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Multilevel Confirmatory Factor Analysis of the Family Adjustment Measure with Lower-Income, Ethnic Minority Parents of Children with Disabilities

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MULTILEVEL CONFIRMATORY FACTOR ANALYSIS OF THE FAMILY

ADJUSTMENT MEASURE WITH LOWER-INCOME, ETHNIC MINORITY PARENTS

OF CHILDREN WITH DISABILITIES

by

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ABSTRACT

Multilevel Confirmatory Factor Analysis of the Family Adjustment Measure with Lower-Income, Ethnic Minority Parents of Children with Disabilities

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The primary goal of this study is to add to the validation and psychometric development of the Family Adjustment Measure (FAM; Daire, Dominguez, Carlson, & Case Pease, 2014). The FAM is a treatment-planning tool to assist members of the helping profession assess four different areas in parental and family adjustment for parents of children with disabilities (i.e., parental distress, family-based support, social support, and positive coping skills). Previously, the FAM was normed on predominantly middle- to upper-class, Caucasian females. However, lower-income, ethnic minority families experience systemic prejudice and other contextual and social barriers in their experiences of raising a child with disabilities, that may not accurately be reflected in the original FAM model. Therefore, this study will utilize an archival data set from a federally-funded research grant, Project TOGETHER (To Offer Great Education That Harvests Enduring Relationships), to conduct a multilevel factor analysis on the FAM with a more diverse sample of parents of children with disabilities. Results of this study provided a new 16-item Family Adjustment Measure for Diverse Families (FAM-DF) that better reflected the experience of individual parents of children with disabilities, while accounting for couple influence on factor scores.

This dissertation is dedicated to Trevor R. O'Hare and the O'Hare Family.

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In particular, I would like to express my sincerest gratitude to my dissertation Chair, Dr. Jude Austin, for not only pushing me to grow professionally, but also facilitating my personal growth and to find my voice throughout a challenging time in my doctoral process. Dr. Austin has been an incredible asset in my doctoral experience and truly became a mentor and colleague for life. I would also like to thank my longtime mentor and committee member, Dr. Andrew P. Daire, for initially seeing my drive, determination, and potential to pursue scholarship in the field of counselor education. The professional, research, and personal experiences afforded to me by Dr. Daire and the Consortium for Family Strengthening Research team, including Dr. Ryan G. Carlson, Dr. Naomi Wheeler, Dr. Xun Liu, and Dr. Jenene Case Pease, have contributed to my dedication and service to the counseling field. Moreover, their mentorship has really shaped the kind of leader I want to be. These experiences instilled my passion to pursue projects that serve

high-needs families and contribute to the greater welfare of underserved populations. I would also like to thank other faculty members in the ODU Department of Counseling and Human Services that have offered me support and contributed to my professional development: Dr. Gülşah Kemer, Dr. Traci Richards, Dr. Jennifer Del Corso, Dr. Jeffry Moe, Dr. Jill Dustin, Dr. Kaprea Johnson, and Dr. Timothy Grothaus.

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I would like to conclude with a brief story on the Snowdrop flower, also known as the Kardelen. The myth goes: the Kardelen is the only living thing on Earth. Surrounded by wintery snow, the Kardelen is in love with the sun but has never seen it. The Kardelen prays for the opportunity to meet the sun. God answers the Kardelen's prayers but warns the flower that the moment the Kardelen meets the sun, it will perish. Despite this warning, the Kardelen wishes to the meet the sun and experience its love. All Kardelens gaze at the sun knowing that they are going to die and wilt away that very moment. The bravery of the Kardelen flower is unmatched. Regardless of what context you know the story of the Kardelen, its story is one of promise, hope,

and rebirth. For me, it is a story that reminds to pursue experiences in life, regardless of fear. It also serves as a reminder that each day there is work to be done and purpose to be fulfilled. My hope is that I can always push myself to achieve my fullest potential. My skills and life experiences have prepared me for continued personal and professional growth.

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CHAPTER ONE

INTRODUCTION

The purpose of this chapter is to introduce the proposed study. This chapter will include an overview of the current problem and the significance of the study. The research questions and design will also be introduced. The chapter will conclude with a review of the assumptions and limitations of the study, along with definitions of key terms.

The Problem

This study focuses on The Family Adjustment Measure Project (FAM; Daire, Dominguez, Carlson, & Case Pease, 2014) and its validity with more diverse populations. The FAM intended to assist helping professionals improve the quality of care offered to families of children with disabilities. This section will introduce the contextual struggles families of children with disabilities face, and the inadequacies of the FAM.

Recent estimates have shown that approximately one in six, or about 15%, of children aged 3 through 17 years have one or more disabilities in the United States (Boyle et al., 2011). These conditions can begin during the developmental period, they may impact day-to-day functioning, and are usually pervasive throughout a person's lifetime (CDC, 2013; Holm, 1989). Having a child with disabilities has an immense impact on the way a family copes and functions with childhood disability (Seligman & Darling, 2007). Disabilities are a group of conditions related to an impairment in physical, learning, language, and/or behavioral areas. Families of children with disabilities (e.g., autism spectrum disorder, cerebral palsy, downs syndrome, spina bifida, attention-deficit hyperactivity disorder, learning disorder, etc.) experience stressors that are completely unique from families of typically developing children (Daire, Munyon, Carlson, Kimemia, & Mitcham, 2011; Darling, Senatore, & Strachan, 2011; Yamada et al, 2007). This

stress can be related to the timing of diagnosis, developmental and milestone expectations, disciplining a child with disabilities, issues with school and social services, increased financial strain, misinterpretation of coping responses, and adjustment of other family members.

The Family Adjustment Measure (FAM; Daire, Dominguez, Carlson, & Case Pease, 2014) was developed to better assist the positive adjustment and family quality of life for families of children with disabilities. The FAM intended to help mental health professionals assess a multitude of aspects contributing to a family's response to childhood disability including child, family dynamics, ecological, and socio-cultural variables. This assessment tool allowed mental health professionals to tailor their treatments when working with families of children with disabilities. However, the FAM was normed on predominantly middle- to upper class Caucasian females. Despite the FAM's potential to capture a wide range of experiences for families with disabilities, it may not reflect the experiences of lower-income, ethnic minority families with disabilities.

Minority children have been found to be disproportionately identified as disabled and therefore, underrepresented in special education (CDC, 2008). Moreover, minority children are less likely than their similar White, English-speaking counterparts to be identified as disabled and to receive special education services (Barbarin, Sterrett, & Jigjidsuren, 2013; Delgado & Scott, 2006; Haight, Kayama, & Gibson, 2016; Harry, Arnaiz, Klingner, & Sturges, 2008; Morgan, Farkas, Hillemeier, Mattison, Maczuga, Li, & Cook, 2015). Lower-income, ethnic minority families experience systemic prejudice that results in their child's disability to be unfairly depicted as problematic and abnormal (Coutinho & Oswald, 2000; Harry et al., 2008; Hays, Prosek, & McLeod, 2010; Losen & Orfield, 2002). Furthermore, minority families of children with disabilities face greater systemic struggles compared to White families. These

struggles negatively impact their ability to adjust successfully. Members of the helping profession struggle to support these families especially those who lack the resources to make a difference in the child's and family's well-being (Ketelaar, Volman, Gorter, & Vermeer, 2008; Morgan et al., 2015).

Purpose of the Study

The purpose of this study is to expand the FAM's norming and validation on a diverse sample of parents of children with disabilities. Continued data collection and analysis will contribute to greater generalizability of the measure. Moreover, an assessment that accurately reflects the experiences of lower-income, ethnic minority families with disabilities will better equip professionals to assess and guide the focus of counseling. The researcher utilized Ecological Systems Theory as a theoretical foundation and Muthen's (1994) procedures for multilevel confirmatory factor analysis to validate the FAM on a new sample. This study shines light on treatment considerations for counselors working with lower-income, ethnic minority families with disabilities as well as bring more awareness of how these families can be better supported.

Research Questions and Hypotheses

As previously stated, the primary goal of this study is to add to the validation and psychometric development of the Family Adjustment Measure (FAM) with a more diverse sample of parents of children with disabilities. Previously, the FAM was normed on mostly middle- to upper-class, Caucasian females. Lower-income, ethnic minority families experience systemic prejudice and other contextual and social barriers in their experiences of raising a child with disabilities, which may not be accurately reflected in the original FAM model. The following research questions will guide this study:

Question One

Is the original Family Adjustment Measure (FAM) four-factor model reflected in a new sample (i.e., lower income, ethnic minority) of parents of children with disabilities?

Alternative Hypothesis One

The original FAM four-factor model found in EFA will be confirmed in CFA of a new sample of parents of children with disabilities.

Question Two

Is the factor structure (i.e., number of factors and factor loadings) underlying the FAM at the individual level similar to or different from the structure at the couple level?

Null Hypothesis Two

The factor structure (i.e., number of factors and factor loadings) underlying the FAM at the individual level will not be different from the structure at the couple level.

Question Three

Are the derived factors on the FAM internally consistent?

Null Hypothesis Three

The derived factors on the FAM are not internally consistent.

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Research Design

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The researcher conducted a multilevel confirmatory factor analysis, a type of structural equation modeling, to determine the relationships between observed measures (e.g., items) on the FAM and latent variables (e.g., factors). This study utilized an archival data set from a larger, federally-funded research grant that provided relationship education workshops to low- to moderate-income couples in a southeastern region of the United States. This study incorporated

demographic information including gender, age, ethnicity, highest level of education completed,

number of children with disabilities, and child disability area.

Assumptions and Limitations

This study was based on several assumptions. Since the primary data source is an

archival data set, it is assumed that all data were collected and distributed in an ethical manner.

This study utilized an archival data set of low- to moderate-income, ethnic minority couples who

attended relationship education workshops at a university in a southeastern region of the country.

Thus, it may not be generalizable to all low-to moderate-income, ethnic minority parents of

children with disabilities. Further, this study will address the assumption of independence. The

data from this research study was hierarchically structured, or the responses were collected from

participants who are in a couple, which can lead the researcher to incorrectly conclude that items

on the FAM are not unidimensional. The researcher utilized Muthen's multilevel confirmatory

factor analysis (MCFA) to address the issues of nested data (e.g., couples, supervisor and

supervisee, and counselor and client; Dyer, Hanges, & Hall, 2005; House, Hanges, Javidan,

Dorfman, & Gupta, 2004; Muthén, 1994).

In addition to these assumptions, this study also had limitations. This study utilized an ex

post facto research design, and thus, causation cannot be determined due to the researcher's

inability to manipulate variables that may influence study outcomes (Creswell & Creswell,

2017). Selection was also a limitation of the sample, as participants were recruited from local

non-profits utilizing different active recruitment strategies (e.g., gift card incentives, culturally

diverse staff, onsite childcare, and varied intervention schedule). Supportive services were

offered, including case management, to address any other barriers to retention such as unreliable

transportation, unstable housing and employment, relocations for better employment

opportunities, inconsistent cell phone, and no email. The literature shows these strategies help

mitigate contextual stressors that create additional challenges for recruitment and retention of

economically disadvantaged participants (Carlson et al., 2014; Ooms & Wilson, 2004). Lastly,

social desirability is a possibility with survey questions (Field, 2009).

Study Specific Terms and Definitions

Children and youth with special healthcare needs: Children and youth with special healthcare

needs "have or are at increased risk for chronic physical, developmental, behavioral or emotional

conditions and who also require health and related services of a type or amount beyond that

required by children generally." (McPherson, Arango, Fox, Lauver, McManus, Newacheck,

Perrin, Shonkoff, Strickland, 1998 as cited in Maternal and Child Health Bureau, 2017). For this

purpose of this study, the term *special healthcare needs* will be interchangeable with special

needs, developmental disabilities, and/or developmental delays.

Developmental disabilities: Developmental disabilities are defined as a group of conditions

related to an impairment in different areas including physical, learning, language, and/or

behavioral. These conditions originated during a person's developmental period, may impact

day-to-day functioning, and usually last throughout a person's lifetime (Center for Disease

Control and Prevention, CDC; 2013). For this purpose of this study, the term *developmental*

disabilities will be interchangeable with special needs, special healthcare needs, and/or

developmental delays.

Family quality of life: Quality of life is defined as the standard of health, comfort, and happiness

experienced by an individual or group (Felce & Perry, 1995). Park, Turnbull, and Turnbull

(2000) define family quality of life by 10 domains affecting both families as a whole, and

individual members: daily family life, family interaction, financial well-being, parenting,

advocacy. For the purpose of this study, *family quality of life* will be defined and used

interchangeably with parental and family adjustment for parents of children with disabilities.

Parental distress: Parenting distress occurs when parenting demands exceed the expected and

actual resources available to the parents that allow them to succeed in their role. For the purpose

of this study, *parenting distress* will refer to the influence of parental age, gender,

psychopathology symptoms, personality characteristics, and social cognitions with child factors

on parental stress (Deater-Deckard, Chen, & El Mallah, 2013).

Social support: Social support can include informal relationships such as friends, neighbors,

members of a faith community, or any type of unpaid relationship. These relationships are

instrumental in helping share the load of raising a child with special needs, providing respite

care, and these relationships can help shape a parent's well-being (Boehm & Carter, 2016). For

the purpose of this study, *social support* will refer to parents of children with disabilities having

relationships with extended family members, neighbors, friends, and any relationship that are not

contractually-based or paid support (e.g., counselors, doctors, physical therapist).

Professional Support: Professional support is generally defined as "occupations requiring special

training in the arts and sciences" that can include health professionals (e.g., physicians,

counselors, nurses, or other allied health professionals), lawyers, accountants, etc. Supportive

services include any counseling or behavioral interventions to improve treatment outcomes

(Office of Fair Trading, 2014). For the purpose of this study, *professional support* refers to any

service received by parents of children with disabilities that are contractually-based and/or paid

support (e.g., counselors, doctors, physical therapist, etc.)

Family and Relational Support: Two components of family-based support are family coherence,

or a family's acceptance, loyalty, pride, faith, trust, respect, caring, and shared values in stress

and problem management (Snowdon, Cameron, & Dunham, 1994). Second, is family hardiness, a family's ability to have a positive outlook on the future, faith that issues will be resolved, and accessing support services to promote emotional expression. Self-determination is an important aspect related to a family's perception of support and is critical for persons with disabilities to be able to live an independent and fulfilling life (Blustein, Carter, & McMillan, 2016).

Coping Skills: Positive coping skills encompasses areas of active coping strategies and positive adjustment skills such as communication and organization (Lustig, 2002).

Conclusion

This chapter introduced the current study. It provided an overview of the current literature on parental and family adjustment in special needs families, discussed the purpose of the study, the study's theoretical framework, and provided a list of study specific terms and definitions. The subsequent chapters will provide a more thorough review of the literature, explain the research questions and hypotheses, and describe the study's method design.

CHAPTER TWO

This chapter will provide an overview of relevant literature related to families of children with disabilities. First, an overview of disability culture through the lens of ecological systems theory will be provided. Next, the prevalence of families of children with disabilities will be reviewed along with socioeconomic and cultural implications on disability. Then, differences in the medical and social model view of disability as it relates to professional support will be explored, including what informs clinicians' work with these families. Finally, a review of factors that promote or hinder positive adjustment in raising a child with disabilities and its impact on family functioning will be provided.

Ecological Systems Theory

In this section, the Ecological Systems Theory (EST; Bronfenbrenner, 1979; 1992) frames the picture of families with disabilities, showing how these families are impacted on multiple levels. A discussion related to how the FAM (Daire et al., 2014) addresses the needs of families on these multiple levels.

Ecological Systems Theory (Bronfenbrenner, 1979; 1992) views human growth and development through the interactions individuals have with their surrounding environments and attempts to understand a person in the context of these multiple environments. This theory comprises multiple systems and sub-systems that are continuously evolving, adapting, and interacting with each other shaping the overall development of an individual or group. The subsystems start from the smallest, most immediate environment of an individual/group and expand outward to the broadest level (Figure 1). These subsystems include the microsystem, mesosystem, exosystem, macrosystem, and chronosystem. The interactions between an individual and these sub-systems are considered to be bidirectional transactions rather than linear

or cause and effect. The following will describe how the FAM aligns with EST to conceptualize the multiple domains contributing to the positive and successful adjustment of parents of children with disabilities. Furthermore, it will demonstrate the need to conceptualize lower-income ethnic minority parents of children with disabilities as their adjustment is influenced by their socioeconomic status.

Figure 1

Ecological Systems Theory
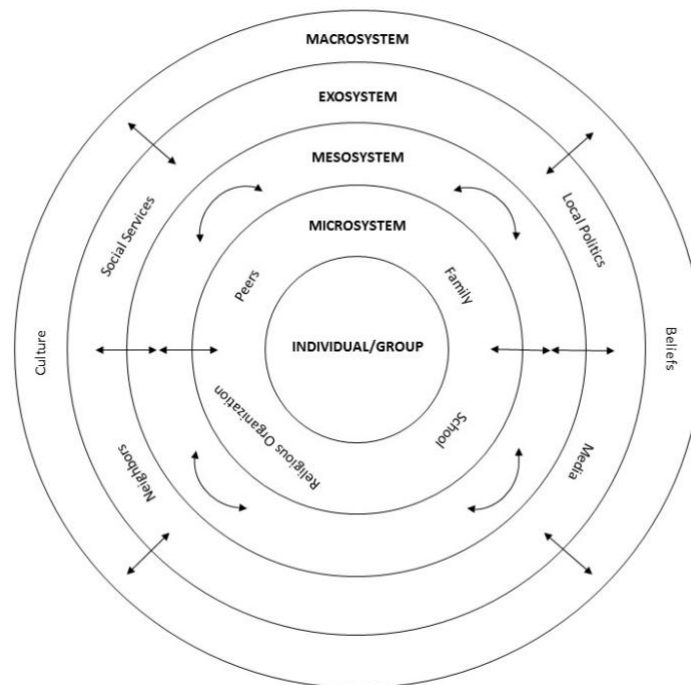
For families with disabilities, there are multiple interrelating factors that impact their positive adjustment; from access to social and informational support to couple and family dynamics that shape the meaning and experiences of family members which in turn, impact the development of the child with disabilities. Beginning with the microsystem, it is considered an individual or group's most intimate environment comprising their home, school, peer group, or community environment. Interactions occurring on this level often involve personal relationships

such as family members, friends, caregivers, etc. In the context of this study, families with disabilities are at the center of their mesosystemas. The FAM can determine the quality and access to relationships that promote their successful adjustment. The relationships these families have with each other and how they perceive and approach disability influence how well the family and child adapt. Environments that are more supportive and nurturing foster positive adjustment. Within the microsystem, a family's lived experience of interactions occurring on this level are important for shaping their meaning-making when raising a child with a disability (Bronfenbrenner, 1986).

Next, the mesosystem includes interactions of an individual's or group's different microsystems for which they are participating. Members of a family with disabilities interact with other's microsystems they are a part of, such as the child's school system, friend groups, healthcare providers, religious group, etc. The linkages between these settings define the mesosytem a family is situated in. Expanding from there, the exosystem contains linkages between the different settings an individual may or may not be an active participant in but are indirectly influenced by. At this level, interrelations between the individual/group and exosystem are bidirectional. For example, an event occurring in the exosystem, such as access to special education and their healthcare provider, can indirectly impact the family's microsystem, and vice versa. The macrosystem is the most distant collection of settings that influence an individual and/or group. Social constructions (i.e., gender roles, stereotypes) are examples of this as it shapes the way an individual or group of people define themselves and relate to others in society. For example, how disability is perceived on the societal level and aspirations a family may hold for their child with disabilities can be influenced by the larger social context they are situated in. Finally, the chronosystem incorporates the influence of time on the change and constancy of an

individual's environment. This includes changes in family structure, living arrangement, socioeconomic status level, war, and many other changes.

For the purpose of this study, the current structure of the FAM will determine if it accurately reflects the experience of lower-income, ethnic minority parents of children with disabilities. The following section will review how disability culture, as part of a family's exosystem, shapes the way healthcare providers understand and support families with disabilities.

Disability Culture

Culture shapes the way a group of people identify themselves on an individual and collective level. A group's cultural identity defines their values, beliefs, and practices (Blacher, Begum, Marcoulides, & Baker, 2013). Culture also shapes policies and local practices that are created to support people from intersecting identities including race, ethnicity, gender, sexual orientation, socioeconomic status, religion, and ability (Artiles, 2015). Disability culture goes beyond deficiency; it celebrates empowerment and social awareness. Disability culture is a civil rights movement. It challenges the norms of society and is geared toward challenging oppressive entities and promoting inclusion. The core values of this culture are reflected in art, conversation, goals, and actions. Some of these core values include: "an acceptance of human differences, an acceptance of human vulnerability and interdependence, a tolerance for a lack of resolution of the unpredictable in life, and a humor to laugh at the oppressor or situation, however dire it may be" (Gill, 1995; p. 165).

Disability culture improves the visibility of people with disabilities in the larger societal context. It also provides a platform for people with different abilities and disabilities to pursue their own, or shared goals (Brown, 2002). People with disabilities and other minority groups

share the common experience of being discriminated against and excluded from opportunities such as learning, participating in society, and living a fulfilling life. Disability culture offers disabled individuals with an opportunity to make sense of their experiences and formulate the way in which they perceive themselves and are perceived by others. It explores issues of equality, social justice, exclusion, citizenship and inclusion, and other factors that go beyond the issue of disability (Polat, 2011).

The birth of a child with a disability or discovery of a child's disability can have profound effects. Typically, the birth of a child can be an exciting and also stressful time in a family's life cycle. Parents begin to envision a future for their child's life from crawling, walking, advancing through their education, forming relationships, starting a career, and creating their own family. However, for parents and families of children with disabilities, their vision is forever changed. These changes can cause confusion, shame, anger, uncertainty, or shock upon learning about their child's diagnosis. Families of children with disabilities must learn to adapt their expectations for their child's success. That process of learning to adapt expectations can be a journey of change that shocks the family system beyond a family's anticipation. Potential impacts of disability on a family include increased financial strain, increased parenting and family distress, lack of social support, and increased risk for divorce and family fragmentation. Lower income, ethnic-minority families are even more vulnerable to the potential impacts of disability; their experiences are influenced by the intersection of race and disability. These families are at increased risk for stigmatization, being disproportionately represented with health disparities, and have less access to services. The following section will discuss two different approaches used to understand and support families of children with disabilities.

Medical versus Social Model View on Disability

In response to the growing prevalence of disabilities, efforts have been made to increase access to healthcare, education, and improve social services for people with disabilities (Haegele & Hodge, 2016; Terzi, 2005). Originally, disability was viewed through a moral lens; having and curing a disability was an act of higher power (Haegele & Hodge, 2016). Presently, services are envisioned and provided predominantly based upon two models, medical and social, in order to conceptualize, treat, and support people with disabilities and their communities (LoBianco & Sheppard-Jones, 2007). The medical model tends to view disability as a negative condition or deficiency, one in which any difficulties associated with the disability belong to the individual affected. The goal of the medical model is to develop interventions and treatments to better understand disability as it relates to illness (Bingham, Clarke, Michielsens, & Van de Meer, 2013; Seligman & Darling, 2009).

In contrast, the social model is more inclusive in nature and tends to view disability as a social problem. The social model espouses family-centered and strengths-based approaches to help individuals and their communities protect their human rights and overcome barriers related to disability (Blustein, 2012; Glicksman et al., 2017). The social view of disability recognizes that although there are health and physical-related conditions to disability, there are individual, sociocultural, and systemic influences as well. In this fashion, the model perspective places the goals of individuals and families affected by disability at the center of their treatment-planning and allows for increased control and choice in their lives. Thereby, helping professionals utilizing the social view on disability are better equipped to help individuals develop skills that are specific to the contextual factors they are placed in (Glicksman et al., 2017).

The social perspective on disability is useful for understanding disability on a systemic level (Farmer, Burns, Phillips, Angold, & Costello, 2003). Looking at large-scale social

processes has created opportunities for equality and inclusion for individuals with disabilities to participate fully in society (Glicksman et al., 2017). Policies such as the Americans with Disabilities Act (2008) and Individuals with Disabilities Education Act (IDEA, 2004; National Dissemination Center for Children with Disabilities, 2012) have allowed individuals, families, and parents to advocate for disability rights improving legislation, treatment, educational opportunities, resources as well as more inclusive societal attitudes toward disability (Lawson & Cmar, 2016; Seligman & Darling, 2009). This shift has improved the quality of life for individuals and families affected by disability. Despite the improvement, there are still many social and cultural challenges that impact this community, especially for families of children with disabilities. For families, the birth of a child with disabilities creates difficult challenges. These challenges range from understanding and navigating a child's developmental milestones to how raising a child with disabilities impacts family functioning (Fareo, 2015; Holmbeck & Devine, 2010; Kandel & Merrick, 2007). The following section focuses on the prevalence of families with children who have disabilities.

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Prevalence of Families of Children with Disabilities

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Disabilities are a group of conditions related to an impairment in physical, learning, language, and/or behavioral areas. These conditions can begin during the developmental period, they may impact day-to-day functioning, and are usually pervasive throughout a person's lifetime (CDC, 2013; Erickson, Lee, von Shrader, 2014; Holm, 1989). The Centers for Disease Control (CDC, 2015) reported between 2006 and 2008, approximately 1 in 6 children in the U.S. being diagnosed with a disability. More recently, the U.S. Department of Education (DOE, 2018), reported during the 2013-14 school year, special education services were provided to approximately 6.5 million public school students ages 3–21.

Childhood disabilities range from high incidence impairments to ones that are less prevalent in the population (Seligman & Darling, 2009). The CDC (2015, 2016) captured the range of disabilities reported by parents or legal guardians between 1997 and 2008. Parents and legal guardians reported the following conditions: Attention Deficit Hyperactivity Disorder (ADHD), autism spectrum disorder (ASD), blindness, cerebral palsy (CP), moderate to profound hearing loss, intellectual disability, learning disorders, seizures, and stuttering/stammering. The CDC found some disabilities were more widespread, such as ASD increasing 289.5% and ADHD increasing 33%. Males were twice as likely to be diagnosed with any disability and had higher prevalence of ADHD, autism, learning disabilities, and stuttering/stammering.

For minorities with disabilities, they are disproportionately represented with health disparities. The Centers for Disease Control (CDC, 2008) report between 2004-2006 that Black, Hispanic, and Native Americans with a disability reported fair or poor health at disproportionately higher rates than White- and Asian-Americans. Hispanic children had lower prevalence of several disorders compared to non-Hispanic Caucasian and non-Hispanic Black children, including ADHD and learning disabilities. But Non-Hispanic Black children had higher prevalence of stuttering/stammering than non-Hispanic Caucasian children. Children who were underinsured or had Medicaid were twice as likely to be diagnosed with a disability in comparison to those with private insurance. Also, children from families with income below the federal poverty level had a higher prevalence of disabilities (CDC, 2015, 2016).

In the United States, minority children attending elementary and middle school have been found to be over- or under-identified as disabled and therefore, disproportionately represented in special education. Moreover, minority children are less likely than their similar White, English-speaking counterparts to be identified as disabled and to receive special education services

(Barbarin, Sterrett, & Jigjidsuren, 2013; Delgado & Scott, 2006; Haight, Kayama, & Gibson, 2016; Harry, Arnaiz, Klingner, & Sturges, 2008; Morgan, Farkas, Hillemeier, Mattison, Maczuga, Li, & Cook, 2015). Lower-income, ethnic minority families experience systemic prejudice that results in their child's disability to be unfairly depicted as problematic and abnormal (Coutinho & Oswald, 2000; Harry et al., 2008; Hays, Prosek, & McLeod, 2010; Losen & Orfield, 2002). These figures capture a portion of the population with disabilities on the rise. This rise demands greater specialized services to support children with disabilities and their families, especially those who lack resources (Ketelaar, Volman, Gorter, & Vermeer, 2008). The following section highlights the quality of life for families with disabled children.

Family Quality of Life and Child Disability

Families of children with disabilities experience stressors and challenges that, at times, exceed the levels of stress experienced by parents of typically developing children (Daire, Munyon, Carlson, Kimemia, & Mitcham, 2011; Darling, Senatore, & Strachan, 2011; Yamada et al, 2007). Some of these stressors include increased financial strain, less quality time together as a couple, and misinterpretation of coping responses (Lyons, Leon, Roecker Phelps, & Dunleavy, 2010; Park, Turnbull, & Turnbull, 2002; Russell-Chapin, Chapin & Sattler, 2001). Additionally, parents of children with different types of disabilities (e.g., ASD) are often at higher risk for divorce than those with typically developing children (Hartley et al., 2010; Risdal & Singer, 2004).

Quality of life is defined as the standard of health, comfort, and happiness experienced by an individual or group (Felce & Perry, 1995). Park, Turnbull, and Turnbull (2002) define family quality of life by 10 domains affecting both families as a whole, and individual members: daily family life, family interaction, financial well-being, parenting, advocacy, health, productivity,

emotional well-being, physical environment, and social well-being. The domains that comprise family quality of life outlined by Park et al. (2002) can change as family members go through life. In addition, both the individual members and domains can influence each other. For example, having low economic resources impacts the family's daily activities such as having fun and spending time together, important for family harmony and cohesion. In turn, this discord experienced within the family can create individual and relational distress between family members, the parents, and relationship between parents and child with the disability. This distress creates further challenges of managing aspects of the child's disability, such as the child's behavior (Crea, Dissanayake, & Hudry, 2016; Robinson & Neece, 2015). Families of children with disabilities achieve quality of family life when individual members' needs are fulfilled, there is harmony and cohesion, and members can enjoy activities they value (Park et al., 2003). Park and colleagues (2003) suggest that support services for these families should address the family as an entire unit in order to provide optimal quality enhancement.

Davis and Gavidia-Payne (2009) found the strongest predictor for family quality of life for families of children with disabilities, were parents' perceptions and experiences of professional support. Quality of life is also enhanced when parents had support from extended family members. These relationships helped parents improve their perspective on the intensity of their child's behaviors. In turn, multiple factors such as parents' perceptions and beliefs about their child's disability, the family's socio- and cultural background, and access to professional support influence a child's ability to live independently and increase control over their own lives (Blustein et al., 2016). Mental health professionals can maximize their impact by considering how different factors influence the overall well-being of families of children with disabilities and in turn how they are influencing the child with disability. The intersection of child development

and quality of life are closely connected to family systems theory, which focuses on family interaction and how family members impact one another (Derguy, Michel, M'bailara, Roux, & Bouvard, 2015; 2016). There is a relationship between parental and family adjustment, and child's developmental success (Crea et al., 2016). Families who are physically and psychologically healthy are better equipped to facilitate and promote child well-being and growth (Rosenbaum, King, Law, King, & Evans, 1998).

Positive parental and family adjustment is also related to access to financial resources and income. Families of children with disabilities with higher income levels have greater emotional well-being and parenting satisfaction (Elder, Nguyen, & Caspi, 1985; Park et al., 2002; Yau & Li-Tsang, 1999). This is due to families having more available resources to manage and cope with potential issues regarding their child's disability (Scorgie, Wilgosh, & McDonald, 1998). Park, Turnbull, and Turnbull (2002) examined the impact of poverty on different domains of quality life for families of children with disabilities. These domains range from physical health, hunger, undernutrition during pregnancy, and access to healthcare. Parents of children with disabilities are more likely to spend time and money on health-related expenses than parents of typically developing children over a 6-month period (Daire et al., 2011). In general, families lacking financial resources struggle, but for families of children with disabilities, the lack of financial resources may place more strain on relationships and family functioning.

Single parent families are even more vulnerable to this strain than married parents. Parish, Rose, Swaine, Dababnah, and Mayra (2012) compared differences in financial well-being among single mothers of children with disabilities to single mothers of typically developing children and married mothers of children with disabilities. Single mothers of children with disabilities, when compared to the other groups, were more likely to be poor, be an ethnic

minority, lack a high school diploma, lack a stable paying job, live in poverty, reside in homes with multiple generations, and have less savings. Financial well-being is critical for parents of children with disabilities, especially single parents. Raising a child with disabilities requires more financial resources for things like doctors' visits, physical therapy, medical costs, and other support services depending on the child's specific needs. There are multiple negative consequences of poverty for both single mothers and their children with disabilities including behavioral, academic, emotional well-being, and physical well-being (Park, et al., 2002).

Poverty also impacts a family's ability to participate in and contribute to useful and enjoyable daily activities that are important for overall well-being (Park et al., 2002). Poverty effects children with disabilities' cognitive development and is related to underachievement. It also effects a family's leisure, recreation, and restricts their ability to play and socialize. This is due to lower-income families of children with disabilities having limited access to programs and events that allow them to bond as a family (Crawford, 1989; Samuel, Rillota, & Brown, 2012). Families in poverty are less likely to have a safe and comfortable environment which in turn impacts their productivity, emotional well-being, and health of all the members. When compared to children from non-poor families, children in poverty are less likely to grow up in safe childcare conditions, schools, play areas, and to be exposed to positive adult role models (Parish et al., 2012). Children who grow up in less safe neighborhoods are at increased risk for externalizing behavioral problems which impacts parental and family stress levels (Duncan, Brookes-Gunn, & Klebanov, 1994).

Financial strain impacts a family's stress levels, adaptability, and self-esteem. Parenting a child with disabilities already comes with stressful challenges, but the stress is compounded when a family is in poverty. Less family income reduces a family's available options to help

them cope with the stressors of raising a child with disabilities (Scorgie et al., 1998). Financial strain can be assessed on a systemic and individual level (Park et al., 2002). Systemically, counselors can collaborate with communities to create opportunities and services for families of children with disabilities who are in poverty. On the individual level, counselors can assess how poverty creates physical, emotional, and social barriers for families of children with disabilities to thrive.

Family-centered and strength-based approaches have gained considerable attention in recent years as important components of service delivery for mental health professionals (Dempsey & Keen, 2008; Lawson & Cmar, 2016; Rutherford Turnbull, Beegle, & Stowe, 2001). These approaches recognize that families are unique entities, the center of a child's life, and parents are key players in a child's abilities and needs. In this approach, parents play an active role in their child's care and therefore should be the focus of services being provided. The focus of services is on creating a respectful and supportive environment and providing parents with pertinent information regarding their child in order for them to make informed decisions they regard as important for their family (Freedman & Boyer, 2000; Rosenbaum et al., 1998).

Professional Support and Families of Children with Disabilities

Research supports mental health counselors' ability to address the social and cultural challenges these families face. Through systematic evaluation of families' needs, mental health professionals can help these families identify their existing support, such as, counseling, environment, childcare, respite care, or access to social services. In addition, counselors can help families identify and develop new environmental resources; in particular, those related to family relations and communication (Derguy et al., 2015; 2016).

There has been a shift in how service providers conceptualize families of children with disabilities to include multiple interconnecting factors impacting family functioning (Gardiner & Iarocci, 2012; Lawson & Cmar, 2016). In addition, the services provided are less child-centered and more focused on how child disability impacts the entire family system (Weiss et al., 2013). Recent studies show that parents of children with disabilities and their families cope better when they have increased access to resources. The potential for caregiver burden increases when parents have less access to these supports. (Hall et al., 2012; Jovanova & Radojichik 2013; Kishore, 2011; Resch, Benz, & Elliot, 2012). Paster, Brandwein, and Walsh (2009) state that parents of children with disabilities utilize coping strategies that involve looking for social support more frequently than parents of typically developing children. Studies have linked parental stress levels to the quality of support received for them and their child and parents' satisfaction with these services has been a main consideration in understanding their quality of life (Moh & Magiati, 2012; Hall et al., 2012).

One study, conducted by Robert, LeBlanc, and Boyer (2015) examined parents' perceptions of support services for their child with disabilities. They found that, overall, parents did not have concerns regarding the quality of the relationship with their service provider, but more so experienced concerns with how issues (e.g., managing behavioral problems, improving communication, and daily tasks) were addressed. Parents experienced services more positively when professionals provided them with concrete information on understanding their child's disability and collaborated with the parent as an expert on their child's concerns. However, parents were unsatisfied when there was a change in the service provider, if services were delayed, if treatment mismatched the needs of the child and family, and when certain services were inaccessible due to their child's diagnosis (Robert, LeBlanc, & Boyer, 2015).

This underscores the importance of counselors' role to provide services addressing a wide array of factors effecting families' ability to adapt to the daily tasks of raising a child with disabilities (Derguy et al., 2015). Families of children with disabilities experience greater stress than other families and the unique challenges these families face impact different aspects of their quality of life (Families Special Interest Research Group of the International Association for the Scientific Study of Intellectual and Developmental Disabilities, 2014). The ongoing assessment of the different areas impacted by stress is important for professionals working with these families to promote positive parental and family adjustment. Davis and Gavidia-Payne (2009) study showed that professional support was one of the strongest predictors of quality of family life. Recently, quality of family life has been a central focus of mental health counselors' service delivery for families of children with disabilities (Bailey et al., 1998; Brown, Anand, Fung, Isaacs, & Baum, 2003; Dunst & Bruder, 2002; Park et al., 2003; Summers et al., 2005).

Mental Health Counselors and Families with Disabilities

Parents of children with disabilities benefit from working with mental health counselors and other professionals trained to assist them in identifying needs and securing the additional support to offset their unique challenges and stressors (Lyons et al., 2010). However, specific treatment referrals and appropriate services are rarely offered to the parents by healthcare providers and agencies (Spratt, Saylor, & Macias, 2007). Parents also lack the time to attend to their own mental health needs due to the high number of health and medical visits for their child (Daire et al., 2011). Hung, Wu, and Yeh (2004) recommended that practitioners use screening instruments to assess distress levels of parents of children with disabilities early in the treatment process in order to broaden the scope of services offered beyond the traditional medical model.

Typically, the focus of mental health counseling for families of children with disabilities has been on negative experiences. Counselors frequently utilized assessment measures containing only negative dimensions of family functioning, with the most frequently used assessments being the Center for Epidemiological Studies – Depression Scale (Radloff, 1977) and Parenting Stress Index (Abdin, 1990). Typically, the focus of treatment for these families is on potential risk factors and problems they face without considering the family's potential for adaptability and resiliency (Gardiner & Iarocci, 2012). Assessments that typically inform counselors' approach focused solely on negative aspects of family functioning, including depression, caregiver burden, and pessimism. Unfortunately, these assessments do not capture the full scope and richness of the experiences faced by families with disabilities. Especially for lower-income, ethnic minority families. Moreover, these assessments are typically normed on the dominant members of society and do not factor the additional contextual and social barriers that lower-income, ethnic minority families face.

There is a need for an assessment measure to capture the full scope of positive and negative experiences for families of children with disabilities (Gardiner & Iarocci, 2012). Utilizing an assessment that also focuses on a family's potential for adaptability and resilience can inform services provided as they transition through the family life cycle (Samuel et al., 2012; Weiss et al., 2013). The Family Adjustment Measure (FAM; Daire et al., 2014) is one such measure that captures both protective and risk factors for families of children with disabilities.

The Family Adjustment Measure (FAM)

The original data collection for the FAM Project occurred between the years 2009 and 2011. The project aimed to improve the knowledge and the service delivery considerations of mental health counselors supporting families of children with disabilities and provide a framework in which professionals can approach parents of children with different disability types. The original FAM Project used Lustig's (2002) domains. Lustig (2002) identified several strategies useful for positive parental and family adjustment in special needs families. These strategies were synthesized and organized into seven areas (Social Support, Positive Coping Skills, Religious Coping, Parental Responsiveness, Marital and Relationship Harmony, Family Cohesion, Moderating Behavior Problems, and Effective Parenting) representing four domains: Social Support, Positive Coping Skills, Family and Marital Adjustment, and Effective Parenting.

The FAM Project resulted in a comprehensive assessment tool measuring multiple domains of family adjustment in families with disabilities. An Exploratory Factor Analysis (EFA) yielded a 30-item treatment-planning tool designed to assess four domains of family adjustment in parents of children with special needs: (a) FAM Parental-Distress, (b) FAM Family-Based Support, (c) FAM Social Support, and (d) FAM Positive Coping Skills. Concurrent validity was used to establish how well the new subscales correlated with previously validated assessments including the Relationship Assessment Scale (RAS; Hendrick, 1988; Hendrick, Dicke, & Hendrick, 1998) and Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983). The following sections outlines the FAM's four domains.

Parental distress. Parenting a child with disabilities can be distressing, especially when more time and effort are required in the parenting role. Relationship satisfaction is also compromised when couples experience greater parenting distress related to their child's

behavioral problems (Robinson & Neece, 2015). Deater-Deckard, Chen, and El Mallah (2013) consider parenting stress a normal part of the parenting experience. Parents experience distress in their role when demands exceed the expected and actual resources available to them. Different frameworks conceptualize parenting stress including relationship- and hassle-focused theories offering unique and complementary perspectives on the causes and consequences of parental stress. Relationship-focused theories say parenting stress results from various factors, including the parent, the child, and the qualities of their relationship. Hassle-focused theories focus on the various stressors that arise when raising young children or adolescents.

Other theories consider the influence of parental age, gender, psychopathology symptoms, personality characteristics, and social cognitions with child factors on parental stress (Deater-Deckard et al., 2013) For example, child's gender has been shown to influence mothers' perception of their parenting efficacy and expectations of their child's problematic behaviors over time (Pastor-Cerezuela, Fernández-Andrés, Tárraga-Mínguez, & Navarro-Peña, 2016). Parenting self-efficacy is connected to important aspects of parental well-being including parenting stress and feelings of worthlessness (Jones & Prinz, 2005). This is especially true for mothers; when they feel confident in their parenting role, mothers are more likely to engage in parenting practices when faced with caregiver challenges. For parents of children with disabilities, parenting distress is greater when there is less satisfaction, social support, and commitment in their relationships (Brobst, Clopton, and Hendrick, 2009). The quality of relationships between parents and between parents and their child also influences perceived distress (Pastor-Cerezuela et al., 2016).

Family-based support. Another area related to parental and family adjustment is family-based support. This encompasses marital harmony, loyalty, and respect within the family and

spousal relationship. Two components of family-based support are family coherence, or a family's acceptance, loyalty, pride, faith, trust, respect, caring, and shared values in stress and problem management (Snowdon, Cameron, & Dunham, 1994). Second, is family hardiness, a family's ability to have a positive outlook on the future, faith that issues will be resolved, and accessing support services to promote emotional expression. Self-determination is an important aspect related to a family's perception of support and is critical for persons with disabilities to be able to live an independent and fulfilling life (Blustein, et al., 2016).

      Social support. Social support is one of the primary resources to help parents cope with the stress they experience in raising a child with disabilities (Benson, 2006; Boyd, 2002; Seligman & Darling, 2009). Social support can include informal relationships such as friends, neighbors, members of a faith community, or any type of unpaid relationship. These relationships are instrumental in helping share the load of raising a child with special needs, providing respite care, and these relationships can help shape a parent's well-being (Boehm & Carter, 2016). When compared to having relationships with extended family members and paid supports (e.g., counselors), informal relationships offer a unique type of support that goes beyond the static relationships with family members and the potential eligibility and fiscal requirements of paid support. When parents lacked access to social support, they were at increased risk for depression, especially among mothers of young people with intellectual disability (Kyzar, Turnbull, Summers, & Gómez, 2012). Boehm and Carter (2016) explored the importance of these informal relationships for parents of children with autism. Their findings demonstrated the need for parents to be able to identify who in their life fulfills this role already, their perceptions of these informal relationships, and the supports exchanged within these relationships.

Friendships and other relationships occurring outside of the family are shown to help parents cope with the challenges of raising a child with developmental disabilities. Having more social relationships within a different context were associated with higher ratings of psychological well-being (Benson & Kersh, 2011; Mak & Kwok, 2010) and both child pro-social behavior and parenting efficacy (Benson & Kersh, 2011). Lower ratings of availability were correlated with higher ratings of affiliate stigma, depressed mood, and parent stress. Parents reported more family cohesion when they had greater access to outside friendships (Altiere & von Kluge 2009; Benson & Kersh, 2011; Mak & Kwok, 2010).

The variety of support exchanged within these informal relationships include resources such as emotional, physical, material, and informational support (Kyzar, Turnbull, Summers, & Gómez, 2012). Identifying how parents describe the various supports they receive and give to others, could help counselors or other professionals better understand what makes these relationships so supportive. A clearer understanding of the various approaches used to assess informal relationships could enhance future family support research. The Family Adjustment Measure (FAM; Daire et al., 2014) offers one way for counselors and professionals to help parents identify the areas in their life that provide support and understand what makes these relationships particularly satisfying. Likewise, the FAM can help parents who may not be aware of these relationships or those who lack them be able to realize how important they are in providing resources for coping.

Positive coping skills. Lustig (2002) indicates numerous strategies for well-adjusted families of children identified with a disability. Strategies such as approach vs. avoidance behaviors, positive reframing, re-evaluation, redefining, high sense of self mastery, self-esteem, optimism, use of humor, distribution of caregiver burdens, social involvement, and spousal

support have all demonstrated positive outcomes for families of children with disabilities. The ability to sustain the determination to succeed, to maintain a sense of personal and family adequacy and competence, and to tolerate ambiguity at times are all cognitive strategies that proved beneficial to family adjustment. Positive coping skills encompasses areas of active coping strategies and positive adjustment skills such as communication and organization.

Woodman and Hauser-Cram (2013) investigated the frequency of coping strategies used by mothers of adolescent children with disabilities and the extent to which those coping strategies helped moderate the relationship between their child's behavioral problems and aspects of maternal well-being. Mothers who frequently used active coping, planning, and positive reinterpretation/growth strategies to manage their depressive symptoms were less impacted by their adolescent's behavioral problems. However, problematic behaviors had greater impact on their depressive symptoms when mothers used behavioral/mental disengagement strategies. The FAM helps to identify what types of coping are present in a family as well as what skills may be lacking.

<div align="center">**Shortcomings of the FAM**</div>

The FAM was normed on predominantly middle- to upper class Caucasian females. Despite the FAM's potential to capture a wide range of experiences for families with disabilities, it may not reflect the experiences of lower-income, ethnic minority families with disabilities. For example, items on the different FAM domains may not accurately reflect how culture and contextual stressors impact the experiences of lower-income, ethnic minority parents of children with disabilities. The researcher may need to design a modified version of the FAM that considers the perceptions and unique challenges this population faces. The following section will show how the current study will attend to the shortcomings of the FAM.

Current Study

As the extant literature suggests, parental and family adjustment for special needs families is multifaceted. There is a need for a comprehensive, treatment-planning tool counselors can use to create targeted interventions in supporting these families. The FAM was created in response to this need. The FAM was intended to be used to help mental health professionals support these families. However, the original FAM study included a sample that was fairly homogeneous with a disproportionate amount of middle-class, Caucasian females.

Therefore, the purpose of this current research project is to utilize a more diverse sample to add to the validation and psychometric property of the Family Adjustment Measure (FAM). The researcher utilized a subsample from a larger, four-year, federally-funded grant – Project TOGETHER (To Offer Great Education That Harvests Enduring Relationships). The continued analysis of FAM in this study contributes to greater generalizability of the measure. This study continued to bridge gaps for mental health counselors or other professionals interested in working with families of children with disabilities.

Conclusion

This chapter provided an overview of the literature on families of children with disabilities, factors that promote positive parental and family adjustment, and counselors' role in supporting these families. This chapter identified gaps in the literature and ended with an overview of the proposed study.

CHAPTER THREE

METHODOLOGY

The primary goal of this study is to add to the validation and psychometric development of the Family Adjustment Measure (FAM; Daire et al., 2014) with a more diverse sample of parents of children with disabilities. Previously, the FAM was normed on mostly middle- to upper-class, Caucasian females. However, lower-income, ethnic minority families experience systemic prejudice and other contextual and social barriers in their experiences of raising a child with disabilities, which may not accurately be reflected in the original FAM model. This chapter will provide an overview of the methodology for the study. The research questions and hypotheses, research design, participants, data collection procedure, and data analysis techniques will be discussed in further detail. This chapter will conclude with a discussion of the study limitations.

Research Questions and Hypotheses

Question One

Is the original Family Adjustment Measure (FAM) four-factor model reflected in a new sample (i.e., lower income, ethnic minority) of parents of children with disabilities?

Alternative Hypothesis One

The original FAM four-factor model found in EFA will be confirmed in CFA of a new sample of parents of children with disabilities.

Question Two

Is the factor structure (i.e., number of factors and factor loadings) underlying the FAM at the individual level similar to or different from the structure at the couple level?

Null Hypothesis Two

The factor structure (i.e., number of factors and factor loadings) underlying the FAM at the individual level will not be different from the structure at the couple level.

Question Three

Are the derived factors on the FAM internally consistent?

Null Hypothesis Three

The derived factors on the FAM are not internally consistent.

<div align="center">Research Design</div>

The research design was psychometric and causal-comparative in nature. Using the development and evaluative problem-solving method (Kline, 2015), the researcher tested the reliability and validity of the Family Adjustment Measure (FAM) with a broader, more diverse sample of parents of children with disabilities. The original Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) yielded a 30-item treatment-planning tool designed to assess four domains of family adjustment in parents of children with disabilities: (a) FAM Parental-Distress, (b) FAM Family-Based Support, (c) FAM Social Support, and (d) FAM Positive Coping Skills. However, the FAM was normed on mostly middle- to upper-class, Caucasian females (Daire et al., 2014).

The researcher conducted a multilevel confirmatory factor analysis (MCFA) to account for the hierarchal structure of the nested data being used. Since data was collected as part of couples attending a relationship education workshop program, the researcher will examine both the individual and couple level to gain the best model fit of the FAM. Model fit indicates the absolute fit of the FAM model to the data, or how close the observed data points of the FAM are to the model's predicted values (Dyer et al., 2005; House et al., 2004; Muthen, 1994). Demographic information will be incorporated, including gender, age, ethnicity, highest level of

education completed, relationship status, number of children with disabilities, and child disability area.

The Setting

The researcher utilized a subsample of a larger, four-year, federally-funded project - Project TOGETHER (To Offer Great Education That Harvests Enduring Relationships). Project TOGETHER took place at a large university, where the university institutional review board reviewed and approved all protocols to ensure ethical treatment of human subjects. This initiative was funded through the Department of Health and Human Services, Administration for Children and Families, Office of Family Assistance. The project aimed to provide relationship education (RE) to low- and moderate-income, ethnic minority couples in a southeastern community. RE is a brief, strength-based psychoeducational intervention that had positive impacts on relationship quality, commitment, and communication skills for low-income couples (Hawkins & Fackrell, 2010).

Project TOGETHER offered different relationship education programs for participants to attend either as a couple or individually, regardless of relationship status. Participants included in this study identified being in a committed relationship (married or unmarried) and attended together as a couple. These participants received the 12-hour Prevention and Relationship Enhancement Program (PREP) curriculum called *Within Our Reach* (WOR; Stanley & Markman, 2008). WOR is a cognitive-behavioral, skill-based program that teaches strategies to enhance communication, conflict resolution, and problem solving. Couples learned how to prevent, and more effectively manage, potentially harmful relationship issues. Research on PREP's WOR has proven its effectiveness in strengthening relationship functioning, increasing relationship satisfaction, and decreasing distress at the individual and relational levels (Carlson,

Rappleyea, Daire, Harris, & Liu, 2015; Carlson, Daire, & Bai, 2014; Daire et al., 2012; Halford, Sanders, & Behrens, 2001; Hawkins, Blanchard, Baldwin, & Fawcett, 2008).

Participant Characteristics

Parents of a child(ren) with disabilities in a committed relationship (married or unmarried) and 18 years of age or older contributed data to this study. A subsample total of 204 participants and 102 opposite-sex couples from Project TOGETHER contributed data for this study. Of the total, 61.3% identified as Hispanic/Latino and 36.3% identified as Non-Hispanic. The breakdown of participant race was as follows: 18.1% Black/African American, 1.5% Asian-American, 32.4% as White, and 41.2% as Other. Mean scores and standard deviations for the participants' variables of interest included (a) age at 37.54 ($SD = 7.45$), average monthly income at $1350.85 ($SD = 1322.96), and years of education at 13.60 ($SD = 2.47$). The mean age of children with disabilities was 11.37 ($SD = 7.99$), and the mean and standard deviation for number of kids with disabilities was 1.28 and 0.63 respectively, with 37.4% ($n = 138$) girls and 59.9% ($n = 221$) boys. Approximately 17.9% ($n = 66$) of parents reported their child's disability in the area of physical development, 22.8% ($n = 84$) in cognitive development, 33.1% ($n = 122$) in communication development, 12.7% ($n = 47$) in adaptive development.

Data Collection Procedure

As part of a larger, federally-funded grant, this study selected a subsample of parents who completed the FAM as part of their workshop attendance. Project TOGETHER was operated by multiple interconnected teams, including Data Quality Assurance, Family Support Services, Recruitment Staff, Relationship Educators, Childcare Staff, and Undergraduate and Graduate Research Assistants. The archival data were collected during Years 1-3 of Project TOGETHER. Project staff recruited participants through collaborative partnerships with local non-profits,

agencies, and at local community events that served low- to moderate-income individuals and families. Project staff utilized several different active recruitment strategies such as gift card incentives, culturally diverse staff, onsite childcare, and varied intervention schedule (Carlson et al., 2014). In addition, supportive services were offered, including case management, to address any other barriers to retention such as unreliable transportation, unstable housing and employment, relocations for better employment opportunities, inconsistent cell phone, and no email. The strategies have been shown to help mitigate contextual stressors that create additional challenges for recruitment and retention of lower income participants (Carlson et al., 2014; Ooms & Wilson, 2004).

Participants in Project TOGETHER were required to be 18 years of age or older, be able to read and write in English or Spanish, and with no active intimate partner violence, substance abuse, or serious mental illness. Project staff contacted interested participants to assess for availability, continued interest, and language preference for program engagement. The project offered services in both Spanish and English. Relationship education workshops were offered in different formats and participants indicated their preference between two consecutive Saturdays, or a four-week period in four, three-hour sessions either consecutively on a weekday or on consecutive Saturdays. Project TOGETHER workshops were conducted by a female/male co-facilitation team, in a group-setting, along with didactic instruction techniques. Participants in this study all participated in the four-week format across four, three-hour sessions.

Before the RE intervention began, participants completed the intake process and study assessments during the group intake that occurred the first evening of a workshop. Participants completed post-assessments at the beginning of the last RE class. Additionally, each participant received $25 Walmart gift cards for intake completion and another $50 incrementally throughout

the program completion process. The majority of participants reported low- to moderate-income. Providing gift cards was helpful and necessary for participants to offset costs associated with participating in the program (e.g. gas, tolls). Finally, as part of best practices for program retention with economically disadvantaged participants, Project TOGETHER provided meals, gift cards, onsite childcare, case management services, referral to in-house counseling services, and referrals to external community partners (Hawkins & Ooms, 2012; Ooms, 2007; Ooms & Wilson, 2004). The project employed a culturally diverse staff, particularly Latinx program administrators, recruiters, family service counselors (e.g. case management), and relationship educators.

The procedures used in this study included examining a small, culturally and socioeconomically diverse, sample from the participants of Project TOGETHER. Examined in this study will be this smaller sample's Project TOGETHER intake form and family adjustment measure.

Instrumentation

Project TOGETHER included several assessments and forms as part of the research protocol. The current study includes those relevant to the hypotheses under investigation. The instruments included a Project TOGETHER Intake Form and the Family Adjustment Measure (FAM; Daire et al., 2014).

Project TOGETHER Intake Form

The Project TOGETHER Intake From contains 60 items, used to collect participant contact information, demographic data including age, ethnicity, race, relationship status, education, employment status, income, children, and child disability area (e.g., physical, cognitive, communication, and adaptive delay). The form also collected data relevant to potential

barriers (e.g. transportation, housing, mental health) and areas of need (e.g. child support enforcement, job/career advancement). Data from this form also supported case management efforts with Project TOGETHER participants.

Family Adjustment Measure

The Family Adjustment Measure (FAM; Daire et al., 2014) is a 30-item treatment-planning tool designed to assess four domains of family adjustment in parents of children with disabilities: (a) FAM Parental-Distress, (b) FAM Family-Based Support, (c) FAM Social Support, and (d) FAM Positive Coping Skills. Daire and colleagues (2014) reported significant correlations with the Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983) and the Relationship Assessment Scale (RAS; Hendrick, 1988; Hendrick, Dicke, & Hendrick, 1998). Assessment items are on a 5-point Likert-type scale from 1 (*never*) to 5 (*almost always*), rating the level to which the participant identified with each item. The FAM Parental Distress subscale captures emotions such as feelings of anger, overwhelmed, sadness, and depression. This subscale includes items like "As a parent of a child with a disability I feel disappointment" and "As a parent of a child with a disability I feel angry". The FAM Family-Based Support subscale captures marital harmony, loyalty, and respect within the family and partner. Family Coherence is defined as a "family's emphasis on acceptance, loyalty, pride, faith, trust, respect, caring, and shared values in the management of tensions and strain" (Figley, 1989; p. 28). Family Hardiness is having a positive outlook about the future, faith that issues will be resolved, and support services that promote emotional expression. The FAM Family-Based Support subscale includes items such as "We respect each other in our family" and "We care about each other in our family".

Next, the FAM Social Support subscale captures areas of informational and social support such as local resources and community activities. It is summarized by three different types of support: (a) instrumental support, or direct help and assistance from others (e.g., baby-sitter, extended family members); (b) informational support, or local, regional, and/or national organizations and groups that provide resources to families (e.g., United Cerebral Palsy, Best Buddies, listservs); and (c) emotional Support, a friend that listens well or a counselor. The FAM Social Support subscale includes items such as "Our family is involved in community activities" and "Our family has resources for dealing with my child's disability". Finally, the FAM Positive Coping Skills subscale captures areas of positive adjustment including communication and organization: (a) active coping, or approaching the issue, using positive reframing, and is specific and behavioral; (b) increasing personal capacity, or strengthening coping skills and communication skills; and (c) problem solving, or decision-making and problem-solving. The FAM Positive Coping Skills subscale includes items such as "I actively seek information I need regarding my child's disability" and "I can communicate concerns regarding my child's disability". Daire et al. (2014) reported significant correlations with the FAM subscales and the Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermeltstein, 1983) and the Relationship Assessment Scale (RAS; Hendrick, 1988).

Data Analysis

Factor analysis is a set of statistical procedures used to explore or confirm the underlying structure among a set of items to determine which items define a factor or latent construct (Brown & Moore, 2012; Dyer et al., 2005). While the purpose of an exploratory factor analysis (EFA) is to identify an underlying structure, the purpose of a confirmatory factor analysis (CFA) is to validate a priori hypothesized structure among items (Dyer et al., 2005; Nunnally, 1967).

An important consideration regarding instrument development and validation is the inherent

hierarchal, or nested, nature of the data in couples and family research. For this study,

participants attended the relationship education workshops as a couple and responded to items on

the Family Adjustment Measure (FAM) at the same time. Thus, their shared membership of the

relationship and experience in raising a child with disabilities naturally influences their responses

on FAM items. Performing a single-level confirmatory factor analysis could lead the researcher

to obtain an impartial picture of FAM constructs and their factor structure.

The researcher used Muthen's (1994) five-step procedure for conducting multilevel CFA

of the Family Adjustment Measure (FAM) in order to account for the partner's influence on the

individual's responses of FAM items. The five steps include: 1) conduct a conventional CFA on

the total sample of participants, 2) determine level of partner influence on individual scores, 3)

conduct a factor analysis on the individual level, 4) conduct a factor analysis on the couple level,

and 5) conduct a multilevel CFA. Steps two through four will help the researcher determine the

level of partner influence on individuals scores of the FAM in order to determine the best model

structure.

Dyer, Hanges, and Hall (2005) list different reasons for performing multilevel CFA. First,

the nested nature of couple and family research (i.e., individual level, couple level, and family

level) violates the assumption of independence since observations will be correlated. Violation of

this assumption biases parameter estimates, such as factor loadings, which could lead a

researcher to conclude their items do or do not measure a latent variable. Moreover, violation of

independence impacts standard errors and the power of statistical significance tests.

Independence of data means responses to FAM items from different participants are not

influenced by the responses of another (Field, 2009; p. 133) Second, research on couples and

families may not factor in constructs that operate at different aggregate levels of analysis. For example, a FAM construct such as parental distress may be better measured on a couple level than on an individual level of analysis.

Dyers and colleagues explain that multilevel researchers have distinguished between compilation, composition, and fuzzy composition group level constructs. Compilation variables are constructs measured only at the group level and have no conceptual meaning at lower levels of analysis. Composition variables include constructs that emerge from responses of individuals within groups. Finally, fuzzy composition variables are defined as partially isomorphic, or similar in form or relation, and can operate and contain conceptual meaning at multiple levels of analysis in addition to their factor structures appearing different across levels (Bliese, 2000; Kozlowski & Klein, 2000). For these reasons, it is critical for the researcher to ensure that FAM constructs (i.e., parental distress, family-based support, social support, and positive coping skills) exhibit the desired dimensionality properties in addition to the convergent/discriminant validity at the individual and couple levels of analysis. This study exhibited desired dimensionality of constructs at the between-group level and not the within-group level, as evidenced by factors significantly correlating on the couple level. Finally, Dyers et al (2005) explain that construct validity is difficult to determine across different aggregate levels of analysis. This is because little research exists on using empirical techniques, such as factor analysis, to determine the validity of aggregate constructs that accounts for the hierarchal nature of the construct as well as the psychometric properties of the assessment. The following will describe procedures of performing Muthen's (1994) multilevel CFA outlined by Dyers et al. that was conducted for this study.

Data analysis began with data cleaning and conducted using SPSS software version 24. All variables were defined and labeled and the data was screened for missing variables or data entry errors. Descriptive statistics were performed regarding demographic variables. All variables were screened to ensure they met the assumptions of multilevel confirmatory factor analysis and structural equation modeling including approximately normally distributed data, independence of errors, absence of multicollinearity between predictor variables, equal error variances among groups, and outliers (Field, 2009; Kline, 2015; Tabachnick & Fidell, 2007). Separate analyses were conducted for each research question.

The researcher used Muthen's (1994) five-step procedure for conducting the multilevel confirmatory factor analysis (CFA) of the Family Adjustment Measure (FAM). The researcher first conducted a conventional CFA on the total sample covariance matrix (S_T). For this step, a standard model with two or more factors must have at least two indicators (items) per factor to be identified. During this step, the researcher considered if the results may be biased for two reasons: 1) if there is considerable non-independence because group sizes are large; or 2) the factor structure at the within-group level (i.e., individual level) of analysis may be different than the factor structure at the between-group level (i.e., couple level). Therefore, in the second step of Muthen's MCFA, determined how much partner influence on individual responses exists in the data. Steps two through four in Muthen's procedures have been integrated into more recent versions of statistical software (Byrne, 2012). If aggregation and multilevel analysis is justified, then step three of the procedure is to conduct a factor analysis on the sample pooled-within covariance matrix, or individual level of the data (S_{PW}). In this step, the values in the S_{PW} matrix are adjusted to remove the between-group differences (i.e., partner influence) by subtracting relevant group means from individual scores (Dyers et al., 2005). The resulting values in the

matrix will only reflect the factor structure at the within-group level (i.e., individual level). The model that is estimated using S_{PW} may show a better fit when compared to the model estimated using S_T. This will help the researcher determine if the variance of each construct on the FAM is predominantly at the within-group level (i.e., individual level), or if the factor structures differ at the two levels (i.e., individual versus couple level).

The fourth step in Muthen's (1994) MCFA is to perform a factor analysis on the sample between-group covariance matrix (S_B). In other words, this step will examine the factor structure of the FAM at the couple level of the data. S_B is the covariance matrix of observed group means, corrected for the grand mean (Dyers et al., 2005). These values reflect the between-group population covariance matrix (i.e., couple level) and the group-size-weighted, within-group effect (Muthen, 1994). Depending on the results of this step, the researcher may need to conduct an exploratory factor analysis utilizing the estimated population between-group correlation matrix or the sample between-group correlation matrix to see if items load differently at the couple level of the data. The fifth and final step of Muthen's (1994) MCFA is to perform a multilevel factor analysis. Figure 2 illustrates the hypothesized model of the FAM for this study.

Analyses were conducted using Mplus Version 7.0 (Muthén, & Muthén, 2012) and were based on the pooled within-group and between-group covariance matrices. Parameters will be obtained using full information maximum likelihood estimation (MLE) that allows for missing data under the missing at random assumption. Overall goodness of fit for the models will be evaluated using the χ^2 likelihood ratio statistic, normative comparative fit index (CTI; Satorra & Bentler, 2001), root mean square error of approximation (RMSEA; Steiger, 1998), and the standardized root mean square residual (SRMR). Acceptable fit will be judged by CFI values greater than .95 and SRMR and RMSEA values less than or equal to .08 (Hu & Bentler, 1999).

In order to determine the multilevel nature of the data, the researcher will utilize the intraclass correlation coefficient (ICC; Muthen,1994) which allows estimation of unique random group level affects. The ICC values range from 0 to 1, with higher ICC values indicating greater proportions of between-level variance. This will help the researcher to assess the multilevel nature of the data and take it into consideration when interpreting the results. Since there is no set standard for the Muthen ICC, the researcher will compare values to the standard ICC_1 values reported by James, Demaree, and Wolf (1984, 1993). In the studies conducted by James and colleagues, they found that ICC_1 values typically range between .00 and .05 with a median value of .12 (as cited in Dyers et al., 2005). If ICC values are less than .05 then multilevel models may be difficult to evaluate.

Figure 2

Proposed Factor Models of Family Adjustment Measure for Multilevel Confirmatory Factor Analysis

Parental Distress

Family-Based Support
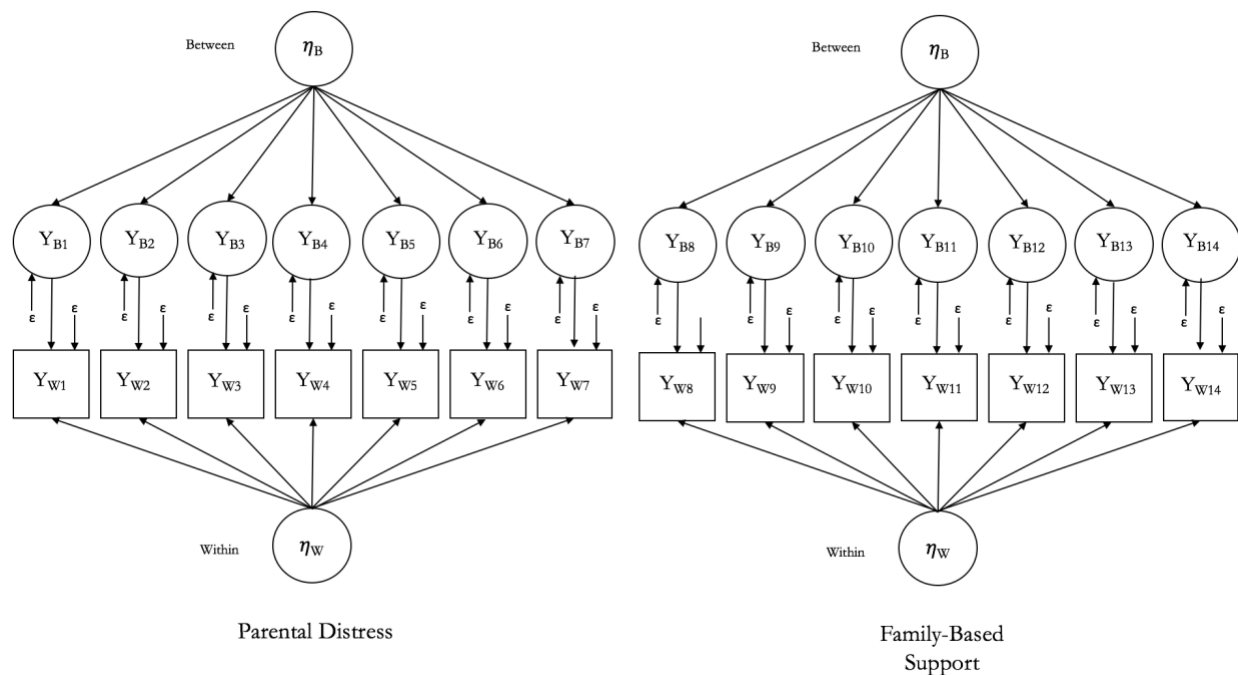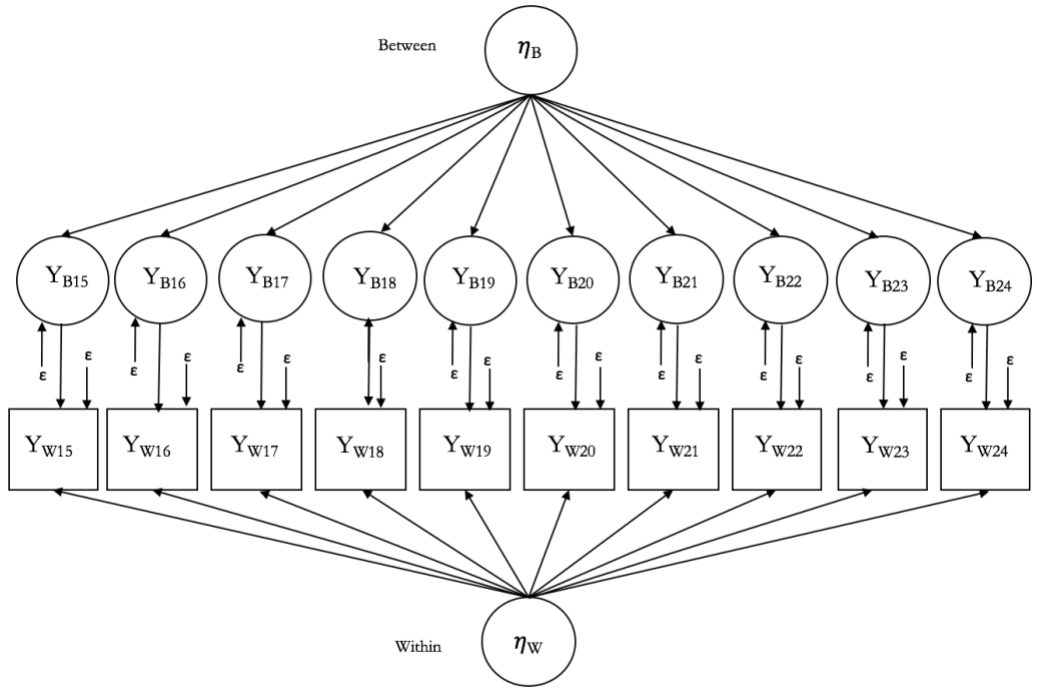
Social Support
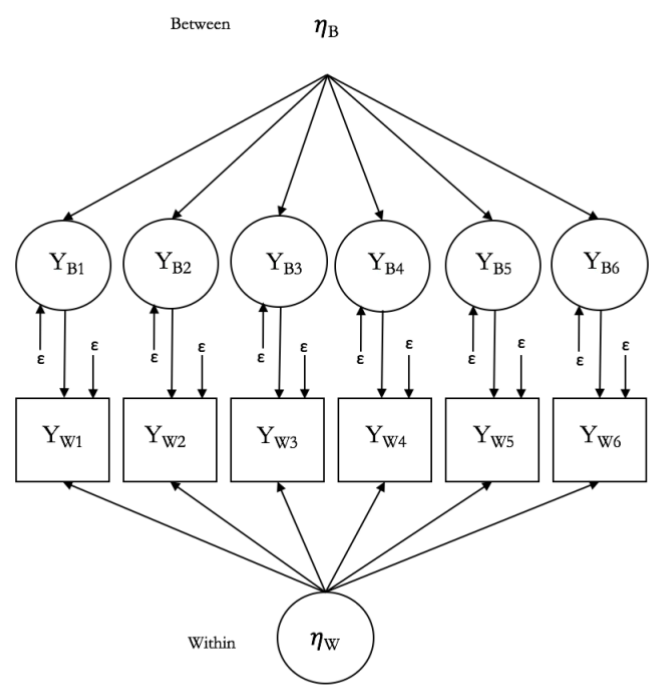
Positive Coping
Skills

Conclusion

This chapter reviewed the methodology for the current study and provided further detail regarding the research design, participant demographics, setting, instrumentation, and data analysis procedures. In sum, the researcher will not reissue the FAM to a more diverse sample. Instead, the researcher will use a multilevel CFA to examine a more diverse sample of participants from a previous project (i.e., Project TOGETHER). The researcher will also examine the existing data on both the individual and couple levels.

CHAPTER FOUR

RESULTS

The primary goal of this study added to the validation and psychometric development of the Family Adjustment Measure (FAM; Daire et al., 2014). Previously, the FAM was normed on predominantly middle- to upper-class, Caucasian females. However, lower-income, ethnic minority parents experience systemic prejudice and other contextual and social barriers in their experiences of raising a child with disabilities, that may not accurately be reflected in the original FAM model. This study utilized an archival data set from a federally-funded research grant, Project TOGETHER (To Offer Great Education That Harvests Enduring Relationships), to conduct a multilevel factor analysis on the FAM with a more diverse sample of parents of children with disabilities.

In sum, the results of the three research questions provide a new 16-item Family Adjustment Measure for Diverse Families (FAM-DF) representing four factors for lower-income, ethnic minority parents of children with disabilities. The first research question assessed if the original 30-item FAM fit a more diverse sample of parents of children with disabilities. Subsequently, an exploratory factor analysis was conducted to obtain an optimal factorial structure for this sample. The second and third research questions confirmed and validated a two-level model FAM that fit better for individual parents of children with disabilities while accounting for couple influence on factor scores.

This chapter will review the results of the statistical analyses for the current study in greater detail. First, data cleaning and preliminary analyses will be discussed. Then, the results of the statistical analysis for each research question will be provided.

Data Cleaning and Screening

Data Cleaning Procedures

All data screening and cleaning procedures were conducted using SPSS software version 24 (IBM, 2013). Data were screened and cleaned for missing values and outliers. Participants who did not meet the inclusion criteria were screened out of the data set. The researcher selected a subsample of participants from a larger, federally-funded, relationship education grant. Participants had to meet the general criteria for inclusion in the project: be 18 years of age or older, be able to read and write in English or Spanish, and with no active intimate partner violence, substance abuse, or serious mental illness. Of those participants, the researcher selected those who completed the FAM as part of their workshop attendance and reported having a child with a disability. Upon screening the data, variables not of interest were deleted. These included any other assessments as part of the grant protocol or demographics not related to being a parent of a child with a disability.

Preparing the data for analysis, such as cleaning the data and assumption checking, is important to ensure the data is as perfect as possible for a particular set of analyses. In addition, data cleaning is important to reduce error, or stating there is a statistically significant finding, where there is not (Field, 2009). The researcher then created a "New Couple ID" variable to link participants responding to FAM items that were a part of a dyad. Next, the researcher conducted a Missing Value Analysis to determine if all cases had under 5% missing data and if missing variables were at random. Items 11, 12, 13, and 14 had missing data, with each item missing 5.3%, 7.2%, 5.8%, and 4.8% data respectively. The researcher reviewed item ranges, means, and standard deviations. The following items had inputting errors: Items 11, 12, 13, and 14 and had values above 5 on the Likert scale (1 to 5). The researcher replaced any items with double digits

containing values within the Likert scale to the number that is within the range. For example, the researcher changed values like 22 to 2 and 33 to 3. In addition, the researcher replaced data entry errors that contained the number 8 to 5 and the number 7 to 4. The Little's MCAR test obtained for this study's data resulted in a $\chi^2 = 525.55$ ($df = 400$; $p < .000$), indicating that the data is not missing at random. Utilizing the SPSS program, Missing Value Analysis 7.5, an expectation maximization (EM) technique was conducted based on the assumption that data is normally distributed. Outlier analysis was conducted through review of box plots and descriptive statistics that included the minimum and maximum score of each item; based on this review no significant outliers were found.

Assumptions for Multilevel Confirmatory Factor Analysis

Descriptive statistics analysis assessed the following: sample size, box-plots, kurtosis, skew, standard deviation, means, medians, Q-Q plots, and tests for normality ($N = 204$). Means and medians yielded largely similar results with means ranging from 1.80 to 4.28 and medians ranging from 1.00 to 5.00. Standard deviations across items were also similar ranging from 0.87 to 1.46. Skewness estimates were largely within normal range (+/- 1); however, five items indicated skewness values over +/-1 (+/-1.10 to +/-1.37). Kurtosis estimates were also largely within the normal range; however, eight items indicated kurtosis values above +/-1 (+/-1.01 to +/-1.32). Table 1 provides the descriptive statistics for all FAM items.

The sample size was not ideal to yield reliable results for multilevel CFA. With 204 participants (102 couples) and 30 items, the ratio of participants to items is 7:1. Due to the use of an archival data set, data entry errors, and difficulty recruiting this type of sample, reactive sampling methods, or rules-of-thumb, are suggested for researchers with 200 cases or less (Koran, 2016). This study followed the following sample guidelines for CFA: the proposed

model contained the right combination of indicators per factor and strength of loading (Jackson, Voth, & Frey, 2013; Wolf, Harrington, Clark, & Miller, 2013), a minimum sample size of 100 to 200, 5 to 10 observations per parameter, or a minimum of 10 cases per variable (Boomsma & Hoogland, 2001; Bentler & Chou, 1987; Nunnally, 1967).

Using Q-Q and P-P plots, the researcher ensured that the relationships among pairs were linear. As previously reported, there were no significant outliers found. However, three multivariate outliers existed in the data. Subsequently, the researcher compared analyses with and without the multivariate outliers. No significant differences were found when excluding the multivariate outliers; therefore, the researcher included them in the final analyses due to limited sample size. Intraclass correlation coefficients (ICC) estimates and their 95% confident intervals were calculated using SPSS software version 24, based on two-way random-effects model. The ICC single measure value was .11 and average measure was .78 with a 95% confidence interval from .74 to .82 (F [207, 6003] = 4.63, $p < .001$). Values above .05 indicate issues with non-independence. This is expected due to the nested nature of the data used in this study.

Table 1

Descriptive Statistics for All FAM Items

Item No.	n	M	Mdn	SD	Kurtosis	Skew
1. PreFAM1	204	2.26	2.00	1.38	.65	-.91
2. PreFAM2	204	4.11	4.00	.93	-.65	-.63
3. PreFAM3	204	3.97	4.00	1.06	-.87	.11
4. PreFAM4	204	2.12	2.00	1.27	.81	-.46
5. PreFAM5	204	2.23	2.00	1.41	.74	-.82
6. PreFAM6	204	3.67	4.00	1.34	-.82	-.47
7. PreFAM7	204	2.13	2.00	1.26	.78	-.54
8. PreFAM8	204	1.80	1.00	1.08	1.23	.74
9. PreFAM9	204	2.29	2.00	2.29	.63	-.92
10. PreFAM10	204	2.84	3.00	1.35	.15	-1.08
11. PreFAM11	204	2.95	3.00	2.95	-.10	-1.04
12. PreFAM12	204	3.17	3.00	1.25	-.07	-.88
13. PreFAM13	204	2.83	3.00	1.28	-.06	-.93
14. PreFAM14	204	3.73	4.00	1.24	-.58	-.80

15. PreFAM15	204	2.98	3.00	1.46	-.04	-1.30
16. PreFAM16	204	3.14	3.00	1.25	-.17	-.89
17. PreFAM17	204	2.98	3.00	1.29	-.07	-.98
18. PreFAM18	204	4.16	5.00	1.03	-.97	0.02
19. PreFAM19	204	2.71	3.00	1.33	.21	-1.08
20. PreFAM20	204	2.66	3.00	1.37	.32	-1.02
21. PreFAM21	204	3.95	4.00	1.14	-.80	-.36
22. PreFAM22	204	3.73	4.00	1.29	-.88	-.25
23. PreFAM23	204	3.81	4.00	1.05	-.62	-.10
24. PreFAM24	204	3.21	3.00	1.26	-.16	-.88
25. PreFAM25	204	4.27	5.00	.98	-1.40	1.32
26. PreFAM26	204	1.91	1.00	1.28	1.21	.23
27. PreFAM27	204	3.67	4.00	1.08	-.50	-.35
28. PreFAM28	204	1.89	1.00	1.16	1.10	.18
29. PreFAM29	204	4.28	5.00	.87	-1.16	1.11
30. PreFAM30	204	2.90	3.00	1.33	.06	-1.04

Note. The *SE* of kurtosis = 0.17; *SE* of skew = 0.34.

Is the original Family Adjustment Measure (FAM) four-factor model reflected in a new sample (i.e., lower income, ethnic minority) of parents of children with disabilities?

The first step in Muthen's (1994) Multilevel Confirmatory Factor Analysis (MFCFA) is to run a typical CFA on the entire sample to assess the initial fit of the FAM structure on the current sample. Parameters set for CFA included the hypothesized model of the FAM: Parental Distress factor included items 1, 4, 5, 7, 9, 26, 28; Family-Based Support factor included items 2, 15, 16, 18, 21, 24, 25; Social Support factor included items 8, 10, 11, 12, 13, 17, 19, 20, 27, 30; and the Positive Coping Skills factor included items 3, 6, 14, 22, 23, 29. In order to scale each factor, the researcher set a unit loading identification (ULI) constraint of 1.0 for each indicator on the factor. This specification assigned a factor to a scale that explains the common variance of the reference variable. In order to determine if the model meets sufficient requirements, the researcher followed the two-indicator rule as outlined by Kline (2016), which means a standard model with two or more factors must have at least three indicators per factor in order for the model to be identified.

To test the null hypothesis that the FAM is indeed a four-factor structure with 30 items, the researcher first examined Satorra and Bentler's (2001) Chi Square Test of model fit, representing the Likelihood Ratio Test Statistic, commonly expressed as a chi square statistic. Results yielded $\chi^2 = 1368.57$, $df = 399$, $p < .001$; meaning the fit of the data to the hypothesized FAM model is not entirely adequate. Given the present data, the hypothesized FAM model signifies an unlikely event occurring less than one time in a thousand, under the null hypothesis, and should be rejected. However, this test statistic is noted to be sensitive to sample size (Byrne, 2012). Next, the researcher examined the Chi Square Test of Model Fit for the Baseline Model; $\chi^2 = 3814.35$, $df = 435$, $p < .001$. This test assumes zero covariation among the observed variables in the FAM model. The following tests, incremental fit indices (e.g., CFI and TLI) and absolute fit indices (e.g., RMSEA) were examined to determine if the hypothesized FAM model fits for this sample would be reflected in the greater population. Incremental fit indices tend to increase as goodness-of-fit improves and absolute fit indices decrease as goodness-of-fit improves for a model (Kline, 2016). Both CFI and TLI values should be greater than .95 to indicate model fit. The CFI value for this CFA was .71 and the TLI value was .69. Next, the Root Mean Square Error of Approximation (RMSEA; Steiger, 1998) was examined to consider the error of approximation of the population and determines how well the proposed FAM model would fit in the real world. Values range between .05 (good fit) and .08 (reasonable errors of approximation); however, if the sample size is small the RMSEA tends to over reject true population models (Byrne, 2013). The RMSEA value was .11, with 95% confidence intervals between 0.10 and 0.12, $p < .001$.

Finally, the Standardized Root Mean Square Residual (SRMR; Hu & Bentler, 1999) represents the average residual value derived from the fitting of the variance-covariance matrix

for the hypothesized FAM model to the variance-covariance matrix of the sample data, which is usually interpreted like a correlation. This test represents the average values across all standardized residuals ranging from 0 to 1.0; in a well-fitting model SRMR values will < .05. The SRMR value for this CFA was .13. All factor pattern coefficients were significantly different from zero ($p < .001$). The standardized loadings for the items within the Parental Distress (PD) factor ranged from .73 to .85, from .50 to .82 for the Family-Based Support (FBS) factor, from .31 to .70 for Social Support (SS), and from .26 to .84 for the Positive Coping Skills (PCS) factor. The correlations between the PD and FBS, SS, and PCS were negative, while SS, FBS, and PCS factors positively correlated with each other ($p < .001$). FBS and PD were the only factors that did not significantly correlate with each other.

The overall goodness-of-fit indices indicated the proposed FAM model for this sample did not fit. The initial steps of Muthen's (1994) MCFA procedures require the researcher to consider if the results may be biased due to substantial non-independence related to group size or if the factor structure at the within-group level (i.e., individual level) of analysis may be different than the factor structure at the between-group level (i.e., couple level). Also, because MCFA is a more advanced model than a typical CFA, it was necessary for the researcher to determine if reducing the parameters of the FAM would be a better fit for the sample size to achieve more robust results. Before conducting the MCFA, the researcher utilized the current sample to run an exploratory factor analysis (EFA) to determine if the originally normed factorial structure (Daire et al., 2014) would be valid for this sample.

Exploratory Factor Analysis of the FAM on Project TOGETHER Data

Pre-rotation. The 30-item Family Adjustment Measure (FAM) was subjected to principal factor analysis (PFA) or principal axis factoring using SPSS version 24. Prior to

performing PFA, the suitability of data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 and above. This ensures that items are related but are not measuring the same construct. Furthermore, the researcher visually checked to confirm that all 30 items correlated with at least two or three other items. The Kaiser-Meyer-Olkin (KMO) value was .87, exceeding the recommended value of .6 (Kaiser, 1970, 1974). Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance ($\chi2$ [435] = 3599.81, $p < .001$) supporting the factorability of the correlation matrix. A higher KMO near one suggests that the variables are measuring a common factor while a significant Barlett's Test of Sphericity indicates that the correlation matrix is also an identity matrix.

Principal factor analysis revealed the presence of six factors with eigenvalues exceeding 1, explaining 66.08% of the total variance. An inspection of the scree plot revealed a clear break after the fourth factor. Using Cattell's (1966) scree test, it was decided to retain four factors for further investigation based on initial loading plots and percentage of variance accounted for by each factor. The decision to use a four-factor model was further supported upon examination of the initial plot loading, or factor matrix. Items loaded heavily on the first four factors as evidenced by factor loadings of .32 and above. Finally, the variance explained by each factor was used to determine the number of factors to rotate. Factors that that did not account for at least 5% of the variance were excluded from the final model.

Post-rotation. The final four-factor solution explained approximately 58.15% of the total variance, with Factors 1 through 4 contributing 28.58%, 15.74%, 8.04%, and 5.79% of the variance respectively. The range of communalities was .30 to .74. These numbers indicate the percentage of variance that each factor accounts for, or explains, in each item. A higher communality indicates that the factor accounts for much of the variance in the responses to the

item. Direct oblimin rotation was performed to aid in the interpretation of the four factors. The researcher chose oblique rotation because it includes the shared variance between items and excludes the specific and error variance. This helps to reduce the amount of cross-loading on items and produces a more interpretable pattern matrix. Orthogonal rotation assumes no correlation among factors, and assuming that items on the FAM are moderately correlated, the researcher was further supported to use oblique rotation. The rotated solution revealed the presence of simple structure (Thurstone, 1947) with factors showing a number of strong loadings (.32 and above) and all variables loading substantially on four factors. Items that did not load .32 or above were dropped. The researcher opted to do so as these items did not significantly load onto any factors. Furthermore, items that cross-loaded were removed. In order to obtain the strongest factor loadings, the researcher then reran the analyses suppressing items below .50 (Hair, Black, Babin, Anderson, & Tatham, 2010). Simple structure was achieved with 16 items comprising four factors (Table 2) based on analysis of the pattern matrix. Factors 1 to 4 kept the same label of Parental Distress (PD), Social Support (SS), Family-Based Support (FBS), and Positive Coping Skills (PCS). See Appendix A to view FAM items.

Table 2

Summary of Principal Factor Analysis Results Using Direct Oblimin Rotation (N = 204)

	Factor 1 (Parental Distress)	Factor 2 (Social Support)	Factor 3 (Family-Based Support)	Factor 4 (Positive Coping Skills)
Item				
PreFAM7	**.80**			
PreFAM26	**.87**			
PreFAM1	**.82**			
PreFAM4	**.79**			
PreFAM28	**.75**			
PreFAM9	**.74**			
PreFAM5	**.72**			

PreFAM13	**.77**		
PreFAM19	**.72**		
PreFAM30	**.54**		
PreFAM21		**-.79**	
PreFAM2		**-.74**	
PreFAM18		**-.63**	
PreFAM14			**.91**
PreFAM6			**.81**
PreFAM23			**.54**
Eigenvalues	6.00	2.34	1.83	1.19
% of variance	37.51	14.86	11.46	7.42
Alpha coefficient	.93	.71	.76	.81

Note: Factor loadings over .50 appear in bold. These bolded loadings mark the particular factor.

Is the factor structure (i.e., number of factors and factor loadings) underlying the FAM at

the individual level similar to or different from the structure at the couple level?

Muthen's (1994) Multilevel Confirmatory Factor Analysis (MFCA) was conducted to

assess the structure of the Family Adjustment Measure (FAM). The data for this study is

hierarchal in nature since participants were nested within couples. In addition, the FAM structure

was tested on a more diverse sample of parents of children with disabilities. The MCFA was

conducted using maximum likelihood estimation via MPlus software version 7.0 (Muthén, &

Muthén, 2012). Since there have been recent advancements is statistical software, steps 2

through 4 of Muthen's (1994) MCFA have been integrated into newer versions of MPlus (Byrne,

2012). After the initial steps of assessing the suitability of the model and identifying the optimal

factor structure for this sample, the 16-item FAM was utilized for the MCFA analyses. In order

to correct for nonpositive definiteness, the researcher set the factor variance to 1 and fixed items

PREFAM2 and PREFAM19 to 0. The next step assesses the level of between-group variance on

FAM factor scores.

The intraclass correlation coefficient (ICC) determines if there is a non-independence problem with the data. ICC allows estimation of unique random group level affects, with values ranging from 0 to 1. ICC values greater than .05 indicate greater proportions of between-level variance. ICC values for FAM items ranged from .26 to .67, with all items above .05. Based on inspection of the ICC values, it is evident that the effects of the couple are strongly impacting FAM scale scores justifying MCFA. Table 3 summarizes the ICC values for all items included in the MCFA analysis.

Table 3

Summary of Estimated Intraclass Correlation Coefficients

Number of clusters					102
Quasi-average cluster size					2.0
Variable	Intraclass Correlation	Variable	Intraclass Correlation	Variable	Intraclass Correlation
PreFAM1	.54	PreFAM2	.46	PreFAM4	.50
PreFAM5	.67	PreFAM6	.63	PreFAM7	.40
PreFAM9	.57	PreFAM13	.34	PreFAM14	.48
PreFAM18	.32	PreFAM19	.40	PreFAM21	.52
PreFAM23	.30	PreFAM26	.60	PreFAM28	.44
PreFAM30	.26				

Tests of model fit indicated a fairly well-fitting two-level model for the 16-item FAM representing four-factors at the individual level (Figure 3). Although the Chi Square Test of Model Fit was 252.88 ($df = 198$, $p < .01$), the RMSEA value was .04, and the CFI/TLI values were .97 and .96. Finally, the SRMR values for the within-group and between-group levels were .08 and .16 respectively, suggesting the model better fits the data at the individual level than the couple level. Goodness-of-fit indices relate to the entire model because they reflect the extent to which the model fits within the context of the within-group model and between-group model

(Byrne, 2012). Provided that the sample size for the individual level ($n = 204$) is larger than the couple level ($n = 102$), the overall fit of the model is dictated by the individual level (Hox, 2010).

At the within-group level of analysis, the standardized loadings for the items within the Parental Distress (PD) factor ranged from .54 to .75, from .41 to .77 for the Family-Based Support (FBS) factor, from .59 to .85 for Social Support (SS) factor, and from .39 to .92 for the Positive Coping Skills (PCS) factor. However, factor correlations did not reach statistical significance at the within-group level of analysis. Table 4 summarizes the unstandardized and standardized estimates for the individual level.

Table 4

Summary of Unstandardized and Standardized Estimates for Within Level

			Model Results		
	Estimate	Standard Error (*SE*)	Estimate/ *SE*	Two-Tailed *p*-value	Standardized Estimate
Within Level					
PD BY					
PreFAM1	0.70	0.00	999.00	999.00	0.71
PreFAM4	0.66	0.14	6.62	0.00	0.70
PreFAM5	0.51	0.11	6.57	0.00	0.61
PreFAM7	0.75	0.24	4.54	0.00	0.75
PreFAM9	0.58	0.17	4.78	0.00	0.64
PreFAM26	0.64	0.16	5.62	0.00	0.74
PreFAM28	0.71	0.23	3.04	0.00	0.54
FBS BY					
PreFAM2	0.37	0.14	2.65	0.01	0.37
PreFAM8	0.77	0.13	5.96	0.00	0.77
PreFAM21	0.60	0.13	4.50	0.00	0.60
SS BY					
PreFAM13	1.00	0.00	999.00	999.00	0.76
PreFAM19	1.09	0.19	5.62	0.00	0.83
PreFAM30	0.87	0.17	5.13	0.00	0.60
PCS BY					
PreFAM6	1.00	0.00	999.00	999.00	0.53
PreFAM14	1.79	0.35	5.07	0.00	0.91
PreFAM23	0.78	0.17	4.50	0.00	0.39

FBS WITH					
PD	-0.07	0.15	-0.47	0.64	-0.05
SS WITH					
PD	0.05	0.09	0.51	0.61	0.08
FBS	0.06	0.04	1.69	0.09	0.29
PCS WITH					
PD	0.03	0.04	0.73	0.46	0.09
FBS	0.05	0.02	2.27	0.02	0.46
SS	0.13	0.06	2.32	0.02	0.32
Residual Variances					
PreFAM1	0.48	0.08	5.81	0.00	0.50
PreFAM2	0.40	0.08	5.02	0.00	0.86
PreFAM4	0.46	0.08	5.01	0.00	0.52
PreFAM5	0.44	0.07	5.94	0.00	0.63
PreFAM6	0.50	0.09	4.07	0.00	0.69
PreFAM7	0.44	0.07	4.95	0.00	0.44
PreFAM9	0.49	0.12	4.03	0.00	0.59
PreFAM13	0.54	0.16	3.44	0.001	0.42
PreFAM14	0.14	0.14	0.97	0.33	0.17
PreFAM18	0.30	0.17	1.78	0.08	0.41
PreFAM19	0.40	0.16	2.42	0.02	0.31
PreFAM21	0.40	0.11	3.53	0.00	0.64
PreFAM23	0.73	0.14	5.20	0.00	0.85
PreFAM26	0.33	0.09	3.64	0.00	0.46
PreFAM28	0.58	0.12	4.87	0.00	0.71
PreFAM30	0.99	0.18	5.47	0.00	0.64

At the between-group level of analysis, the standardized loadings for the items within the Parental Distress (PD) factor ranged from .90 to .99, from .77 to 1.00 for the Family-Based Support (FBS) factor, from -.31 to 1.00 for Social Support (SS) factor, and from .93 to .98 for the Positive Coping Skills (PCS) factor. Factor loadings at the between-group level are typically larger than the within-group level because analyses at the between-group level are based on the means in order to eliminate measurement error (Byrne, 2012). The PD factor significantly

correlated with the PCS ($p < .001$) and SS factor ($p < .05$). Table 5 summarizes the

unstandardized and standardized estimates for the couple level.

Table 5

Summary of Unstandardized and Standardized Estimates for Between Level

	Model Results				
	Estimate	Standard Error (*SE*)	Estimate/ *SE*	Two-Tailed *p*-value	Standardized Estimate
Between Level					
PD BY					
PreFAM1	1.00	0.00	999.00	999.00	0.71
PreFAM4	0.88	0.09	10.40	0.00	0.70
PreFAM5	1.27	0.15	8.37	0.00	0.61
PreFAM7	0.86	0.13	6.73	0.00	0.75
PreFAM9	1.10	0.15	7.21	0.00	0.64
PreFAM26	1.01	0.11	8.88	0.00	0.74
PreFAM28	0.80	0.14	5.82	0.00	0.54
FBS BY					
PreFAM2	1.00	0.00	999.00	999.00	0.37
PreFAM8	0.60	0.12	4.99	0.00	0.77
PreFAM21	0.95	0.20	4.76	0.00	0.60
SS BY					
PreFAM13	1.00	0.00	999.00	999.00	0.76
PreFAM19	11.95	0.43	27.66	0.00	0.83
PreFAM30	-0.25	0.79	-0.32	0.75	0.60
PCS BY					
PreFAM6	1.00	0.00	999.00	999.00	0.53
PreFAM14	0.79	0.07	11.33	0.00	0.91
PreFAM23	0.46	0.11	4.24	0.00	0.39
FBS WITH					
PD	-0.05	0.09	-0.60	0.55	-0.05
SS WITH					
PD	-0.05	0.01	-3.96	0.00	0.08
FBS	-0.01	0.01	-1.09	0.28	0.29
PCS WITH					
PD	-0.84	0.20	-4.22	0.00	0.09
FBS	0.09	0.09	0.98	0.32	0.46
PCS	0.05	0.01	3.92	0.00	0.32

Residual Variances

PreFAM1	0.17	0.08	2.06	0.04	0.06
PreFAM2	-0.09	0.10	-0.90	0.37	999.00
PreFAM4	0.14	0.07	2.06	0.04	0.04
PreFAM5	0.06	0.07	0.94	0.35	0.36
PreFAM6	0.05	0.09	0.53	0.59	0.59
PreFAM7	0.01	0.05	0.21	0.84	0.83
PreFAM9	0.14	0.10	1.45	0.15	0.12
PreFAM13	0.28	0.12	2.37	0.02	0.00
PreFAM14	0.03	0.08	0.37	0.71	0.70
PreFAM18	0.13	0.08	1.73	0.08	0.02
PreFAM19	-1.30	0.71	-1.83	0.07	999.00
PreFAM21	0.20	0.10	1.98	0.05	0.06
PreFAM23	0.03	0.10	0.30	0.76	0.75
PreFAM26	0.11	0.06	1.97	0.05	0.06
PreFAM28	0.04	0.08	0.53	0.60	0.58
PreFAM30	0.18	0.18	0.96	0.34	0.00

Are the derived factors on the FAM internally consistent?

The Cronbach's alphas for the four factors were as follows: Parental Distress (PD) = .93, Social Support (SS) = .71, Family-Based Support (FBS) = .76, and Positive Coping Skills (PCS) = .81. This indicates that the reliability index is in the normal range and indicates consistent responding throughout the inventory. Given that the FAM is a treatment-planning tool and it was administered to parents of children with disabilities, this is a satisfactory range of coefficients.

Conclusion

This chapter reviewed the results of a multilevel confirmatory factor analysis of the Family Adjustment Measure (FAM). Results yielded a two-level FAM that was more inclusive of lower-income, ethnic minority parents of children with disabilities. The improved FAM reflects individual parents' responses to FAM items while accounting for couple's influence on factor scores.

CHAPTER FIVE

DISCUSSION

Chapter one provided an overview of the study including a statement of the problem, the purpose and significance of the research, and study specific terms and definitions. Chapter two provided a background of the topic through a review of the literature regarding parents of children with disabilities. Chapter three described the methodology utilized in the study including the research design, data collection, and data analysis procedures. Chapter four presented the results of the study. Chapter five will provide a summary of the study conducted, in addition to discussing the findings as they relate to the extant literature. Chapter five will (a) discuss the findings of this study as it relates to the extant literature, (b) review implications for future research, counselor education, and policy work, and (c) conclude with a discussion of the limitations of this study.

Review of Study

The purpose of this study is to add to the validation and psychometric development of the Family Adjustment Measure (FAM; Daire et al., 2014) with a more diverse sample of parents of children with disabilities. Previously, the FAM was normed on middle- to upper-class, Caucasian females. Lower-income, ethnic minority families experience systemic prejudice and other contextual and social barriers in their experiences of raising a child with disabilities, which may not accurately be reflected in the original FAM model. This study utilized an archival data set from a federally-funded research grant, Project TOGETHER (To Offer Great Education That Harvests Enduring Relationships), to conduct a multilevel confirmatory factor analysis (MCFA) on the FAM with a more diverse sample of parents of children with disabilities. The following research questions were addressed:

Question One

Is the original Family Adjustment Measure (FAM) four-factor model reflected in a new sample (i.e., lower income, ethnic minority) of parents of children with disabilities?

Alternative Hypothesis One

The original FAM four-factor model found in EFA will be confirmed in CFA of a new sample of parents of children with disabilities.

Question Two

Is the factor structure (i.e., number of factors and factor loadings) underlying the FAM at the individual level similar to or different from the structure at the couple level?

Null Hypothesis Two

The factor structure (i.e., number of factors and factor loadings) underlying the FAM at the individual level will not be different from the structure at the couple level.

Question Three

Are the derived factors on the FAM internally consistent?

Null Hypothesis Three

The derived factors on the FAM are not internally consistent.

Major Findings

The results of this study provided a new 16-item Family Adjustment Measure for Diverse Families (FAM-DF) representing four factors: Parental Distress (PD), Family-Based Support (FBS), Social Support (SS), and Positive Coping Skills (PCS). The first research question assessed if the original 30-item FAM fit a more diverse sample of parents of children with disabilities. The second and third research questions confirmed and validated a two-level model FAM-DF fitting better for individual parents of children with disabilities while accounting for

couple influence on factor scores. The results of this study provided a more inclusive, and brief assessment measure for helping professionals working with families with disabilities.

Previously, the FAM was normed on predominantly middle- to upper-class, Caucasian females whose experiences of parental and family adjustment differ from more vulnerable populations that experience systemic prejudice and sociocultural barriers impacting their treatment. The average salary for the original sample was approximately \$82K (SD = \$52K); this kind of income helps to eliminate potential barriers related to accessing services, information, and support. Ultimately, this income level can have major implications affecting the well-being of the child with disabilities and in turn influence stress levels and family-functioning. Furthermore, the data for the original study was collected online meaning the original sample had internet access allowing for them to participate in that study. All of these point to the privileged status of the original sample that normed the FAM. This warranted further validation of a more inclusive FAM capturing the experiences of diverse families with disabilities. In order to address the previous limitations, this study utilized an archival dataset that was part of a larger, federally-funded research grant serving lower-income couples.

In order to overcome contextual stressors that lower-income, ethnic minority families face, Project TOGETHER utilized active recruitment strategies. For example, a recruitment team went into established communities and collaborated with local organizations that already served this population and have gained their trust. In addition to this, relationship education workshops were offered at different times of the week in order to accommodate the different work schedules of this population. For example, lower-income families are more likely to have minimum-wage jobs that are on shift schedules. Providing more workshop options increased the Project's retention of participants. The Project also provided food and childcare onsite in order to help

couples continue attending workshops. Finally, the Project provided incentives in the form of Wal-Mart gift-cards that helped mitigate other barriers like paying for gas and tolls. This study provides treatment considerations for counselors working with lower-income, ethnic minority families with disabilities as well as bring more awareness to how these families can be better supported. Based on the results of the MCFA, the new 16-item FAM-DF is a more inclusive reflection of parents' responses to items as it relates to their experience of being a lower-income, ethnic minority parent of a child with disabilities. The results of this study provide an improved assessment and treatment-planning tool for clinicians working with this population.

The FAM for Diverse Families (FAM-DF) has been validated for use with individual parents of children with disabilities. However, the couple level was only off by one indicator. Although the model terminated normally, factor correlations at the within-group (i.e., individual) level did not reach statistical significance. This error likely occurred due to insufficient sample size affecting constructs to unify into a total scale. Constructs that are not significantly correlating with each other may suggest they are not defining a construct as a whole for family adjustment. Insufficient sample size may restrict the underlying factors for family adjustment to unify into a scale for ethnic minority parents of children with disabilities. Also, factor loadings at the between-group level were larger than the within-group level due to analyses at this level being based on the means. At the couple level, the Parental Distress factor significantly correlated with the Positive Coping Skills factor and Social Support factor.

As previously stated, the sample size at the within-level of analysis is typically larger than the sample size at the between-level, influencing goodness-of-fit indices that relate to the entire model (Byrne, 2013; Hox, 2010). Different methods suggest that model fit be evaluated separately (Ryu & West, 2009; Yuan & Bentler, 2007). It makes sense that the Positive Coping

Skills, Social Support, and Parental Distress factors statistically correlated for the couple level of analysis. Positive coping strategies, such as the use of optimism, have been associated with parents' improved sense of their social support and positive reappraisal of their child's disability (Slattery, McMahon, & Gallagher, 2017). It is demonstrated in the literature that parents gain from having access to social support in order to help cope with the demands of their parenting role (Kyzar, Turnbull, Summers, & Gómez, 2012; Wade, Llewellyn, Matthews, 2015). The following will review which items were retained on the Family Adjustment Measure for Diverse Families (FAM-DF) for each of the subscales.

Parental Distress Subscale

The Parental Distress subscale retained all the same items from the original FAM. Opposite-sex couples attended the relationship education workshops and contributed to this study. This subscale retaining the same items on a more diverse sample of heterosexual couples signifies the emotional distress experienced in raising a child with disabilities seems to transcend income-level, race, and ethnicity. Raising a child is stressful in general and impacts multiple areas of a couple's relationship. However, raising a child with disabilities creates additional stress that lead to couples feeling less connected with each other. Since this sample contained opposite-sex couples, women and men respond to distress in different ways which influence their relational functioning. Women tend to feel out of control in stressful situations and experience more psychological distress than men (Azad, Blacher, Marcoulides, 2013). Women are also more likely to use emotion-focused coping strategies such as verbalizing the problem and seeking support. Men tend to be more stoic and less verbal during difficult situations and use more problem-focused strategies.

These differences in coping response to their child's disability, place greater strain on the relationship and increase dissatisfaction (Lee, 2013). This in part is explained by gender roles typically assumed by men and women in heterosexual couples. Women are more likely to take the role of childcare and men are more responsible for supporting the family financially. Responses to stress are different between mothers and fathers. For mothers, as the demands of their child's needs and behavioral problems intensify, they tend to report more depressive symptoms and dissatisfaction. While fathers, become more concerned with the social view of their child's disability and level of acceptance into society as their stress elevates (Hallberg, 2014). Couple relationship factors that are unique to these experiences should be given consideration in clinical interventions (Barak-Levy &Atzaba-Poria, 2013; Brougham, Zail, Mendoza, & Miller, 2009; Dabrowska & Pisula, 2010). The goal is not to minimize the challenges and stress parents of children with different disability types face, rather it is the researcher's hope to provide clinicians with a more culturally appropriate tool to assess these challenges, and to eventually create an empirically supported curriculum for parents of children with disabilities that will be offered in counseling clinics, hospitals, and schools nationwide. Although the FAM-DF was off by one indicator to validate this instrument for couple use, there is no other resource for helping professionals working with couples that have a child with disabilities. Mental health professionals can still utilize this assessment to facilitate mothers' and fathers' exploration of their reactions to child disability and perceptions of their family relationships. Parents can benefit from understanding the different coping responses occurring for both partners that strain their relationship.

Other areas impacting the couple relationship include intimacy and sexual desire. A study conducted by Negash, Nalbone, Wetchler, Woods, and Fontaine (2015) found that different

coping strategies improved relationship quality and sexual satisfaction for parents of children with disabilities. Parents who utilized reframing coping strategies had increased relationship satisfaction and sexual desire. Mental health professionals can utilize the FAM-DF to explore sensitive areas stemming from challenges they face in raising their child with disabilities impacting a couple's intimacy. For example, as previously mentioned women tend to utilize more emption-focused strategies to deal with their negative emotions and stress experienced in their role. And men tend to focus on problem-solving and active coping strategies to handle their discomfort. These differences create misinterpretation of coping responses that eventually lead to feeling disconnected in the relationship. Counselors can utilize the FAM-DF to help parents understand how they each cope with their relationship satisfaction and pay attention to those particular issues that detract from their relationship quality. In addition to finding more useful coping strategies that will help the couple feel closer, they will have an improved sense of mastery in their roles as partners and parents. Future research examining the psychometric properties of the FAM-DF for use with couples could follow guidelines outlined by Ryu and West (2009) and Yuan and Bentler (2007) to determine level-specific methods that assess goodness-of-fit at the couple level. Relationship and co-parenting quality were associated with parental and family well-being (Norlin & Broberg, 2013; Werner & Shulman, 2013) therefore, continued validation of the FAM-DF is needed in order to have an empirically-supported intervention for use with couples.

Family-Based Support Subscale

Regarding family-functioning, the Family-Based Support subscale only retained three items from the original FAM. These items are a) I feel supported by my spouse, partner, or significant other, b) We respect each other in our family, and c) There is loyalty in our family.

For diverse families in poverty, it seems these items better reflect the importance of family cohesion and stability. Currently, families come in different shapes and sizes, especially for diverse families. There may be multiple families living in one home, one biological parent and a step-parent, or extended family members all contributing to the care and development of the child with disabilities. Some families will experience raising a child with disabilities as an opportunity to feel closer to each other and have a purpose, whereas other families may struggle. There is a continued need to investigate the interrelationships between relationship quality and individual well-being for parents of children with disabilities, especially those who come from different socioeconomic statuses and cultural backgrounds.

There are specific coping strategies mental health professionals utilizing the FAM-DF can assess for to enhance the cohesion, flexibility, communication, and satisfaction for families with disabilities. In particular, helping families increase their use of prosocial humor such as affiliative and self-enhancing humor has been linked with enhanced family communication and satisfaction (Rieger & McGrail, 2015). As families move through different developmental phases, their adaptability and cohesion are challenged. Parents raising adolescents face new challenges related to facilitating their child's autonomy, and parents of children with disabilities, experience compounded effects from their child's disability. Mitchell, Szczerepa, and Hauser-Cram (2016) found that cohesion was important for the couple level and family level in their adjustment. Adolescent behavioral problems were negative predictors of family cohesion. Relationship quality also predicted relationship satisfaction for both parents. Cohesion was also influenced by greater partner stress for both parents. However, relationship satisfaction helped to mitigate this. The FAM-DF can be a useful tool to help improve the overall relational climate of families with disabilities. Mental health counselors can utilize this assessment to determine the

quality of individual relationships, including the parent's relationship. Mitchell and colleagues suggest the phenomenon of spill-over, or the transfer of emotional stress from one individual to another in the family. In addition, spill-over should be considered as a contributor to family functioning. The FAM-DF allows for family-centered practices that may facilitate greater feelings of cohesion and overall better individual and family quality of life.

Social Support Subscale

Regarding the Social Support subscale, three items were retained: a) The identification of local resources helped me plan for my child's future, b) The identification of local resources has helped me access services to help raise my child, and c) Our family receives social support. These questions reflect the importance for lower-income, ethnic minority families to be able to identify resources in their community that will help them to communicate concerns regarding their child's disability as well as plan for their child's future. Items that were removed related to active participation in social supports whether individually as a parent or as a family. These questions seem to relate to a family's ability to access social supports in their local community but not taking into account the potential barriers to access them. The FAM-DF can help a mental health professional to brainstorm ways the family can overcome contextual stressors. As previously mentioned, utilizing active strategies, such as collaborating with local agencies and community events, are useful to recruit and retain families form disadvantaged backgrounds.

Minority families experience systemic prejudice that may result in their child's disability being unfairly depicted. Social support helps minority families cope with the ambiguity of raising a child with disabilities. Moreover, families in poverty are more likely to suffer from decreased access to services, accurate information, and opportunities that will help improve family quality of life (Park et al., 2002). Informal relationships such as extended family members

and friends, provide the space for parents to discuss the emotional challenges and burdens in their role. Whereas formal sources of support, like healthcare and mental health providers, are critical in helping parents obtain information and access to supplemental financial resources (Prezant & Marshak, 2006). Parents who utilize these informal networks are more likely to cope with their uncertainty and positively adapt to the challenges they face (Lee, 2009; Truitt, Biesecker, Capone, Bailey, & Erby, 2011). Faw and Leustek (2015) found that parents of children with disabilities utilized their informal networks to discuss their feelings of isolation, relationships, stigma, parenting strategies in addition to logistics pertaining to their child with disabilities and their transition into adulthood. The ability for parents to identify these sources of support has been associated with their ability to handle stress and navigate the evolving challenges in raising a child with disabilities resulting in long-term positive health outcomes for parents and families (MacGeorge, Feng, & Burleson, 2011).

Access to supportive services are associated with decreased feelings of caregiver burden. Paster, Brandwein, and Walsh (2009) state that parents of children with disabilities utilize coping strategies that involve looking for social support more frequently than parents of typically developing children. Quality of life for families with disabilities is influenced by the quality of professional support and information received (Moh & Magiati, 2012; Hall et al., 2012). Parents' satisfaction with these services is the focal point in understanding their quality of life. When treatment-planning, counselors can consider multiple contextual factors including the parents' perceptions of and how the family approaches their child's disability to help find the best way to support them. Utilizing the FAM-DF, counselors can tailor their treatment based on the parents' experience of distress, family, resources, and coping skills in their daily lives. Counseling can

facilitate parents' exploration of areas in their life that provide support and continue cultivating that support.

When families access support services for their child with disabilities, often times fathers are less engaged in treatment (Dyer, McBride, & Jeans, 2009; Ly & Goldberg, 2014). Mental health professionals utilizing the FAM-DF can collaborate with parents on ways to increase their resiliency and coping when it comes to their child with disabilities. Potential benefits to parents participating in counseling include learning to manage their expectations and resources to overcome any challenges they may face including their child's disability, relationships, and individual emotional well-being. Counselors can incorporate specific interventions that are geared toward promoting resilience, positive thinking, and optimism. Counselors can encourage mothers and fathers to reach out to support networks to help cope with their stress.

Positive Coping Skills Subscale

The Positive Coping Skills subscale retained three of the original FAM items: a) I can communicate concerns regarding my child's disability, b) I can communicate questions regarding my child's disability, and c) I am organized when it comes to my child with a disability. These items emphasize the importance for lower-income, diverse families agency in adequately identifying and communicating questions and concerns related to their child's disability. Mental health professionals can educate parents and families on what to expect that is unique to their child's disability (e.g., timing of diagnosis, developmental milestones, language development, progress in school, etc.) Self-determination is one coping strategy that is critical for persons with disabilities and their families to be able to live an independent and fulfilling life. Family can be a source of support or hindrance for individuals with disabilities to increase their self-determination. Contextual factors such as parents' perceptions and beliefs, the family's

socio- and cultural background, and access to professional support influence a child's ability to live independently and increase control over their own lives (Blustein et al., 2016). Arellano and Peralta (2015) studied parents' knowledge and attitudes about disability regarding self-determination and strategies that would promote self-determination in children with disabilities. Their results showed the majority of parents understood self-determination as "being autonomous" followed by "controlling the important aspects of one's own life" and "recognizing one's own strengths and weaknesses" (p. 176). Older parents were more likely than younger parents to require responsibilities of their children, provide options for them, and explain issues relating to their children's disability.

Other coping strategies such as optimism and perceived control have been associated with increased positive adjustment for parents of children with disabilities. Bretherton and McLean (2014) investigated how optimism mediated the effects of perceived control of internal states for parents. It was found that feelings of optimism helped parents to feel more control in their role as parents which improved their positive adjustment. For parents, hope shapes their perception of their child's disability and its influence on their subjective-wellbeing. Couples who had a sense of agency in their role, contributed to their improved quality of life as a couple and for the family unit (Pisula & Domasiewicz, 2010; Shenaar-Golan, 2017).

Other Clinical Considerations of the FAM-DF

The Family Adjustment Measure for Diverse Families (FAM-DF) captures four different areas important for parental and family adjustment including the parental distress, family support, social support, and use of positive coping skills. Regarding clinical practice, mental health counselors' use of a treatment-planning tool, such as the FAM-DF, that assesses multiple areas of adjustment can help parents sustain their relationship satisfaction, support, and

couple/family harmony, as well as focus on their individual roles as parents (Brobst et al., 2009). Recent studies show that parents of children with disabilities and their families are better able to cope when they have more access to resources that assist them in their roles (Hall et al., 2012; Jovanova & Radojichik 2013; Kishore, 2011; Resch et al., 2012). Often times, when families are ready to access supportive services, fathers are less engaged in treatment (Ly & Goldberg, 2014). For use in treatment, counselors can first administer the FAM-DF at the start of treatment to engage all family members and assess the quality of parental and family adjustment, including distress, family dynamics, access to support, and use of coping skills. Based on initial results, the counselor can then tailor their services to address any gaps to adjustment. Throughout treatment, the counselor can re-administer the FAM-DF to evaluate any differences in these domains. Finally, counselors can utilize the FAM-DF at termination to process and review how the family's adjustment evolved throughout treatment and what the family can look out for as they continue to move through the family life cycle. Counselors can utilize the FAM-DF to engage fathers in the decision-making process by identifying their use of active coping strategies and create solutions to problems related to their child's needs.

Blustein, Carter, and McMillan (2016) examined parents' post high school career expectations for their children with intellectual and developmental disabilities. Parents held substantial concerns about their child's future employment success. They valued paid community employment over sheltered options and qualitative aspects of the workplace (e.g., personal fit) over pay and hours. Several factors influenced parents' expectations and the extent to which their children accessed early career development experiences. These concerns tempered some of their visions of what is possible for their child. The major concerns for parents regarding their child's future employment included social and communication skills, ability to be hired, access to job

applications, supportive work environments, and access to programs that support employment of people with disabilities. When treatment planning, helping professionals can facilitate parents' outlook on their child's future by increasing their familiarity with vocational options and supports for their child with special healthcare needs. Blustein et al.'s (2016) research showed qualitative aspects of the work place, such as their child's personal satisfaction with their job, that it matches their interests, provides opportunities to engage with others and create friendships, were more important to parents.

Mental health counselors and other professionals can help parents prepare their children with disabilities for the workplace by incorporating developmentally appropriate career exploration activities such as contributing to household chores, participating in extracurricular activities, and having discussions with their children about future careers and receiving vocational training. Parents' involvement in preparing their children for their transition into adulthood can help shape parents' expectations for future gainful employment (Carter, Austin, & Trainor, 2012). Moreover, career-related activities incorporated into the home were more predictive of higher ratings of the importance of future employment. Parents' career aspirations for their child were higher when they had younger children with higher functional abilities. When children with developmental or intellectual disabilities had early work experiences or some type of school-affiliated career activities, their parents had higher expectations for future gainful employment (Carter et al., 2012). In particular, parents of children with autism had higher expectations for full-time work than did parents of children with intellectual disability. This speaks to the importance of mental health counselors, professionals, and advocacy groups in raising parents' awareness of their child with disabilities' future and opportunities to live a fulfilling life.

Another clinical consideration for mental health counselors is how parents' knowledge and attitudes of their child's self-determination is linked to parents' beliefs and expectations of their child to successfully transition into adulthood as well as gain sustained employment. Blustein, Carter, and McMillan (2016) examined expectations, preferences, and concerns of parents of children with intellectual developmental disabilities (IDD) regarding their child's experience post high school. Results showed that parents prioritized paid community employment over sheltered options, valued qualitative aspects of the workplace (e.g., personal fit and interaction opportunities) over common employment outcome metrics (e.g., pay and hours), and held substantial concerns about their child's future employment success.

In like manner, parents of older children were more willing to give their children responsibilities, explain reasons for their decision-making, and to discuss characteristics of their child's disability than parents of younger children. Parents of children with mild or moderate disability were more likely to give their children greater responsibilities, provide options, encourage interaction with other people, and help their child to understand their disability and consequences of their actions than parents of children with more severe disability. Moreover, parents of children with mild to moderate disability were less likely to make choices for their child and present easy tasks. When treatment-planning, counselors can consider contextual factors, such parents' perceptions of and approach toward self-determination, in collaborating with the family in creating opportunities that promote self-determination in their child with disabilities. Another clinical consideration for mental health counselors is how parents' knowledge and attitudes of their child's self-determination. This has also been linked to parents' beliefs and expectations of their child to successfully transition into adulthood as well as gain sustained employment. Overall, there are several conceptual and clinical considerations for use

of the FAM-DF for parents of children with disabilities, especially lower-income, ethnic

minority families. The following will discuss the implication for further research, counselor

education, and policy work related to this study.

Implications

The following section will discuss future research with the Family Adjustment Measure

and families with disabilities. In addition, implications for Counselor Educators training students

in counseling programs to assess families of children with disabilities in addition to cultural

competence when working with lower-income, ethnic minority families. Finally, implications for

policy development related to impoverished parents of children with disabilities will be

discussed.

Further Research

Understanding how poverty impacts the well-being for special needs families has several

implications for research and practice. Regarding research, we as mental health counselors can

stand to learn the relationships among poverty, race/ethnicity, and disability. Further research is

warranted for the Family Adjustment Measure for Diverse Families (FAM-DF) in order to

accurately reflect the experiences of lower-income, ethnic minority families with disabilities. In

addition to psychometric development of the FAM-DF, more research is needed to investigate

how behavioral problems associated with different disability types impact parent functioning.

Due to the use of an archival data set, the researcher was not able to compare responses between

parents who reported their child with different disability types (e.g., Autism Spectrum Disorder,

Down's Syndrome, and Cerebral Palsy). Only areas of developmental delays were included in

the demographic questionnaire (i.e., physical, cognitive, emotional, adaptive). Although areas of

developmental delays are informative, information on how parental and family adjustment

differs for children diagnosed with different disability types can add to the body of knowledge of how these nuances between parents' experiences should be addressed in the home, school, and in counseling. In addition to this, various aspects of how this experience differs for parents of children with different disability types and parents of typically developing children can be explored.

Implications for Counselor Education

Advancements in policies and local practices have improved the treatment considerations and visibility of people with disabilities within the larger societal context. Policies such as the Individuals with Disabilities Education Act have encouraged parents' involvement in the decision-making process for their child with disabilities, however, there are still many barriers in the inclusion and engagement of ethnic minority parents into services (Lasky & Karge, 2011). These barriers may be related to cultural and linguistic issues not experienced by most parents in the dominant culture (Ruiz, 2012). Furthermore, there are still racial/ethnic and socio-economic disparities in the screening, identification, and diagnosis considerations of mental health professionals for ethnic minority families with disabilities (Roux et al., 2012; Zuckerman, Mattox, Sinche, Blaschke, & Bethell, 2014); especially for families below the poverty line (McManus, McCormick, Acevedo-Garcis, Ganz, & Hauser-Cram, 2009; Roux et al., 2009). As the field of couples and family therapy continues to advance their multicultural competencies, there are still views and practices that may be culturally biased (McDowell, Fang, Brownlee, Young, & Khanna, 2002).

Given that lower-income, ethnic minority families are disproportionately represented with disabilities (Boyle et al., 2011), it is important for counselor educators training students in counseling programs to consider the quality and timing of screening and services for this

population (Graybill et al., 2016). Timing of diagnosis and access to accurate information regarding their child's disability are associated with increased psychological distress (Casey et al., 2012). Counselor educators can utilize the FAM-DF to bring contextual factors for lower-income, ethnic minority families with disabilities into the forefront of students' perceptions, conceptualization, and treatment-planning considerations. Lower-income, ethnic minority families that are under- or uninsured experience greater levels of caregiver burden when there is limited access to services and information about their child's disability. Strengthening services, particularly for this population, may lessen caregiver burden (McManus, et al., 2009; McManus et al., 2011). A study conducted by Ruiz (2012) found that immigrant Latino parents of children with disabilities participation in special education services were not only impacted by their child's disability but their own knowledge of the American education system, perceptions of school staff, ability to speak the English language, and ability to communicate to school personnel about their child's needs. Particularly mothers from lower-income, ethnic minority backgrounds, they withstood significant challenges when accessing supportive services due to communication and cultural barriers. Several factors impacted the understanding and trust these parents felt for their service providers including levels of English proficiency, acculturation, and parent-professional interactions (Jegatheesen, 2009). Literature also well documents issues concerning discrimination and misunderstanding from service providers related to cross-cultural barriers for ethnic minority families (Lea, 2006; McHatton & Correa, 2005; Rao, 2000; Rao, 2009).

Graybill and colleagues (2016) suggest that educating parents on their child's developmental milestones will help parents in this population to better understand their child's disability in addition to accurately voicing concerns and accessing appropriate professionals to

address those concerns. Counselor educators can train students working with these families to utilize the FAM-DF not only as a treatment-planning tool, but to inform parents on the multiple factors that impact their positive adjustment that has indirect effects on their child's development (Crea et al., 2016). This information can improve professionals' reach for families with disabilities living below the poverty line through acknowledging their own cultural biases and limited understanding of the social and contextual barriers impacting their progress in treatment (Mandell et al., 2009).

Implications for Policy Work

There is a need to determine the effectiveness of policies and government supports (e.g., welfare) on family well-being as it relates to the multiple systems that impact their growth and human development. The field of mental health counseling can incorporate new approaches on a systemic level as well as incorporating actions at the individual level for parents of children with disabilities. Parish et al. (2012) suggest that policy makers should create more targeted measures to assist single mothers including wider availability of childcare services, adult support services, respite care, which make maternal employment possible. Also, enacting stronger work leave policies so single mothers are able to take their children or adult children with disabilities to medical appointments or different therapies. Finally, the researchers suggested that policy makers pass legislation such as the Supplemental Security Income (SSI) Savers Act to assist single mothers increase their savings to better prepare for potential downturns in health and other challenges as they age, as they are likely to still care for their adult child with disabilities.

<div align="center">**Limitations**</div>

This study contains limitations. Adequate sample size was the main limitation for this study. Lower-income, ethnic minority parents of children with disabilities are an

underrepresented population making it a challenging sample to gain access to. Participants for Project TOGETHER were recruited from local non-profits utilizing different active recruitment strategies (e.g., gift card incentives, culturally diverse staff, onsite childcare, and varied intervention schedule). In an effort to recruit participants, supportive services and incentives were offered. However, extensive data entry errors and difficulty recruiting this population contributed to insufficient sample size to produce ideal results for the MCFA of the FAM-DF. In addition, this study utilized an ex post facto research design, and thus, causation cannot be determined due to the researcher's inability to manipulate variables that may influence study outcomes (Creswell, 2015). Lastly, social desirability is a possibility with survey questions (CCMH, 2015).

Conclusion

This study shines light on treatment considerations for counselors working with lower-income, ethnic minority parents of children with disabilities as well as bring more awareness to how these families can be better supported. Future research could examine if certain factors of parental and family adjustment are dependent on some moderating factor. Chapter one provided an overview of the study including a statement of the problem, the purpose and significance of the research, and study specific terms and definitions. Chapter two provided a review of the literature regarding parents of children with disabilities. Chapter three described the methodology utilized in the study including the research design, data collection, and data analysis procedures. Chapter four presented the results of the study. Finally, chapter five discussed the findings limitations of this study as they relate to the extant literature and implications for future research, counselor education, and policy work.

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Appendix A

Family Adjustment Measure for Diverse Families (FAM-DF)

Parental Distress:

1. I feel depression because I have a child with a disability.

2. I feel devastated because I have a child with a disability.

3. As a parent of a child with a disability I feel disappointment.

4. As a parent of a child with a disability I feel numbness.

5. As a parent of a child with a disability I feel shock.

6. As a parent of a child with a disability I feel burdened.

7. As a parent of a child with a disability I feel angry.

Social Support:

8. The identification of local resources helped me plan for my child's future.

9. The identification of local resources has helped me access services to help raise my child.

10. Our family receives social support.

Family-Based Support

11. I feel supported by my spouse, partner, or significant other.

12. We respect each other in our family.

13. There is loyalty in our family.

Positive Coping Skills

14. I can communicate concerns regarding my child's disability.

15. I can communicate questions regarding my child's disability.

16. I am organized when it comes to my child with a disability.

Appendix B

ODU IRB Exempt Letter

OLD DOMINION UNIVERSITY

OFFICE OF THE VICE PRESIDENT FOR RESEARCH

Physical Address
4111 Monarch Way, Suite 203
Norfolk, Virginia 23508
Mailing Address
Office of Research
1 Old Dominion University
Norfolk, Virginia 23529
Phone(757) 683-3460
Fax(757) 683-5902

DATE:	April 10, 2018
TO:	Jude Austin, PhD
FROM:	Old Dominion University Education Human Subjects Review Committee
PROJECT TITLE:	[1194066-1] Multilevel Confirmatory Factor Analysis of the Family Adjustment Measure with Lower-Income,Ethnic Minority Parents of Children with Disabilities
REFERENCE #:	
SUBMISSION TYPE:	New Project
ACTION:	DETERMINATION OF EXEMPT STATUS
DECISION DATE:	April 10, 2018
REVIEW CATEGORY:	Exemption category # *6.4*

Thank you for your submission of New Project materials for this project. The Old Dominion University Education Human Subjects Review Committee has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will retain a copy of this correspondence within our records.

If you have any questions, please contact Jill Stefaniak at (757) 683-6696 or jstefani@odu.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Old Dominion University Education Human Subjects Review Committee's records.

Generated on IRBNet

Vanessa N. O'Hare, M.A.
Registered Marriage and Family Therapy Intern, IMT 2101 (FL)
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CURRICULUM VITAE

Research Interests
- Relationship and family adjustment, particularly in parents of children diagnosed with special needs

EDUCATION

Doctorate in Counselor Education and Supervision (CACREP Accredited), anticipated graduation, May 2018
Old Dominion University
Dissertation Title: Multilevel Confirmatory Factor Analysis of the Family Adjustment Measure with Lower-Income, Ethnic Minority Parents of Children with Disabilities

Masters of Arts in Couples, Marriage, and Family Therapy (CACREP Accredited), May 2014
University of Central Florida

Bachelor's of Science in Psychology, May 2011
University of Central Florida

Associates in Arts, May 2009
The Florida State University

LICENSING AND CERTIFICATIONS

- Registered Marriage and Family Therapy Intern: IMT 2101
- Certified facilitator in PREP (Prevention Relationship Enhancement Program)
- Certified facilitator in BPP (Becoming Parents Program)

AWARDS & HONORS

2018   **Chi Sigma Iota (CSI) Research Award,** Old Dominion University

2017   **Darden College of Education Dissertation Fellowship,** Old Dominion University

2016   **Chi Sigma Iota (CSI) Research Award,** Old Dominion University

2011   **Research and Mentoring Program (RAMP) Fellow,** University of Central Florida

2011   **Summer Mentoring Fellowship,** University of Central Florida

2010   **Honorable Mention,** University of Central Florida Showcase of Undergraduate Research Excellence

2009   **Research and Mentoring Program (RAMP) Scholar,** University of Central Florida

ACADEMIC/PROFESSIONAL EXPERIENCE

ODU Mental Health Clinic at Sentara Ambulatory Care Center (ACC) - Norfolk, VA
Doctoral Clinical Supervisor
May 2017 to Present
- Supervise practicum and master's level counseling students providing outpatient services to the underinsured/ uninsured patients
- Responsible for evaluating and managing students' case conceptualizations, treatment planning, and documentation.
- Collaborated care in a primary care setting with other medical health professionals

YWCA South Hampton Roads – Norfolk, VA
Clinical Services - Counseling Intern
August 2016 to December 2016
- Provided clinical and supportive services to survivors of sexual assault and intimate partner violence
- Delivered evidence-based treatment intervention (e.g., Trauma-Focused Care)
- Developed and maintain clinical records and program documentation according to contract and YWCA standards (assessments, treatment plans, progress notes, termination summaries, etc.).
- Facilitated psycho-educational classes and/or groups such as survivors of sexual assault, survivors of domestic violence, relationship education workshops, parenting skills, independent living skills, anger management, behavior management, substance abuse, workforce training, etc.

Children's Home Society - Orlando, FL
Clinical Services – Clinical Counselor
September 2014 to June 2015
- Provided clinical and supportive counseling services; individual, group and family therapy, including but not limited to TBOS, Outpatient or BHOS in a CHS office/facility, client homes and school community as necessary.
- Delivered evidence-based treatment intervention (i.e., Trauma-Focused Care, Infant Mental Health)
- Developed and maintain clinical records and program documentation according to contract and CHS standards (assessments, treatment plans, progress notes, termination summaries, etc.).
- Generated and maintain necessary reports and paperwork in a timely manner (i.e., Quality Assurance and program accounting/billing reports).

University of Central Florida - Orlando, FL
UCF Marriage & Family Research Institute – Family Service Counselor
April 2014 to September 2014

- Conducted group intakes and administer clinical assessments to participants in a federally-funded research study comprising of low-income and ethnically diverse individuals and couples
- Evaluated participants' clinical assessments to determine goodness of fit for a Relationship Education program
- Conducted Career Planning appointments with individuals who are unemployed or under-employed and are currently actively seeking employment
- Provided brief individual and couples counseling services/case management to participants in a federally-funded research study
- Administered domestic violence screening assessment to female research participants
- Facilitated Relationship Education workshops: PREP Within My Reach for individuals, PREP Within Our Reach and PREP Within Our Reach Plus for couples and BPP for couples
- Facilitated Career-focused workshops: Resume and Cover letter writing, and Mastering the Interview process
- Tracked, monitored, and reported research participant's attendance and completion of booster workshops
- Contributed to federal reports through data entry, management of data, and interpretation of data related to boosters
- Implemented creative outreach protocol for retention and engagement of research participants
- Attended weekly individual and/or group clinical and case management supervision
- Participated actively in departmental team meetings with Family Services, Recruitment, and Training and Workshop

University of Central Florida, Orlando, Florida
UCF Marriage and Family Research Institute - Marriage and Family Therapy Intern
August 2013-May 2014

- Provided individual, couples, and family therapy to clients diagnosed with variety of presenting problems including Bipolar Disorder, Generalized Anxiety Disorder, Major Depressive Disorder, and Post-Traumatic Stress Disorder
- Facilitated presentations on Gary Chapman's Five Love Languages to Couples Café participants
- Provided support to participants in couple skill-building techniques
- Conducted phone intakes and refer clients to appropriate resources based on individual needs
- Maintained progress notes for all clients to ensure proper documentation of session content and interventions

University of Central Florida, Orlando, Florida
UCF Community Counseling and Research Center - Marriage and Family Therapy Practicum Student
January 2013-August 2013

- Provided individual, couples, and family therapy to clients diagnosed with variety of presenting problems including Bipolar Disorder, Generalized Anxiety Disorder, Major Depressive Disorder, and Posttraumatic Stress Disorder
- Co-facilitated small groups for at-risk youth in the Adolescent Life Coaching Center
- Maintained progress notes for all clients to ensure proper documentation of session content and interventions

University of Central Florida, Orlando, Florida
Research and Mentoring Program (RAMP) - Graduate Assistant
September 2011- May 2013

- Facilitated meetings with RAMP scholars
- Prepared and led workshops and assignments for scholars
- Served as office assistant

University of Central Florida, Orlando, Florida
First Year Advising and Exploration (FYAE) - Summer Advisor
May 2012- August 2012

- Facilitated presentations on UCF Academic and Administrative Policies to First Time In College (FTIC) students
- Assisted FTIC students in schedule planning and registering for classes

University of Central Florida, Orlando, Florida
Summer Research Academy - Peer Mentor
May 2011 to July 2011

- Led my own group of SRA Scholars in the Academy
- Prepared and led workshops and assignments for my group
- Served as a lab tour guide escorting students to specific destinations
- Served as a resource personnel for student participants regarding questions on the academy
- Served as a mentor to students regarding UCF research experience
- Assisted students with housing check-in/check-out
- Assisted with set-up of individual sessions during the academy
- Provided additional support on tasks as requested by Summer Research Academy staff

RESEARCH AND CREATIVE ACTIVITIES

ODU Process and Outcome Research Lab (PORL) (May 2015—present)
- Collaborate with faculty, doctoral level, and master's students on research and publications
- Utilize innovative technology and advanced research designs in order to define and examine how process contributes to effective outcomes in counseling and clinical supervision
- Participate in advanced research methods training

- Collaborate on grant proposals
- Present at local, regional, and national conferences

Consortium for Family Strengthening Research (CFSR) (August 2014—present)
- Collaborate with faculty and doctoral students on research and publications through a multi-university team including Old Dominion University, Virginia Commonwealth University, University of Central Florida, and University of South Carolina
- Participate in advanced research methods training
- Collaborate on grant proposals
- Present at local, regional, and national conferences

REFEREED PUBLICATIONS

Published or In Press

Jacobson, L., Gonzalez, J. E., **O'Hare, V. N.**, & Daire, A. P. (In-Press). Factor analysis and construction of the Acceptance of Couples Violence scale. *Measurement and Evaluation in Counseling and Development.*

Daire, A. P., Gonzalez, J.E., **O'Hare, V.** (2017). Parental Stress & Coping Inventory. *Measurement and Evaluation in Counseling and Development.*

Liu, X., Daire, A., Griffith, S., **O'Hare, V.**, Keller-Margulis, M., & Tucker, K. (2017) Validity and diagnostic accuracy of a measure of family adjustment stress in parents with typically developing children. *Manuscript submitted for publication to the Journal of Child Custody.*

Daire, A. P., **Dominguez, V.**, Carlson, R.G., & Case Pease, J. (2014). Family Adjustment Measure: Scale construction and validation. *Measurement and Evaluation in Counseling and Development, Vol. 47*(2) 91 –101.

Daire, A.P., Turk, J., Johnson, J., & **Dominguez, V**. (2013). Parental bonding and its effect on adolescent substance use and sexual debut. *Adultspan, 12*(1), 54 – 64.

Dominguez, V. & Gentzler, M. (2011). How perceptual and cognitive factors are involved in a car accident: A case study. *UCF Undergraduate Research Journal, 5*(1).

Manuscripts Under Review

O'Hare, V. N., Daire, A. P., Wheeler, N., Griffith, S. M., Case Pease, J., Gonzalez, J. E., & Liu, X. (Under review). Differences in family adjustment for parents of children with special needs. Manuscript under review with *Journal of Mental Health Counseling.*

Carlson, R.G., Limberg, D., Liu, X., Wofford, J.R., & **O'Hare, V.N.** (Under review). The contribution of baseline couple functioning to change after attending relationship

education. Manuscript submitted for review to Journal of Couples & Relationship Therapy.

GRANT IMPLEMENTATION AND RESEARCH EXPERIENCE

Funded Projects

UCF Marriage and Family Research Institute – Research and Mentoring Program Research Assistant

Daire, A. P., Principal Investigator, & Young, M., Co-Principal Investigator. (2007-2011). *Supporting Healthy Marriages (SHM) – Together Project.* MDRC – Supporting Healthy Marriages National Demonstration Project. Amount funded: $3,574,583.

Daire, A. P., Principal Investigator, & Young, M., Co-Principal Investigator. (2006-2011). The Together Project – Level II. Healthy Marriage Demonstration Grants (HHS-2006-ACF-OFA-FE-0033) CFDA 93.086, Priority Area 5. Funded: $1,619,652.

OFA Together Project – September, 2009 to May, 2011
- Provided research support for the OFA Together Project, a research project funded by the U.S. Department of Health and Human Services (HHS-2006-ACF-OFA-FE-0033 – CFDA 93.086) that provides and evaluates the impact of relationship education on low-income married couples with children.
- Assisted with the random assignment and intake appointments with couples including the administration and scoring of the (a) Outcomes Questionnaire 45.2, (b) Dyadic Adjustment Scale, (c) Relationship Assessment Scale, (d) Marital Expectations Questionnaire, and (e) a general intake questionnaire.
- Input the results of pre- and post-assessments into SPSS for the OFA Together Project; an experimental design research study examining the effect of marriage and relationship education on low-income married couples with children.
- Ensured quality control of all data entered into SPSS
- Follow-up with new referrals to answer questions about the study and schedule their initial appointments

Daire, A. P., Principal Investigator (2011-2014). Project T.O.G.E.T.H.E.R. – To Offer Great Education That Harvests Enduring Relationships (90FM0039-01-00). U.S. Department of Health and Human Services: HHS-2011-ACF-OFA-FM-0193, $2,184,508/yr., $6,553,524

Project T.O.G.E.T.H.E.R. – October 2011 to May 2014
- Provided research support for the Project TOGETHER that provides and evaluates the impact of relationship education on low-income individuals and couples (married or unmarried and with or without children)
- Assisted with group intakes for workshops under each allowable activity (PREP's Within Our Reach, Within My Reach, and Within Our Reach *Plus*).
- Input the results of pre- and post-assessments into SPSS for the Project TOGETHER; an experimental design research study examining the effect of marriage and relationship

education on low-income individuals and couples (married or unmarried and with or without children)
- Assisted in ensuring the quality control of all data entered into SPSS
- Assisted in publication writing

The Florida State University – Department of Psychology, Tallahassee, Florida
Lang Addiction Research Lab - Research Assistant August 2008 to May 2009

- Researched effects of alcohol on eye tracking tasks
- Recorded quantitative data
- Participated in research execution as an assistant, decoy, and an experimenter

Unfunded Projects

UCF Marriage and Family Research Institute – Research and Mentoring Program Research Assistant

Family Adjustment Measure (FAM) Project – September, 2009 to June, 2013
- Normed and validated the Family Adjustment Measure (FAM), an assessment to measure adjustment in parents of children with special needs
- Researched the characteristics of families with children with special needs that have adapted well
- Established an online survey database utilizing Survey Monkey to collect data from over 300 participants who have children with special needs
- Attended community events and worked with local agencies to collect data

PROFESSIONAL PRESENTATIONS

Invited Presentations

O'Hare, V.N. (2016, March). *Developmental theories and human development.* Presented at the Chi Sigma Iota – Omega Delta NCE Review at Old Dominion University Norfolk, VA.

Peer Reviewed International, National, and Regional Presentations

Fernandes, S.N. & **O'Hare, V.N.** (2017, June) *Helping trans clients who have experienced minority stress-related complex trauma.* Presented at the 2017 American Mental Health Counselors Association conference in Washington, D.C.

Kemer, G. Sunal, Z., Li C., & **O'Hare, V.N.** (2017, June) *Descriptions of expert site supervisors.* Presented at the 2017 Thirteenth International Interdisciplinary Conference on Clinical Supervision in Long Island, New York.

Sunal, Z., Li C., & **O'Hare, V.N.** (2017, June) *Clinical supervision for international students: Challenges and strategies.* Presented at the 2017 Thirteenth International Interdisciplinary Conference on Clinical Supervision in Long Island, New York.

Sunal, Z., Li C., & **O'Hare, V.N.** (2017, June) *University and site supervision practices: How complementary should they be?* Presented at the 2017 Thirteenth International Interdisciplinary Conference on Clinical Supervision in Long Island, New York.

Kemer, G. **O'Hare, V.N.,** Griffith, S.M., Krahwinkel, J. (2016, October) *Expert site supervisors' supervision considerations: A sample of Hamptons.* Presented at the Southern Association for Counselor Education and Supervision in New Orleans, LA.

Sink, C. and **O'Hare, V.N.** (2016, August) *Fostering hope in children and adolescents.* Presented at the Virginia School Counseling Association conference in Hampton, VA.

O'Hare, V.N., Griffith, S. M**.,** & Kemer, G. (2016, June). *Becoming a clinical supervisor.* Presented at the 2016 Twelfth International Interdisciplinary Conference on Clinical Supervision in Long Island, New York.

O'Hare, V.N. & Griffith, S. M**.** (2016, March). *Exploring Family Adjustment Among Parents of Children with Autism Spectrum Disorder, Down's Syndrome, Cerebral Palsy, and Multiple Medical Disabilities.* Presented at the 2016 International Association for Marriage and Family Counselors in New Orleans, LA.

O'Hare, V.N. & Griffith, S. M**.** (2015, October). *The Family Adjustment Measure: A treatment planning tool for counselors and educators.* Presented at the 2015 Association for Counselor Education and Supervision conference in Philadelphia, PA

Griffith, S. M., & **O'Hare, V. N.** (2015, October). *Does race really matter? Examining pre and post relationship satisfaction between low-income Black and White couples following a relationship education intervention.* Presented at the 2015 Association for Counselor Education and Supervision National Conference in Philadelphia, PA.

Dominguez, V.N. (2014). *The impact of relationship education on family adjustment and relationship satisfaction.* Presented at the 2014 ACA conference in Honolulu, HI.

Dominguez, V.N. (2013). *What Impact Does Relationship Education Have on Family Adjustment and Relationship Satisfaction?* Presented at the 2013 Association for Adult Aging and Development Conference in New York, NY.

Dominguez, V.N. (2012). *Marital expectations questionnaire: Clinical applications for couples in the military.* Presented at the 2012 European Branch American Counseling Association Conference in Heidelberg-Wiesloch, Germany.

Dominguez, V.N. (2012). *The Family Adjustment Measure Project: Assessing the coping styles of parents of children with special needs.* Presented at the 2012 American Counseling Association Conference in San Francisco, CA.

Dominguez, V.N. (2011). *Addressing the needs of service members that have children with special needs.* Presented at the 2011 European Branch American Counseling Association Conference in Bad Herrenalb, Germany.

Dominguez, V.N. (2013). *The Impact of Relationship Education on Family Adjustment and Relationship Satisfaction.* Presented at the 2013 UCF Graduate Research Forum in Orlando, FL.

Dominguez, V.N. (2012). *Discriminant Analysis of the Family Adjustment Measure.* Presented at the 2012 UCF Graduate Research Forum in Orlando, FL.

Dominguez, V.N. (2011). *UCF Marriage and Family Research Institute: Getting involved in undergraduate research.* Presented at the 2011 Psi Chi Meeting in Orlando, FL.

Dominguez, V.N. (2011). *The Family Adjustment Measure Project: How to get involved in undergraduate research.* Presented at the 2011 University of Central Florida Summer Research Academy in Orlando, Florida.

Dominguez, V.N. and Daire, Andrew P. (2011). *What Have They Told Us: Perspectives from over 300 parents of children with special needs.* Presented at the 13th Annual Family Café in Orlando, FL.

Dominguez, V.N. (2011). *The Family Adjustment Measure Project: What opportunities are available for undergraduate research?* Presented at the 2011 Psi Chi Open House in Orlando, FL.

Dominguez, V.N. (2011, April). *The Family Adjustment Measure Project: Scale construction and preliminary validation.* Presented at the 2011 University of Central Florida Showcase for Undergraduate Research Excellence (SURE) in Orlando, FL.

Dominguez, V.N. (2010, May). *The Family Adjustment Measure Project: Lessons learned from an undergraduate researcher.* Presented at the 2010 University of Central Florida Summer Research Academy. Orlando, Florida.

Dominguez, V.N. (2010, April). *The Family Adjustment Measure Project: The norming and validation of the Family Adjustment Measure (preliminary findings).* Presented at the 2010 University of Central Florida Showcase for Undergraduate Research Excellence (SURE) in Orlando, Florida.

TEACHING AND SUPERVISION

TEACHING EXPERIENCE

Old Dominion University, Norfolk, VA
Counseling 691 Family Systems – Co-Instructor

August 2017 to Present

- Co-instructed graduate level course for Family Systems and Family Development
- Lead instructor for lectures on Human Validation Process Model, Narrative Family Therapy, Feminist Family Therapy, Solution-Focused Family Therapy, and Remarriage Families and Step-Parenting
- Conducted experiential activities to ensure all students are achieving their learning potential
- Managed online course tools in Blackboard
- Responsible for grading class assignments and exams
- Provided support to students with learning skills and technique

Old Dominion University, Norfolk, VA
Human Services 441 Nonprofit Writing – Co-Instructor
May 2016 to Present

- Co-facilitated two online sections of undergraduate level course for Human Services students in nonprofit writing
- Conducted experiential activities to ensure all students are achieving their learning potential
- Managed online course tools in Blackboard
- Responsible for grading class assignments and exams
- Provided support to students with learning skills and technique

Old Dominion University, Norfolk, VA
Human Services 343W Methods – Lead Instructor
January 2016 to May 2016

- Facilitated introductory course for undergraduate Human Services students in interpersonal skills
- Conducted experiential activities to ensure all students are achieving their learning potential
- Responsible for grading class assignments and exams
- Provided support to students with learning skills and technique

Old Dominion University, Norfolk, VA
Counseling 601 Principles of Professional Counseling and Ethics – Co-Instructor
August 2015 to December 2015

- Co-facilitated two sections of master's level introductory courses for graduate students in professional counseling and ethics
- Conducted experiential activities to ensure all students are achieving their learning potential
- Managed online course tools in Blackboard
- Responsible for grading class assignments and exams
- Provided support to students with learning skills and technique

Old Dominion University, Norfolk, VA
Human Services 339 Interpersonal Skills – Lead Instructor

August 2015 to December 2015

- Facilitated introductory course for undergraduate Human Services students in interpersonal skills
- Conducted experiential activities to ensure all students are achieving their learning potential
- Responsible for grading class assignments and exams
- Provided support to students with learning skills and technique

University of Central Florida, Orlando, Florida
Project T.O.G.E.T.H.E.R. - Workshop Educator
November 2011 to September 2014

- Facilitated Relationship Education workshops in Project T.O.G.E.T.H.E.R.: PREP's Within My Reach for individuals, PREP Within Our Reach and PREP Within Our Reach Plus for couples and Becoming Parents Program for couples
- Facilitated Career-focused workshops: Resume and Cover letter writing, and Mastering the Interview process
- Supported participants in couple skill-building techniques, such as effective communication and healthy conflict resolution

University of Central Florida, Orlando, Florida
PSY4604 History and Systems of Psychology - Teaching Assistant
January 2011 to May 2011

- Responsible for grading weekly class assignments and exams
- Responsible for coordinating review sessions
- Provided support for students with learning skills and techniques
- Provided tutoring for students
- Responsible for other duties as assigned

SUPERVISION EXPERIENCE

Old Dominion University
Practicum Supervision

SERVICE

Volunteering

Old Dominion University, Norfolk, VA
Women's Center – M-Power Peer Educator
September 2015 to Present

- Lead M-Power presentations on healthy relationships, sexual assault and campus safety to different campus organizations including sororities, fraternities, resident halls, etc.

- Develop M-Power presentations focusing on PREP's Within My Reach curriculum
- Facilitate Women's Center events on campus including Red Flag Campaign
- Support Women's Center educational events
- Provide support and resources for students who have experienced interpersonal violence
- Responsible for reporting on campus interpersonal violence to appropriate channels
- Responsible for other duties as assigned

University of Central Florida, Orlando, Florida
4th Annual UCF Counseling Conference - Volunteer
February 2012

- Assisted exhibitors during content presentations
- Aided conference attendees between sessions
- Provided additional support on tasks as requested by UCF Counseling Conference staff

Professional Organizations

Current Member
American Counseling Association
Association for Counselor Education and Supervision
Chi Sigma Iota – Omega Delta
International Association of Marriage and Family Counselors

Past Member
European Branch – American Counseling Association (EB-ACA)
Association for Muticultural Counseling and Development
Chi Sigma Iota – Upsilon Chi

TRAINING

2018 Certified in Collaborative Institutional Training Initiative (CITI) Human Subjects Research
2016 Trained in Perception Analyzer Software
2015 Certified in Collaborative Institutional Training Initiative (CITI) Human Subjects Research
2013 Certified in Collaborative Institutional Training Initiative (CITI) Human Subjects Research
2012 *Domestic Violence Refresher*, conducted by Harbor House
2011 Becoming Parents Program Communication Coach
2011 *PREP (Prevention Relationship Enhancement Program)*, conducted by Dr. Scott Stanley, Dr. Howard Markman, and Dr. Ghalena Rhoads
2011 *Domestic Violence 101*, conducted by Harbor House
2009 Certified in Collaborative Institutional Training Initiative (CITI) Human Subjects Research

(Updated April 11th, 2018)