

**Predictors of Youth Empathy: Early Adolescents'
Perceptions of Maternal and Paternal Support**

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ABSTRACT

The world in which children develop is becoming increasingly complex and includes exposure to individuals with variations in background and identity. The development of a peaceful global community will demand empathy (compassionate perspective taking and empathic concern for the position of another person). Data examined in this study came from the Ogden Youth and Family Project. A random sample of fifth- and eighth-grade classrooms in the Ogden City School District in 1994 and 1996 provided the data examined on empathy and perceived parental support. The final sample for this study was comprised of 286 cases. Perceived Mother Support and Father Support were assessed at time one (1994) using the 10-item acceptance subscale of the 30-item version (Schludermann & Schludermann, 1970) of the Child Report of Parent Behavior Index (CRPBI; Schaefer, 1965) termed by Barber, Stolz, and Olson (2005) as Parental Support. Youth Empathy was measured using 14 items designed to address two dimensions of empathy, Perspective Taking and Empathic Concern in subscales from Davis's (1980) self-report Interpersonal Reactivity Index. After confirming the factor structures of the scales, a path model examining how perceived Mother Support and Father Support separately influenced adolescent reported cognitive and affective empathy was tested, for the total population and for girls and boys separately. The paths from perceived Mother Support and Father Support to Empathic Concern and Perspective Taking were positive and significant for boys and girls when the sample was evaluated as a whole. When examining separate models for boys and girls, the path from perceived Mother Support in fifth grade to Perspective Taking at seventh grade was only positive and significant for girls and the path from perceived Father Support in fifth grade to Empathic Concern at

seventh grade was only positive and significant for boys. The findings of this study indicated that the relationship with the same gender parent was uniquely important in early adolescence for a specific aspect of empathy, Perspective Taking for girls and Empathic Concern for boys. Links between theoretical perspectives and findings, as well as implications for future research and practice were discussed.

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CHAPTER ONE

BACKGROUND

Introduction

The world in which we rear our children is becoming increasingly complex. This greater complexity is due, in part, to the advances of technology and the impact of social media. We are exposed to people outside of our usual experience of social, cultural, and religious norms in ways that are unprecedented. As a result of increased immigration and other social changes, neighborhoods now include a greater diversity of people in a variety of ways including variations in cultural background, religion, ethnicity, and sexual orientation. The development of a peaceful global community, both worldwide and with our neighbor living next door, is going to require more than tolerance. It is going to demand compassionate perspective taking. It is going to require empathy, or the ability to consider sincerely and thoughtfully the position of another person.

Never before has the need for empathy been more crucial than now. We witness violence in our neighborhoods, schools, and across the expanse of entire countries based on differences between individuals and groups. On the day that this section is being written three individuals who were Muslim were shot and killed near the University of North Carolina Chapel Hill campus (Ahmed, 2014). Students who are believed to be gay continue to be bullied in and out of school (Olsen, Kann, Vivolo-Kantor, Kinchen & McManus, 2014). In countries around the world there continue to be massacres based on religious differences (Karimi & Abubakar, 2015). There is a crucial need to raise a conscientious and compassionate understanding among humans that there are perspectives other than our own. We need to grow in our ability to feel and to

understand the pain of our targeted humankind brothers and sisters who experience physical violence, psychological abuse and bullying because of their cultural identity, religion, ethnicity, and/or sexual orientation. Empathy, or an insight into their pain and a grasp of their perspective, is the beginning of prosocial action (Brownell, Svetlova, Anderson, Nichols, & Drummond, 2013), and is also the antithesis of violence (Kokkinos & Kiprisi, 2012; Robinson, Roberts, Strayer, & Koopman, 2007).

The awareness of differences begins during childhood (Ramsey, 1991). What develops during these phases of development in terms of responses to differences sets the stage for future adult interactions. Bullying by children and adolescents of individuals who are different can be associated with other types of emotional, social, and physical acts of violence in later adulthood (Ferguson, Boden, & Horwood, 2013). One way to lessen the carry forward of aggression into adulthood is to assist children to develop a capacity for feeling and expressing empathy early in their development. Empathy development is an important first step in the pursuit of peace in our schools and communities, both locally and globally.

Empathy development has its origins in the first year of life (Roth-Hanania, Davidov, & Zahn-Waxler, 2011) and can continue developing throughout childhood and adolescence. It seems that a variety of factors influence its development, including aspects of the process of parenting (Davis, Luce, & Kraus, 1994; Koestner, Franz, & Weinberger, 1990). Do parental relationships that are perceived by the adolescent as close and supportive make a difference when it comes to the extent of empathy reported by young adolescents? Does parent and/or child gender play a role in how perceived parental support contributes to the extent of empathy reported by young adolescents? The present study considered if perceived mother and father support were influential to the extent of empathy reported by young adolescents by gender.

Rationale

Empathy is a multifaceted, multidimensional concept that is comprised of cognitive (i.e., perspective taking) and/or affective (i.e., emotional concern) dimensions that can create experiences of personal distress (Davis, 1980; Hoffman, 1976; Zahn-Waxler & Radke-Yarrow, 1990). Empathy has been an area of inquiry in social science research for decades and has been used as a conceptual lens to examine such societal problems as human aggression and antisocial behavior (for examples see McPhedran, 2009; Miller & Eisenberg, 1988).

The implications of findings from research studies examining youth empathy are far reaching. For example, a growing concern in schools across the United States is bullying. This type of antisocial behavior threatens the emotional, mental, and physical well-being of this country's youth. Bullying has been associated with negative adolescent outcomes such as dropping out of high school (Cornell, Gregory, Huang, & Fan, 2013), suicidal thoughts and attempts (Hinduja & Patchin, 2010), as well as negative outcomes later in adulthood, such as higher incidents of agoraphobia, generalized anxiety, depression, and panic disorder (Wolke, Copeland, Angold, & Costello, 2013). Empathy has been reported to be negatively associated with antisocial behaviors such as bullying (Marsh et al., 2013; Rhee et al., 2013; Schaffer, Clark, & Jeglic, 2009), and positively associated with positive outcomes such as prosocial and altruistic behavior (Carlo, Mestre, Samper, Tur, & Armenta, 2011; Farrant, Devine, Mayberry, & Fletcher, 2012). Targeting children and adolescents who evidence lower levels of empathy development and promoting empathic responses among these individuals is one important step in addressing societal problems such as the epidemic of bullying behavior in our culture.

Examining correlates of youth empathy is important, given that these understandings could provide insight into avenues for possible intervention. Various dimensions of parenting

have been reported to be associated with empathic response among children (Farrant, et al., 2012). Further, differences in youth empathy by gender have been reported with girls reporting higher levels than boys (Van der Graaf et al., 2013), and differential influences of mothers and fathers on aspects of adolescent functioning have also been found (Stolz, Barber, & Olson, 2005). However, much less is known about how adolescent perceptions of mothering and fathering may differentially influence two dimensions of youth empathy (cognitive and affective) among boys and girls.

Purpose of the Study

The purpose of the present inquiry was to investigate perceptions of mother and father support as factors influencing two types of empathy, perspective taking (cognitive) and empathic concern (affective), as reported by male and female early adolescents (youth in fifth and seventh grade). The present study conducted a secondary analysis of data collected initially from early adolescents in Ogden, Utah from 1994 to 1998. It was necessary to confirm the factor structure for both of the empathy measures, and the measures of perceived mother and father support for males and females in the sample. After examining the validity of the factor structure of these measures, a model was used to explore the relationship between adolescent perceptions of mother and father support for boys' and girls' reports of two dimensions of empathy, jointly and separately. The primary research objective was to identify any differences in how early adolescent perceptions of mother and father support influenced two specific dimensions of empathy, perspective taking and empathic concern, in adolescents by gender.

Objectives of the Study

The overarching objective of this study was to examine the relationships between perceived Mother Support and Father Support and self-reported empathy among a sample of early adolescents. Is perceived mother and father support associated with the extent of empathy reported by young adolescents? Does gender of the child play a role in how perceived mother and father support contributes to the experience of empathy reported by young adolescents? The primary objectives were outlined as follows:

1. To examine the factor structure of the measure of empathy in this study for the sample as a whole and for males and females separately, and
2. To examine the factor structure of the measure of perceived mother and father support for the sample as a whole and for males and females separately, and
3. To investigate the extent to which early adolescent perceptions of mother and father support is associated with two types of empathy (perspective taking and empathic concern) among male and female early adolescents, jointly and separately.

Conceptual and Theoretical Basis for the Study

Conceptual perspectives on empathy and concepts related to parental support from attachment theory provided the foundation for this inquiry into how mother and father support, as perceived by early adolescents, may influence two dimensions of youth empathy. I also considered early adolescence from a lifespan theoretical perspective. These theoretical anchor points for the present study are discussed below.

Conceptual Perspectives on Empathy

The historical debate about how to conceptualize empathy (Preston & deWaal, 2002) has made it a difficult construct to study because of a lack of conceptual clarity. The central question in this debate revolves around the conceptualizations of empathy. This question is whether empathy is primarily a cognitive (perspective taking) process, an affective (emotional concern) process, or some combination thereof (see Preston & deWaal, 2002). This conceptual struggle is evident up to five decades past as reflected in measures used to assess empathy with Hogan's (1969) scale being based on a cognitive understanding of empathy, and Mehrabian and Epstein's (1972) scale being based on an affective, or emotional, understanding of empathy. However, these dual understandings go back further in this body of scholarly inquiry to the theoretical and methodological works of Dymond's (1949) cognitive approach and Stotland's (1969) affective approach to conceptualizing empathy. The struggle continued with Davis (1980) espousing an integration of the two perspectives, and Eisenberg and Miller (1987) advocating for solely an affective understanding of empathy (which they specifically differentiated from sympathy, their term for cognitive empathy). This affective view of empathy also was supported by Spreng, McKinnon, Mar, and Levine (2009). Furthermore, developments in cognitive neuroscience, which have offered new insights into attachment theory, have added yet another voice to the dialogue on empathy (Rockwell, 2008). This perspective from cognitive neuroscience also focused around a similar debate between cognitive (perspective taking) versus affective (emotional) ideas on how empathy functions. This more recent debate is between what scientists refer to as "Simulation Theory" and "Theory of Mind" (Rockwell). "Theory of Mind" (see Baron-Cohen, Wheelwright, Hill, Raste, & Plumb, 2001; Premack and Woodruff, 1978) suggested that the route to empathic response was putting yourself cognitively into the mind of

someone else (perspective taking). “Simulation Theory” (see Goldman, 1992) explained the route to empathic response as an emotional (affective) response to witnessing the troubling experience of another individual, and cognitively (or imaginatively) processing that experience as one’s own (cognitively *simulating* it). “Simulation Theory” described an event of “emotional contagion” (Shamay-Tsoory, 2011, p. 18).

Cognitive empathy has been likened to the ability to take the perspective of another. Also known as cognitive role taking or perspective taking, it has been associated with greater empathic concern for others while also creating perhaps less personal distress (Davis, 1980; Hoffman, 1976). Davis (1983) described cognitive empathy as a non-emotional aspect of empathy and it was thought to be less likely to be associated with emotional reactivity. It has been found to be positively associated with self-esteem and social functioning (Davis, 1983), as well as greater prosocial behavior and responsiveness to social cues (Farrant, et al., 2012).

In contrast to this view of cognitive empathy, a person with higher levels of affective empathy would be more likely to experience compassionately some of the same feelings as those the other person might be feeling in a given situation. Sometimes called empathic concern (Davis, 1980), this aspect of empathy was described as having to do with feelings of warmth and concern for the other person (Davis) involving matching the affect or emotional state of another individual (Eisenberg, 1987). Compared to the cognitive dimension of empathy, affective empathy has been described as encompassing the dimension of emotional responsivity to the circumstances of another (Davis, 1983; Miller & Eisenberg, 1988). Davis reported that affective empathy was associated with greater emotional reactivity and personal distress for the individual responding to the situation of another. Edele, Dziobek, and Keller (2013) also found affective

empathy to be positively associated with altruistic behavior as demonstrated through sharing behaviors among children.

For the purpose of this study, a focus on a socioemotional understanding of empathy that encompassed both the cognitive and affective conceptualization of the construct was utilized. Such an understanding of empathy is consistent with the work of Davis (1980) who subscribed to a multidimensional conceptualization of empathy. Davis described empathy, not as a singular construct, but as a set of constructs for which there were both cognitive and affective dimensions.

Parental Support and Attachment Theory

Attachment style is a construct that describes how individuals perceive and experience their connections to others and how these perceptions are demonstrated in behaviors (Bowlby, 1988). Attachment theory grew out of the work of John Bowlby, who theorized that human drives were relationally motivated and that early relational bonds create an internal schema through which life thereafter is experienced. These bonds were referred to as “attachments.” The bond of a child with the primary caregiver, usually the mother, was described as the initial primary attachment relationship. This initial primary attachment relationship, which provided a general schema for how relationships work for the individual, was described as influencing relationships throughout later life (Mikulincer & Shaver, 2013). Personal needs met in a supportive, positive relationship include trust, security, and support. When these needs were met in a primary relationship, a secure attachment could be developed and the child learned to relate to others anticipating this same type of secure bond in subsequent relationships. When needs were not adequately met by a primary caregiver, insecurity or lack of trust developed, which also governed expectations for future relationships (Bowlby).

Out of this relational template, a person learned to respond to others based on what was termed an internal working model (Bowlby, 1988). When a person had a more positive, trusting internal working model of relationships, the person responded with more optimism and less anxiety in relational situations. If an individual operated out of a more insecure attachment style and had a more negative, distrusting internal working model of relationships, the person responded with more negativity and anxiety in relational situations. These trusting and optimistic feelings, or negative and anxious feelings, were described as resulting in certain types of corresponding behaviors. Externalizing behaviors, including antisocial, bullying behaviors, have been associated with more insecure attachment styles in children and adolescents (Kochanska & Kim, 2013). Panfile and Laible (2012) found a positive relationship between a more secure attachment in children and their demonstration of empathic responses and prosocial behaviors.

Attachment Theory provided a basis for considering the importance of a child's perceptions of parental support as a relevant variable. Perceptions of support availability have been described as contributing to and coming from a secure base, or secure internal working model (Bowlby, 1988), that can permit active participation, exploration, and experimentation in a wide range of life experiences, including attention to the experiences of others. Perceptions of available support have been found to contribute to determining an individual's expectations about others as well as experiences in their future relational contexts (Pierce, Sarason, & Sarason, 1990). These expectations have grown out of a history of perceived experiences with others, including the perceived support from parents, or primary attachment figures.

Attachment style is shaped by the relationship a child has with their initial primary caregivers (Bowlby, 1988). However, research indicated that other relationships and factors may also influence attachment style (Weinfield, Whaley, & Egeland, 2004). For example, it has been

concluded that the security of one parental attachment relationship can help to minimize the negative impact of another more insecure parental attachment on a child's overall attachment security (Kochanska & Kim, 2013). Although sometimes in different ways, both maternal and paternal attachment to the child has been found to influence secure and insecure attachment style as reflected in the behaviors of children (George, Cummings, & Davies, 2010; Suess, Grossmann, & Sroufe, 1992). Attachment styles have been described also as dynamic, potentially changing in response to later relational and situational influences (Bowlby; Kinley & Reyno, 2013).

Parental behaviors that are appropriately supportive and responsive were described as fostering a secure attachment style (Bowlby, 1988), and a secure attachment style has been found to be associated with greater empathic responses (Murphy & Laible, 2013). This attachment security is both cognitive, through mental representations (internal working model), as well as affective, through emotional regulation, thus corresponding with the two dimensions of empathy utilized in the present study: cognitive and affective. A person who evidences a secure attachment has been found to have greater abilities to regulate their emotions (Gentzler, Kerns, & Keener, 2010), thus enabling an ability to connect with and perceive the emotions of another (Eisenberg, 2005).

Individuals who have a more secure internal working model for attachment relationships have been found to be able to regulate emotions so that there was less preoccupation with self-focused insecurities (cognitive self-perceptions) and emotions (affective experiences; Mikulciner, 1998). As a result, it has been stated that there is thought to be more space cognitively and affectively to turn and to attend to the perspective and emotions of another person. A secure internal working model has been reported also to promote greater confidence

in one's ability to be helpful in response to the concerns of others, making the concerns of others not as likely to be experienced as overwhelming or threatening. A secure attachment style has also been reported to promote more positive perceptions of others (Bartholomew & Horowitz, 1991) as being worthy of empathic concern. Persons who do not have a secure internal working model have been found to be more likely to be overwhelmed by the needs of others and to have a tendency then to distance themselves emotionally (Lehman, Ellard, & Wortman, 1986) in response to situations that might potentially be responded to with empathic concern.

An important influence on the development of a secure internal working model for attachment is parental support (Beijersbergen, Juffer, Bakersmans-Kranenburg, & van Ijzendoorn, 2012; Karavasilis & Markiewicz, 2003). Parental support has referred to the experiences of parental warmth, availability, acceptance, and responsiveness (Cummings, Davies, & Campbell, 2000), and to specific behaviors from parents such as praising, hugging, encouraging, and finding ways to show that the child matters to the parent (Rollins & Thomas, 1979). Parents who are supportive, or responsive, have been described as tending to be accepting of their children, sharing positive appraisals of their children, promoting interpersonal intimacy and expressions of affect, and providing emotional support (Baumrind, 1991; Maccoby & Martin, 1983). Individuals who have maintained a close, supportive relationship with parents throughout adolescence exhibit more self-confidence and independence (Maccoby & Martin), both traits associated with a more secure attachment (Amrden & Greenberg, 1987; Bowlby, 1988). Parental support, also referred to as responsiveness or warmth (Baumrind; Maccoby and Martin), that fosters a secure attachment has been described as allowing the child to be freer from self-absorption, thus making room for empathic behavior (Bowlby, 1980; Hoffman, 2000; Sroufe, 2005). Sensitive, supportive parenting has been described as fostering the development

of children's shared mental representations and, consequently, a more accurate cognitive understanding of others' internal states (Eisenberg & Eggum, 2009).

In summary, responsive and supportive parenting has been described as promoting a secure internal working model for relationships. An individual with a secure internal working model is more likely to have both the emotional and cognitive capacity for an empathic responses to others.

Lifespan Theory and Early Adolescence

Developmental changes throughout the lifespan prompt varying behavioral, emotional, and social responses, including those responses related to empathy (Rose & Rudolph, 2006). Roeser, Eccles and Sameroff (2000) stated: "Perhaps nowhere in the life span other than infancy is the interplay of individual and collective factors in the composition of a human life more pronounced than in the early adolescent period" (p. 443). Significant changes, including cognitive, relational, and hormonal, take place in the stage of early adolescence that stimulate these various responses (Fabes, Carlo, Kupanoff, & Laible, 1999). For example, there seems to be a negative relationship between pubertal changes (including hormonal changes), and reported empathy among boys during this time of early adolescence (Van der Graaf, et al., 2013). In this section I consider the development during early adolescence in the life span and how this process of development is relevant when examining empathy during this stage of the lifespan.

During early adolescence, individuals reach Piaget's last stage of cognitive development, formal operations, in which the individual can now apply reason to the hypothetical, and not just to the concrete (Piaget, 2004). This cognitive growth has been described as promoting the development of the cognitive skill of perspective taking (Selman, 1980) and an awareness of another person's hypothetical emotions (Hoffman, 2000). Neurological studies have shown that

areas associated with perspective taking become more active and continue to shift during adolescence (Crone & Dahl, 2012; Van der Graaf et al., 2013).

Even as adolescents grow in their cognitive ability to take on the perspective of another person, they also become more egocentric (Elkind, 1967). The ideas of the “imaginary audience” and the “personal fable,” both introduced by David Elkind and based on Piaget’s concept of egocentrism (Elkind), have been described as denoting a focus on the self to the exclusion of others. The idea of the “imaginary audience” has communicated the idea of adolescents’ preoccupations with their own appearance and behavior to the point of acting as if they were constantly performing in front of an audience (Galanakai, 2012). The “personal fable” was described as the adolescent’s belief that he or she is special and unique, as well as omnipotent and invulnerable (Galanakai). This egocentrism could potentially interfere with empathic abilities.

Relationships change in early adolescence and not all of these changes are favorable. In a retrospective study of 405 adults asked to talk about memories of childhood and adolescent bullying, the most frequently reported memories of being bullied were from ages 11-13 (Eslea & Rees, 2001), leading to the conclusion that the most memorable, and therefore perhaps the most severe, bullying occurs during early adolescence. Guerra, Williams, and Sadek (2011), in a mixed methods study of 2,678 children, found an increase in reported bullying behavior from elementary school to middle school (early adolescence). Bullying seems to increase over childhood, peaking at early adolescence, and then declining slightly in late adolescence (Nansel et al., 2001). Bullying behaviors have been found to be negatively associated with empathy (Kokkinos & Kiprissi, 2012). Bullying has also been associated with multiple variables such as abrupt body changes, peer group changes (as many children go from a smaller elementary to a

larger middle school setting), low self-esteem (in victims), school atmosphere, and the normalization of aggression (Guerra et al., 2011; Nasle et al., Pellegrini & Long, 2002). It is suggested that the increase in bullying behavior in early adolescence has also been associated with developing a cognitive awareness of differences among peers and developing a social hierarchy in response to the social and hormonal changes taking place (Pellegrini & Long).

Even as the transition to adolescence is associated with an increase in aggression, impulsivity, anxiety, irritability, mood swings, and self-consciousness (Alsaker, 1995; Connolly, Paikoff, & Buchanan, 1996; Nottelmann, Inoff-Germain, Susman, & Chrousos, 1990; Susman, Nottelman, Inoff-Germain & Dorn, 1987), in general prosocial behavior seems to increase with age from elementary school to adolescence (Fabes & Eisenberg, 1996). Gender differences become more distinct at early adolescence and have been attributed to biological and social influences (Chaplin & Aldao, 2013). These gender differences include distinctions in the occurrence of prosocial behaviors (Fabes et al., 1999), with girls displaying more prosocial behaviors than boys (Rose & Rudolph, 2006). Meta-analyses have revealed positive associations between empathy and prosocial behaviors, and negative associations between empathy and aggressive behaviors (Eisenberg & Mill, 1987; Miller & Eisenberg, 1988). Fabes et al. pointed out that studies on these processes in early adolescence are “few and limited” (p. 12). About 15 years later, this observation still seems to be true. More research is needed on prosocial behaviors, specifically during early adolescence as this seems to be a crucial time to lessen the effects of bullying. This body of new research would do well also to consider gender differences.

Other factors have been found to influence changes in early adolescence. Studies have shown that in early adolescence there is a temporary distance and somewhat greater conflict in the parent-adolescent relationship during a period of realignment within the relationship itself

(Collins & Russell, 1991; Steinberg, 1988). Further, this realignment and subsequent distance and conflict are endured most favorably when the attachment with parents is perceived to be more secure (Papini & Roggman, 1992). In fact, it is during crises, such as this transition stage specifically in early adolescence, that the attachment system has been described as being activated and utilized to enhance a sense of security and perceived safety (Allen & Land, 1999; Byng-Hall, 1991). Conflict with parents has been described as playing a role in stimulating the development of Piagetian perspective taking (Carlo, Fabes, Laible, & Kupanoff, 1999). Early adolescence seems to be a developmental stage in which the perceived extent of supportive parenting and a secure attachment to parents is very influential.

Peer relationships are also changing in early adolescence. Individuals at this age often move out of elementary school and into a new school context where they are changing classes and have less consistent contact with the same peers and teachers. Less contact could hinder the development of close relationships with these teachers and classmates, thus obstructing certain prosocial behavior (Carlo et al., 1999). Even so, peer relationships in early adolescence begin to exhibit greater influence (Carlo et al.). Adolescents who have friends who are not involved in deviant behavior tend to emulate similar behavior (Eisenberg & Fabes, 1992).

Parental attachment security influences these peer relationships. Childhood attachment style predicts later relationship styles and insecure attachment is correlated with less security in subsequent relationships (Allen & Land, 1999). A secure attachment in late childhood and early adolescence is associated positively with the number of reciprocated friendships that children have (Kerns, Klepac, & Cole, 1996), and the positive qualities of children's close peer relationships (Lieberman, Doyle, & Markiewicz, 1999)

In summary, early adolescence is a unique time of rapid and turbulent transition within the lifespan where the study of empathy is critical to promote a greater understanding of prosocial behavior, as well as antisocial behavior such as bullying behavior. Gender differences at this stage also become a more salient consideration.

Normal Definitions

- Cognitive Empathy (or perspective taking): the awareness and understanding of another's emotion (Davis, 1983)
- Affective Empathy (or empathic concern): the vicarious experience of emotions consistent with those of the witnessed person and often leads to empathic concern, which involves feelings of concern for another (Davis, 1983).
- Young Adolescence: the period of time between childhood and middle adolescence: ages 10 to 13 (Smetana, Campione-Barr, & Metzger, 2006).
- Parental Support: parental behavior that reinforces in the child the belief that he/she is accepted and loved by the parent (Rollins & Thomas, 1979).

The following literature review will discuss constructs pertinent to the proposed investigation, as well as relevant related empirical findings. These constructs include parenting (particularly parental support), empathy, gender, and differential effects of parenting and empathy by gender. A review of how these constructs have been conceptualized and operationalized in past studies will be appraised, as well as what past relationships prior research has made among them in terms of causation, mediation, and moderation.

CHAPTER TWO

LITERATURE REVIEW

In this chapter I explore scholarly literature pertinent to the present study. Using a historical lens, I identify the major contributors to the study of and definition of the term “empathy.” I explore both psychosocial and neuroscientific perspectives on the concept of empathy. Next, I identify and describe various assessments of empathy. I then review research pertaining to parenting and empathy, gender and empathy, mother support and father support, gender, and empathy and, finally, I explore central research findings from the Ogden Youth and Family Research Project relating to parental support and gender, the project that this work joins. I conclude by offering hypotheses for this study drawing on the relevant literature reviewed.

What is Empathy?

Empathy has been difficult to define clearly. Batson (2009) identified eight different understandings for the concept of empathy. Each of these understandings had either a cognitive or affective element, or both. An attempt to define empathy dates back to its German philosophical roots. Empathy was a topic of interest in philosophical aesthetics (Davis, 1996) when it first was introduced as “Einfühlung” (or “feeling into”) by German philosopher, Robert Vischer, in the late 19th century (Jahoda, 2005). Theodor Lipps extended the use of “Einfühlung” into psychological topics such as visual illusions and interpersonal understanding (Jahoda). The British psychologist, Edward Titchener, introduced the word “empathy” into the English language in 1909 as a translation of the word “Einfühlung” (Davis).

Empathy versus Sympathy

There has been considerable debate over the differentiation of empathy and the related construct of sympathy, or even some debate as to if these concepts are separate constructs at all. Lipps considered “Einfühlung” to be much the same as the construct of sympathy, whereas Titchener believed it to have a different meaning. This difference led to his word choice in translation (Jahoda, 2005). Much of this debate has been semantic and philosophical in nature. Perhaps as word usage and meaning has changed in a culture, the differences between these terms have evolved over time. Possible misuse of the terms over time also has led to a lack of conceptual clarity (Olinick, 2014).

There seems to be a variety of thoughts on how these two concepts differ, as well as some inconsistencies on the differentiation of them in the scholarly literature. Eisenberg and Miller (1987) described sympathy as a general sadness over the plight of another person, whereas empathy was considered a more specific identification with the actual feelings being experienced. Similar to Eisenberg and Miller, Wispé (1986) explained sympathy as sensitivity to the troubles of another person, which were something to be fixed or resolved, whereas empathy referred to a person’s ability to identify specifically with the experiences of another person from a differentiated stance. Sympathy was described as a more passive feeling for another person, and empathy was described as an effort by the individual to step actually into the experience of another (Switankowsky, 2000). In comparing empathy to sympathy, there appears to have been an emphasis on retaining personal perspective as a basis for distinguishing these concepts. Empathy has been described as a personal identification with the experiences and feelings of another person while also maintaining one’s own identity (Aring, 1958). In fact, it is this

retaining of distinctiveness that allows a person to continue the active process of cognitively and affectively identifying with the other person without becoming overwhelmed and detached.

Empathy as Cognitive and Affective Dimensions

Empathy is a multidimensional construct comprised of cognitive and affective dimensions of a personal response to another individual's experience (Davis, 1980; Hoffman, 1976; Zahn-Waxler & Radke-Yarrow, 1990). Although together these two dimensions of empathy (cognitive and affective) contribute to the normal human empathic experience (Cox et al., 2012), they have often been considered different constructs (Davis, 1980). Scholarly discussions of empathy have included physiological, as well as psychosocial, aspects of the process (Baron-Cohen, Tager-Flusberg, & Lombardo, 2013). The focus for the present study was on the psychosocial aspects of empathy and my discussion of empathy evolves from this focus.

Although there is historical debate over how to define the construct (Preston & deWaal, 2002), empathy has been understood most recently as being comprised of both cognitive and affective dimensions (Davis, 1980). It is the ability to understand (cognitive aspect) and share (affective aspect) the feelings of another. In fact, it has been stated that it is the cognitive understanding, or imagining of the situation, that leads to the affective sharing of the feelings (Davis, 1996). It is this active process of imaginatively placing oneself in the other person's "shoes," or experience, which has been seen as differentiating the concept of empathy from the related concept of sympathy (Eisenberg & Miller, 1990).

Cognitive empathy has been described as the ability to take on the perspective of another and has also been termed cognitive role taking or perspective taking. Affective empathy occurs when a person feels what the other person might be feeling in a given situation. Sometimes called empathic concern (Davis, 1980), this description of empathy has to do with feelings of

warmth and concern for the other person (Davis, 1980), or matching the affect or emotional state of another person (Eisenberg, 1987). Differentiated from the cognitive dimension of empathy, it has been termed the dimension of emotional responsivity (Davis, 1983; Miller & Eisenberg, 1988).

Studies have explored these two dimensions of empathy in relationship to psychopathy and autism spectrum disorders, two diagnoses where the individual often has a lack of concern for others. It has been concluded that cognitive empathy can be described as disrupted in autism, while affective empathy has been described as a deficit occurring with psychopathy (Cox et al., 2012; Jones, Happe, Gilbert, Burnett, & Viding, 2010). These studies offer some further confirmation of the distinction between these two dimensions as separate constructs.

Empathy: Perspective from Cognitive Neuroscience

As previously mentioned, the discussion of empathy has included a more physiological perspective as well. Interestingly, a more recent debate within the field of cognitive neuroscience has developed. That debate seems to be related to this ongoing “affective versus cognitive” struggle to understand the complex phenomenon termed “empathy”. This more recent debate has been between what scientists refer to as “Simulation Theory” and “Theory of Mind” (Rockwell, 2008). In fact, two papers written twenty years apart, one exploring the socioemotional “cognitive” and “affective” conceptualizations of empathy (Miller & Eisenberg, 1988), and one exploring physiological, neuroscience conceptualizations of empathy (Rockwell, 2008), relied on the same philosophers to support their ideas. Kant was cited in support of a cognitive, “Theory of the Mind” approach and Hume was cited in support of an affective, “Simulation Theory” approach. Both neuroscience theories have explored how a person experiences an empathic

response in a moment and both theories have cognitive aspects to their descriptions of this process.

Both “Theory of Mind” (Baron-Cohen et al., 2013) and “Simulation Theory” (Oberman & Ramachandran, 2007) have been emphasized by cognitive neuroscientists. Both “Theory of Mind” and “Simulation Theory” have utilized findings from the latest research on mirror neurons (Oberman & Ramachandran, 2007; Schulte-Ruther, Markowitsch, Fink, & Piefke, 2007).

“Theory of Mind” (see Baron-Cohen et al., 2001; Premack & Woodruff, 1978) has understood the route to empathic response as coming from putting oneself cognitively into the mind of another (perspective taking). “Simulation Theory” (see Goldman, 1992) explained the route to empathic response as an emotional (affective) response to witnessing the troubling experience of another and cognitively (or imaginatively) processing that experience as one’s own (cognitively *simulating* it). “Simulation Theory” has been described as a process of “emotional contagion” (Shamay-Tsoory, 2011, p. 18).

When reading this literature it was reminiscent of the old “perspective taking” versus “affective response” deliberation, nuanced with the latest cognitive neuroscience research. “Perspective taking,” or the “Theory of Mind,” sometimes has been understood as developing out of an understanding of conditioning (see Preston & deWaal, 2002). Emotional response, or “Simulation Theory”, closely linked to de Waal’s Perception-Action Model (Preston & deWaal), has been understood as developing out of an evolutionary need to be in touch with and sensitive to the states of others in an individual’s community (Preston & deWaal) with survival as the motivation. The ideas from “Theory of Mind” and “Simulation Theory” are steeped in evolutionary and neurological research and theory, and have been supported through testing with humans, with nonhuman primates, and rodent populations (Preston & deWaal). There have been

slight variations in the interpretations of findings including how affective response has been explained (see the open peer commentary to Preston & deWaal by Ainslie & Monterosso). Just as an appropriate socioemotional understanding of empathy has been described as seeing the cognitive and affective components as two separate, but vital parts of the empathic experience, there has been an understanding that although these two systems, the cognitive and the affective, work separately, together they can create the full empathic response (Shamay-Tsoory, 2011).

Empathy: A Multidisciplinary Approach

The controversies reflected in research on empathy have been a result of the splitting across the fields of science. Empathy is a construct that is a multidimensional and complex phenomenon. It will take a truly multidisciplinary approach to adequately define and tackle the complexities of empathy development and to describe fully the process of empathic responses. The problem with approaching empathy solely through the cognitive neuroscience lens of “Simulation Theory” or “Theory of Mind” is that these perspectives focus on the precursors to empathy, but, perhaps, have not fully explored the process of empathy itself (see the open peer commentary to Preston & deWaal, 2002 by Anderson & Keltner). These perspectives seem to overlook the mechanisms of empathy in building and maintaining relationships across the lifespan. In fact, these theories on affective and cognitive conceptualizations of empathy seem to approach empathy more as a state (empathic response in a given situation), rather than an enduring trait (empathic tendencies of an individual). However, I propose that empathic response involves both of these elements. When described as a state rather than a trait, such a description misses exploring the continuing dimensions of a person, those dimensions that help facilitate relationships and prosocial behavior across the life-span.

Conversely, a purely socioemotional approach to the conceptualization of empathy does not include the rich detail that neuroscience is just beginning to offer in understanding multidimensional processes such as empathy. Further, when empathy is understood as only a psychosocial trait (as much of the research has approached it as a trait rather than a state in a moment), this approach potentially has missed out on the dynamics of the moment (state) in empathy responses. Such a state perspective has the potential for a more fully realized understanding of the empathic process with particular implications for the role it can play in interventions and change.

This section has explored various understandings and approaches to the idea of empathy and provided a context for how the current study approached the concept. There continues to be a need for a unified and integrated understanding of the construct of empathy. The present study was a socioemotional look at empathy. It adopted a socioemotional definition of empathy, that being when it is seen as a multidimensional construct comprised of cognitive and affective dimensions of a personal response to another individual's experience (Davis, 1980; Hoffman, 1976; Zahn-Waxler & Radke-Yarrow, 1990).

Measures of Empathy

The lack of a clear, agreed upon definition of empathy has affected how the concept has been measured across the decades dating back to the 1940s (Newmann, Chan, Boyle, Wang, & Westbury, 2015). Perhaps because of the varied definitions of empathy, there have been many different measures developed to assess it. Measures have included self-report questionnaires, as well as behavioral and neuroscientific methods of assessment (Newmann et al.). A review of measures of empathy is important to understanding and interpreting scholarly work in this area of research. In reviewing this literature, a variety of empathy measures are referenced. An

understanding of these measures helps to clarify the findings of the research in this area.

Additionally, such an understanding of available measures helps to clarify the appropriateness of the measure chosen for the current research project.

The Empathy Scale (Hogan, 1969) was one of the first measures to be used widely and contains four separate dimensions: social self-confidence, even-temperedness, sensitivity, and nonconformity. Since the time of its development, this scale has been criticized for evidencing low reliability and internal consistency and for being perhaps more a measure of social skills, rather than empathy itself (Spreng et al., 2009). These criticisms point to how assessment and understandings of empathy continue to change and are debated. Thus, following is a review of some of the more recent measures of empathy.

Self-Report Measures of Empathy

Self-report measures include paper-and-pencil assessment where the individual is reporting on their own experiences or behavior (Holbrook, 2008). Davis (1983) developed a measure of empathy that is widely used, the Interpersonal Reactivity Index (IRI), as an attempt to achieve assessment with a multidimensional approach. The IRI is a 28-item self-report measure consisting of four 7-item subscales, each designed to draw on some aspect of the global concept of empathy. These four subscales include Perspective Taking, Fantasy, Empathic Concern, and Personal Distress. As suggested by Burkard and Knox (2004), a review of the subscales' items indicated that the Empathic Concern and the Perspective Taking subscales corresponded more directly with the conceptual definition of empathy previously identified as being both affective and cognitive (Alterman, McDermott, Cacciola & Rutherford, 2003; Elliot et al., 2002; Ridley & Lingle, 1996). In contrast, items from the Fantasy subscale and Personal Distress subscale did not seem to assess the conceptually recognized cognitive and affective

aspects of empathy (Baron-Cohen & Wheelwright, 2004; Constantine, 2001; Hayes & Erkis, 2000). For this reason, it is common to see only the Perspective Taking and Empathic Concern subscales from the Davis IRI used in research on empathy (see Farrant et al., 2012; Miklikowska, Duriez, & Soenens, 2011; Schaffer et al., 2009).

There are other self-report measures of empathy besides the IRI. The Balanced Emotional Empathy Scale (Mehrabian, 1996), originally tested on separate samples of male and female college students, is a 30-item assessment using a 9-point Likert-type scale that conceptualizes empathy awareness of and responsiveness to another's emotional experience. It has good internal consistency ($\alpha = .87$) and test-retest reliability ($r = .77$). Higher scores indicate greater levels of emotional empathy.

The Empathy Quotient (Baron-Cohen & Wheelwright, 2004) is a 60-item assessment, which utilizes a 3-point Likert-type scale intended for use with adults and specifically designed for clinical application as a way to assess for psychopathology (Lawrence, Shaw, Baker, Baron-Cohen, & David, 2004). Twenty of the 60 items are filler items purposed to give the participant a break from focusing on empathy. The Empathy Quotient assesses both cognitive and affective aspects of empathy. It was validated with a sample comprised of 197 healthy control volunteers and 90 people with Asperger's Syndrome and high-functioning Autism. It was shown to differentiate reliably between clinical and control groups and to have high test-retest reliability over a period of 12 months (Baron-Cohen & Wheelwright).

The Basic Empathy Scale (Jolliffe & Farrington, 2006) is a 40-item assessment that measures cognitive and affective emotional responses (fear, sadness, anger, and happiness) to the experiences of others and has been tested with a sample of adolescents. The development of this scale involved the use of principal component analysis to reduce a large number of cognitive and

affective items into a smaller number that were internally reliable. It has shown to have good reliability for both the cognitive ($r = .79$) and affective scales ($r = .85$).

The Griffith Empathy Measure (Dadds et al., 2008) is an adaptation of the Bryant Index of Empathy (Bryant, 1982) developed to be used by parents to assess empathy in their child or adolescent. It points to empathic performance as behavior that is observed and reported by a caregiver (Dadds et al., 2009). It is a 23-item assessment rated on a 9-point Likert-type scale that assesses cognitive and affective elements of empathy. It has shown good test-retest reliability over 1 week ($r = .89$) and 6 month intervals ($r = .69$).

The Toronto Empathy Questionnaire (Spreng et al., 2009) explored empathy as a primarily emotional process. It is a 16-item assessment using a 5-point Likert-type scale with higher scores indicating higher levels of affective empathy. It was tested first on 200 undergraduate students, evenly divided among males and females. Internal consistency was strong with a Cronbach alpha score of .85. Convergent validity also was strong with a correlation of .74 with the Davis Interpersonal Reactivity Index Empathic Concern subscale. However, the scale does not assess cognitive aspects of empathy.

The Questionnaire of Cognitive and Affective Empathy (Reniers et al., 2011) measures both affective and cognitive dimensions of empathy with a 31-item measure on a 4-point Likert-type scale. The measurement was assessed with university student participants, mostly European. Items were taken from former scales, the Empathy Quotient (Baron-Cohen & Wheelwright, 2004), Hogan's Empathy Scale (Hogan, 1969), The Empathy subscale of the Impulsive-Venturesomeness-Empathy Inventory (Eysenck & Eysenck, 1991), and the Interpersonal Reactivity Index (Davis, 1980). It is comprised of five subscales including perspective taking, online simulation, emotion contagion, proximal responsivity, and peripheral responsivity, with

the first two subscales measuring cognitive empathy and the last three measuring affective empathy. Principal component analysis revealed these five factors and confirmatory factor analysis subsequently confirmed the structure.

Other Measures of Empathy

There are also behavioral measures of empathy such as variations of the Picture Viewing Paradigm (Westbury & Neumann, 2008) in which empathy was conceptualized as an individual's self-reported response to empathy-provoking images. Other behavioral measures of empathy include the Comic Strip Task (Völlm et al., 2006), Picture Stories (Nummenmaa, Hirvonen, Parkkola, & Hietanen, 2008), and the Kids Empathic Development Scale (Reid et al., 2013). Neuroscience based measures of assessing for empathy include Magnetic Resonance Imaging, Functional Magnetic Resonance Imaging, Facial Electromyography, and Electroencephalogram (Decety & Ickes, 2009). Such measures can only be utilized when expensive equipment and trained personnel are available to researchers.

The preceding section has reviewed available measures of empathy. An understanding of these measures helps to elucidate the suitability of the measures utilized in the current research project. The Griffith Empathy Measure is a caregiver report assessment on the behavior of the child or adolescent rather than a self-report measure. The Basic Empathy Scale with 40-items and the Questionnaire of Cognitive and Affective Empathy with 31-items are more extensive scales in terms of numbers of items included. The Empathy Quotient is a longer assessment that was intended specifically for use with adults, rather than with adolescents. Some self-report assessments focus solely on an affective aspect of empathy (Toronto Empathy Questionnaire and the Balanced Emotional Empathy Scale). The Davis Interpersonal Reactivity Index Perspective Taking and Empathic Concern subscales are brief at only 14-items and have corresponded more

directly with the previously identified definition of empathy as both cognitive and affective. Thus, after a review of a number of commonly used assessments of empathy it was determined that the Davis IRI was a good fit for use with young adolescents when empathy was considered as both cognitive and affective.

Parenting and Empathy

Although some research findings have suggested that genetic contributions play a role in empathy development (Davis et al., 1994; Knafo, Zahn-Waxler, Van Hulle, Robinson, & Rhee, 2008; Zahn-Waxler, Robinson, & Emde, 1992), other research findings have pointed also to the importance of environmental factors in general, and parenting in particular (e.g. Koestner et al., 1990). Maternal levels of cognitive and emotional empathy behavior (Farrant et al., 2012) and maternal support (Soenens, Duriez, Vansteenkiste, & Goossens, 2007) have been associated with greater levels of cognitive and emotional empathy in youth, and in turn, greater friendship quality (Soenens et al.). Other researchers reported that parental warmth and positive expressiveness towards their child were related to both child empathy and social functioning (Zhou et al., 2002). Inductive parenting, which was described as parents' use of reasoning and explaining (Maccoby & Martin, 1983) was found to be related to child empathy as well (Krevans & Gibbs, 1996).

It is likely that supportive and responsive parenting contributes to a secure attachment relationship, which creates a context out of which individuals develop and demonstrate higher levels of empathy. This section reviews seven studies that explored the specific relationship between parental support and empathy in children and/or adolescents.

In a small, longitudinal study, Eisenberg and McNally (1993) followed 32 suburban middle class mothers and their children (16 girls and 16 boys) for about 8 years, gathering data at

three different times: when the child was 7 or 8 (T1), at age 9 or 10 (T2), and then at age 11 or 12 (T3) to see if a mother's parenting practices were associated with child outcomes of sympathy (understood as empathic concern), perspective taking, and personal distress. Mothers were given the Child Rearing Practices Report (CRPR; J. H. Block, 1965) at T1, T2, and T3. This assessment included eight scales: independence, control, enjoyment of child, negative affect, expression of affect, emphasis on achievement, rational guidance, and nonphysical punishment. Out of these eight scales, the researchers created the following three superordinate composites: rational independence training, positive emotional communication, and reluctance to discipline. Both mother and child were individually evaluated for perspective taking, empathic concern, and personal distress (Davis, 1983) at T3. Children also responded to items from the Crowne-Marlowe Social Desirability Scale (Crowne & Marlowe, 1964). Mothers who reported expressing greater positive emotions towards their child and lower levels of negative affect had children (sons and daughters) who scored higher in perspective taking, daughters who scored high in sympathy, and sons who scored low in personal distress. Maternal reluctance to discipline was associated with low levels of personal distress, whereas maternal rational independence training was correlated with children's perspective taking when social desirability was controlled. In summary, this longitudinal study found that mothers who were supportive and warm had children who were more likely to take the perspective of others. Gender differences emerged with maternal perspective taking related to girls' (but not boys') sympathy (empathic concern), maternal emotional communication positively related to girls' (but not boys') sympathy and negatively related to boys' (but not girls') personal distress. This study only examined mothers rather than considering both fathers and mothers. It also considered effects across childhood rather than young adolescence.

In a study of 149 adolescents using self-report questionnaires, including the Davis IRI to measure empathy, Henry, Sager, and Plunkett (1996) conducted hierarchical regression models and found that adolescent reports of perceived parental support and family cohesion (along with communicative responsiveness of the adolescent, self-esteem and gender) were positively related to empathic response (affective empathy), whereas only age, gender, and communicative responsiveness were related positively to perspective taking (cognitive empathy). This adolescent sample had participants that ranged in ages from 13-18, was fairly evenly distributed between genders, and was mostly White (80%). Responses regarding adolescent reports of perceived maternal and paternal support were summed, so a differentiation of perceived mothering and perceived fathering effects was not considered.

A 2004 cross-sectional study by Strayer and Roberts conducted analyses based on 50 Canadian families who provided data from both mothers and fathers. Boys and girls were both represented and divided into three groups: Group 1 consisted of 13 boys and 13 girls with a mean age of 5.2, spanning an age range of 4.6 to 5.7; Group 2 consisted of 8 boys and 5 girls with a mean age of 9.0 and spanning an age range of 8.5 to 9.7; and Group 3 consisted of eight boys and five girls with a mean age of 13.0, spanning an age range of 12.2 to 13.5. Families were predominantly White and middle class living in a metropolitan area in western Canada. The study used multiple measures of empathy (i.e. self, teacher, friend, parent-report) and parenting behavior including the Child Rearing Practices Q-sort (CRP-Q; Block, 1965). Parental warmth was evaluated using scales looking at family cohesion (Moos & Moos, 1974), low conflict and anger (Moos & Moos, 1974), nurturance (Cornell Parent Behavior Inventory; Devereux, Bronfenbrenner, & Rogers, 1969), physical discipline and rejection (Cornell Parent Behavior Inventory; Devereux et al.), parents' empathy (Mehrabian & Epstein, 1972), and parents'

emotional expressiveness (Malatesta, 1982; Barnett, Howard, King, & Dino, 1980). Because they found few instances where correlations were statistically different for girls and boys, the children were analyzed together rather than separately by gender. Likewise, mothers and fathers were analyzed together rather than separately because when researchers compared the 50 two-parent families to 15 single parent families there were few differences reported. The analysis revealed a modest association of parental warmth and children's empathy for all ages.

Attachment security in a child (as reported by mother) predicted empathic concern in a more recent study (Murphy & Laible, 2013). Sixty-nine mother-child dyads participated in the study with 36 of the children being female. Most of the dyads were White and 73.9% of the mothers had at least a college degree or higher. Children were between 42 and 48 months old at times of assessments. Attachment was measured with mothers completing the Attachment Q-Set Version 3.0 (Waters & Deane, 1985). Empathic responses were measured using an observational method outlined by Zahn-Waxler et al. (1992). Children entered a laboratory where they were able to see through an open door to a stroller with a female who appeared to be the mother. Eight minutes into free play between the child and his or her mother, an audio recording of a baby crying was played for 1 minute. Children's responses to the crying were video-recorded to be coded through observation at a later time. The observations were coded on a four-point scale for concerned facial expressions with 1 indicating no concern and 4 indicating strong facial concern. Hierarchical regression was used to examine the relationship between attachment security and empathy. Greater attachment security at 42 months predicted higher levels of observed empathic concern at 48 months even after controlling for the presence of empathic concern at 42 months. This study only explored the influence of mothering and did not consider fathering effects.

A study examining mothering and adolescent empathy assessed 284 10th and 12th grade students from Belgium and their mothers (Soenens et al., 2007). The adolescents in the sample ranged in age from 15-20 years old with an equal representation of males and females. All questionnaires were translated into Dutch. Parental support was assessed using Schaefer's (1965) Children's Report on Parenting Inventory and was reported by both adolescent and mother. Empathy was measured using the Empathic Concern and Perspective Taking subscales of the Davis (1983) Interpersonal Reactivity Inventory as reported by the adolescents. Structural equation modeling found that maternal support, reported both by adolescents and mothers, appeared to have a unique effect on empathy even when controlling for other dimensions (gender, behavioral control, and psychological control), and was predictive of both empathic concern and perspective taking, with a stronger relationship evident between maternal support and perspective taking. Fathering was not included as a predictor of empathy.

Antonopoulou, Alexopoulos, and Maridaki-Kassotaki (2012) studied the relationship between early adolescents' perceptions of their fathers' parenting style with self-esteem and empathy in 190 primary school children in Greece, with an average age of 11. Perceived parenting style was assessed using the Greek version of the Parenting Styles and Dimensions Questionnaire (Robinson, Manleco, Olson & Hart, 2001) and empathy was measured using the Index of Empathy for Children and Adolescents (Bryant, 1982). Linear regression was used to determine that perceived paternal parenting style did predict empathy, with a supportive paternal parenting style predicting higher levels of reported empathy. This study only considered paternal effects and the affective dimension of empathy.

With a mean age of 16.7 233 high school students from the Midwestern region of the United States received class credit for participating in a cross-sectional study of parenting styles,

parenting practices, sympathy, and prosocial behavior (Carlo, McGinley, Hayes, Batenhorst, & Wilkinson, 2007). Although multiple hypotheses were examined, I reported only on those specifically related to parenting and sympathy. Participants completed the Parenting Style Inventory II (PSI-II; Darling, Cumsille, & Peña-Alampay, 2005), which evaluated demandingness (degree to which parents have expectations and standards for their child), responsiveness (degree of emotional sensitivity and responsiveness), and autonomy-granting (degree to which parents allow and encourage their children to develop their own ideas, beliefs, and points of view). Parenting practices were evaluated using the Parenting Practices Measure developed and tested by the researchers conducting this study that examined perceived parenting behaviors such as engaging in conversations with the child, using material rewards, using social rewards, initiating discursive conversations, and introducing experiential learning. Sympathy was evaluated using the Davis (1983) IRI's two subscales, Perspective Taking and Empathic Concern. Using structural equation modeling, the researchers found no significant relations between parenting style (including demandingness, responsiveness, and autonomy-granting) and empathy. However, there were significant associations between parenting practices and sympathy. Relations among parenting styles, parenting practices, and sympathy were similar for girls and boys. This study examined various forms of perceived parenting related to, but not explicitly the same as, perceived supportive parenting. The population of participants were in high school or mid to late adolescents, and not in middle school or early adolescents.

This section has reviewed studies related to parenting and empathy. In summary, these studies supported a relationship between parental support and empathy among children and adolescents. However, less is reported in the literature about the differentiated effects of maternal

and paternal support on empathy in children and adolescents as fathers or mothers were sampled exclusively for a given study or results for mothers and fathers were not analyzed separately.

Gender and Empathy

Some research findings have supported gender distinctions in terms of how the different dimensions of empathy influence behavioral responses among females and males (Ang & Goh, 2010). Further, it has been found that women score higher on empathy scales in general compared to men (Rueckert & Naybar, 2008), although the literature has yielded inconsistent findings on gender differences when considering dimensional empathy and how empathy was measured (see Lennon & Eisenberg, 1990 for a review). This section discusses studies that considered gender as a variable that could be associated with empathy among youth.

Research findings have suggested that girls report higher levels of empathy than boys (Laible, Carlo, & Roesch, 2004). In a study by Henry, Sager, and Plunkett (1996), adolescent girls reported higher levels of both empathic concern and perspective taking than did boys. Ang and Goh (2010), while exploring differential interaction effects of cognitive and affective empathy and cyberbullying among 396 adolescents ages 12-18, reported that high school females in Singapore scored higher than males on both affective empathy and cognitive empathy based on results obtained through the use of hierarchical multiple regression. Topcu and Erdur-Baker (2012), also examined cognitive and affective empathy and cyberbullying, and supported these earlier findings with a sample of 795 Turkish youth ages 13 – 18, with results based on utilizing multiple mediation analyses. Both Topcu and Erdur-Baker and Ang and Goh assessed empathy using the Basic Empathy Scale (Jolliffe & Farrington, 2006).

A longitudinal study following 497 adolescents ages 13-18 conducted in the Netherlands found differential developmental trends in empathy for females and males (Van der Graaf et al.,

2013). In this study, the reported curve demonstrating the development of perspective taking (the cognitive dimension of empathy) was steeper for girls than for boys, suggesting that girls develop exponentially faster in the area of cognitive empathy as they age than do boys. Empathic concern (the affective dimension of empathy) among females remained stable, whereas boys in this study showed a decrease in empathic concern from early to middle adolescence, and then at age 16 saw a slight increase and had almost recovered to their original levels by age 18. Most youth in this study were classified as medium or high socioeconomic status. Empathy was measured using the Dutch version of the Interpersonal Reactivity Index (Davis, 1983).

D'Ambrosio, Olivier, Didon, and Besche (2009), in a study of 446 French adolescents with a mean age of 14.8 years, found that females scored higher in both cognitive and affective empathy, with the difference being greater between males and females in affective empathy. Data analyses were conducted using structural equation modeling and empathy was assessed with the Basic Empathy Scale (Jolliffe & Farrington, 2006).

A longitudinal study of 505 Spanish adolescents compared youth empathy at two different times in development: in grade two or three and then in later adolescence (Mestre, Samper, Frias, & Tur, 2009). At grades two or three, the participants completed the Index of Empathy for Children and Adolescents (Bryant, 1982), which only measured affective empathy, and in adolescence (average age of 14) they completed the Interpersonal Reactivity Index (Davis, 1983). They found that empathic response was greater in females than males at both time points, with differences between males and females larger in adolescence than in grade 2 or 3. Further, females reported higher levels of cognitive empathy in adolescence.

This section has reviewed studies that examined gender and empathy. Across these findings, some conclusions can be drawn. Findings seem to indicate that girls demonstrated

greater empathy than boys, both in terms of empathic response (affective empathy) and in perspective taking (cognitive empathy), particularly in adolescence. Further, results were consistent across different cultural contexts and when using different instruments for measuring empathy.

Maternal Support and Paternal Support, Gender, and Empathy

Although the body of research is growing, traditionally the studies that consider mothering and fathering as discrete contributions to child related variables have been inadequate (Maccoby & Martin, 1983). Not only do mothers and fathers reinforce one another's parenting, they also serve to protect and buffer against the weaknesses of the other parent (Maccoby & Martin). Palkovitz, Trask, and Adamsons (2014), in a theoretical review, argue that although empirical studies have not always supported essential variances in mothering and fathering, that family systems theory, feminist theories, and qualitative research shows rich and complex areas where mothering and fathering are distinct in terms of processes and meaning. Suess et al. (1992) found that attachment quality to mother or father yielded different outcomes based on the gender among six year olds in the areas of play, conflict resolution and behavior problems. For example, a secure father attachment was related to less negative affect during play. Secure mother attachment was related to longer periods of concentrated play. Fathering and mothering also changed throughout the development of the child, as did the experience of fathering and mothering by the male or female child (Palkovitz et al, 2014).

Limited research has examined the differential effects of mothering and fathering on the development of empathy in children. The research that has been done has shown that perhaps maternal and paternal parenting influence empathy differently (Spinrad et al., 1999; Zahn-

Waxler, 2000). This section reviews four studies that explored how maternal and paternal parenting influenced empathy in boys and girls.

Nickerson, Mele, and Princiotta (2008) used hierarchical regression to examine maternal and paternal attachment (measured using Kerns Attachment Security Scale; Kerns et al., 1996), jointly and separately, and their effects on adolescent empathic responsiveness (ERQ; Olweus & Endresen, 1998) on two self-identified populations regarding school bullying: defenders and outsiders. The sample included middle school students (46 sixth graders, 27 seventh graders, and 70 eighth graders) and their parents in a predominantly middle class area. Girls were over represented (63.8%). Middle school students were asked to read paragraphs describing possible roles in response to a bullying incident and then to choose which role best identified them. Options included defender, outsider, bully, reinforcer, assistant, and victim. Self-identified defenders were over represented (52%) compared to the other options: outsiders (26%), victims (13%), bullies (5%), reinforcers (3%), and assistants (1%). Results revealed that empathic concern was associated with a child's identified role as a defender or an outsider with those children reporting greater experiences of empathic concern more likely to identify as a defender. Secure attachment to mother increased the likelihood that a child would identify as a defender whereas father attachment was not related to a child's identification as a defender beyond the contribution of attachment to mother. The researchers acknowledged a high correlation between paternal and maternal attachment in this study ($r = .46$). Empathy has been associated with prosocial action (Brownell et al., 2013), and has also been described as the antithesis of violence and bullying behavior (Kokkinos & Kiprisi, 2012; Robinson et al., 2007). This study indicated a unique relationship between mothering, in this case identified through maternal attachment, with empathy and prosocial behavior (choosing to identify as a defender).

In 2003, Kim and Rohner assessed college students and used ANOVA to investigate if their level of reported emotional empathy was differentiated by how much they perceived they were accepted by parents in childhood. Gender differences by parent and child were also examined. 725 Korean students attending a university in Kangnung, Korea ranged in ages from 19-21 with a mean age of 19.5. Three hundred seventeen were men and 408 were women. Most students came from two-parent, working-class families. Parental acceptance was measured using the self-report adult version of the Parental Acceptance-Rejection Questionnaire (PARQ; R. P. Rohner, 1990). Emotional empathy was assessed using the Emotional Empathy Test (EET; Mehrabian & Epstein, 1972). Researchers found that the more accepting mothers (but not fathers) were perceived to have been in childhood, the more emotionally empathic college-age daughters, but not sons reported themselves to be. Further, the more accepting fathers (but not mothers) were perceived to have been in childhood the more emotionally empathic college-aged sons, but not daughters reported themselves to be. Daughters who reported perceived rejection by mothers were less emotionally empathic than daughters who reported perceived acceptance by mothers. Conversely, sons who reported perceived rejections by fathers were not less emotionally empathic than sons who reported perceived acceptances by fathers.

A recent study of Belgium youth using structural equation modeling revealed that parenting differences were moderated by the gender of the child being parented. Miklikowska et al. (2011) measured three types of perceived parental support: responsiveness (from the Child Report Behavior Inventory by Schaefer, 1965), autonomy support (from the Perceptions of Parents Scale by Grolnick, Ryan & Deci, 1991), and psychological control (from the Psychological Control Scale-Youth Self-Report by Barber, 1996). They referred to the mean of the scales of these three types of perceived parental support as one variable: perceived parental

need support. Assessments were conducted with 678 youth at one year intervals starting in 10th grade. Empathy was measured using a Dutch version of the Interpersonal Reactivity Inventory (Davis, 1983). They found that perceived maternal need support was associated with change over time in empathic concern in daughters only, but perceived paternal need support was not associated with change in empathic concern for sons or daughters. Perceived paternal need support was related to change over time in perspective taking for sons and daughters, but neither male nor female perspective taking was associated with perceived maternal need support. The results of this study indicated that fathering influenced only cognitive empathy (Perspective Taking) in boys and girls while mothering influenced only affective empathy (Empathic Concern) in girls, but not in boys.

A study conducted with 569 college students in China (Yu, Wang, & Liu, 2012) supported the findings of Miklikowska et al. (2011). Using hierarchical regression analyses, they found that youth self-report measures of paternal attachment showed a positive association with cognitive empathy with the association being stronger for women than men. However, unlike the previous study where maternal support predicted affective empathy in females only, here maternal attachment predicted affective empathy among both men and women.

In conclusion, the results reviewed in this chapter suggest that perceived parental support has been associated with greater reported empathy among youth. Women reported greater empathy, both cognitive and affective, than did men. These findings have been replicated in various studies conducted in different cultural settings utilizing different measures of empathy. Although there is less work that has examined the influence of maternal and paternal support, gender of youth, and the two types of empathy (perspective taking and empathic response), past

research has suggested that paternal support contributes to cognitive empathy in both boys and girls, and maternal support contributes to affective empathy in boys and girls.

This section has reviewed studies investigating maternal support, paternal support, and empathy. There are limitations to the studies reviewed that examine parenting (differentiating mothering and fathering), gender, and empathy. As best as can be determined through my review of the literature, no longitudinal study in the United States or abroad has been conducted that specifically considers perceived parental support (differentiated by mother and father) and reported empathy in early adolescence by gender. Some studies consider parenting dimensions and empathy in children, but these studies are not longitudinal, do not consider mothering and fathering as distinct variables, do not explore other ages of children or adolescents, and/or are not with a population in the United States. This distinction in limitations matters because the current study used longitudinal data to examine perceived maternal and paternal support specifically in early adolescence by gender. These features of the current study represent a contribution to the current literature that examines empathy in adolescents.

Scholarly Work from the Ogden Youth and Family Project

Data examined in the present study came from the Ogden Youth and Family Project (OYFP), a longitudinal study of families with adolescents conducted in Ogden, Utah, that was funded by the National Institute of Mental Health spanning the years of 1994 to 1998. The following section reviews critical studies that have come out of the OYFP. This review is imperative because the present study adds to this cumulative body of work that represents an important contribution to the study of youth development both within the United States as well as internationally.

One of the project's central contributions has been identifying the unique effects of parental support on youth social initiative. While social initiative is clearly not an ancillary for empathy, it is, nevertheless a measure of social behavior that has relevance to empathy. Dr. Brian K. Barber's work emerging from the OYFP project and its international extensions has been particularly prominent in the examination of the association of parental support and youth social initiative. Barber et al. (2005) simultaneously examined three parenting dimensions (behavioral control, psychological control, and support) through the OYFP and its international extension, the Cross-National Adolescence Project (C-NAP; Barber et al., 2005). A series of analyses, including structural equation modeling and dominance analysis in each stage of the research, supported the specialized relationship between parental support and social initiative. In other words, social initiative was more influenced by parental support than any other parenting dimension examined. Parental support (youth reports of mothers' support and father reports of their own support) remained stable across time for both mothers and fathers and this pattern held irrespective of gender of the adolescent. From their work with the OYFP Barber and Olson (1997) found positive associations with supportive parenting and regulation, peer autonomy, school connection, and peer connection, patterns that held for both boys and girls. Additionally, 8th grade boys and girls in this study who reported high levels of parental support (called connection here) had significantly lower levels of depression.

In the cross-cultural extension of the OYFP, the C-NAP, Barber et al. (2005) conducted an examination of over 10,000 adolescents in 10 nations or ethnic groups in Africa, Asia, Europe, the Middle East, and North and South America. The primary goal of this work was to ascertain the effects of parenting on psychosocial well-being of adolescents across a cross-cultural context. Multivariate modeling was used for analyses as well as multiple waves of data

collected in the southwestern US in addition to cross-sectional data collected in nine additional cultures. Results were extraordinarily consistent in showing that at fundamental levels parent-adolescent relationships function similarly across multiple cultures. Specifically, in all cultures greater parental support was linked to greater adolescent social competence and lower rates of depression. Barber and Erikson (2001) examined also the influence of aspects of parenting (support and behavioral control) on social initiative in 5th and 7th grade adolescents over a three-year time period. A cross-lagged analysis using structural equation modeling was employed to examine the data collected in OYFP. Other variables such as nonfamily interpersonal relationships also were considered. Every sphere of interpersonal connection, including parental support, contributed significantly to social initiative. Findings did not vary by gender of the adolescent. Parental support was not differentiated by the gender of the parent.

Xia (2011) supported findings related to the importance of parental support and youth functioning amongst Chinese parents and 1,027 adolescents ages 12-20. Using data from the C-NAP, Xia discovered that parental support was positively associated with positive adolescent interpersonal functioning. Further, Xia found that parental support proved uniquely salient to all forms of positive functioning beyond other parenting dimensions for Chinese adolescents. Positive functioning in this study included intrapersonal (self-esteem and empathy), interpersonal (social initiative and peer connection), and institutional (adolescent academic achievement). In this study parents and adolescents were examined as a group rather than by gender.

Further work with data from the OYPD was led by Dr. Heidi Stolz whose interests focused on parental gender and the differential contributions of mothering and fathering to youth outcomes. She grappled also with the differential effects of parenting behaviors of mothers and fathers with adolescent sons and daughters. Stolz et al. (2005), utilizing OYPD data in a three-

year cross-lagged design, applied dominance analysis to assess the relative importance of parental gender in terms of parental support and parental behavioral and psychological control. They examined these dimensions of parental influence on social initiative, antisocial behavior, and depression among 644 adolescents across the time period of 5th to 11th grade. They concluded that the gender of the parent and their adolescent child differentiated the associations between aspects of parenting behaviors and adolescent outcomes. Adolescents' reports of mothers' behavioral control were found to be more important than reports of fathers' behavioral control in influencing sons' subsequent antisocial behavior. Adolescent sons' reports of mothers' support predicted lower levels of subsequent antisocial behavior among sons. Further, fathers' support was found to be of greater relative importance than that of mothers in predicting concurrent and subsequent youth social initiative among both sons and daughters. There was also a cross-gendered effect on early adolescents' depression with higher levels of mother behavioral control, but lower levels of mother psychological control predicting subsequent lower levels of depression among younger boys and higher levels of father behavioral control, but lower levels of father psychological control predicting subsequent lower levels of depression among younger girls.

Stolz, Olsen, Barber, and Clifford (2010) continued to attempt to disentangle the influence of gender in parenting. They conducted mixed model regression analyses separately for 10th grade boys and girls to examine whether personality moderated the influence of mothers' and/or fathers' support with social initiative. Results suggested that for both boys and girls three sets of personality dimensions (apprehension, easy-going, and spontaneous) did moderate the relationships between mothers' and fathers' support with social initiative among sons and daughters. Specifically, apprehensive girls reported lower levels of both mother and

father support while apprehensive boys reported lower levels of mother support, but higher levels of father support. Perceptions of fathers' support were significantly and positively related to social initiative for both apprehensive sons and daughters while mothers' support was no significant for girls, but negatively predicted social initiative for boys. Easy-going boys and girls reported lower levels of support from mothers and fathers and neither mother nor father support was predictive of social initiative among this subgroup of youth. Finally, there seemed to be something unique about the same gender parent in regards to spontaneous youth and social initiative. Spontaneous youth reported higher levels of both mother and father support. Fathers' support uniquely predicted social initiative among spontaneous sons and mothers' support uniquely predicted social initiative among spontaneous daughters.

In another international study emerging out of the data from the Cross-National Adolescence Project (C-NAP), Stolz et al. (2004) examined the relationship between family and school socialization with adolescent academic by gender achievement across 10 national national/ethnic groups. Data came from the C-NAP, the international extension of the OYFP. Data were collected in Cape Town, South Africa; Dhaka, Bangladesh; Beijing, China; Bangalore, India; Sarajevo, Bosnia; Darnstadt, Germany; Gaza Strip, Palestine; and Ogden, Utah. Measures of Mother and father support demonstrated strong reliability across these national/ethnic groups, providing further evidence for perhaps the universal nature of parental support. Although the study's model of family and school socialization was best able to predict academic achievement in the United States, the associations between these dimensions and achievement were not found to generalize across cultures; near invariance occurred across the cultural sites in regards to the salience of paternal support (as well as maternal knowledge and teacher support) with academic achievement for boys and girls.

In another study conducted with data from the C-NAP, Stolz, Olsen, Henke, and Barber (2013) found gender differences in the relationships among parenting variables, adolescent religiosity, and psychosocial functioning amongst 9,300 adolescents ages 14-17 from 11 different national and ethnic groups utilizing cross-sectional data. The purpose of this study was to examine the role of religious traditions in association with various aspects of youth psychosocial functioning while considering also variations in gender and cultural settings. Religiosity did not predict any impact on youth functioning differentially for boys and girls, but gender did have a differentiated effect in terms of three of five of the aspects of youth psychosocial functioning assessed. Boys reported higher levels of antisocial behavior and self-esteem and lower levels of depression than did girls. Religiosity did appear to function in a protective role in a relative manner with youth who were more religious than others in their group benefiting the most

This review of literature from the OYFP and C-NAP has offered a sampling of the rich and meaningful history these projects have yielded within the body of scholarly literature exploring parental support and gender in association with various aspects of youth development. Studies have continued to support the validity of the parental support measure used in the OYFP, the 10-item acceptance subscale of the 30-item version (Schludermann & Schludermann, 1970) of the Child Report of Parent Behavior Index (CRPBI; Schaefer, 1965) across cultures and nations. Gender has proven also to be an influential variable when exploring the effects of parenting on youth outcomes both in terms of the gender of the parent and of the adolescent. The current study offers a contribution to these efforts by examining parental support and the youth outcome variables of two dimensions of empathy while considering the relative effects of gender.

The present study aimed to investigate perceived mother and father support in separate models with two types of empathy (perspective taking and empathic response), for male and female young adolescents. Overall, research and theory suggest that supportive primary relationships are important to positive adolescent development and functioning. Based on this review of the literature I tested the following hypotheses:

H₁: It was expected that perceived support from mothers at T1 would be positively associated with affective empathy (empathic concern) in both boys and girls at T2, jointly and separately.

H₂: It was expected that perceived support from fathers at T1 would be positively associated with cognitive empathy (perspective taking) at T2 in both boys and girls, jointly and separately

CHAPTER THREE

METHODOLOGY

Sample

Data were from the Ogden Youth and Family Project Project (OYFP), a longitudinal study of families with adolescents conducted in Ogden, Utah, that was funded by the National Institute of Mental Health spanning the years of 1994 to 1998. The sample in this study was a random sample of fifth- and eighth-grade classrooms in the Ogden City School District in 1994 and 1996. The overall sample consisted of 933 families with adolescent children. The sample was split about equally by sex and grade. Seventy-one percent of the students were White (including 16% Hispanic), 84% were from middle-income families, and 46% were Mormon.

In the first year, an extensive self-report survey of family interactions, personality, youth behavior, peer, school, and neighborhood experiences was administered to the students in the classrooms with participation rate in the first year (1994) at over 90%. Multiple mailings following standard mail survey methodology (Dillman, 1978) were employed to maximize response rates in the subsequent years of data collection for the entire Ogden Youth and Family Project. Response rates for following years were 78-80%. Past analyses revealed that respondents and non-respondents differed significantly only in that a higher number of respondents were Mormon (Barber, Maughan, & Olsen, 2005).

The current study utilized Time 1 (T1) data from 1994 for gender and parenting measures related to participants at fifth grade and Time 2 (T2) data from 1996 for youth empathy for the participants at seventh grade. These years were chosen because of an interest in determining the influence of parenting measures at T1 (1994) on empathy measures at T2 (1996) through a cross-lagged analysis (Finkel, 1995). Empathy measures were not available for 1995. A cross-lagged

analysis, as compared to a cross-sectional design, allows for possible causal inference, while acknowledging other plausible alternative explanations, because it explicitly builds in the time aspects of a causal process (Finkel). Still, because of the confusion and disagreement concerning the use of the term “cause” or the expression “causal modeling,” in structural equation modeling it is thought to be a superior alternative to speak in terms of the direct, indirect, or total effects among latent constructs (Schreiber et al., 2006). Thus, in this study I examined the effects of perceived supportive parenting from T1 data on youth reported empathy from T2 data. The overall sample for this study, after managing missing data, was 306 early adolescents. The sample was split about equally by sex (138 girls, 168 boys).

Measures

This study used measures assessing the relevant variables: gender, parental support, and youth empathy. All measures were youth self-reports.

Gender

Gender was assessed at T1 with one-item: “What is your sex?” with 1 indicating "male" and 2 indicating "female".

Perceived Parental Support

Perceived Parental support was assessed at T1 using the 10-item acceptance subscale of the 30-item version (Schludermann & Schludermann, 1970) of the Child Report of Parent Behavior Index (CRPBI; Schaefer, 1965) termed by Barber, Stolz, & Olson (2005) as Parental Support. The Acceptance Subscale (Schaefer; Schludermann & Schludermann) indicated the extent to which the adolescent felt connected with, as well as accepted and supported by the parent. Participants responded to these items for mothers and fathers each using a three-point

Likert-type scale (1 = *not like her or him* to 3 = *a lot like her or him*) as to how well items described their mothers and fathers (separately). Items included:

- (1) makes me feel better after talking over my worries with her/him.
- (2) smiles at me very often.
- (3) is able to make me feel better when I am upset.
- (4) enjoys doing things with me.
- (5) cheers me up when I am sad.
- (6) gives me a lot of care and attention.
- (7) makes me feel like the most important person in her/his life.
- (8) believes in showing her/his love for me.
- (9) often praises me.
- (10) is easy to talk to.

Cronbach's alpha values for this 10-item acceptance subscale measure (Schaefer, 1965; Schluderman & Schluderman, 1970) have been reported to be .91 for both mothers and fathers (Henke, Stolz, & Barber, 2011) and in another study .87 for mothers only (Benson, Buehler, & Gerard, 2008). Research has established construct validity for this scale (Armentrout & Burger, 1972; Burger & Armentrout, 1971; Gherasim, Butnaru, Gavreliuc, & Iacob, 2012; Margolies & Weintraub, 1977; Schludermann & Schludermann, 1983).

Youth Empathy

Youth Empathy was measured at T2 using 14 items designed to address the two dimensions of empathy, perspective taking (PT) and empathic concern (EC) subscales, from Davis (1980) self-report Interpersonal Reactivity Index based on a five-point Likert-type scale (1 = *does not describe me* to 5 = *describes me very well*).

Perspective Taking assessed the tendency to adopt the point of view of another with seven items. Items included:

PT1: Before criticizing somebody, I try to imagine how I would feel if I were in their place.

PT2: If I'm sure I'm right about something, I don't waste much time listening to other people's arguments. (reverse coded)

PT3: I sometimes try to understand my friends better by imagining how things look from their point of view.

PT4: I believe that there are two sides to every question and try to look at them both.

PT5: I sometimes find it difficult to see things from the "other guy's" point of view. (reverse coded)

PT6: I try to look at everybody's side of a disagreement before I make a decision.

PT7: When I'm upset at someone, I usually try to "put myself in their shoes" for a while.

Empathic Concern assessed feelings of sympathy and concern for the unfortunate circumstances of others with seven items. Items included:

EC1: When I see someone being taken advantage of, I feel kind of protective towards them.

EC2: When I see someone being treated unfairly, I sometimes don't feel very much pity for them. (reverse coded)

EC3: I often have tender, concerned feelings for people less fortunate than me.

EC4: I would describe myself as a pretty soft-hearted person.

EC5: Sometimes I don't feel very sorry for other people. (reverse coded)

EC6: Other people's misfortunes do not usually disturb me a great deal. (reverse coded)

EC7: I am often quite touched by things that I see happen

Davis (1980) reported internal reliability coefficients (standardized values) for perspective taking to be .75 for men and .78 for women, and for Empathic Concern to be .72 for men and .70 for women. Test-retest reliability was assessed by administering the assessment twice with the elapsed time between the first and second administration ranging from 60 to 75 days. Test-retest coefficients for perspective taking were .61 for men and .62 for women, and for empathic concern were .72 for men and .70 for women. Davis (1983) further established discriminant and convergent validity for empathic concern and perspective taking. Validity was first established by exploring predicted positive and negative intercorrelations of the subscales, which were supported. Concurrent validity was established by exploring the relationship of the Interpersonal Reactivity Index subscales to other empathy measures including the Mehrabian and Epstein Emotional Empathy Scale (1972) and the Hogan Empathy Scale (1960). Consistent with expectations, the Perspective Taking subscale was strongly correlated with the cognitive Hogan Empathy Scale with a mean $r = .40$, and the Empathic Concern subscale was less correlated with $r = .15$. Conversely, the Perspective Taking subscale correlated least with the Mehrabian and Epstein Emotional Empathy Scale, an affective measure of empathy, with $r = .20$, and Empathic Concern showed a strong correlation with $r = .60$.

Data Analyses

As a first step, some items in the two empathy subscales, Perspective Taking and Empathic Concern, were reverse coded so that all items of the scale reflected higher scores being indicative of higher levels of each of these variables. Specifically, items number 2, 5, and 6 on the Empathic Concern scale and items number 2 and 5 on the Perspective Taking scale were reverse coded so that higher scores on all fourteen items, 7 in each subscale, indicated greater

empathy (Davis, 1980). No reverse coding was necessary for the Mother Support and Father Support measures (Schaeffer, 1965; Schludermann & Schludermann, 1970).

Next, a series of preliminary analyses were conducted. First, data were examined for missing items and to determine whether a pattern existed in the missing data. A pattern was expected. There were cases where the parenting measures from 1994 had been completed, but not the empathy measures in 1996. There were also cases where the empathy measures from 1996 were reported, but not the parenting measures from 1994. In these cases, the gender item from 1994 was always consistent with the parenting measure. If the parenting measure was absent, the gender item from 1994 was also absent. A logical explanation for this pattern is that these cases represented participants who did not take the assessments in both years. In longitudinal studies, it is expected that some participants will not consistently participate throughout the years of the study for a variety of reasons. For example, they move into or away from the area in which the study is taking place during the course of the years the assessments are being administered.

The data were also inspected for additional missing data where no pattern seemed to exist. Missing data are the norm rather than the exception in quantitative research and making the best choice for how to handle missing data in one's own study has been described as crucial to the appropriate analysis of one's data (Dong & Chao-Ying, 2013). After analyzing the percent of missing data in one's study, one must also analyze the patterns of the missing data, as well as the distributional characteristics of the scales. Finally, the type of analysis must be considered also as an aid in making a decision about how to treat the missing data. In general, deletion of cases with missing data has not been recommended. As an alternative, AMOS allows for the use of full information maximum likelihood (FMIL; Kline, 2010) as a method for handling missing data,

but the data must be normally distributed. Because of the nature of these surveys (i.e. more adolescents reporting supportive parenting behavior than not), it was expected that the data would not be normally distributed. Other methods outside of AMOS also exist such as Expectation Maximization (Dempster, Laird, & Rubin, 1977) and Multiple Imputation (Rubin, 1987). The data in this study were analyzed for its distributional qualities and type of estimation procedure considered (see below) before a final decision was made about how to handle the remaining missing data.

Next, total scores for each scale were calculated as per instructions provided by the authors of the scales, which had reverse scoring items in scales as indicated above. Frequency distributions and histograms were examined for all total scale scores to determine whether scores were normally distributed, and in particular, whether there was evidence of skewness or kurtosis. Next, Cronbach's values were calculated to assess the internal reliability of the scales.

Assumptions of maximum likelihood estimation in structural equation modeling include that the data are continuous and normally distributed (Finney & Distefano, 2006). As already stated, the data in this study were anticipated to have normality concerns. With nonnormal data, the ML (maximum likelihood) chi-square statistic would likely be inflated. The data in this study were also ordinal, rather than continuous with 5 ordered possible responses for each empathy scale item, and 3 ordered possible responses for the perceived mother and father support measures. As the number of ordinal data increased, and became more closely approximate to continuous, the found correlations were closer to their true values. It's been agreed, in general, that fit indices perform well if approximately normally distributed five-category ordinal data are treated as continuous when sample sizes are larger (Bollen 1989; Dolan, 1994; Muthen & Kaplan, 1985). Inflation of results was found to be present when fewer than four ordered

categories were present (Green, Akey, Fleming, Hershberger, & Marquis, 1997). Because assumptions of maximum likelihood were violated within this study, another option, other than maximum likelihood for estimation, was used in AMOS.

There are a few options in AMOS for approaching estimation with nonnormal data. I will review these options with an explanation for my chosen method in this study. Generalized least squares (GLS) as an estimator is sometimes suggested as a method for approaching non-normal data in AMOS. Unfortunately, Olsson, Troye, and Howell (1999) suggested that GLS underperforms ML in two main areas. GLS, as compared to ML, both accepts models that are incorrect and reports inaccurate parameter estimates more often. Consequently, the modification indices are less reliable when GLS is used. A second option for estimation with nonnormal or ordinal data is using Browne's (1984) asymptotic distribution free (ADF) estimator. Unfortunately, use of the ADF requires sample sizes that exceed 1000, making it not a practical choice for this study.

Another option is to use the Bollen and Stine (1993) bootstrapping procedure. Bootstrapping is a resampling method, creating a sampling distribution to use the Bollen-Stine p-value, rather than the usual maximum likelihood p-value. Bootstrapping can also be used to estimate standard errors and to create the confidence intervals. The resampling method has a more accurate Type 1 error rate and power than a single sample method that assumes a normal distribution. Using the Bollen-Stine bootstrapping procedure, AMOS allows the data analyst to specify the number of bootstrap samples drawn. Nevitt and Hancock (2001) suggested 2000 be specified for determining the p-value of overall model fit, but for bootstrap estimates they found little improvement in samples larger than 250. The procedure then outputs the distribution of the chi-square values from the bootstrap samples in addition to the chi-square value and a Bollen-

Stine p-value based on a comparison of the original model's obtained chi-square with the main chi-square from the bootstrap samples. Fouladi (1998) found in a simulation study that the Bollen-Stine test of overall model fit performed well relative to other methods of testing model fit, particularly in smaller samples. Nevitt and Hancock's (2001) study seemed to support a sample size of at least 200 for use with the bootstrap method.

A disadvantage of the bootstrap method is that it requires a complete data set with no missing values. Thus, it is necessary to handle the missing data outside of AMOS prior to analysis. Using a combination of listwise deletion with a form of single imputation has been sometimes used prior to analysis using bootstrapping in AMOS (See Lee & Sontag, 2007; Sohl & Moyer, 2009; Tsaousis, Mascha, & Giovazolias, 2012; Utsey et al., 2013). Thus, using the bootstrap method constrains one's choices in how handle missing data are handled.

The factor structure of the measure of empathy for the two dimensions of Perspective Taking and Empathic Concern and the perceived parental support measure for both mother and father were assessed for the sample by utilizing confirmatory factor analyses (CFA) using the Bollen and Stine (1993) bootstrapping procedure due to the anticipated assumption violations for ML (Maximum Likelihood) estimation. The Bollen Stine p-value was evaluated, in addition to other fit statistics to ascertain a better picture of model fit for this data. CFA has been described as a structural equation modeling procedure used to determine the goodness of fit between a hypothesized model and the sample model (Byrne, 2001). A CFA was conducted for both males and females to determine any potential differences based on gender. The factor structure of the Davis empathy measure on Perspective Taking and Empathic Concern for young adolescents, as well as the factor structure for the parental support measure for both mother and father were examined in the present study. First, the factor structures were examined among the full sample

of participants. Second, the sample was divided based on gender and then re-examined. The goodness of fit was evaluated using the Bollen-Stine estimation procedure along with other model fit statistics and implemented with the Analysis of Moment Structures (AMOS) software, version 5.0 (Arbuckle & Wothke, 1999).

Several fit indices were examined: the comparative fit index (CFI), the root means square error of approximation (RMSEA), PClose or Probability of Close Fit, and the chi squared/degrees of freedom ratio, where values less than three are considered favorable in large sample analyses (Kline, 2010). Finally, because the ML chi-square statistic was inflated with likely nonnormal data, the Bollen-Stine p value was evaluated. The chi squared/degrees of freedom ratio (Wheaton, Muthen, Alwin, & Summers, 1977) has been seen as an alternative to the traditional model chi square value, which has limitations including its sensitivity to sample size. CFI values close to 1 have been described as optimal and values greater than .90 as indicating acceptable fit for the model (Hu & Bentler, 1999). The CFI is a population measure of model misspecification that has been recommended for model comparison purposes (Goffin, 1993). A value between .05 and .08 for the RMSEA would indicate an acceptable fit (Hu & Bentler, 1999). The RMSEA tells how well the model would fit the population's covariance matrix (Byrne, 2001). The recommended value for Pclose is above .05 (Hu & Bentler). The Pclose, tests the null hypothesis that the RMSEA is .05 and therefore a "close" fitting model, and a nonsignificant Pclose value indicates that the RMSEA value is not significantly different from .05 (Byrne). The Bollen-Stine p-value is evaluated using a conventional significance level of .05 with levels above .05 indicating adequate model fit.

A theoretically based path model examining how perceived mother and father support influenced adolescent reported cognitive and affective empathy was tested. The model was tested

for the sample as a whole, and then separately for males and females. A path model should be determined by a combination of theoretical, logical, and empirical indications (Byrne, 2001). Analyses were conducted using the Bollen and Stine (1993) bootstrapping procedure and implemented by use of the Analysis of Moment Structures (AMOS) software, version 5.0 (Arbuckle & Wothke, 1999). Four latent constructs were modeled: Perceived Father Support, Perceived Mother Support, Perspective Taking, and Empathic Response. The determination of model fit was made using measures of fit including the chi squared/degrees of freedom ratio, the CFI, RMSEA, the PClose, and the adjusted Bollen-Stine p-value.

CHAPTER FOUR

RESULTS

Preliminary Analysis

Originally, the data set included 529 cases. Data were checked initially for the extent of missing data. Ten cases were completely blank, which could have been due to entry error. These empty cases were deleted. Categorical items of gender and grade level were assessed for missing data. Possibly due to attrition, gender and grade level information for some cases was available for 1994, but not for 1996 and vice versa. Where there were missing data for 1994, information was used from 1996 to fill in the missing information and vice versa. For example, if gender for 1994 was reported as "male," but the gender for 1996 was missing, using the information from 1994 "male" was entered for the 1996 gender item. Similarly, if a participant reported being in fifth grade in 1994, but the grade level for 1996 was missing, using the information from 1994 the grade for 1996 was entered as seventh grade. This approach allowed for all gender and grade level data points to be completed.

After deleting cases with no data present and filling in the information for gender and grade level, 286 out of the remaining 519 cases had missing data (55.1%). Of these cases, 45.9% were complete with no missing data. Of all the variables (and all cases) being used for analysis, the extent of total percentage of missing data from the data set was 20.5% (i.e., the percentage of missing values). A missing data rate of about 15% to 20% has been reported to be common in educational and psychological studies (Enders, 2003). When comparing methods for handling missing data in a sample of junior high adolescents (listwise deletion, multiple imputation, full estimation likelihood, and expectation maximization), Dong and Chao-Ying (2013) reported that a 20% overall missing rate estimates from these four methods were statistically significant at the

same level as the complete data results. In all four methods, the bias estimate was mostly under 10%. As percentages of missing data increased (up to 60% in their study), so did the standard error and the bias. Missing data have been described as the norm rather than the exception in quantitative research and making the best choice for how to handle missing data in one's own study is crucial to the credibility of one's study results (Dong & Chao-Ying, 2013). After analyzing the percent of missing data in one's study, one must also analyze the patterns of the missing data, as well as the distributional characteristics of the scales. Finally, type of statistical analysis must also be considered as relevant information in making a decision as to how to treat missing data.

Descriptive statistics were computed for all scale items to determine percent of missing data and distributional characteristics of these items. The missing item-level data and distributional characteristics for Mother Support (MS), Father Support (FS), Empathic Concern (EC), and Perspective Taking (PT) are found in Tables 4.1-4.4. Means, medians, standard deviations, skewness, standard errors of skewness, kurtosis, standard error of kurtosis, interquartile ranges, and percent of missing data were computed for all scale scores for the total sample using SPSS. No single item had greater than 30.6% of missing data with the highest percentages of missing data coming from the 1996 data. An expected pattern of attrition is a plausible explanation of why there were a greater number of missing data in the second time of data collection in the present study.

In analyzing patterns for the missing data, it was most common to see whole scales missing. As previously mentioned, it could be that these participants either moved into the area or moved out of the area after the data collection had started. In cases where only Mother Support or only Father Support were present for a participant, it is also possible that in these

Table 4.1

Descriptive Statistics for Mother Support (MS) (N = 306)

Variables	Mean	Median	SD	Skewness	SE	Kurtosis	SE
MS1	2.67	3.00	.574	-1.565	.112	1.432	.223
MS2	2.54	3.00	.662	-1.117	.112	.035	.223
MS3	2.65	3.00	.608	-1.562	.113	1.292	.226
MS4	2.69	3.00	.581	-1.740	.113	1.941	.225
MS5	2.63	3.00	.629	-1.487	.113	.997	.225
MS6	2.66	3.00	.584	-1.499	.112	1.212	.224
MS7	2.41	3.00	.675	-.727	.114	-.593	.227
MS8	2.64	3.00	.613	-1.510	.113	1.125	.225
MS9	2.25	2.00	.731	-.422	.113	-1.038	.225
MS10	2.59	3.00	.622	-1.257	.113	.468	.225

Table 4.2

Descriptive Statistics for Father Support (FS) (N = 306)

Variables	Mean	Median	SD	Skewness	SE	Kurtosis	SE
FS1	2.44	3.00	.694	-.851	.118	-.512	.236
FS2	2.40	3.00	.718	-.778	.118	-.692	.236
FS3	2.49	3.00	.679	-.987	.119	-.254	.238
FS4	2.58	3.00	.665	-1.329	.119	.460	.237
FS5	2.49	3.00	.691	-.991	.119	-.295	.237
FS6	2.56	3.00	.628	-1.105	.119	.129	.237
FS7	2.35	2.00	.711	-.619	.119	-.826	.238
FS8	2.58	3.00	.676	-1.311	.120	.375	.238
FS9	2.17	2.00	.760	-.303	.119	-1.217	.238
FS10	2.36	3.00	.698	-.631	.120	-.767	.239

Table 4.3

Descriptive Statistics for Empathic Concern (EC) (N = 306)

Variables	Mean	Median	SD	Skewness	SE	Kurtosis	SE
EC1	3.30	3.00	1.225	-.336	.128	-.752	.254
EC2	3.81	4.00	1.188	-.745	.128	-.414	.255
EC3	3.59	4.00	1.717	-.447	.128	-.560	.256
EC4	3.50	4.00	1.132	-.462	.129	-.484	.256
EC5	3.82	4.00	1.195	-.777	.128	-.340	.255
EC6	3.66	4.00	1.150	-.552	.129	.466	.256
EC7	3.36	3.00	1.155	-.371	.127	-.527	.254

Table 4.4

Descriptive Statistics for Perspective Taking (PT) (N = 306)

Variables	Mean	Median	SD	Skewness	SE	Kurtosis	SE
PT1	3.05	3.00	1.335	-.078	.127	-1.127	.253
PT2	3.17	3.00	1.185	-.143	.127	-.719	.253
PT3	3.37	3.00	1.101	-.262	.127	-.451	.254
PT4	3.23	3.00	1.203	-.226	.127	-.722	.254
PT5	3.25	3.00	1.135	-.196	.128	-.595	.255
PT6	3.19	3.00	1.196	-.150	.127	.785	.254
PT7	2.81	3.00	1.327	-.199	.127	-1.055	.254

situations, both parents were not residing in the home with the youth. After analyzing the patterns of missing data, I used listwise deletion of missing data to limit analysis to youth who responded to questions for both Mother and Father support and for both empathy scales. Yaun and Bentler (2000) reported that when there were fewer than 20% missing data, listwise deletion was just as effective as the full information maximum likelihood method (often the preferred method for structural equation modeling in AMOS). The missing data rates for this study were right at this threshold.

Listwise deletion was chosen to remove cases with entire scales missing. This method was chosen due to the ordinal and non-normal nature of the data, which made other methods for handling missing data less than ideal. If one divides the skew score or kurtosis score by its standard error and the result is greater than + or - 1.96 it suggests that one's data is not normally distributed. For larger samples a threshold of + or - 2.58 can be used (Rose, Spinks, & Canhoto, 2015). Using the + or - 2.58 threshold, all scale items were skewed with the exception of FS9 and each of the PT items. Kurtosis was present in MS1, MS3, MS4, MS5, MS6, MS7, MS8, MS9, FS2, FS7, FS9, FS10, EC1, EC2, PT1, PT4, PT6, and PT7.

Final sample size after listwise deletion was 306 cases with 168 males and 138 females. Listwise deletion was used only to delete cases where entire scales were missing. Thus, remaining cases had missing data that appeared to be MCAR (missing completely at random) or MAR. Percentage of missing data after listwise deletion was at 2.9% for the total data values and including all cases. Seventy-four out of the 306 cases had missing data (24.2%). Of the remaining cases, 75.8% were complete with no missing data. Cases that had at least some data for scales of interest were retained. Remaining missing item values were imputed using expectation maximization (EM), a maximum likelihood procedure that uses an iterative process

to estimate parameters and missing data values until stabilization has been achieved (Dempster et al., 1977).

An assumption for using EM is that data are either missing completely at random or missing at random. Little's missing completely at random test was conducted to see if data were missing completely at random. With a significance of .00, the null hypothesis examined by conducting Little's (1988) test that the total missing data were missing completely at random (MCAR) was rejected. The same was true for each scale with the exception of Perspective Taking, in which Little's test did not support rejecting the null hypothesis, thus showing this scale's data to be MCAR. However, after analyzing the percentages of missing data by scale items, the data from the other scales that were missing fit the criteria for missing at random (MAR) in that the missing data points were related to another variable in the set, but were not related to the variable of interest (Allison, 2001). The scale items with the highest percentages of missing data after listwise deletion, also the only items with over 5% of missing data, were within the Father Support measures. Because the assumption that the data were missing at random using these criteria seemed to be met, EM was an appropriate choice for handling the missing data in this study. However, normality was not achieved for any of the scale items based on the Shapiro-Wilkes test statistic. Graham, Hofer, and MacKinnon (1996) pointed out that most data are not distributed perfectly normally and that when EM is used with data that are nonnormal, the deviations from normality produced some slight overestimations. Imputation procedures were conducted separately for each set of scale items in SPSS.

Cronbach's Alpha

To assess internal consistency for the scales used in this study, Cronbach's alpha values were calculated for all scales for the total population after imputation using expectation

maximization. Cronbach's alpha is one way of assessing the internal consistency of a group of items by measuring the homogeneity among the items. It is an assessment of how well the items complement one another (Litwin, 2003). Scores for Cronbach's alpha could range between 0 – 1.00 with values closer to one indicating higher internal consistency. Cronbach's alpha for Mother Support was .82 and for Father Support was .85. For these same scales, Bean, Barber, and Crane (2006) reported Cronbach's alpha coefficients of .85 for Mother Support and .90 for Father Support. Cronbach's alpha for Empathic Concern was .73 and for Perspective Taking was .71. Davis (1980) reported Cronbach's alpha for Empathic Concern as .75 for males and .78 for females, and for Perspective Taking as .75 for males and .78 for females. McMillan and Schumacher (2001) suggested that groups of items with an alpha below .70 should be used with caution. The alphas in this study surpassed this criterion.

Confirmatory Factor Analysis: Empathy Measures

Because these data had a non-normal distribution, it was important to consider carefully the best method for analysis. Maximum likelihood (ML), the usual method for analysis of estimates in structural equation modeling analyses, assumes that the data are normal. With non-normal data, the ML chi-square statistic will likely be inflated. There are a few different options in AMOS for approaching estimation with non-normal data, which were reviewed in Chapter 3. Based on the review of these available options the Bollen and Stine (1993) p-value and bootstrapping procedure was chosen for the present analyses.

A confirmatory factor analysis (CFA) was conducted to examine the factor structure of two latent variables, Perspective Taking and Empathic Concern, first for the group as a whole and then separating the sample by gender. The goodness of fit was evaluated using the AMOS (version 19) software program. Several fit indices were examined: the Bollen-Stine p-value

(employed to determine goodness of fit when there are multivariate non-normal data), the comparative fit index (CFI), the root means square error of approximation (RMSEA), PClose, and the chi squared/degrees of freedom ratio, where values less than 3 are considered favorable in large sample analyses (Kline, 2010). For the CFI, values close to 1.00 are optimal and values greater than .90 indicated adequate fit for the model (Hu & Bentler, 1999). A value between .05 and .08 for the RMSEA would indicate an acceptable fit (Hu & Bentler). The recommended value for Pclose is above .050 (Hu & Bentler). The model underlying these analyses is presented in Figure 4.1.

For the group as a whole, using 2000 bootstrap samples, the Bollen-Stine p-value was .000 with model fit being better in 2000 samples and fitting worse or failing to fit in zero bootstrap samples. Thus, using a conventional significance level of .05, I concluded that this model did not fit the data. Cmin for the total model was 324.95 with $df = 76$. Cmin/DF was at 4.28. RMSEA: .10. PCLOSE: .000. CFI: .82.

Model fit was then assessed for boys and girls separately. For boys, using 2000 bootstrap samples, the Bollen-Stine p-value was .000 with the model fit being better in 2000 samples and fitting worse or failing to fit in zero bootstrap samples. Thus, using a conventional significance level of .05, I concluded that this model did not fit the data for males. Cmin for the boy model was 232.23 with $df = 76$. Cmin/DF was at 3.06. RMSEA: .11. PCLOSE: .000. CFI: .80.

For girls, using 2000 bootstrap samples, the Bollen-Stine p-value was .001 with the model fit being better in 1999 samples and fitting worse or failing to fit in one bootstrap sample. Thus, using a conventional significance level of .05, I concluded that this model did not fit the

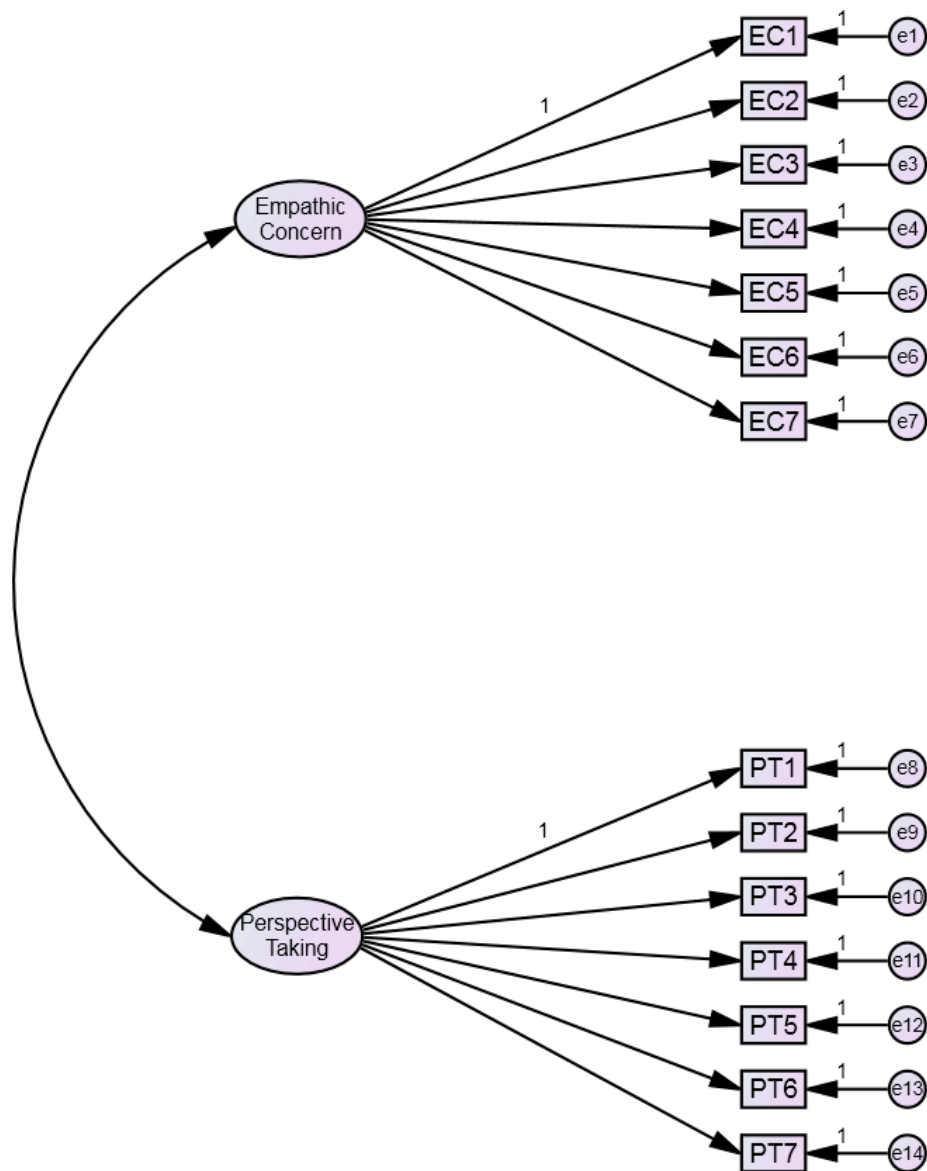


Figure 4.1. Original CFA Model for EC and PT

data for females either. Cmin for the girl model was 185.08 with $df = 76$. Cmin/DF was at 2.44. RMSEA: .10. PCLOSE: .000. CFI: .82.

After exploring model fit statistics, including the adjusted Bollen-Stine p-value, for all three models (total sample, for boys, and for girls), none of the models presented as fitting the data. Results for ML standardized regression weights, standard error discrepancies and 95% bias-corrected bootstrapped standardized regression weight confidence intervals for each model are presented in Tables 4.5, 4.6, and 4.7. PT and EC were correlated at .48 (total sample model), .44 (boy model), and .53 (girl model). The reverse coded items EC2, EC5, EC6, PT2, and PT5 were removed due to poor item loadings in all three models. The updated model is presented in Figure 4.2. Model fit was tested again.

Each group (total sample, boys, and girls) subsequently showed goodness of fit. For the total sample the model fit better in 1764 bootstrap samples. It fit worse or failed to fit in 236 bootstrap samples. Bollen-Stine bootstrap p-value for the total sample was .12. Thus, using a conventional significance level of .05, it seemed that the model fit the data adequately. Cmin for total model was 45.20 with $df = 26$. Cmin/DF was at 1.74. RMSEA: .05. PCLOSE: .50. CFI: .98. Then I examined the models for boys and girls in the sample, and conducted bootstrapping procedures again after reverse coded items were removed.

For boys, using 2000 bootstrap samples the Bollen-Stine p-value was .67 with the model fitting better in 668 samples and fitting worse or failing to fit in 1332 bootstrap samples. Thus, using a conventional significance level of .05, I concluded that the model seemed to fit the data. Cmin for the boy model was 28.791 with $df = 26$. Cmin/DF was at 1.11. RMSEA: .03. PCLOSE: .79. CFI: .995.

Table 4.5

Original Model Empathy Variables CFA Standardized Non-Parametric Bootstrap Estimates, Total Sample (N = 306)

Item	ML Standardized Regression Weights	SE ¹ -SE ²	95% bias-corrected CI for Bootstrapped Standardized Regression Weights
EC1	.60	.001	.45 – .72
EC2 (reverse coded)	.30	.001	.14 - .47
EC3	.72	.001	.61 - .80
EC4	.77	.001	.68 - .80
EC5 (reverse coded)	.31	.001	.12 - .51
EC6 (reverse coded)	.31	.001	.12 - .48
EC7	.55	.001	.42 - .66
PT1	.74	.001	.67 - .81
PT2 (reverse coded)	-.11	.001	-.27 - .03
PT3	.72	.001	.62 - .79
PT4	.80	.001	.72 - .85
PT5 (reverse coded)	-.13	.001	-.29 - .01
PT6	.81	.001	.74 - .87
PT7	.76	.001	.69 - .82

Note: SE¹ – SE² = the discrepancy between the regular ML standard error estimates for the regression weight and the bootstrap estimates for the regression weight.

Table 4.6

Original Model Empathy Variables CFA Standardized Non-Parametric Bootstrap Estimates, Boys (n = 168)

Item	ML Standardized Regression Weights	SE ¹ – SE ²	95% bias-corrected CI for Bootstrapped Standardized Regression Weights
EC1	.61	.002	.33 – .77
EC2 (reverse coded)	.27	.002	.03 - .55
EC3	.74	.001	.52 - .85
EC4	.77	.001	.60 - .87
EC5 (reverse coded)	.28	.002	.04 - .60
EC6 (reverse coded)	.26	.002	.00 - .56
EC7	.44	.002	.13 - .62
PT1	.78	.001	.69 - .86
PT2 (reverse coded)	-.13	.002	-.37 - .07
PT3	.73	.001	.60 - .83
PT4	.78	.001	.67 - .86
PT5 (reverse coded)	-.24	.002	-.45 - -.03
PT6	.80	.001	.69 - .88
PT7	.79	.001	.70 - .86

Note: SE¹ – SE² = the discrepancy between the regular ML standard error estimates for the regression weight and the bootstrap estimates for the regression weight.

Table 4.7

Original Model Empathic Variables CFA Standardized Non-Parametric Bootstrap Estimates, Girls (n = 138)

Item	ML Standardized Regression Weights	SE ¹ – SE ²	95% bias-corrected CI for Bootstrapped Standardized Regression Weights
EC1	.64	.001	.45 – .78
EC2 (reverse coded)	.30	.002	.07 - .53
EC3	.69	.001	.51 - .81
EC4	.74	.001	.60 - .86
EC5 (reverse coded)	.33	.002	.09 - .56
EC6 (reverse coded)	.34	.002	.08 - .55
EC7	.68	.001	.53 - .80
PT1	.70	.001	.57 - .81
PT2 (reverse coded)	-.09	.002	-.31 - .13
PT3	.70	.001	.56 - .81
PT4	.81	.001	.70 - .90
PT5 (reverse coded)	-.01	.002	-.24 - .21
PT6	.83	.001	.71 - .91
PT7	.75	.001	.63 - .84

Note: SE¹ – SE² = the discrepancy between the regular ML standard error estimates for the regression weight and the bootstrap estimates for the regression weight.

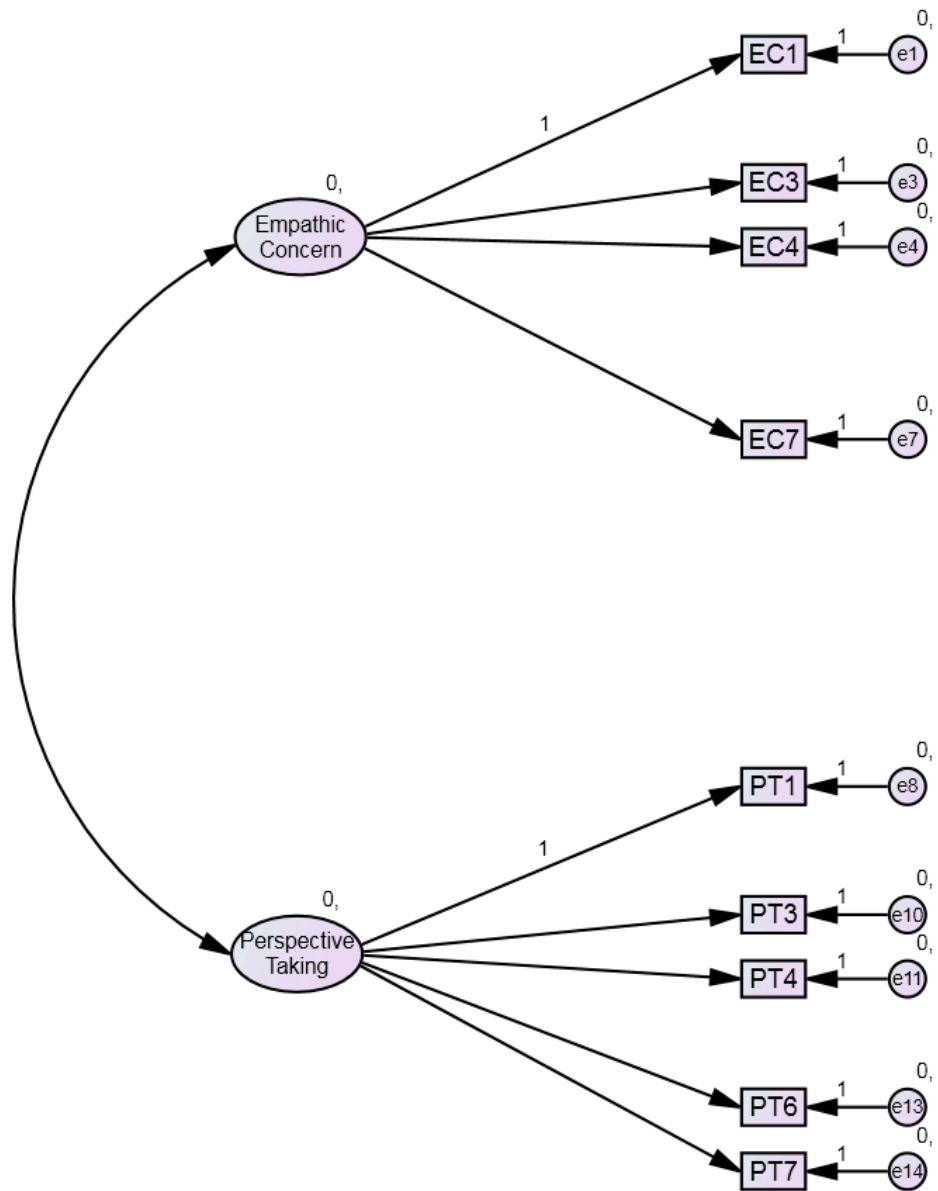


Figure 4.2. CFA Model for EC and PT, Negatively Worded Items Removed

For girls, using 2000 bootstrap samples, the Bollen-Stine p-value was .13 with the model fitting better in 1740 samples and failing to fit in 260 bootstrap samples. Thus, using a conventional significance level of .05, I concluded that the model seemed to fit the data. Cmin for the girl model was 43.638 with $df = 26$. Cmin/DF was at 1.68. RMSEA: .07. PCLOSE: .17. CFI: .97.

For all three models (total sample, boys, and girls) Cmin/degree of freedom ratio was less than the recommended threshold of three (Kline, 2010). CFI was acceptable for each model at well over the .95 threshold suggested (Hu & Bentler, 1999). RMSEA was deemed adequate only for the girl model at between .05 and .10 and Pclose was greater than .05 (Hu & Bentler), but the Bollen-Stine p-value (employed to determine goodness of fit when there are multivariate non-normality data) for each model was well over the significance level of .05 to conclude that the model fit the data.

Goodness of fit was also tested on a model that only included the negatively worded items or reverse coded items. Fit for the models of the negatively worded items revealed mixed results in terms of goodness of fit. For the total sample, the model fit better in 1230 bootstrap samples. It fit worse or failed to fit in 770 bootstrap samples. Bollen-Stine bootstrap p-value for the total sample was .39. Thus, using a conventional significance level of .05, I concluded that the model did seem to fit the data. Cmin for the total model was 5.26 with $df = 4$ degrees of freedom. Cmin/DF was at 1.31. RMSEA: .03. PCLOSE: .59. CFI: .995. Then I examined the models for both boys and girls in the sample.

For boys, using 2000 bootstrap samples, the Bollen-Stine p-value was .08, with the model fitting better in 1843 samples and fitting worse or failing to fit in 157 bootstrap samples. Thus, using a conventional significance level of .05, I concluded that the model seemed to fit the data

well. Cmin for the boy model was 10.32 with $df = 4$. CMIN/DF was at 2.58. RMSEA: .097. PCLOSE: .12. CFI: .96.

For girl, using 2000 bootstrap samples, the Bollen-Stine p-value was .67, with the model fitting better in 664 samples and fitting worse or failing to fit in 1336 bootstrap samples. Thus, using a conventional significance level of .05, I concluded that the model seemed to fit the data. Cmin for the girl model was 2.91 with $df = 4$. Cmin/DF was at .73. RMSEA: .000. PCLOSE: .72. CFI: 1.00.

For all three groups (total sample, boys, and girls) the models that only included the negatively worded items, the Bollen-Stine p-value (employed to determine goodness of fit when there are multivariate non-normality data) for each model was over .05 as the conventional significance level for assuming model fit. Cmin/degree of freedom ratio for each model was also less than the recommended threshold of 3 (Kline, 2010). CFI was acceptable for each model at over the .95 threshold (Hu & Bentler, 1999). RMSEA was deemed adequate only for the boy model at between .05 and .10 and Pclose was greater than .05 (Hu & Bentler) for all three models.

Model fit statistics for the original model, the model without negatively worded items, and the model with only negatively worded items are presented in Tables 4.8 and 4.9 for the total sample, boys, and girls. Both the positively worded items and the negatively worded items, when tested for model fit, seemed to provide adequate loadings for the empathy factors when tested separately rather than as a combined set. In order to retain as many items as possible for analysis (4 as opposed to 3 for empathic concern, and 5 as opposed to 2 for perspective taking), I chose to use the model with the positively worded items for the remaining analyses. Dalal and Carter (2015) suggested that, although researchers continue to use negatively worded items, doing so

Table 4.8

Goodness-of-Fit Indicators of Model for Empathic Concern and Perspective Taking, Total Sample (N = 306)

Model	<i>Cmin</i>	<i>Df</i>	<i>Cmin/df</i>	RMSEA	PCLOSE	CFI
<i>Total Sample (N = 306)</i>						
All Items Included	324.95	76	4.28	.10	.00	.82
Negatively	45.20***	26	1.74	.05	.50	.98
Worded Items						
Removed						
Negatively	5.26***	4	1.31	.03	.59	.995
Worded Items						
Only						
***Bollen-Stine $p > .05$						

Table 4.9

*Goodness-of-Fit Indicators of Model for Empathic Concern and Perspective Taking,
Boys and Girls*

Model	<i>Cmin</i>	<i>Df</i>	<i>Cmin/df</i>	RMSEA	PCLOSE	CFI
<i>Boys (n = 168)</i>						
All Items Included	232.23	76	3.06	.11	.00	.80
Negatively Worded Items Removed	28.79***	26	1.11	.03	.79	.995
Negatively Worded Items Only	10.32***	4	2.58	.097	.11	.96
<i>Girls (n = 138)</i>						
All Items Included	185.08	76	2.44	.10	.00	.82
Negatively Worded Items Removed	43.63***	26	1.68	.07	.17	.97
Negatively Worded Items Only	2.910***	4	.73	.000	.72	1.00

***Bollen-Stine $p > .05$

can introduce a new factor upon which the negatively worded items load, can increase the amount of systematic and random error in responses, can change validity conclusions, and can even measure separate constructs. The results from this analysis seem to confirm, at the very least, their first conclusion.

Confirmatory Factor Analysis: Mother Support

A confirmatory factor analysis (CFA) was conducted to examine the factor structure of the latent variable, perceived Mother Support, first for the group as a whole, and then separating the sample into two groups by gender. The model underlying these analyses is presented in Figure 4.3. The goodness of fit was evaluated using the AMOS (version 19) software program. Several fit indices were examined: the Bollen-Stine p-value (employed to determine goodness of fit when there are multivariate non-normality data), the comparative fit index (CFI), the root means square error of approximation (RMSEA), PClose, and the chi squared/degrees of freedom ratio, where values less than three are considered favorable in large sample analyses (Kline, 2010). For the CFI, values close to 1.00 were reported as optimal and values greater than .90 indicated good fit for the model (Hu & Bentler, 1999). A value between .05 and .08 for the RMSEA would indicate an acceptable fit (Hu & Bentler). The recommended value for PClose was above .05 (Hu & Bentler).

For the group as a whole, using 2000 bootstrap samples, the Bollen-Stine p-value was .01 with the model fitting better in 1979 samples and fitting worse or failing to fit in 21 bootstrap samples. Thus, using a conventional significance level of .05, I concluded that this model did not fit the data. These results were at odds, however, with other model fit statistics, which all indicated adequate model fit. Cmin for total model was 82.942 with $df = 35$. Cmin/DF was at

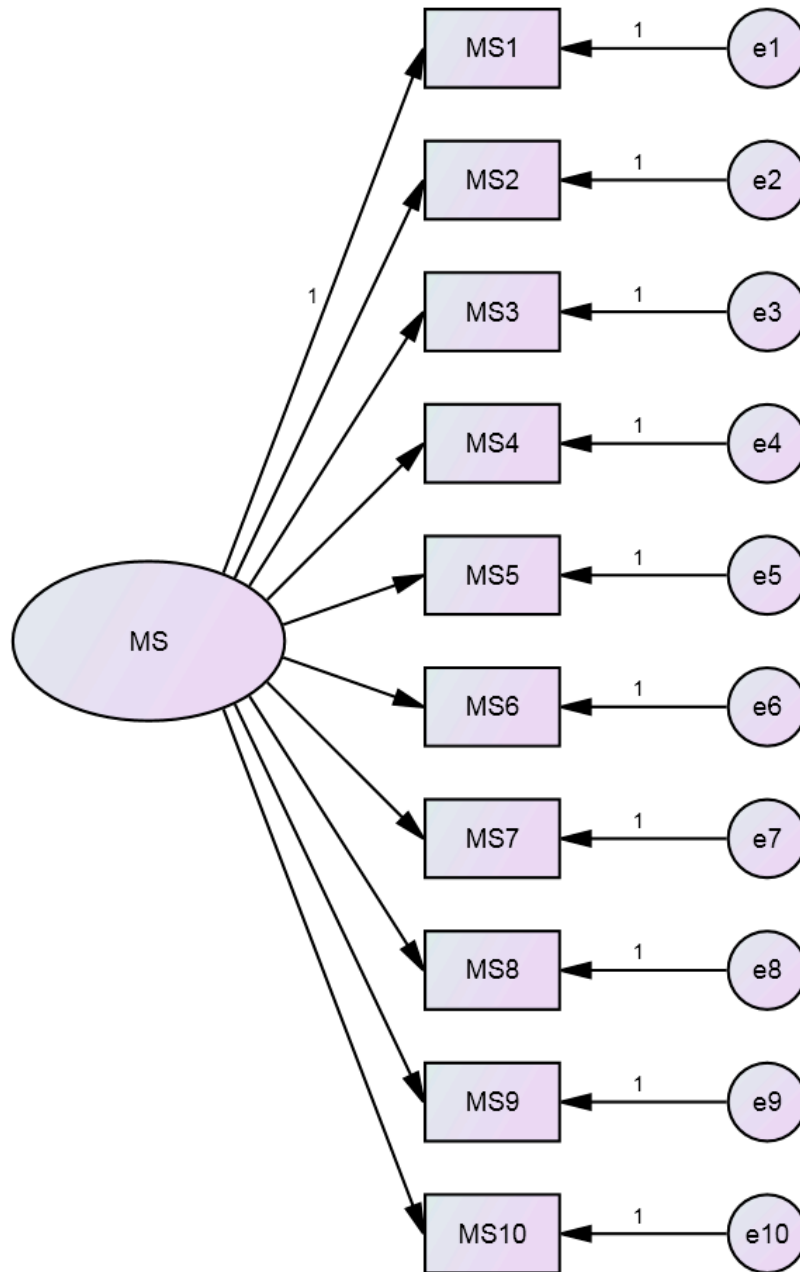


Figure 4.3. CFA Model for Mother Support

2.37. RMSEA: .07. PCLOSE: .06. CFI: .94. Based on these estimates, I eliminated some items that had lower factor loadings to see if it would change the Bollen Stine p-value for this model. The p-value did not change, and other fit statistics worsened for this model when items were removed. Because only the Bollen-Stine p-value for this model did not align with assuming model fit, I chose to keep all items for this factor. Then I examined the models for boys and girls in the sample and conducted bootstrapping procedures again.

For boys, using 2000 bootstrap samples, the Bollen-Stine p-value was .06 with the model fitting better in 1877 samples, and fitting worse or failing to fit in 123 bootstrap samples. Thus, using a conventional significance level of .05, I concluded that the model seemed to fit the data. Cmin for the boy model was 71.67 with $df = 35$. CMIN/DF was at 2.05. RMSEA: .08. PCLOSE: .04. CFI: .92.

For girls using 2000 bootstrap samples the Bollen-Stine p-value was .58 with the model fitting better in 849 samples, and failing to fit in 1151 bootstrap samples. Thus, using a conventional significance level of .05, I concluded that the model seemed to fit the data. Cmin for the girl model was 41.55 with $df = 35$. Cmin/DF was at 1.19. RMSEA: .04. PCLOSE: .67. CFI: .98.

After exploring model fit statistics, including the adjusted Bollen-Stine p-value, for all three models (total sample, for males, and for females), I explored the standardized estimates and bootstrapped ranges. Table 4.10 presents the model fit summary for each of the three models. Results for ML standardized regression weights, standard error discrepancies and 95% bias-corrected bootstrapped standardized regression weight confidence intervals for each model are presented in Table 4.11, 4.12, and 4.13.

Table 4.10

Goodness-of-Fit Indicators of Models for Mother Support, Total Sample, Boys, and Girls

Sample	<i>Cmin</i>	<i>Df</i>	<i>Cmin/df</i>	RMSEA	PCLOSE	CFI
Total Sample (<i>N</i> = 306)	82.94	35	2.37	.07	.06	.94
Boys (<i>n</i> = 168)	71.67***	35	2.05	.08	.04	.92
Girls (<i>n</i> = 138)	41.55***	35	1.19	.04	.67	.98

***Bollen-Stine $p > .05$

Table 4.11

*Mother Support Model CFA Standardized Non-Parametric Bootstrap Estimates,
Total Sample (N = 306)*

Item	ML Standardized Regression Weights	$SE^1 - SE^2$	95% bias-corrected CI for Bootstrapped Standardized Regression Weights
MS1	.67	.001	.55 - .76
MS2	.49	.001	.36 - .60
MS3	.63	.001	.50 - .74
MS4	.49	.001	.36 - .60
MS5	.64	.001	.51 - .75
MS6	.67	.001	.56 - .76
MS7	.54	.001	.43 - .62
MS8	.53	.001	.41 - .63
MS9	.37	.001	.25 - .48
MS10	.65	.001	.53 - .75

Note: $SE^1 - SE^2$ = the discrepancy between the regular ML standard error estimates for the regression weight and the bootstrap estimates for the regression weight.

Table 4.12

Mother Support Model CFA Standardized Non-Parametric Bootstrap Estimates, Boys
(n = 168)

Item	ML Standardized Regression Weights	$SE^1 - SE^2$	95% bias-corrected CI for Bootstrapped Standardized Regression Weights
MS1	.74	.001	.56 – .86
MS2	.43	.001	.25 - .59
MS3	.71	.001	.53 - .85
MS4	.51	.001	.32 - .66
MS5	.67	.001	.47 - .82
MS6	.63	.001	.47 - .76
MS7	.55	.001	.40 - .67
MS8	.56	.001	.38 - .69
MS9	.32	.001	.15 - .46
MS10	.61	.001	.44 - .76

Note: $SE^1 - SE^2$ = the discrepancy between the regular ML standard error estimates for the regression weight and the bootstrap estimates for the regression weight.

Table 4.13

Mother Support Model CFA Standardized Non-Parametric Bootstrap Estimates, Girls
(n = 138)

Item	ML Standardized Regression Weights	$SE^1 - SE^2$	95% bias-corrected CI for Bootstrapped Standardized Regression Weights
MS1	.59	.001	.40 – .72
MS2	.58	.001	.39 - .73
MS3	.55	.002	.34 - .72
MS4	.45	.002	.25 - .64
MS5	.59	.001	.39 - .75
MS6	.71	.001	.55 - .82
MS7	.53	.001	.36 - .67
MS8	.51	.001	.29 - .67
MS9	.42	.001	.23 - .57
MS10	.71	.001	.56 - .82

Note: $SE^1 - SE^2$ = the discrepancy between the regular ML standard error estimates for the regression weight and the bootstrap estimates for the regression weight.

Because the model fit for both boys and girls exceeded the criterion for most model fit indices including the Bollen-Stine p-value, and because model fit results for the total sample were adequate with only the exception of the Bollen Stine p-value, I decided to keep the model as it was for all three groups for data analyses. Using composite scores for a path model to compare models, it seemed most desirable to compare scores that were from the same composite of items for each model (sample as a whole and for each gender).

Confirmatory Factor Analysis: Father Support

A confirmatory factor analysis (CFA) was conducted to examine the factor structure of the latent variables, perceived Father Support, first for the group as a whole and then separating the sample into groups by gender. The model underlying these analyses is presented in Figure 4.4. The goodness of fit was evaluated using the AMOS (version 19) software program. Several fit indices were examined: the Bollen-Stine p-value (employed to determine goodness of fit when there are multivariate non-normality data), the comparative fit index (CFI), the root means square error of approximation (RMSEA), PClose, and the chi squared/degrees of freedom ratio, where values less than three were considered favorable in large sample analyses (Kline, 2010). For the CFI, values close to one were reported as optimal, and values greater than .90 indicated good fit for the model (Hu & Bentler, 1999). A value between .05 and .08 for the RMSEA indicated an acceptable fit (Hu & Bentler). The recommended value for Pclose was above .05 (Hu & Bentler).

For the group as a whole using 2000 bootstrap samples, the Bollen-Stine p-value was .002 with the model fitting better in 1997 samples and fitting worse or failing to fit in three bootstrap samples. Thus, using a conventional significance level of .05, I concluded that this

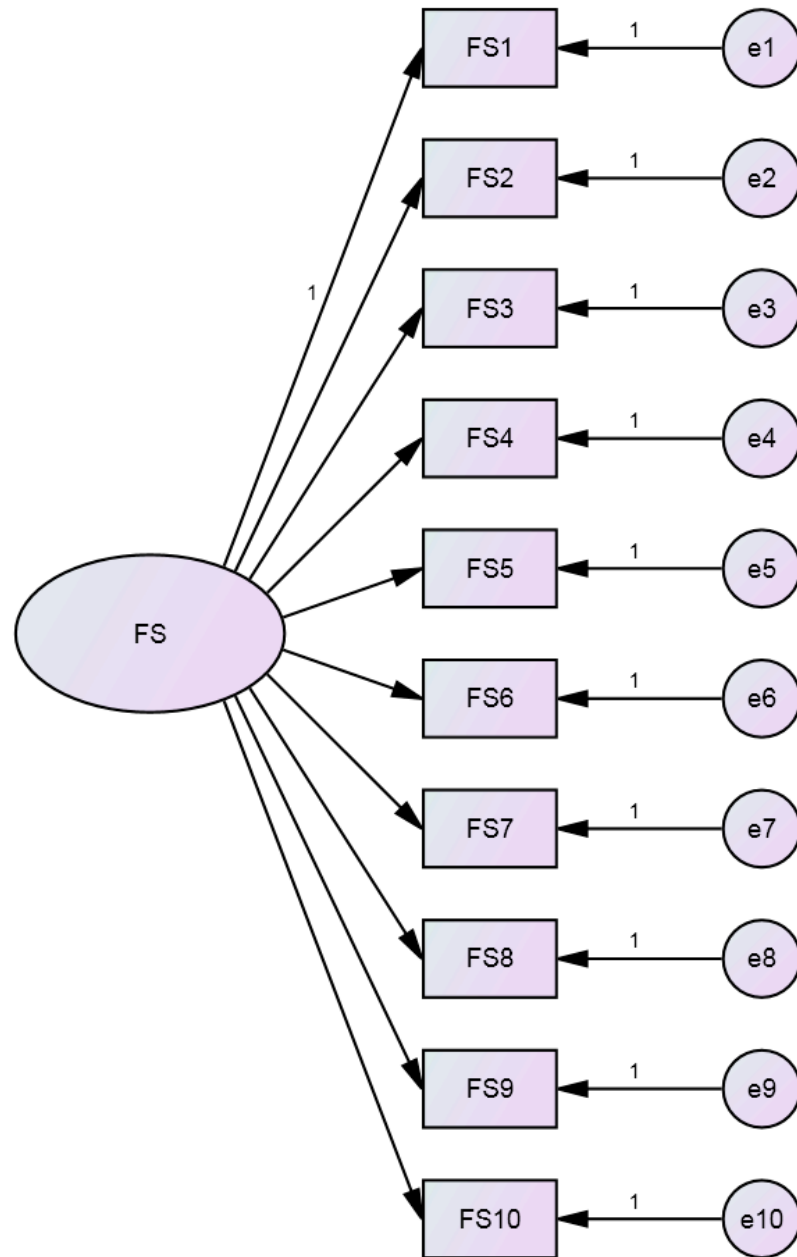


Figure 4.4. CFA Model for Father Support

model did not fit the data well. These results were, however, at odds with other model fits indices for model fit. Cmin for total model was 90.880 with $df = 35$. Cmin/DF was at 2.60. RMSEA: .07. PCLOSE: .02. CFI: .94.

For boys, using 2000 bootstrap samples, the Bollen-Stine p-value was .044 with the model fitting better in 1913 samples, and fitting worse or failing to fit in 87 bootstrap samples. Thus, using a conventional significance level of .05, I concluded that this model did not fit the data. These results also were at odds with other model fits indices. Cmin for the male model was 69.25 with $df = 35$. Cmin/DF was at 1.98. RMSEA: .08. PCLOSE: .05. CFI: .93.

For girls, using 2000 bootstrap samples, the Bollen-Stine p-value was .29 with the model fitting better in 1419 samples, and failing to fit in 581 bootstrap sample. Thus, using a conventional significance level of .05, I concluded that this model seemed to fit the data. Cmin for female model was 51.76 with $df = 35$. Cmin/DF was at 1.50. RMSEA: .06. PCLOSE: .31. CFI: .96.

After exploring model fit statistics, including the adjusted Bollen-Stine p-value, for all three models (total sample, for boys, and for girls), I explored the standardized estimates and bootstrapped ranges. Table 4.14 presents the model fit analyses results for each of the three models. Results for ML standardized regression weights, standard error discrepancies, and 95% bias-corrected bootstrapped standardized regression weight confidence intervals for each model are presented in Table 4.15, 4.16, and 4.17.

Because the model fit for girls exceeded most model fit indices (including the Bollen-Stine p-value), and because model fit results for the total sample and males indicated adequate fit, except for with the Bollen Stine p-value, I decided to keep the model as it was for all three

Table 4.14

Goodness-of-Fit Indicators of Model for Father Support, Total Sample, Boys, and Girls

Sample	<i>Cmin</i>	<i>Df</i>	<i>Cmin/df</i>	RMSEA	PCLOSE	CFI
Total Sample (<i>N</i> = 306)	90.88	35	2.60	.07	.02	.94
Boys (<i>n</i> = 168)	69.25	35	21.98	.08	.05	.93
Girls (<i>n</i> = 138)	51.76***	35	1.48	.06	.31	.96

***Bollen-Stine $p > .05$

Table 4.15

*Father Support Model CFA Standardized Non-Parametric Bootstrap Estimates,
Total Sample (n = 306)*

Item	ML Standardized Regression Weights	SE ¹ – SE ²	95% bias-corrected CI for Bootstrapped Standardized Regression Weights
FS1	.65	.001	.55 – .73
FS2	.52	.001	.39 - .63
FS3	.71	.001	.62 - .79
FS4	.58	.001	.47 - .68
FS5	.63	.001	.51 - .72
FS6	.77	.001	.69 - .83
FS7	.59	.001	.49 - .67
FS8	.53	.001	.42 - .63
FS9	.34	.001	.21 - .44
FS10	.68	.001	.60 - .76

Note: SE¹ – SE² = the discrepancy between the regular ML standard error estimates for the regression weight and the bootstrap estimates for the regression weight.

Table 4.16

*Father Support Model CFA Standardized Non-Parametric Bootstrap Estimates,
Boys ($n = 168$)*

Item	ML Standardized Regression Weights	$SE^1 - SE^2$	95% bias-corrected CI for Bootstrapped Standardized Regression Weights
FS1	.70	.001	.54 - .80
FS2	.49	.001	.34 - .63
FS3	.67	.001	.51 - .80
FS4	.52	.001	.34 - .66
FS5	.63	.001	.44 - .76
FS6	.77	.001	.65 - .85
FS7	.54	.001	.39 - .67
FS8	.55	.001	.37 - .69
FS9	.27	.001	.11 - .43
FS10	.66	.001	.53 - .77

Note: $SE^1 - SE^2$ = the discrepancy between the regular ML standard error estimates for the regression weight and the bootstrap estimates for the regression weight.

Table 4.17

*Father Support Model CFA Standardized Non-Parametric Bootstrap Estimates,
Girls (n = 138)*

Item	ML Standardized Regression Weights	SE ¹ – SE ²	95% bias-corrected CI for Bootstrapped Standardized Regression Weights
FS1	.59	.001	.41 – .71
FS2	.60	.001	.41 - .75
FS3	.75	.001	.62 - .83
FS4	.64	.001	.49 - .76
FS5	.61	.001	.46 - .74
FS6	.78	.001	.65 - .86
FS7	.63	.001	.49 - .74
FS8	.52	.001	.36 - .66
FS9	.40	.001	.22 - .56
FS10	.68	.001	.55 - .79

Note: SE¹ – SE² = the discrepancy between the regular ML standard error estimates for the regression weight and the bootstrap estimates for the regression weight.

groups for further analyses. Based on the estimates in the model for the total sample and for boys, I eliminated some items that had lower factor loadings to see if it would change the Bollen Stine p-value for this model. P-value did not change and other fit statistics worsened for this model when items were removed. With using composite scores for a path model when comparing models, it seemed desirable to compare scores that were from the same composite of items for each model (sample as a whole and for each gender).

Path Analysis

Descriptive Statistics

Composite scores for each construct, Mother Support (MS), Father Support (FS), Empathic Concern (EC), and Perspective Taking (PT) were calculated by averaging scores of the items comprising the construct based on the final model from the confirmatory factor analysis. Mean, median, standard deviation, skewness, standard errors of skewness, kurtosis, standard error of kurtosis, and interquartile range were computed for all composite scores for the total sample, and for males and females separately using SPSS. Results of descriptive statistics computed for composite scores are found in Tables 4.18 through 4.20. If one divides the skew score or kurtosis score by its standard error and the result was greater than $+/- 1.96$ it has been suggested that one's data were not normally distributed. For larger samples, a threshold of $+/- 2.58$ can be used (Rose et al., 2015). Using the $+/- 2.58$ threshold, the following composite score variables were normally distributed: perspective taking for total sample and boys and girls, and empathic concern for boys and girls. The rest of the variables appeared to not be normally distributed.

Table 4.18

Descriptive Statistics for Composite Scores, Total Sample (N = 306)

Variables	Mean	Median	SD	Skewness	SE	Kurtosis	SE
MS	2.56	2.60	.384	-1.19	.139	1.23	.278
FS	2.43	2.50	.383	-1.02	.139	.909	.278
EC	3.42	3.50	.889	-.398	.139	-.204	.278
PT	3.08	3.00	.989	-.035	.139	-.374	.278

Table 4.19

Descriptive Statistics for Composite Scores, Boys (n = 168)

Variables	Mean	Median	SD	Skewness	SE	Kurtosis	SE
MS	2.56	2.60	.387	-1.16	.187	1.16	.373
FS	2.48	2.60	.412	-1.12	.187	1.42	.373
EC	3.50	3.50	.858	-.323	.187	-.191	.373
PT	3.00	3.00	.995	-.016	.187	-.317	.373

Table 4.20

Descriptive Statistics for Composite Scores, Girls (n = 138)

Variables	Mean	Median	SD	Skewness	SE	Kurtosis	SE
MS	2.56	2.70	.381	-1.24	.206	1.43	.410
FS	2.38	2.50	.462	-.897	.206	.473	.410
EC	3.47	3.50	.924	-.505	.206	-.153	.410
PT	3.11	3.00	.986	.060	.206	-.424	.410

Mother Support

Composite scores for this construct were calculated by averaging scores of the items representing the construct based on the results from the confirmatory factor analysis. The hypothesized relationships in Figure 4.5 were tested using AMOS 17.0 (Arbuckle, 2007) through path analysis for the total sample and for boys and girls. Because of the nonnormal data distribution, the Bollen-Stine p-value was assessed in addition to other model fit statistics.

Model fit indices for this path model considering MS with EC and PT for the total sample included: Bollen-Stine bootstrap p-value = .000 with model fitting better in 2000 bootstrap samples and fitting worse or failing to fit in zero bootstrap samples. Cmin was 55.78 with df = 1, Cmin/DF was 55.78. CFI was .13. RMSEA was .42 and PCLOSE was .000. Model fit indices indicated that the data did not fit the model and could be due to model misspecification.

I then explored the standardized estimates and bootstrapped ranges. Results for standardized factor loadings for the model with the total sample along with p-values for each path are presented in Table 4.21. The adjusted Bollen-Stine p-value is indicated in parentheses. The two paths were positive and significant at the .05 level.

Model fit indices for the path model only considering perceived MS with EC and PT for boys included: Bollen-Stine bootstrap p-value = .000 with model fitting better in 2000 bootstrap samples and fitting worse or failing to fit in 0 bootstrap samples. Cmin was 24.88 with df = 1, Cmin/DF was 24.88. CFI was .13. RMSEA was .38 and PCLOSE was .000. Model fit indices indicated that the data did not fit the model and could be due to model misspecification.

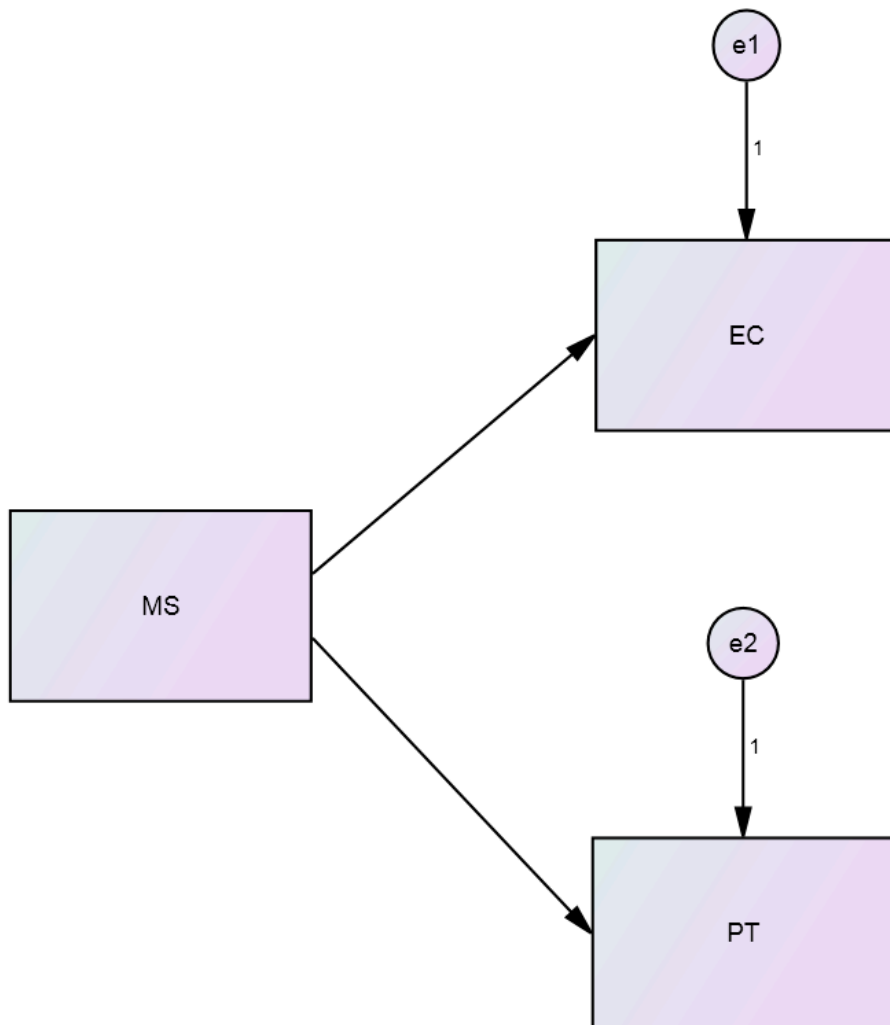


Figure 4.5. Path Model for MS with EC and PT

Table 4.21

Path Analysis for MS with EC and PT, Total Sample (N = 306)

Path	ML Standardized Regression Weights	p-value	SE ¹ - SE ²	95% bias-corrected CI for Bootstrapped Standardized Regression Weights
MS → EC	.13	p = .02 (.01)	.001	.03 - .24
MS → PT	.12	p = .03 (.02)	.001	.02 - .22

Note: SE¹ – SE² = the discrepancy between the regular ML standard error estimates for the regression weight and the bootstrap estimates for the regression weight. Bootstrapped adjusted p-value is in parentheses. Value in parentheses = Bollen-Stine adjusted p-value.

I then explored the standardized estimates and bootstrapped ranges. Results for standardized factor loadings for the model with the total sample along with p-values for each path are presented in Table 4.22. The adjusted Bollen-Stine p-value is indicated in parentheses. When considering the bootstrapped adjusted p-values, none of the paths in this model were significant.

Model fit indices for this path model considering only MS for girls included: Bollen-Stine bootstrap p-value = .000 with model fitting better in 2000 bootstrap samples and fitting worse or failing to fit in zero bootstrap samples. Cmin was 31.52 with df = 1, Cmin/DF was 31.52. CFI was .097. RMSEA was .43 and PCLOSE was .000. Model fit indices indicated that the data did not fit the model.

I then explored the standardized estimates and bootstrapped ranges. Results for standardized factor loadings for the model with the total sample along with p-values for each path are presented in Table 4.23. The adjusted Bollen-Stine p-value is indicated in parentheses. The path from Mother Support to Perspective Taking for girls was significant at the .05 level.

Father Support

Composite scores for this construct were calculated by averaging scores of the items representing the construct based on the results from the confirmatory factor analysis. The hypothesized relationships in Figure 4.6 were tested using AMOS 17.0 (Arbuckle, 2007) through path analysis for the total sample and for boys and girls. Because of the nonnormal data distribution the Bollen-Stine p-values were assessed in addition to other model fit statistics.

Model fit indices for the structural model for the total sample included: Bollen-Stine bootstrap p-value = .000 with model fitting better in 2000 bootstrap samples and fitting worse or

Table 4.22

Path Analysis for MS with EC and PT, Boys (n = 168)

Path	ML Standardized Regression Weights	p-value	SE ¹ - SE ²	95% bias-corrected CI for Bootstrapped Standardized Regression Weights
MS → EC	.16	p = .04 (.05)	.001	-.001 - .31
MS → PT	.09	p = .26 (.20)	.001	-.05 - .23

Note: SE¹ – SE² = the discrepancy between the regular ML standard error estimates for the regression weight and the bootstrap estimates for the regression weight. Bootstrapped adjusted p-value is in parentheses. Value in parentheses = Bollen-Stine adjusted p-value.

Table 4.23

Path Analysis for MS with EC and PT, Girls (n = 138)

Path	ML Standardized Regression Weights	p-value	SE ¹ - SE ²	95% bias-corrected CI for Bootstrapped Standardized Regression Weights
MS → EC	.10	p = .23 (.18)	.001	-.05 - .24
MS → PT	.17	p = .05 (.03)	.001	.02 - .31

Note: SE¹ – SE² = the discrepancy between the regular ML standard error estimates for the regression weight and the bootstrap estimates for the regression weight. Bootstrapped adjusted p-value is in parentheses. Value in parentheses = Bollen-Stine adjusted p-value.

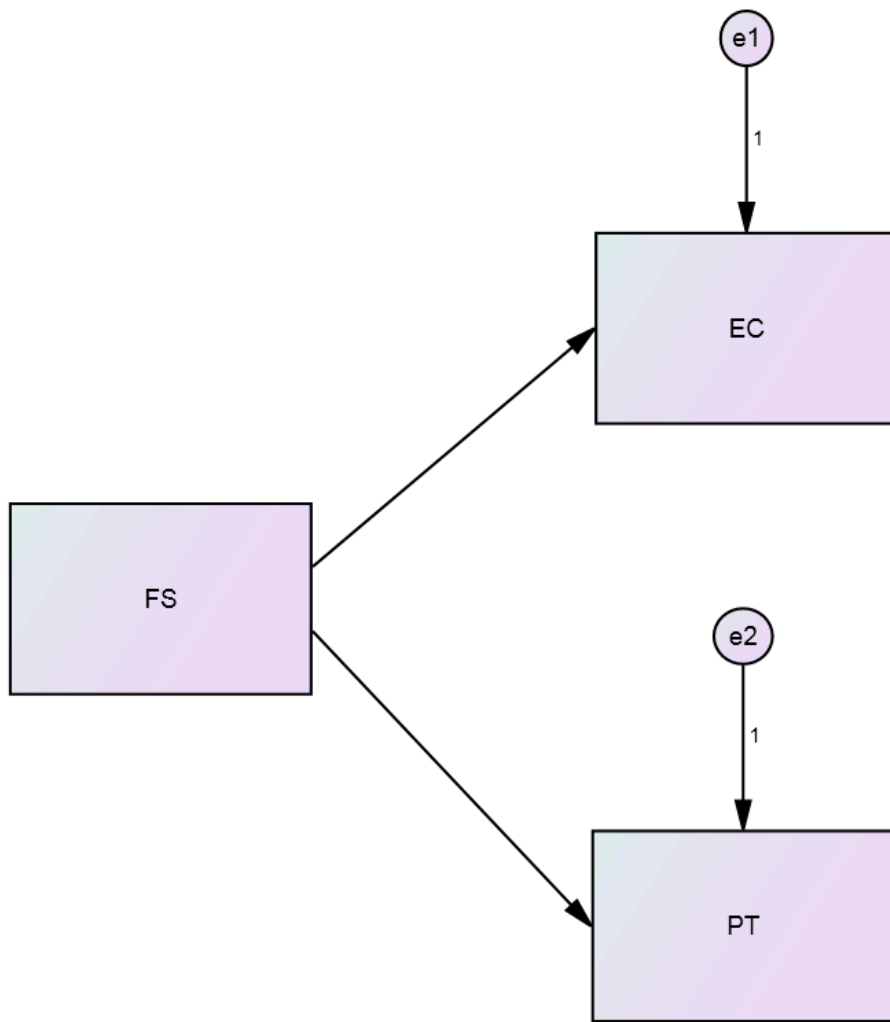


Figure 4.6. Path Model for FS with EC and PT

failing to fit in zero bootstrap samples. Cmin was 54.33 with $df = 1$, Cmin/DF was 54.33. CFI was .196. RMSEA was .42 and PCLOSE was .000. Model fit indices indicated that the data did not fit the model and could be due to model misspecification. I then explored the standardized estimates and bootstrapped ranges. Results for standardized factor loadings for the model with the total sample along with p-values for each path are presented in Table 4.24. The adjusted Bollen-Stine p-value is indicated in parentheses. Both of the two paths were positive and significant at the .05 level.

Model fit indices for this structural model for boys in the sample included: Bollen-Stine bootstrap p-value = .000 with model fitting better in 2000 bootstrap samples and fitting worse or failing to fit in zero bootstrap samples. Cmin was 23.09 with $df = 1$, Cmin/DF was 23.09. CFI was .15. RMSEA was .36 and PCLOSE was .000. Model fit indices indicated that the data did not fit the model and could be due to model misspecification.

I then explored the standardized estimates and bootstrapped ranges. Results for standardized factor loadings for the model with the total sample, along with p-value for each path

Table 4.24

Path Analysis for FS with EC and PT, Total Sample (N = 306)

Path	ML Standardized Regression Weights	p-value	SE ¹ - SE ²	95% bias-corrected CI for Bootstrapped Standardized Regression Weights
FS → EC	.16	p = .01 (.01)	.001	.03 - .27
FS → PT	.16	p = .01 (.01)	.001	.04 - .27

Note: SE¹ – SE² = the discrepancy between the regular ML standard error estimates for the regression weight and the bootstrap estimates for the regression weight. Bootstrapped adjusted p-value is in parentheses. Value in parentheses = Bollen-Stine adjusted p-value.

are presented in Table 4.25. The adjusted Bollen-Stine p-value is indicated in parentheses. When considering the bootstrapped adjusted p-value only, the path from FS to EC was significant at the .05 level. The path was positive.

Model fit indices for the structural model for girls in the sample included: Bollen-Stine bootstrap p-value = .000 with model fitting better in 2000 bootstrap samples and fitting worse or failed to fit in zero bootstrap samples. Cmin was 31.27 with df=1, Cmin/DF was 31.27. CFI was .11. RMSEA was .47 and PCLOSE was .000. Model fit indices indicated that the data did not fit the model and could be due to model misspecification. I then explored the standardized estimates and bootstrapped ranges. Results for standardized factor loadings for the model with the total sample along with p-value for each path

Table 4.25

Path Analysis for FS with EC and PT, Boys (n = 168)

Path	ML Standardized Regression Weights	p-value	SE ¹ - SE ²	95% bias-corrected CI for Bootstrapped Standardized Regression Weights
FS → EC	.21	p = .01 (.02)	.001	.04 - .37
FS → PT	.16	p = .04 (.09)	.001	-.03 - .31

Note: SE¹ – SE² = the discrepancy between the regular ML standard error estimates for the regression weight and the bootstrap estimates for the regression weight. Bootstrapped adjusted p-value is in parentheses. Value in parentheses = Bollen-Stine adjusted p-value.

are presented in Table 4.26. The adjusted Bollen-Stine p-value is indicated in parentheses. When considering the bootstrapped adjusted p-value, neither of the paths were significant in this model.

Table 4.26

Path Analysis for FS with EC and PT, Girls (n = 138)

Path	ML Standardized Regression Weights	p-value	SE ¹ - SE ²	95% bias-corrected CI for Bootstrapped Standardized Regression Weights
FS → EC	.23	p = .18 (.19)	.001	-.06 - .31
FS → PT	.36	p = .046 (.06)	.001	-.01 - .33

Note: SE¹ – SE² = the discrepancy between the regular ML standard error estimates for the regression weight and the bootstrap estimates for the regression weight. Bootstrapped adjusted p-value is in parentheses. Value in parentheses = Bollen-Stine adjusted p-value.

CHAPTER FIVE

DISCUSSION

Previous research on empathy has supported positive associations between parenting and empathy among adolescents and children (Koestner et al., 1990; Soenens et al., 2007). Specifically, research findings have suggested that parental support was associated with greater reported empathy among youth (Eisenberg & McNally, 1993; Henry et al., 1996; Soenens et al.). Past research also suggested that paternal support contributed to cognitive empathy for both boys and girls, and that maternal support contributed to affective empathy among both boys and girls (Miklikowska et al., 2011; Yu et al., 2012).

The current study utilized time one (T1) data from 1994 for gender and parenting measures reported by participants in fifth grade and time two (T2) data from 1996 for youth empathy reported by then eighth graders. The present study aimed to investigate Perceived Mother and Father Support (time one) in separate models with two types of empathy (Perspective Taking and Empathic Concern), for the sample as a whole, and then for male and female young adolescents separately (time two). A confirmatory factor analysis was conducted for all of the factors from the measures utilized. The hypothesized models using these factors were then examined using path analyses.

Conclusions

There are conclusions that can be specified from the findings of this study based on the results of the data analyses. The paths from perceived Mother Support and perceived Father Support in fifth grade (T1) to Empathic Concern and Perspective Taking in seventh grade (T2) were positive and significant for boys and girls when the sample was evaluated as a whole. The

more interesting findings emerged when the path analyses were examined separately by gender for mother and father.

When considered separately, the path from perceived Mother Support in fifth grade (T1) to Perspective Taking at seventh grade (T2) was only positive and significant for girls. When examined separately from girls, the paths from perceived Mother Support to Empathic Concern and Perspective Taking were not significant for boys. It was expected, however, that perceived support from mothers at T1 would be positively associated with affective empathy (Empathic Concern) in both boys and girls at T2. Based on the results of this study this expectation was not supported. These results indicated perhaps a unique contribution of Mother Support to Perspective Taking (cognitive empathy) among girls during early adolescence.

When examining separate models for boys and girls, the path from perceived Father Support in fifth grade (T1) to Empathic Concern in seventh grade (T2) was only positive and significant for boys. When examined separately from boys, the paths from perceived Father Support in fifth grade (T1) to Empathic Concern and Perspective Taking were not significant for girls at seventh grade (T2). This finding was contrary to the expectation that perceived Father Support at T1 would be positively associated with cognitive empathy (Perspective Taking) at T2 among both boys and girls. Perceived Father Support was only positively associated with Empathic Concern (affective empathy) and only for boys. These results indicated perhaps a unique contribution of Father Support to Empathic Concern (affective empathy) among boys during early adolescence.

Links between Theoretical Perspectives and Findings

There were links between the theoretical perspectives guiding this study and these findings. This study anchored its explorations on the basis of specific socioemotional empathy

conceptual frameworks (Davis, 1981). These perspectives encompassed empathy as both a cognitive and affective process, parental support as one aspect of an attachment theory perspective, and lifespan theory that considered the period of early adolescent development. The findings of this study indicated that the perceived supportiveness of the relationship with the same gender parent was uniquely important in the transition years of middle school, or early adolescence, for a specific type of empathy, Perspective Taking for girls and Empathic Concern for boys.

Parental Support and Attachment Theory

A more secure attachment relationship among children, which involves aspects of perceived parental support (Bowlby, 1988), has been associated with their children's demonstration of empathic responses (Murphy & Laible, 2013; Panfile & Laible, 2012). Although sometimes in somewhat different ways, both maternal and paternal attachment to the child have been found to influence secure and insecure attachment style related behaviors in children (George et al., 2010; Suess et al., 1992). Attachment has been described as both cognitive (through mental representations of the internal working model) and affective (through the ability to regulate emotions out of a secure attachment template). A person who is more securely attached has been believed to have a more secure internal working model, providing that individual with a more positive, cognitive representation of the world without being encumbered by more negative, anxious preoccupations (Mikulciner, 1998). A person who is more securely attached has also been reported to be better able to regulate difficult emotions (Gentzler et al., 2010). As a result, it has been concluded that with a more secure attachment style, there is more space cognitively and affectively to turn to and to attend to the perspectives and emotions of another person. Both of these cognitive and affective aspects of a more secure

attachment style have been described as enabling an ability both to connect with, and to accurately perceive, the emotions of another person (Eisenberg, 2005).

The results of this study indicated that for perceived parental support as one indicator of attachment security with the parent, the same gender parent was uniquely important in the transition years of middle school for enhancing the capacity for a specific aspect of empathy. For middle school girls, the perceived support of their mother influenced their reported capacity for Perspective Taking. Based on the theoretical foundations of parental support and attachment theory, one interpretation of the present study's findings may be that for girls greater perceived support in their relationship with their mother, the same gender parent, could lead to an increased ability to self-regulate, which may facilitate an increased ability to take on the perspective of another. Increased self-regulation then may assist girls in their ability to take the perspective of another, even when it is in conflict with their own perspective or experience.

Among middle school boys, the perceived support of their father influenced positively their reported capacity for Empathic Concern. Based on the theoretical foundation of parental support as being founded in attachment theory, it may be that for boys in this relationship with their father, the same gender parent, a perception of greater father support enhanced the ability in early adolescence to be able to recognize and regulate their own emotions in order to increase their ability to perceive and respond to another person's emotions.

A greater perception of parental support with the same gender parent, according to the results of this study, influenced an increased ability for one aspect of empathy, but not in both aspects of empathy responses. It may be that a greater perception of a supportive relationship with the parent of the same gender helps strengthen the type of empathy that is typically perhaps more difficult to achieve because of the processes of gender role socialization. That is, girls may

have greater difficulty with the cognitive aspect of empathy since emotions are emphasized in their gender role socialization, and boys may have a greater difficulty with the affective aspect of empathy since rationality and logic are emphasized more in their gender role socialization. A perception of support from the parent of the same gender may lessen the barriers experienced by the adolescent in terms of culturally gendered views of appropriate masculinity and femininity. This conclusion has some support for boys based on past research, but not for girls. At least for boys (Jolliffe & Farrington, 2006; Van der Graaf et al., 2013), this higher level of affective empathy in the context of the perceived support of a boy's father occurred with an aspect of empathy that is not typically a strength for males. Boys, in general, have self-reported lower levels of affective empathy than cognitive empathy (D'Ambrosio et al., 2009). Past research has also indicated that girls have self-reported higher levels of both types of empathy (Laible et al., 2004). Research findings have not been clear, however, if cognitive empathy has been reported at lower levels among girls than affective empathy.

Mothers and fathers both reinforce one another's parenting strengths and buffer against the consequences of one another's weaknesses in the processes of parenting (Maccoby & Martin, 1983). Palkovitz et al. (2014) argued in a theoretical review that various theoretical approaches such as family systems theory and feminist theories, along with qualitative research, have revealed distinctions among mothering and fathering in terms of processing and meaning. For example, family systems theory would theorize that mothers and fathers engage in different constructions of rules and roles, and feminist theories emphasize differences in roles and power amongst mothers and fathers. Furthermore, George et al. (2010) pointed out how attachment quality to mother and to father resulted in differential outcomes. Although in their study less responsive parenting was related to insecure attachment to both mothers and fathers, the

parenting mechanisms associated with insecure attachment in children differed by mother and father. Low paternal responsiveness was linked to assessments of insecure-avoidance as evidenced by the child maintaining or increasing emotional and/or physical distance from the parent upon reunion after separation. Low maternal responsiveness was associated with insecure-ambivalent attachment as evidenced by the child exaggerating intimacy, dependency, and helplessness with the parent upon reunion. Limited research has examined the differences between genders in terms of mother support and father support and different types of empathy in young adolescents. Results from the present study add to the efforts being undertaken to broaden our understanding of perceived mother and father support and gender differences among young adolescents, particularly as these differences may influence their capacities for empathy.

Lifespan Theory and Early Adolescence

Early adolescence is an important time at the beginning of a period of rapid and complex transition. Early adolescents experience many changes in terms of their bodies, their relationships, and their social contexts. Gender differences also become more observable and apparent, in part due to physical changes in their bodies (Chaplin & Aldao, 2013). These changes themselves serve to activate the attachment security system of the adolescents. That is, the security of the relationship with the parent has been described as being a source of stability and comfort as the young adolescent struggles to navigate the changes and demands of this lifespan stage (Allen & Land, 1999; Byng-Hall, 1991). Simultaneously, increased conflict with parents also serves to stimulate and solidify the Piagetian skill of perspective taking as the young adolescent enters the final Piagetian stage of formal operations (Piaget, 2004). It has been reported that this parent-adolescent conflict was better tolerated within a relationship with more perceived support from parents (Papini & Roggman, 1992).

The results of the present study suggested that early adolescence may be an especially important time within the lifespan for the perceived supportive relationship with the same gender parent in regards to the development of greater capacities for specific aspects of empathy, cognitive empathy for girls, and affective empathy for boys. It may be that this time of transition and changes highlights the importance of perceived support from the same gender parent, especially for certain aspects of development.

Links between Earlier Research and Findings

There were also links between findings in earlier studies presented in the literature review and the results of the present study. Past research has suggested that parenting was related to empathy with positive parenting behaviors being positively associated with empathy in children and adolescence, but without differentiating either between mothering and fathering, or between the gender of the child (Eisenberg & McNally, 1993; Henry et al., 1996; Strayer & Roberts, 2004; Murphy & Laible, 2013; Soenens et al., 2007; Antonopoulou et al., 2012; Carlo et al., 2007). This study both supported and extended these past findings. Perceived Mother Support and perceived Father Support were both positively and significantly related for early adolescents with both types of empathy.

Past research has supported gender distinctions in regards to the aspects of empathy (Ang & Goh, 2010; D'Ambrosio et al., 2007; Laible et al., 2004; Mestre et al., 2009; Rueckert & Naybar, 2008; Van der Graaf et al., 2013). Although the present study did not compare boys and girls in terms of levels of empathy, the results did indicate gender variations between boys and girls in terms of reported levels of types of empathy, and their relationships with perceived Mother and Father Support. The results suggested that during early adolescence, boys and girls

were influenced differentially by perceived Mother Support and Father Support in terms of their reported capacities for behaviors associated with cognitive and affective empathy.

The results of this study expanded also the information available in the scholarly literature specifically in regards to relationships among perceptions of Mother Support and Father Support, gender of early adolescents, and their reported capacity for aspects of empathy. Past research has yielded results that have supported a positive relationship between accepting mothers and emotional empathy among Korean college aged daughters and a positive relationship between accepting fathers and emotional empathy among Korean college aged sons (Kim & Rohner 2003). Research conducted with high school students in Belgium found that maternal support was positively associated with the capacity for affective empathy among daughters only, and paternal support was associated with cognitive empathy for both high school sons and daughters (Miklikowska et al., 2011). Likewise, a study of college students conducted in China supported a positive relationship between mother support and the capacity for affective empathy and between father support and the capacity for cognitive empathy for both males and females (Yu et al., 2012). The present study of empathy among younger adolescents furthers the understanding of the complexities of parenting, gender, and empathy. My study using a sample of American middle schoolers revealed a different pattern where perceived mother support positively influenced the capacity for cognitive empathy in girls only, and perceived father support positively influenced the capacity for affective empathy in boys only. Based on these findings, it seems that the relationship between perceptions of supportive mothering and fathering and the reported capacities for aspects of empathy between boys and girls differ when considering the stage of adolescence, as well as the cultural context in which parenting occurs.

Implications for Research and Practice

Implications for Further Research

The findings from the present study highlighted several opportunities for possible future research. First, there is a need for research to support the findings of the present study. Survey research should be conducted with more diverse samples in other regions of the United States and in other countries. Also, more research is needed to explore if and how this stage of early adolescence may be distinct from other stages of adolescence and childhood in regards to the influence of perceived mother and father support on aspects of the development of empathy in boys and girls. Thus, research needs to be conducted looking across middle adolescence and late adolescence. Similarly, I did not consider how the relationship with each parent may be changing over the course of early adolescence and how these changing relationships with mother and father for boys and girls might potentially influence interpersonal processes such as empathy. More research is needed to further explore how the perceptions of support of each parent potentially change over the span of early adolescence and how these changes might influence processes such as empathy. Additional research is also needed to see if the relationship with the same gender parent is influential at this time of development on interpersonal processes other than empathy.

Furthermore, these findings have implications for other important related areas of research with this age group such as bullying behavior. Amidst all the changes of early adolescence, bullying behaviors seem to peak at this time (Nansel et al., 2001). There are gender differences in the patterns of bullying in adolescence that have been reported (Beckman, Hagquist, & Hellström, 2013). For example, girls were more likely to be victims of cyberbullying. Boys were more likely than girls to be traditional face-to-face bullies. Girls were

as likely as boys to be cyberbullies. There are also differences by aspects of empathy type in relationship to bullying behavior (van Noorden, Haselager, Cillessen, & Bukowski, 2014). Bullying was negatively associated with cognitive empathy, but not with affective empathy. The results of the present study suggest that early adolescence may be an especially important time within the lifespan for the relationship with the same gender parent in regards to the development of the capacity of cognitive empathy for girls and affective empathy for boys. These findings have potential implications on how to understand and implement interventions for bullying behavior. These findings suggest that interventions that emphasize building and maintaining a positive and supportive relationship with the same gender parent should be highlighted. More research is needed to understand how perceived mother support and father support influence different types of empathy in early adolescence by gender and how these influences may affect the capacity for antisocial behavior such as bullying among boys and girls differentially.

There is also a need for more research examining parenting and empathy development for boys and girls whose family experiences do not fit the normative heterosexual two parent family convention. This study focused on boys and girls who had both a mother and a father available. More research is needed on understanding how perceived parental support influences empathy among boys and girls from families where there are single parents, remarried parents, and from families where there are same sex couples.

Due to the findings in the statistical analyses of the empathy subscales, more research is needed to better understand how the Davis Interpersonal Reactivity Index (1980) captures aspects of empathy among young adolescents. The positively and negatively worded items did not fit well together in the confirmatory factor analysis. Model fit, however, was adequate when the positively worded items and the negatively worded items were analyzed separately. It could

be that these two scales measure different constructs with early adolescents. More research is needed to identify what these separate constructs could be. It could also be concluded from this present study that negatively worded items do not work as well in combination with positively worded items. For further discussion see Dalal and Carter (2015). Future research should examine how negatively worded items and positively worded items work together to measure specific constructs such as empathy.

Implications for Practice

The findings from this study can be utilized to implement improved practices for educators and mental and relational health professionals. When we understand that the relationship with the same gender parent has a differential influence on capacities for distinct aspects of empathy among boys and girls, we can implement interventions that target perhaps that relationship. Family therapists can be aware of the importance of the relationship with the same gender parent for the early adolescent. Family therapy that is dyadic to include the adolescent and the same gender parent should be specifically prescribed especially when bullying and other antisocial behavior is a presenting issue. Such dyadic family therapy work can emphasize opening up communication and building emotional support between the adolescent and the same gender parent. Likewise, educators can develop and implement programs and events to improve the perception of closeness and support with the same gender parent. Programs like Girls on the Run where mothers can serve as “running buddies” for their daughters and All Pro Dads where fathers can invest time interacting with their sons are good examples of curricula that can enhance parents building supportive relationships with their same gender child. Additionally, associations such as Boy Scouts of America and Girl Scouts of America provide opportunities for children who do not have the same gender parent at home to interact and build

mentoring relationships with scout leaders of the same gender. These organizations provide examples of what schools and other key centers of the community can provide for children and adolescents to support the relationship with parents and mentors of the same gender.

Conversely, if it is known that a family system precludes a young adolescent from having a close, supportive relationship with the same gender parent, therapists and educators can take proactive steps. These steps could include helping them to find a mentor, an adult friend, coach, or some other adult authoritative figure in the life of the child to buffer this absence through consistent relationship building efforts. Big Brothers Big Sisters of America is an example of an organization that provides opportunities for children and adolescents to connect consistently with mentoring figures who are the same gender. The mentor figure in this organization makes a long term commitment to communicate and have consistent meetings with the adolescent. Consistent and long-standing relationships with a same gender advisor and supporter can help meet the socioemotional developmental needs of young adolescents. Other efforts could involve working specifically on developing skills related to specific aspects of empathy for young adolescent boys and girls.

Schools and other local community organizations can provide opportunities for children and young adolescents to participate in service learning experiences and other altruistic practices alongside their same gender parent. By participating in altruistic activities together the relationship with the same gender parent is being strengthened, as well as the adolescent's altruistic and prosocial behavior. The parent acts as a role model for these specific behaviors that the developing adolescent can emulate. Prosocial behavior such as altruism is associated with empathy (Eisenberg & Miller, 1987). In this type of activity the young adolescent is being exposed to prosocial behavior while also building the relationship with his or her same gender

parent. Altruistic behavior plays a role in stress management (Greenberg, 2013), which could contribute to providing more emotional and cognitive capacity both for empathy within the adolescent and for relationship between the adolescent and the same gender parent. Ralph Waldo Emerson stated: "It is one of the most beautiful compensations of this life that no man [one] can sincerely try to help another without helping himself [herself]." (as cited in Greenberg, 2013, p. 17). Efforts toward the development of empathy not only can help perhaps stem the tide of problems like bullying, but can also enhance the quality of life for those that learn how then to act on it.

Strengths and Limitations of the Present Study

Strengths

Despite the growing body of literature examining empathy, and specifically empathy among children and youth, it appears that no longitudinal study in the United States or abroad had been conducted that specifically considered perceived mother support and father support and reported empathy in early adolescence by gender. Some studies have considered parenting dimensions and empathy in children, but the studies have been cross sectional, do not consider mothering and fathering as distinct variables, explore other ages of children or adolescents, and/or were not with samples drawn in the United States. This study offers a segmented longitudinal look at perceptions of parental support and capacities for aspects of empathy by gender specifically among early adolescent American youth. This age group is particularly important for exploration because this age has been found to be the time when antisocial behavior such as bullying is at an all-time high (Nansel et al., 2001).

Limitations

There were limitations for this study. First, the data in the path analysis did not fit the model for boys or girls so caution must be utilized when drawing conclusions based on the path analysis. Software used for this data limited analysis. Less than optimal methods for handling missing data and for path estimation were necessary when using AMOS (Arbuckle, 2007) with nonnormal data. It could be that other software such as M-Plus (Muthén & Muthén, 2007) would offer different estimation procedures that would enable a more accurate, and possibly a more adequate, representation of model fit. Further, when reviewing the confidence intervals for the bootstrapped regression weights it reveals that some regression weights may not be that dissimilar between paths despite the p-value (see tables 4.22, 4.23, 4.25, and 4.26). Related, sample size does influence significance values. It could be that the change in significance of the p-values going from total sample (both paths were significant for both aspects of empathy for mothers and fathers) to the samples divided by gender were influenced by the decrease in sample size for both girl and boy models. Summarizing, results should be interpreted with caution.

Additionally, the response scales were ordinal and not continuous, and the data itself were not normally distributed. Both of these issues violated requisite assumptions for structural equation modeling and these violations could have caused biased estimates for the confirmatory factor and path analyses. Steps were taken to minimize the effect of these violations by utilizing the Bollen-Stine p-value and bootstrap estimates for evaluating model fit and significant paths. The Bollen-Stine p-value and bootstrap estimates provided additional information when making decisions on confirming the factors and when estimating the path coefficients.

Another limitation of this study was the homogeneity of the population from the regional sample that was utilized. The sample consisted of young adolescent boys and girls from only one

area of a state (Utah) and had a much higher proportion of Mormons than would be found with a more representative sample. Nevertheless, prior research with this same data has examined carefully variations within the sample to assess for how generalizable patterns of findings were for religious groups and did not find differences for the Mormon parents and children in terms of other religions represented in the sample (see Barber et al., 2005).

Perhaps the most significant limitation for the current study was the age of the data. It was collected 20 years ago and data needs to be examined from more contemporary samples before findings can be generalized.

The study was also limited by its exclusive reliance on self-reported data by the adolescents. It will be important to validate the findings of this study using other samples as well as different methods for assessing parental support as well as aspects of empathy, not only with adolescents, but also with parents.

Conclusion

The scant research exploring differentiated effects of mothering and fathering on these two aspects of empathy, cognitive empathy and affective empathy, indicated that fathering influenced cognitive empathy for males and females while mothering influenced affective empathy for males and females (Kim & Rohner 2003; Miklikowska et al., 2011; Yu et al., 2012). However, these studies were conducted with high school students in Belgium (Miklikowska et al., 2011) and college students in China (Yu et al.) and Korea (Kim & Rohner 2003). The population in this sample, early adolescents from the United States, revealed a different pattern where perceived Mother Support was positively related to Perspective Taking for girls only and perceived Father Support was positively related to Empathic Concern for boys only.

These findings raise a variety of considerations and questions regarding stage of adolescent development, relationship to the same gender parent, aspects of empathic behavior, and also the influence of cultural context on the development of empathy. It is my hope that my work in this study prompts further exploration into the relationships between processes of parenting and the development of empathy particularly as a means to counter the trend of bullying and other antisocial behavior amongst children, youth, and adults.

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VITA

Emily Elizabeth Stone was born in Sumter, South Carolina to the parents of Raymond and Beverlee Brown. She is the oldest and only daughter with a younger brother: Aaron Brown. She attended Mayfield Elementary, Cleveland Jr. High School, and Bradley Jr. High School in Cleveland, Tennessee before attending The Baylor School in Chattanooga, Tennessee for high school. She received her Bachelors of Arts in Psychology from Lee University in Cleveland, Tennessee where she received the departmental award for behavioral and social sciences. Emily went on to get a Masters of Divinity from the Pentecostal Theological Seminary, where she was given the award for Biblical Studies upon graduation. She met and married her husband, Jonathan Stone, D.Min., while at seminary. After moving to Fresno, California, Emily earned a Masters of Arts in Marriage, Family, and Child Counseling from Fresno Pacific University and also gave birth to her first child, Eloise Elizabeth. From California Emily moved, with her family, to Prague, Czech Republic where she and her husband served as missionaries and had their second child, Lillian Grace. From the Czech Republic, Emily and her family moved to Cleveland, Tennessee where Emily received her license as a marriage and family therapist and worked in private practice. She also became an approved supervisor for the American Association of Marriage and Family Therapy. Emily gave birth to two more children: Emmett Jonathan and Hillary Anne. Emily continued with her education and earned a Doctor of Philosophy degree in Child and Family Studies at the University of Tennessee.