S., Lou, C., Vu, C., Ling, J., Mizrahi, P., Austin, & M.J. (2008). Family assessment in child welfare services: Instrument comparisons. The Haworth Press. doi:10.1300/J394v05n01_04.

Kabacoff, R. I., Miller, I. W., Bishop, D. S., Epstein, N. B., & Keitner, G. I. (1990). A psychometric study of the McMaster family assessment device in psychiatric, medical, and nonclinical samples. *Journal of Family Psychology, 3*(4), 431-439.

Kaufman, J., Birmaher, B., Brent, & D. Rao, U., et al. (1997). The schedule for affective disorders and schizophrenia for school-age children present and lifetime version (K-SADS-PL): Initial reliability and validity data. *Journal of the American Academy of Child & Adolescent Psychiatry*, *36*(7), 980-988.

Kim, C., Lee, H., & Tomiuk, M. (2009). Adolescents' perceptions of family Communication patterns and some aspects of their consumer socialization. *Psychology & Marketing*. *26*, 888-907. doi: 10.102/mar.20304.

Kim, E. Y., & Miklowitz, D. J. (2004). Expressed emotion as a predictor of outcome among bipolar patients undergoing family therapy. *Journal of Affective Disorders, 82*, 343-352. doi:10.1016/j.jad.2004.02.004

Knafo, A., & Schwartz, S. H. (2003). Parenting and adolescents' accuracy in perceiving parental values. *Child Development, 74*(2), 595-611.

Koerner, A. F., & Fitzpatrick, M. A. (1997a). Family type and conflict: The impact of conversation orientation and conformity orientation on conflict in the family. Communication Studies, *48*, 59-78.

Koerner, A. F., & Fitzpatrick, M. A. (2002). Toward a theory of family communication. *Communication Theory, 12*(1), 70-91.

Koerner, A. F. & Fitzpatrick, M. A. (2006). Family communications pattern theory: A social cognitive approach. In D. O. Braithwaite & L.A. Baxter (Eds.), *Engaging theories in family communication: multiple perspectives* (pp. 50-65). Thousand Oaks, CA: Sage Publishing, Inc.

Koesten, J., Schrodt, P., & Ford, D.J. (2009). Cognitive flexibility as a mediator of family communication environments and young adult's well-being. *Health Communication, 24,* 82-94. doi:10.1080/10410230802607024.

Lamborn, S. D., Mounts, N. S., Steinberg, L. & Dornbusch, S. M. (1991). Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Development, 62,* 1049-1065.

LeBlanc, M., Self-Brown, S., Sheppard, D. & Kelley, M. L. (2011). Buffer the effects of violence: Communication and problem-solving skills as protective factors for adolescents exposed to violence. *Journal of Community Psychology, 39*(3), 353-367.

Levine, M. (2006). *The price of privilege*. New York, NY: Harper Collins Publishers.

McIntyre, R. S. (2010). Differential diagnosis of bipolar disorder. *Annals of Clinical Psychiatry, 22*(4, suppl 2), 3-22.

Merikangas, K. R., He, J., Burstein, M., Swanson, S. A., Avenevoli, S., Cui, L….Benjet, C., (October 2010). Lifetime prevalence of mental disorders in U.S. adolescents: Results from the national comorbidity survey replication-adolescent supplement (NCS-A). *Journal of the American Academy of Child & Adolescent Psychiatry, 49*(10), 980-989.

Miklowitz, D. J., George, E. L., Axelson, D. A., Kim, E. Y., Birmaher, B., Schneck, C. & Beresford, C., Craighead, W. E., Brent, D. A. (2004). Family-focused treatment for adolescents with bipolar disorder. *Journal of Affective Disorders,* 82S, S113-S128. doi:10.1016/J.jad.2004.05.020

Miklowitz, D. J., & Taylor, D. O. (October 2006). Family-focused treatment of the suicidal bipolar patient. *Bipolar Disorders, 8*(5p2), 640-651. doi:10.1111/j.1399-5618.2006.00320.x

Miller, I. W., Bishop, D. S., Epstein, N. B., & Keitner, G. I. (1985). The McMaster family assessment device: Reliability and validity. *Journal of Marital and Family Therapy, 11*(4), 345-356.

Miller, I. W., Kabacoff, R. I., Epstein, N. B. Bishop, D. S., Keitner, G. I., Baldwin, L. M. & Van der Spuy, H. I. (1994). The development of a clinical rating scale for the McMaster model of family functioning. *Family Process, 33*, 53-69.

Miller, I. W., Keitner, G. I., Ryan, C. E., Uebelacker, L. A., Johnson, S. L., & Solomon, D. A. (May, 2008). Family treatment for bipolar disorder: Family impairment by treatment interactions. *Journal Clinical Psychiatry, 69*(5), 732-740.

Miller, I. W., Ryan, C. E., Keitner, G. I., Bishop, D. S., & Epstein, N. B. (2000). The McMaster Approach to families: theory, assessment, treatment and research. *Journal of Family Therapy, 22*, 168-189.

Millsap, R. E., (2001). *Statistical approaches to measurement invariance.* Retrieved from http://www.psypress.com/statistical-approaches-to-measurement-invariance-9781848728196

Morris, A. S., Silk, J. S., Steinberg, L., Myers, S. S., & Robinson, L. R. (2007). The role of the family context in the development of emotion regulation. *Social Development, 16*(2). doi:10.1111/j.1467-9507.2007.00389.x

Olson, D. H., Sprenkle, D. H., & Russell, C. S. (1979). Circumplex model of marital and family systems: I. Cohesion and adaptability dimensions, family types, and clinical applications. *Family Process, 19*(1), 3-28. Doi 10.1111/j.1545-5300.1979.0003x

Otero, S., Moreno-Iniguea, M., Paya, B., Castro-Fornieles, J., Gonzalez-Pinto, A., Baeza, I., & Arango-Lopez, C. (2011). Twelve-month follow-up of family communication and psychopathology on children and adolescents with a first psychotic episode. *Psychiatry Research, 185*, 72-77.

Parry, P., Allison, S., Jureidini J., McEvoy, P., & Tregenza S. (2008). Pediatric bipolar disorder is a controversial diagnosis. *Australian & New Zealand Journal of Psychiatry, 42*(1), 91.

Petronio, S. & Caughlin, J. P. (2006). Communication privacy management theory: Understanding families. In D. O. Braithwaite & L.A. Baxter (Eds.), *Engaging*

theories in family communication: multiple perspectives (pp. 35-49). Thousand Oaks, CA: Sage Publishing, Inc.

Rice, F., Harold, G. T., Shelton, K. H., & Thapar, A. (2006). Family conflict interacts With genetic liability in predicting childhood and adolescent depression. *Journal of American Academy of Child and Adolescent Psychiatry, 45,* 841-848. doi: 10.1097/01.chi.0000219834.08602.44.

Rucklidge, J. J. (2006). Impact of ADHD on the neurocognitive functioning of adolescents with bipolar disorder. *Biological Psychiatry, 60,* 921-928. doi:10.1016/j.biopsych.2006.03.067

Rutter, M., Graham, P., Chadwick, O.F.D. & Yule, W. (1976). Adolescent turmoil: Fact or fiction? *Journal of Child Psychology and. Psychiatry, 17,* 35-56.

Ryan, C. E., Epstein, N. B., Keitner, G. I., Miller, I. W., & Bishop, D. S. (2005). *Evaluating and treating families: The McMaster approach* .New York, NY: Routledge, Taylor Francis Group.

Saphir, M. N. & Chaffee, S. H. (January 2002). Adolescents' contributions to family communication patterns. *Human Communication Research, 28*(1), 86-108.

Schon, U., Denhov, A., & Topor, A. (2009). Social relationships as a decisive factor in recovering from severe mental illness. *International Journal of Social Psychiatry, 55(4),* 336-347. doi:10.1177/0020764008093686

Schrodt, P., Ledbetter, A.M., & Ohrt, J.K. (2007). Parental confirmation and affection as mediators of family communication patterns and children's mental well-being. *The Journal of Family Communication*. *7*(1), 23-46.

Simoneau, T. L., Miklowitz, D. J., Richards, J. A., Saleem, R., & George, E. L. (1999). Bipolar disorder and family communication: Effects of a psychoeducational treatment program. *Journal of Abnormal Psychology, 108*(4), 588-597.

Skinner, H. Steinhauer, P. & Sitarenios, G. (2000). Family assessment measure (FAM) and process model of family functioning. *Journal of Family Therapy, 22*, 190-210.

Steinberg, L. (2001). We know some things: Parent-adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence, 11*(1), 1-19.

Steinberg, L., Lamborn, S. D., Dornbusch, S. M., & Darling, N. (1992). Impact of parenting practices on adolescent achievement: Authoritative parenting, school involvement, and encouragement to succeed. *Child Development, 63*, 1266-1281.

Steinberg, L., Mount, N. S., Lamborn, S. D., & Dornbusch, S. M. (1991). *Journal of Research on Adolescence, 1*(1), 19-36.

Sullivan, A. E., & Miklowitz, D. J. (2010). Family functioning among adolescents with bipolar disorder. *Journal of Family Psychology, 24*(1), 60-67.

Tijssen, M. J. A., Os, V. J., Wittchen, H.U., Lieb, R., Beesdo, K., & Wichers, M. (2010). Risk factors predicting onset and persistence of subthreshold expression of bipolar psychopathology among youth from the community. *Acta Psychiatrica Scandinavica, 122*, 255-266. doi:10.1111/j.1600-0447.2010.01539.x

Townsend, L. D., Demeter, C. A., Youngstrom, E., Drotar, D., & Findling, R. L. (2007). Family conflict moderates response to pharmacological intervention in pediatric bipolar disorder. *Journal of Child and Adolescent Psychopharmacology, 17*(6), 843-851. doi:10.1089/cap.2007.0046

Uebelacker, L. A., Battle C. L., Strong, D., Beevers, C. G., Keitner, G. I., Ryan, C. E., & Solomon, D. A. (2006). Family functioning in bipolar I disorder. *Journal of Family Psychology*, *20*(4), 701-704. doi:10.1037/0893-3200.20.4.701

Van der Veen, F., Howard, K. I., & Austria, A. M. (1970). Stability and equivalence of scores based on three different response formats. *Proceedings of the Annual Convention of the American Psychological Association, 5*(Pt. 1), 99-100.

Weinstock, L. M., & Miller, I. W. (2010). Psychosocial predictors of mood symptoms 1 year after acute phase treatment of bipolar I disorder. *Comprehensive Psychiatry*, *51,* 497-503. doi:10.1016/j.comppsych.2010.02.001

Wichstrom, L., Holte, A., Husby, R., & Wynne, L. C. (1994). Disqualifying family communication as a predictor of changes in offspring competence: A 3-year longitudinal study of sons of psychiatric patients. *Journal of Family Psychology*, *8*(1), 104-108.

Yan, L. J., Hammen, C., Cohen, A. N., Daley, S. E., & Henry, R. M. (2004). Expressed emotion versus relationship quality variables in the prediction of recurrence in bipolar patients. *Journal of Affective Disorders, 83,* 199-206.

Youngstrom, E. A., Birmaher, B., & Findling, R. L. (2008). Bipolar Disorder : Validity, phenomenology, and recommendations for diagnosis. *Bipolar Disorders, 10*(Supp l1 p2), 194-214.

APPENDICES

APPENDIX A

The Identification of Psychiatric Disorders in Children and Adolescents

Principal Investigator: Robert Findling, M.D.

Co-Investigators: Eric Youngstrom, Ph.D., Lisa Branicky, M.A.

Introduction Research has shown that at any given point in time, approximately 20% of children and adolescents meet diagnostic symptom criteria for at least one psychiatric disorder. Furthermore, a similar number of youths have subsyndromal symptoms of psychiatric disorders that are associated with psychosocial dysfunction. For these reasons, research into the phenomenology, treatment, and etiology of child and adolescent psychiatric conditions is needed.

Specific Aims and Hypothesis The purpose of this protocol is to develop a uniform means of accurately characterizing the psychiatric phenomenology of children and adolescents who have been brought by their guardian(s) for possible inclusion into one of the research protocols being done within the Division of Child & Adolescent Psychiatry. Due to the diverse nature of the difficulties that youth present with, it is often difficult to accurately discern which studies a youth may be eligible for until an assessment is performed. After this screening has occurred, if it is determined that a child/adolescent does meet inclusion/exclusion criteria for one of the other existing protocols within the Division of Child & Adolescent Psychiatry, the legal guardian(s) of that youth may be offered enrollment for their child into the appropriate study. Most of the instruments incorporated into this protocol are the assessment measures utilized in other IRB-approved studies that are currently being done within the Division of Child and Adolescent Psychiatry.

Specific Procedures

Overview The purpose of this protocol is to develop a means of accurately identifying the presence or absence of psychiatric symptoms in youngsters aged 5-17 years (inclusive).

Exclusion Criteria In order for a child/adolescent to be eligible for possible enrollment, the child must have no history of significant past medical or neurological history which could significantly affect the youngster's mood or behavior.

Parent Assessments

1. Diagnostic Interview. Since a careful family history is an integral part of the psychiatric assessment for any youth, parental assessment is included in this protocol. Parents will be diagnostically assessed with the Schedule for Affective Disorders and Schizophrenia Lifetime, Bipolar version (SADS-LB). If both parents are not available for interview, a psychiatric diagnosis will be ascribed to the absent parent based on the Family History RDC method of assessment.

2. Mood state assessment. Parents will also be asked to complete the General Behavior Inventory (GBI). For adults, subsyndromal mood symptoms and chronic symptoms

associated with mood disorders have been described as being accurately delineated with the GBI. The GBI is a 73-item instrument that has been used in adults as both a self-reported and an informant-reported questionnaire. It has been shown to be able to identify mood states of even modest severity with specificity and sensitivity in adults.

3. Family demographics. In those cases where there is a bilineal pedigree for affective disorders (i.e., one parent has bipolar disorder and the other has bipolar or unipolar affective illness) or in those instances when the parent has a child who suffers from bipolar disorder or attention-deficit hyperactivity disorder, the Stanley Foundation Bipolar Network Early Intervention Initiative Survey (EII) will be administered. This survey identifies family demographics as well as psychiatric illness and treatment.

Child Assessments

1. Diagnostic Interview. Children and adolescents will be assessed with a semi-structured diagnostic instrument, the Schedule for Affective Disorders and Schizophrenia for School-Age Children Present and Lifetime Version (K-SADS-PL). This semi-structured interview derives psychiatric diagnoses in pediatric patients based on information provided by both a youngster and their parents or caregivers. In addition, a modified section based on the K-SADS-PL mood disorders module will be added to the diagnostic interviews in order to further assess for subsyndromal mood disorders. A child or adolescent may receive an evaluation from a child psychiatrist associated with the Stanley Research Center. This will depend on whether or not the child/adolescent and his/her guardian are interested in enrolling in a pharmacological treatment study offered by the Stanley Research Center.

2. Parent-completed questionnaires. In order to assess a wide variety of symptom domains of psychopathology, the parents will be asked to complete a Child Behavior Checklist (CBCL) Parents will be asked to complete a modified version of the Family Assessment Device (FAD). The FAD is a 27-item self-report measure that will assess the general functioning of the subject's family.

   Parents will also be asked to complete the Conflict Behavior Questionnaire (CBQ). The CBQ is a 20-item self-report measure that measures parent-child discord. This questionnaire provides information regarding various interactive behaviors, and discriminates distressed from non-distressed parents and youth dyads. Finally, parents will be given the Mania Rating Scale-Parent Version (MRS-P) for completion. This is an 11-item self-report measure that will assess symptoms of mania that parents have witnessed in their children's mood and/or behavior.

3. Teacher-completed questionnaires. Teachers of school age children will be asked to fill out the Teacher Report Form (TRF).

4. Adolescent-completed questionnaires. Adolescents (age 11 and above) will be asked to complete the Youth Self-Report (YSR). Adolescents (age 10 and above) will also be asked to complete the Youth Self-Report of Emotions (DES-IV-A). This measure will assess the variety of emotions experienced by the youngster.

5. Rater-completed assessments. To assess the youth's current mood state, the Children's Depression Rating Scale-Revised (CDRS-R) and the Young Mania Rating Scale (YMRS) will be completed by the interviewer.. All subjects will have their general functioning rated with the Children's Global Assessment Scale by a member of the research team. In addition, a member of the research team will complete the Family Global Environment Scale (FGES). This is a single-item scale, which yields an overall measure of health and cohesiveness of the subject's family environment. A member of the study team will also administer the Iowa Personality Disorders Screen to participants ages 13-17 years. This instrument consists of 11 items, and will assess precursors to the development of personality disorders in adolescents.

6. GBI Administration. If after the above assessment, identified subjects do not show evidence of a pervasive developmental disorder, mental retardation, and an alcohol or a substance abuse disorder; those youngsters will be eligible for GBI assessment. For all eligible youngsters, at least one parent will complete the GBI as it pertains to their child's behavior for each study subject. In addition, adolescents aged 12-17 will be asked to complete a copy of the GBI as it pertains to them. A member of the research team will assist the adolescents in the completion of the GBI if they have difficulty understanding the questions posed in the GBI.

   Data Analyses the use of the GBI in the pre-adult years is limited. Since parents may be more reliable informants about adolescent behavior, and pre-adults may be more accurate informants about mood states, exploratory analyses will need to be performed in order to assess how the GBI may be best utilized in this population.

Financial Considerations Subjects will not be charged for any procedures done as part of this study. The families of subjects who complete the entire screening battery will be paid $25 per child in order to defray the cost of participating in this study.

Risks and Benefits Since this is a questionnaire study, the risk associated with this study is that associated with completion of questionnaires and diagnostic assessments. The risk of completing the study instruments is that of the emotional distress which may occur during the assessment process. This distress, when it does occur, is generally mild and transient. In addition, since this is a voluntary study, subjects will be allowed to terminate participation from this study at any time if the emotional upset caused by completing these assessments is too great. This comprehensive diagnostic assessment battery should take between 3.0.-3.5 hours to complete. Approximately 1-1.5 hours is spent with the youth, and approximately 2.0-2.5 hours is spent with the parent(s). For this reason, parents and youths may become fatigued.

Confidentiality As part of this study, the teacher who is most familiar with the youngster will be asked to complete a questionnaire regarding the youth's behavior. This is being done since it is often quite important for school behavior to be considered before finalizing clinical impressions about a youth with possible psychopathology. For this reason, we will ask a youth's teacher to complete a questionnaire as it pertains to the child/adolescent's school behavior and performance. In order to scrupulously ensure that the patient's confidentiality is adequately protected, no teacher will be contacted unless an additional written, signed release of information is obtained.

The results of these assessments will be kept strictly confidential unless an appropriate written release of information is provided by the subjects' guardian(s).

Study Justification
Accurately identifying psychopathology in youngsters is an important first step for possible enrollment in psychiatric prevention or treatment studies. The risks associated with the assessments of this study are minimal. Therefore, this study is justified.

REFERENCES

Achenbach TM, Howell CT, McConaughty SH, Stanger C: Six predictors of problems in a national sample: III. Transitions to young syndromes. J Am Acad Child Adolesc Psychiatry 1995, 34:658-669

Achenbach TM, Edelbrock CS, Manual for the Teacher's Report Form and Teacher Version of the Child Behavior Profile. Burlington: University of Vermont Department of Psychiatry, 1986

Andreasen NC, Endicott J, Spitzer RL, Winokur G. The family history method using diagnostic criteria: reliability and validity. Arch Gen Psychiatry 1977; 34:1229-1235

Byles J, Byrne C, Boyle M, Offord, D. Ontario Child Health Study: Reliability and validity of the general functioning subscale of the McMaster Family Assessment Device. Fam Proc 1988; 27:97-104.

Endicott J, Spitzer RL. A diagnostic interview: the Schedule for Affective Disorders and Schizophrenia Arch Gen Psych 1978; 35:837-844

Gracious B, Holmes WD, Ruppar N, Burke C, Baker J. Mania Rating Scale Reliability in Children and Adolescents, First Annual International Conference on Bipolar Disorders, Pittsburgh, PA, 1994

Kaufman J, Birmaher B, Brent D, Rao U, Flynn C, Moreci P, Williamson D, Ryan N. Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version (K-SADS-PL): initial reliability and validity data. J Am Acad Child Adolesc Psychiatry 1997; 36: 980-988

Klein DN, Dickstein S, Taylor EB, Harding K. Identifying chronic affective disorders in outpatients: validation of the General Behavior Inventory. J Consult Clin Psychol 1989; 57:106-111

Langbehn DR, Pfohl BM, Reynolds S, et al. The Iowa Personality Disorder Screen: development and preliminary validation of a brief screening interview. J Personality Dis 1999; 13:75-89

Poznanski EO, Freeman LN, Mokros HB. Children's Depression Rating Scale-Revised. Psychopharmacol Bull 1985; 21: 979-990

Rey JM, Singh M, Hung S, et al. A global scale to measure the quality of the family environment. Arch Gen Psychiatry 1997; 54:817-822

Robin A, Foster S. Negotiating Parent-Adolescent Conflict. New York: Guilford Press, 1989

Young RC, Biggs JT, Ziegler VE, Meyer DA. A rating scale for mania: reliability, validity, and sensitivity. Br J Psychiatry 1978; 133:429-435

APPENDIX B

Permission to Use Letter

March 8, 2012

To Whom it may concern:

This letter is documentation that I, Robert L. Findling, M.D., am granting Nancy Caito permission to use data collected in the "The Identification of Psychiatric Disorders in Children and Adolescents" study conducted in the Department of Psychiatry at University Hospitals of Cleveland for the purpose of her doctoral dissertation. The University Hospitals Case Medical Center Institutional Review Board for Human Investigation approved the procedures of this outpatient, single-site study. Written consent was provided by all parents/guardians of study participants. Oral assent was provided by all children participating in the study. All available data have been de-identified in this study.

Sincerely,

Robert L. Findling, M.D.
Professor of Psychiatry & Pediatrics
Director, Child & Adolescent Psychiatry
University Hospitals of Cleveland

APPENDIX C

IRB Approval

Cleveland State University
engagedlearning

Memorandum

Institutional Review Board

To: Sarah Toman
CASAL

From: Barbara Bryant
IRB Recording Secretary

Date: March 27, 2012

Re: Results of IRB Review of your project number: *#20536-TOM-HS*
Co-Investigator: Nancy Caito
Entitled: Relationship between family communication and comorbid diagnosis in youths diagnosed with Bipolar Disorder

The IRB has reviewed and approved your application for the above named project, under the category noted below. Approval for use of human subjects in this research is for one year from today. If your study extends beyond this approval period, *you must contact this office to initiate an annual review of this research.*

By accepting this decision, you agree to notify the IRB of: (1) any additions to or changes in procedures for your study that modify the subjects' risk in any way; and (2) any events that affect that safety or well-being of subjects. Notify the IRB of any revisions to the protocol, including the addition of researchers, prior to implementation.

Thank you for your efforts to maintain compliance with the federal regulations for the protection of human subjects.

Approval Category: **Date: March 26, 2012**

__X__ Exempt Review: Category b(2)

cc: Project file

APPENDIX D

Correspondence with University Hospital IRB

Subject: IRIS account request

Date: Tue, 21 Feb 2012 11:05:47 -0500

From: Meghan.Kulaszewski@UHhospitals.org

To: nancycaito@msn.com

Hi Nancy-

I ran your scenario through the IRB office and it has been determined that it would be appropriate for you to submit your project through Cleveland State's IRB rather than the UH IRB. Your affiliation is with CSU, you are not interacting with UH patients and the data you are receiving from UH is de-identified. All those things combined make it appropriate for you to submit to CSU's IRB instead.

What may be needed is a Data Use Agreement since you will be receiving UH data. I am following up with our grants and contracts people about whether or not this is needed and I will let you know what I find out.

Let me know if you need any additional information right now.

-Meghan

Meghan Kulaszewski, CCRP
University Hospitals Case Medical Center
Center for Clinical Research and Technology
11100 Euclid Ave.
Lakeside 1400
Cleveland, Ohio 44106
216-844-7388
meghan.kulas@uhhospitals.org

APPENDIX E

FAD Survey

FAD

Directions: These pages contain a number of statements about families. Please read each statement carefully, and decide how well it describes your own family. You should answer according to how you see your family. Try not to spend too much time thinking about each statement, but respond quickly and as honestly as you can. If you have trouble with one, answer with your first reaction. Please be sure to answer every statement and mark all your answers in the spaces provided next to each statement.

Strongly Agree (SA) — Check **SA** if you feel that the statement describes your family accurately.

Agree (A) — Check **A** if you feel that the statement describes your family for the most part.

Disagree (D) — Check **D** if you feel that the statement does not describe your family for the most part.

Strongly Disagree (SD) — Check **SD** if you feel that the statement does not describe your family at all.

		SA	A	D	SD
1.	Planning family activities is difficult because we misunderstand each other.				
2.	We resolve most everyday problems around the house.				
3.	When someone is upset the others know why.				
4.	In times of crisis we can turn to each other for support.				
5.	We cannot talk to each other about the sadness we feel.				
6.	We usually act on our decisions regarding problems.				
7.	You can't tell how a person is feeling from what they are saying.				
8.	Individuals are accepted for what they are.				
9.	People come right out and say things instead of hinting at them.				

FAD Continued…

		SA	A	D	SD
10.	We avoid discussing our fears and concerns.				
11.	It is difficult to talk to each other about tender feelings.				
12.	After our family tries to solve a problem, we usually discuss whether it worked or not.				
13.	We can express feelings to each other.				
14.	We talk to people directly rather than through go-betweens.				
15.	There are lots of bad feelings in this family.				
16.	We often don't say what we mean.				
17.	We feel accepted for what we are.				
18.	We resolve most emotional upsets that come up.				
19.	Making decisions is a problem for our family.				
20.	We are frank with each other.				
21.	We are able to make decisions about how to solve problems.				
22.	We confront problems involving feelings.				
23.	We don't get along well with each other.				
24.	We don't talk to each other when we are angry.				
25.	We confide in each other.				
26.	When we don't like what someone has done, we tell them.				
27.	We try to think of different ways to solve problems.				