

HOW FAMILIES FACILITATE THE DEVELOPMENT OF EMPATHY IN CHILDREN:
A FAMILY SYSTEMS THEORY PERSPECTIVE

by

MARK KAUFMAN

B.A., Washington University in St. Louis, 1975
M.S.W., Washington University in St. Louis, 1977
J.D., Washington University School of Law, St. Louis, 1979
M.B.A., St. Louis University, 1984

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

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School of Family Studies and Human Services
College of Human Ecology

KANSAS STATE UNIVERSITY
Manhattan, Kansas

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Abstract

This study seeks to clarify a controversy in the literature about which characteristics of families are most responsible for facilitating the development of empathy in children. The study utilized a correlational research design and self-report questionnaires. The Balanced Emotional Empathy Scale measured the criterion variable, subjects' levels of emotional empathy. The Circumplex Model of Marital and Family Systems' accompanying questionnaire, the fourth version of the Family Adaptability and Cohesion Evaluation Scales (FACES IV) measured the two key predictor variables, levels of family cohesion and family flexibility, in the subjects' families of origin. The central hypothesis of the Circumplex Model is that healthy family functioning would be predicted by balanced functioning on both of these key dimensions of family life. The first predictor variable, family cohesion, appears to encompass those factors emphasized by researchers who have asserted that positive family affective bonds would be the family characteristic most predictive of higher levels of empathy in children. The second predictor variable, family flexibility, appears to encompass those factors emphasized by researchers who have asserted that the style of parental discipline would be the family characteristic most predictive of higher levels of empathy in children.

Participants in this study were all students at a mid-size, public, Midwestern university. A purposive convenience sample was utilized. Correlational statistics and multiple regression analyses were used to test hypotheses. The results suggested several conclusions. Balanced levels of family cohesion were positively associated with higher levels of emotional empathy, as predicted. The prediction that balanced levels of family flexibility would also be positively associated with higher levels of emotional empathy was not supported. Instead, higher levels of empathy were associated with a somewhat strict or rigid style of parental discipline. Various alternative explanations for these results are discussed, as are limitations of the study, recommendations for future research, and implications for practitioners.

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Approved by:

Major Professor
Walter R. Schumm

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Dedication

I would like to dedicate this dissertation to the late Merle Kling, Ph.D., of Washington University in St. Louis. He was an extraordinarily wise and intelligent person, and a superb teacher. He inspired me to pursue a career in academia.

CHAPTER 1 - Introduction

Introduction

“Affectively based empathy,” Eisenberg, Losoya, and Spinrad (2003) observed, “has been viewed as the basis for much prosocial behavior for decades” (p. 787). Recently, New York University psychologist Martin Hoffman (2008) was even more emphatic. “Empathy is important; I view it as the bedrock of prosocial morality and the glue of society” (p. 449). The current study seeks to clarify a controversy in the literature on the family’s role in facilitating the development of empathy in children.

The extensive literature on empathy indicates a significant degree of consensus on some issues, more disagreement on other issues, and probably the widest range of judgments on the issue that is the focus of this study: the family’s role in facilitating the development of empathy in children. In the next chapter I will review the literature on all of these issues; this will place the current study in its proper context, and will clarify the relationship of this study to related studies.

Purpose of the Study

Disagreement in the literature begins with the very definition of the term *empathy*. The majority of researchers use the term to refer solely to emotional empathy (sometimes calling it affective empathy), and that is how the term will be used in this study. A minority of researchers use the term *empathy* in a way that includes cognitive processes (e.g., perspective-taking) that are related to emotional empathy. Consistent with the position of the majority of researchers, my focus on the concept of emotional empathy is not meant to deny the importance of related

cognitive processes, including the work of Lawrence Kohlberg and others on the development of the capacity for “moral reasoning.” Rather, my review of the literature on this issue will demonstrate the utility of restricting the definition of empathy to the emotional processes at the core of the construct.

There is more agreement in the literature that the development of empathic responsiveness in children occurs in fairly well-delineated stages; Martin Hoffman has been particularly influential in conducting this research. There is also widespread agreement in the literature that facilitating the development of empathy is important because of the positive relationship between empathy and prosocial behavior. Thus, the assessment of individual differences in empathy is an important topic, and this study will examine various issues related to the measurement of empathy. This will include the decision to utilize in this study the most widely used measurement of emotional empathy, Albert Mehrabian’s Balanced Emotional Empathy Scale (BEES).

Before examining the controversies in the research over the family’s role in facilitating the development of empathy, I will address the broader issue of the origin of individual differences in empathy. Despite the many remaining issues to be clarified by future research, there is widespread agreement that multiple factors are involved – broadly speaking, both inherited predispositions and environmental factors. How genetic factors and environmental factors interact regarding the trait of empathy is no less complex and controversial than in other areas of human behavior, and well beyond the scope of this study. What is relevant to this study is the widespread agreement that environmental factors (including family-related factors) do play a significant role.

This study will turn next, therefore, to one of the most controversial issues in the literature on empathy: a lack of consensus over which family characteristics, or combination of characteristics, are most likely to facilitate the development of empathy in children. I will note that some of the most prominent researchers in this field have observed that the range of judgments on this issue tend to fall into two broad categories (or “schools of thought”): (1) those who focus on what this study will refer to as “family affective bonds,” and (2) those who focus on what I will refer to as “parenting and discipline techniques.” Although these two schools of thought, obviously, are not mutually exclusive, they do focus on quite different variables. Some researchers strongly emphasize only one of the two sets of variables; others simply cite as relevant both sets of variables. Each school of thought has received significant support from empirical research; each school of thought has been challenged by a lesser amount of contradictory empirical research findings. There do not appear to be any studies that explore the following question: Does the combination of family characteristics addressed by these two schools of thought lead to the development of more empathic responsiveness in children than does the set of characteristics that are addressed separately by each school of thought?

In an attempt to address this issue, the current study will utilize the Circumplex Model of Marital and Family Systems as the theoretical basis of an empirical study. This model and its accompanying self-report measure, the Family Adaptability and Cohesion Evaluation Scales (FACES), has been used in more than 1,200 research studies and is one of the most widely used models of family functioning. As the next two chapters of this study will describe in detail, the Circumplex Model is comprised of three key concepts for understanding family functioning: cohesion, flexibility, and communication. *Cohesion* is defined as the emotional bonding that family members have toward one another. Thus, this concept of cohesion is similar to the

concept of “family affective bonds,” the first of the two schools of thought noted above. Family *flexibility* in the Circumplex Model is defined as the amount of change in the family’s leadership, role relationships, and relationship rules. This concept has been operationalized to include the manner of disciplining children. Thus, this concept of flexibility is similar to the concept of “parenting and discipline techniques,” the second of the two schools of thought noted above. Family *communication* in the Circumplex Model is defined as the communication skills utilized in the family system, and is viewed as a “facilitating dimension” that may help families adjust their levels of cohesion and flexibility.

The “central hypothesis” of the Circumplex Model is that healthy family functioning is predicted by balanced functioning on both of the major dimensions of family life – cohesion and flexibility. Conversely, it predicts that unbalanced levels of cohesion and flexibility (extremely low or extremely high levels) are associated with problematic family functioning. For example, in the next chapter this study will review research which found a strong relationship between low levels of family cohesion and high levels of adolescent delinquent behavior, and research which found a strong relationship between rigidly inflexible styles of parenting and intrafamily sexual abuse, as well as intrafamily violence. Other studies have found each of these dysfunctional behavior patterns to be correlated with low levels of emotional empathy.

These studies, examining the effects on children of low family cohesion and rigidly inflexible parenting styles, would seem to suggest that families who simultaneously function at balanced levels on these two dimensions are most likely to facilitate the development of empathy in children. The current study explores precisely this matter and seeks thereby to clarify a controversy that presently exists in the literature on this topic.

Research Hypotheses

In this study, the subjects' perceptions of family cohesion and family flexibility in their families of origin served as the independent variables, while the subjects' self-report scores on emotional empathy served as the dependent variable.

The following research hypotheses were investigated in relation to the purpose of the study:

Hypothesis 1: Emotional empathy will be related nonlinearly to family cohesion (inverse quadratic function; highest levels of empathy with balanced levels of family cohesion). When family cohesion scores are transformed in accordance with Olson's coding method, emotional empathy will be linearly related to the transformed family cohesion scores.

Hypothesis 2: Emotional empathy will be related nonlinearly to family flexibility (inverse quadratic function; highest levels of empathy with balanced levels of family flexibility). When family flexibility scores are transformed in accordance with Olson's coding method, emotional empathy will be linearly related to the transformed family flexibility scores.

Hypothesis 3: Family cohesion will predict emotional empathy more strongly than family flexibility when used jointly to predict emotional empathy.

Definition of Major Concepts

The term *empathy* refers to a relatively stable trait that involves the capacity to experience an emotional state triggered by another's emotional state or situation, in which one feels what the other feels or would normally be expected to feel in his or her situation (Hoffman, 2008).

The term *family cohesion* refers to the emotional bonding that couple and family members have toward one another (Olson & Gorall, 2003).

The term *family flexibility* refers to the amount of change in a family's leadership, role relationships, and relationship rules. It encompasses family discipline techniques (Olson & Gorall, 2003).

Organization of the Study

Chapter 1 includes the purpose of the study, variables, hypotheses, and definition of major concepts. Chapter 2 reviews all of the relevant literature and discusses the theoretical background upon which this study is based. Chapter 3 discusses the research design, the population and sample, procedures, the two instruments, and the description of data analysis. Chapter 4 provides the results of the study, while Chapter 5 includes discussion of the results, along with a consideration of implications, limitations, and conclusions regarding the study.

CHAPTER 2 - Literature Review

What is emotional empathy?

Development and usage of the term “empathy”

As Eisenberg (2000) observed, “the term ‘empathy’ has been used in many ways at different times” (p. 677). The term itself comes from the German word *Einfühlung*, a term that was used in the early 20th century “German aesthetics movement” to refer to the tendency of sensitive observers to project themselves “into” what they observe, typically some physical object of beauty (Davis, 1996). An equivalent English word, *empathy* was created by Edward Titchener, a prominent early 20th century American psychology professor who had studied in Germany. He began to use the term to refer to a “sharing of emotions between target and observer” (Davis, 1996, p. 5). It is noteworthy that this earliest usage of the term *empathy* referred to the sharing of affective processes; in every subsequent decade there has been controversy over whether to use the term to refer solely to affective processes, or to refer to some combination of affective and cognitive processes. In the 1930s, the prominent social psychologist George Herbert Mead (1934) defined empathy mostly in a cognitive manner, as “the capacity to take the role of the other and to adopt alternative perspectives *vis a vis* oneself” (p. 27). Eisenberg (2000) observed that “(s)imilarly, in the 1950s, 1960s, 1970s, and even sometimes today, some researchers have used the term to refer to the cognitive ability to understand others’ mental and emotional states” (p. 677). In the developmental and social-psychological literature, this cognitive ability frequently has been subsumed under the terms *perspective taking* or *role taking*. Many others, however, continued to use the term *empathy* to

refer solely to affective/emotional processes, while acknowledging the importance of correlative cognitive processes such as role taking (see, e.g., Kohut 1959; Rogers, 1975).

Davis (1996) observed that “contemporary theorists have also tended to define empathy solely in terms of affective responses” (p. 8), noting that “they have also generally restricted the term empathy to emotional reactions which are at least broadly congruent with those of the target” (p. 8). (See also: Batson, 2010; Berenguer, 2010; Eisenberg, 2010; Hoffman, 2008.)

Davis (1996) is among the minority of contemporary scholars who define empathy as consisting of both affective and cognitive components; he has also developed the most widely used self-report questionnaire measurement of empathy as defined in that manner (Davis, 1983). Wispe (1986) is perhaps the most prominent among those who concur with Davis’s definition of empathy. Nonetheless, as Davis (1996), Hoffman (2008), Eisenberg (2000), and others have noted, the majority of contemporary theorists do define empathy solely in terms of affective/emotional processes. We examine next their reasons for doing so.

Current definitions of emotional empathy

Most scholars likely would agree with Davis (1996) that “(t)he most ambitious of the modern empathy theorists is probably Martin Hoffman” (p. 8) of New York University. Other leading theorists (e.g., Batson, 2010; Eisenberg, 2010) either fully or largely concur with Hoffman’s definition of empathy. Most recently, Hoffman (2008) defined empathy as “an emotional state triggered by another’s emotional state or situation, in which one feels what the other feels or would normally be expected to feel in his situation” (p. 440). If there is an equally prominent theorist in this field, it is Nancy Eisenberg of Arizona State University, who (2010) recently defined empathy in almost identical terms: “an affective response stemming from the apprehension or comprehension of another’s emotional state or condition – a response that is

identical, or very similar, to what the other person is feeling or might be expected to be feeling” (p. 130). Many other recent definitions of empathy similarly emphasize that it is an affective state (see, e.g., Batson, 2010; Zahn-Waxler, Frye, Goldsmith & Davidson, 2009).

This widespread preference for understanding empathy as a type of emotional process, instead of conceptualizing empathy as a mixed emotional/cognitive construct, receives consistent support from recent relevant research in neuroscience. These studies point to the “emotional networks in the brain” that are distinct from the neural networks primarily dedicated to cognitive processing, even as these brain science researchers recognize that “emotions influence cognitive processing in a number of ways” (LeDoux & Phelps, 2008, p. 166). Similarly, recent laboratory research reported in a leading brain science journal (Hooker, Verosky, Germine, Knight, & Esposito, 2010) described the “mirror neurons” that lend support to the validity of “emotional empathy” as a measurable construct, a construct that is separate from, but related to, constructs that describe and explain cognitive processes such as “perspective taking.” This study described how “affective empathy consists of the affect produced in response to someone else’s emotional state, a process which is facilitated by simulation or ‘mirroring’” (p. 100). More specifically, this study referred to how “activity in the precentral gyrus was related to affective empathy” (p. 100), whereas neural activity in other parts of the brain (e.g., in the somatosensory-related cortex) was related to those cognitive processes that are related to affective empathy. Similar research into the neural substrate of emotional empathy reached similar conclusions (see, e.g., Kramer, Mohammadi, Donamayor, Samii, & Munte, 2010).

Concepts related to emotional empathy: sympathy and emotional distress

Within a scientific framework, the specific definition of any concept can be clarified by specifying and defining closely related concepts. In this regard, Eisenberg (2010) argued that “it is important to distinguish among various empathy-related emotional reactions” (p. 130). She defined “sympathy” as consisting of “feelings of sorrow or concern for the distressed or needy other, rather than feeling the emotion the other person is experiencing or might be expected to experience” (p. 130). In addition, she defined “personal distress” as an emotion that sometimes is also “stemming from exposure to another’s (emotional) state, but it is conceptualized as a self-focused, aversive reaction to the vicarious experiencing of another’s emotion (e.g., as discomfort or anxiety). This distress is associated with the egoistic motivation of making oneself, not necessarily the other person, feel better” (p. 130). Elsewhere, Eisenberg (2000) argued that “sympathy and personal distress involve quantitatively different emotional experiences and are differentially related to several dispositional characteristics” (p. 678; see also Batson, 2010; Hoffman, 2008). It is for these reasons that the current study does not focus on all three concepts, but solely on the concept of empathy. Empathy has its own distinguishable origins and its own distinguishable impact on pro-social behavior.

The development of empathic responsiveness

We can increase our understanding of the concept of empathy and also increase our recognition of the family’s role in furthering its development by examining how the capacity for empathy develops during childhood and adolescence. It is only in the past three decades that this topic has received significant attention from researchers. As Eisenberg (2000) has observed, “(f)or many years, in part because of Piaget’s work, behavioral scientists often assumed that young children were too egocentric to empathize. However, Martin Hoffman’s theorizing about

empathy challenged the notion that young children are incapable of other-oriented feelings and behavior” (p. 680).

Over the past three decades Hoffman has worked on and refined his stage-developmental approach to empathic responsiveness (see, e.g., Hoffman, 1978, 1982, 2000, 2008). Recently, Hoffman (2008) argued that “empathy develops along with the development of cognitive self-other concepts, in six stages” (p. 444). First, Hoffman referred to evidence of “global empathy” in newborns and young infants. Newborns have been found to cry in response to the cries of other infants, suggesting that infants are biologically predisposed to experience a rudimentary form of empathy (see also, Eisenberg, Losoya, & Spinrad, 2003). Second, Hoffman describes “egocentric empathic distress” that develops in infants by the age of approximately 11-12 months. At about this point, infants become capable of differentiating the emotional responses of the self from those of others and they can therefore experience empathic concern for others, while nonetheless still being primarily focused on seeking comfort for themselves due to their distress reaction. Hoffman (2008) provided a vivid example:

A 1-year-old daughter of a student of mine saw a friend fall and cry, stared at the friend, began to cry, then put her thumb in her mouth and buried her head in her mother’s lap – as she did when she hurt herself. A parsimonious explanation would be that like most infants her age, she still hadn’t fully “graduated” from global empathic distress and remained unclear about the difference between something happening to another and to herself... I call this type of reaction “egocentric empathic distress” because it is both egocentric (there is a motive to reduce one’s own distress) and empathic (it is contingent on another’s distress). The contingency is what justifies calling it a precursor of empathic morality. (p. 444)

Hoffman referred to the third stage in the development of empathic responsiveness as “quasi-egocentric empathic distress,” a stage that begins at about the 14th month of life. Toddlers at this stage can voluntarily make efforts to comfort another person, but such prosocial action is likely to involve toddlers in giving the other person what they themselves find comforting. Again, Hoffman (2008) provided vivid examples:

A 14-month-old boy responded to a crying friend with a sad look, and then gently took the friend’s hand and brought him to his own mother, although the friend’s mother was present. A 15-month-old girl watched a visiting baby who was crying. She watched him carefully, followed him around, kept handing him toys and other items she’s fond of. These actions showed that the children now realized that others were physical entities independent of themselves though they did not yet grasp that others have their own independent inner states. The actions were clearly designed to help another in distress and thus showed empathic distress operating as a prosocial motive. (pp. 444-445)

Hoffman’s fourth stage in the development of empathic responsiveness, that of “veridical empathy,” coincides with major advances in the capacity for self-other differentiation, and occurs near the end of the second year, continuing into the child’s third year. Children are becoming aware that others have inner states (thoughts, feelings, desires) independent of their own. As Hoffman (2008) explained:

This allows more accurate empathy and effective helping behavior. Sarah, age 2 years 3 months, was riding in a car when her cousin became upset at losing his teddy bear. Someone said that it was in the trunk and could be retrieved when they get home. About

10-15 minutes later, when the car approached the house, Sarah said “Now you can get your bear.” (p. 445)

Hoffman observed that children can now empathize with awareness and help more appropriately: “Veridical empathy has the basic features of mature empathy, but becomes more complex with age. The growing understanding of causes, consequences, and correlates of emotions allows one to empathize not only with simple but also with subtle distress feelings” (p. 445). Thus, pre-schoolers can empathize with missing one’s parents; slightly older children can empathize with a friend’s disappointment in his or her performance.

Hoffman referred to his fifth stage as “empathic distress beyond the situation.” At some point, typically between the ages of 6 and 9 years, children become aware that others feel joy, sadness, anger, fear, low self-esteem, etc., not only in a particular situation, but also sometimes in their lives more generally. Hoffman (2008) noted that “(c)onsequently, they not only respond empathically to another’s immediate distress, but also to what they imagine is the other’s chronically sad or unpleasant life” (p. 446). Hoffman referred to previous empirical research that supports his theorizing on this point (e.g., Gnepp & Gould, 1985). More broadly, reference can be made to an earlier meta-analysis of 179 studies that tends to confirm the general developmental trends about which Hoffman has theorized (see Eisenberg & Fabes, 1998).

Finally, Hoffman used the phrase “empathy for distressed groups” to refer to the sixth and final stage in the development of empathic responsiveness. This stage tends to emerge during late childhood or early adolescence, because when young persons “are able to form social concepts and classify people, they can comprehend the plight not only of an individual, but also of an entire group or class of people (e.g., victims/survivors of chronic illness, poverty, the Holocaust, natural disasters). At empathy’s highest level, one can empathize not only with an

individual's but also with a group's distressing life condition ('empathic narrative')" (Hoffman, 2008, p. 446). Hoffman also observed that "it may be difficult to empathize with a mass without first empathizing with individual victims; then, realizing that others are in the same boat, one can generalize one's empathy to the group" (p. 446). Indeed, Hoffman's wide-ranging scholarship on the role of empathy in modern society (see, e.g., Hoffman, 2000) includes work on how empathy for distressed groups has influenced U.S. politics and law (Hoffman, 1982).

Hoffman's work on the developmental stages of empathic responsiveness has been very influential, and generally has been supported by other leading scholars in this field (see, e.g., Davis, 1996; Eisenberg, 2000). Drawing heavily on Hoffman's developmental work, Eisenberg (2000) concluded that "(t)here is also evidence that sympathy and empathy are stable interindividually (*i.e.* are correlated across time) from early adolescence into early adulthood. Thus, individual differences in empathy-related responding seem to be established by late childhood" (p. 681; see also Davis & Franzoi, 1991; Eisenberg, Carlo, Murphy, & VanCourt, 1995). These findings are particularly important to this dissertation because they provide part of the rationale for using young adult college students as the subjects of the study. These subjects are at an age when individual differences in empathy-related responding seem to have been established for a number of years.

Why is emotional empathy important?

In their comprehensive review of the literature, Eisenberg, Losoya and Spinrad (2003) observed: "Affectively based empathy has been viewed as the basis for much prosocial behavior for decades" (p. 787). They further noted that:

(p)rosocial behavior, defined as voluntary behavior intended to benefit another, has been a topic of psychological interest for some time, but especially since the late 1960s. Much

of the work on this topic has pertained to the role of sociocognitive skills, situational, and socialization influences in the development or maintenance of prosocial behavior.

However, unlike in the study of moral judgment, emotion also has played an important role in theory and research on prosocial behavior. (p. 787)

More recently, the literature has continued to refer to the “large body of research suggest(ing) that empathy is associated with helping behavior” and has noted that “(t)his well-replicated empirical relation has sparked renewed interest in the debate concerning the possibility that humans are capable of genuine altruistic motivation” (Stocks, Lishner & Decker, 2009, p. 649).

Most recently, and more specifically, Batson (2010) observed that “empathic concern has been found to direct attention to the long-term welfare of those in need, producing more sensitive care” (p. 27; see also Sibicky, Schroeder, & Dovidio, 1995). Empathy-induced altruism also has been found to improve attitudes toward stigmatized outgroups, including racial minorities, people with AIDS, and homeless people (Batson, Chang, Orr, & Rowland, 2002). In schools, empathy-based training has been used to increase mutual care among students (Gordon, 2007). As Stephan and Finlay (1999) pointed out, the induction of empathic concern is often an explicit and successful component of techniques used in conflict resolution workshops. Participants are encouraged to express their feelings, hopes, and fears, and to imagine the thoughts and feelings of those on the other side of the conflict.

Conversely, “theorists have frequently argued that people who tend to empathize or sympathize with another’s pain or distress are likely to refrain from or cease aggression because of the emotional discomfort induced by their vicarious response to the victim’s emotional (or imagined) reactions. Empirical findings are somewhat consistent with this view, although the

association between aggression and empathy appears to be modest in strength” (Eisenberg, 2000, p. 683).

One of the reasons for this generally positive association between dispositional empathy-related responding and low aggression appears to be a well-established positive link between empathic responsiveness and “social competence” (Saarni, 1990). In this regard, “measures of global empathy have shown modest positive correlations with various measures of social competence” (Eisenberg, 2000, p. 684). High levels of empathy in children have been found to predict socially appropriate behavior, constructive coping, and low levels of problem behavior as reported by peers, teachers, and mothers (Eisenberg, Fabes, Murphy, Karbon, & Smith, 1996). Recently, Eisenberg (2010) observed, regarding adults, that “(p)sychologists have long recognized that deficits in empathy and remorse are common in individuals with antisocial personality disorders,” adding that there is, indeed, “considerable empirical support for an inverse association between empathy or sympathy and externalizing problems” such as aggression and antisocial behavior (p. 142). Conversely, high levels of empathy are positively associated with high levels of “emotional intelligence,” which is “the ability to perceive and express emotions, to understand and use them, and to manage emotions so as to foster personal growth” (Salovey & Detweiler-Bedell, 2008, p. 535). Lane (2000) highlighted “the importance of the ability to be aware of one’s own emotions for emotional intelligence” (p. 173), and then related the concept of emotional intelligence to the concept of empathy: “As such, awareness of one’s own emotions is a prerequisite for empathy. One corollary of this is that one’s ability to empathize cannot exceed one’s ability to monitor one’s own emotional states” (p. 173).

Finally, Eisenberg (2010) reviewed the findings of numerous empirical studies in which she and her colleagues “obtained findings consistent with the view that empathy-related

responding is associated with prosocial or care-oriented moral reasoning” (p. 140). Eisenberg argued that if empathic responding is frequently the motive for other-oriented prosocial behavior, one would expect that it also should relate to one’s approach to moral reasoning. This is because the beliefs and motives that contribute to moral decisions “are believed to be reflected in the level of moral reasoning that a person expresses” (p. 140). Similarly, a number of years ago, Hoffman (1987) argued that empathy contributes to the development of moral reasoning because it stimulates internalized moral judgments reflecting concern for others’ welfare. In a recent empirical study on the effect of empathy on moral reasoning, Berenguer (2010) came to a similar conclusion.

In this section of the literature review I have examined the evidence that supports the importance of facilitating the development of empathic responsiveness. The importance of utilizing all social influences (including the family) in this regard is underscored by what Hoffman (2008) called the “fragility” of the trait of empathic responsiveness. He noted that, quite obviously, “it can be trumped by egoistic motives like fear or personal ambition” (p. 449). Also, although people may empathize with almost anyone in distress, research demonstrates that “they empathize more with kin, friends, and their own ethnic group,” with Hoffman adding that this “could be a serious problem in complex societies” (p. 449).

Assessment of Individual Differences in Empathy

Issues in the Measurement of Empathy

Various types of measures have been developed for assessing individual differences in empathy. Eisenberg (2003) reviewed some of these measures, which include self-report questionnaires, by far the most common assessment tool. Picture-story measures of empathy have frequently been used with children. Physiological indices have been used with both

children and adults. Williams (1990) argued that while “(p)hysiological change in association with empathy is less frequently measured,” because empathy involves an emotional response to another, “concomitant physiological changes should accompany the emotional aspect of empathy and indicators of physiological response may be appropriate measures to include” (p. 155). More commonly utilized is an observational rating of empathy by a therapist or by a researcher. Nonetheless, as noted, self-report scales are by far the most common measurement tool for the assessment of individual differences in empathy among adults.

Batson (1987) observed that “(t)he advantages of measuring emotional reactions to the distress of others using self-reports are probably obvious” (p. 356). In addition to the relative ease of administering such a measure,

the second major advantage to using self-report ratings is that they can provide a relatively differentiated measure of emotion. With many other measures, all one can hope to obtain is a gross index of general emotional arousal. But with self-reports, subjects can be asked to rate a variety of different emotion adjectives. (p. 356)

Nonetheless, Batson also noted that “as is true for every other known approach to measuring emotional reactions, there are both pros and cons to using self-reports” (p. 356). A major concern is the possibility of self-presentational bias. “At least some subjects may want to present themselves as more sympathetic, compassionate, and so on, than they really are, believing either that this is the way they should react to another’s distress, or that it is the way that will most impress other people. Other subjects may want to under-report their emotional reaction in order to appear strong and unruffled by adversity and crisis” (p. 358). Batson noted, however, that “fortunately, there is some evidence that it may be possible to control psychometrically for these self-presentational biases” (p. 358). In this regard, Bryant (1987a)

addressed the issue of “social desirability” in her examination of construct validity in the self-report measure of emotional empathy that is used in this study, the Balanced Emotional Empathy Scale (BEES) of Albert Mehrabian (2000), formerly referred to as the Emotional Empathic Tendency Scale (EETS; Mehrabian & Epstein, 1972). Bryant (1987a) concluded that Mehrabian and Epstein’s use of the Crowne and Marlowe (1960) measure of social desirability demonstrated that there was no significant relationship between empathy scores and social desirability scores. Furthermore, Bryant (1987a) noted:

Using a large sample of more than 300 adults, Kalliopuska (1983) found a slight negative correlation (- .08) between the Crowne and Marlowe measure of social desirability and adult empathy scores (utilizing various empathy measurement scales), but the correlation accounts for so little variance that it is of no practical significance. (p. 370)

Balanced Emotional Empathy Scale

Davis (1996) observed that Mehrabian and Epstein’s (1972) self-report measure of emotional empathy, the measure utilized in this study, “has been the most widely utilized instrument adopting an affective definition” of empathy (Davis, 1996, p. 55). Subsequent to Davis’ observation, Mehrabian’s Balanced Emotional Empathy Scale (BEES) has continued to be a widely utilized measure of emotional empathy across many disciplines in the social, behavioral and medical sciences. In a leading journal in neuroscience, Singer (2006) referred to the BEES as one of the “standard empathy questionnaires” (p. 858).

Indeed, the validity of the BEES continues to be demonstrated in an impressively wide variety of studies over the past decade. VanHasselt (2005) used the BEES as part of a study of actual negotiation encounters by the Crisis Negotiation Unit of the FBI. Results of the study

demonstrated that the BEES had significant positive correlations with negotiation skills of the FBI agents as indexed by positive correlations with “paraphrasing” and with the “total active listening” skills of the agents. In another study, Singer and Seymour (2004) used functional imaging to assess brain activity of participants who watched a loved one receive a painful stimulus. BEES scores were significantly correlated with the level of activation of the affective component of the pain centers within the brain. Participants in a study by LeSure-Lester (2000) were adolescents living in a group home under supervision of the Los Angeles County Protective Services. The BEES was used to measure empathy; behavioral observations by trained personnel constituted the remaining variables. Significant correlations obtained in the study were as follows: BEES scores correlated $-.57$ with aggression toward peers; $-.59$ with aggression toward staff; $.67$ with compliance with house rules; and $.57$ with chores completed. In a rather different setting, Shapiro, Morrison, and Boker (2004) used the BEES to assess the effectiveness of an empathy training course for first-year medical students. The students participated in eight sessions involving the reading of poetry and prose dealing with doctors and patients. BEES scores increased significantly from before to after the empathy training sessions. Macaskill, Maltby, and Day (2002) utilized the BEES in a study about the relationship between empathy and the likelihood of forgiveness of others and self. Their findings showed that participants with higher BEES scores were more likely to find it easier to forgive others, but not necessarily the self. Finally, in even more recent years, the BEES has been utilized and validated in disciplines such as adolescent development (Albiero & Matricardi, 2009), cognitive science (Morrison, Poliakoff, Gordon, & Downing, 2007), general internal medicine (Stepien & Baernstein, 2006), and social psychology (Toussaint & Webb, 2005).

The Balanced Emotional Empathy Scale (BEES) was published in 1996 as a replacement for the Emotional Empathic Tendency Scale (EETS), which was first published by psychologist Albert Mehrabian in 1972. The EETS (Mehrabian & Epstein, 1972), as already noted, became the most widely utilized self-report measure of emotional empathy. VanHasselt (2005) observed that the BEES “was designed to update, improve, and replace the Emotional Empathic Tendency Scale” (p. 353). Smith, Lindsey, and Hansen (2006) concurred that “(t)he BEES is an improved sequel to the Emotional Empathic Tendency Scale” (p. 296).

As will be discussed in more detail in Chapter 3 of this study, the BEES is a self-report measure that assesses individual differences in the tendency to feel and vicariously experience the emotional experiences of others. It consists of 30 items and employs a Likert-type 9-point response format. Normative data on this measure consist of mean scores and standard deviations for men, women, and a combined sample of men and women. The BEES has demonstrated adequate internal consistency (Cronbach’s alpha = .87; Mehrabian, 1997), and the construct validity of the BEES is even superior to that previously established in the EETS (VanHasselt, 2005).

The Origins of Individual Differences in Empathy

Previously in this chapter, I have defined the concept of empathy, reviewed the importance of facilitating its development, and explored issues related to the assessment of individual differences in empathy. Increased understanding in these areas will help to examine the origins of individual differences in empathy. This literature demonstrates that although multiple factors are involved, family of origin characteristics are widely viewed as important. However, the literature reflects conflicting judgments about which characteristics of the family

are most important, and why those characteristics are important. The purpose of this study is to contribute to an increased understanding of this matter.

Inherited Predispositions

Davis (1996) observed that any attempt to understand the evolutionary origins of empathy must grapple with an obvious question: “Why would the capacity to experience emotion in response to others’ experiences ever come to exist” (p. 24)? Davis and others have suggested that empathy may be an evolution-based mental mechanism through which altruistic behavior is fostered (see also Brothers, 1989; Hoffman, 2000). In this research tradition, prosocial, cooperative behavior (including altruistic behavior) is seen as enhancing long-term human survival, in conjunction with adaptive forms of competitive behavior.

More recently, Batson (2010) revisited “the question of the evolutionary origin of empathic concern” (p. 25). His argument is consistent with, but somewhat different than, these earlier suggestions:

What evolutionary function might this emotion serve? Speculatively, I think the most plausible answer is that empathic concern evolved as part of the parental instinct among higher mammals, especially humans... (E)mpathic feelings permit more flexible and adaptive parental care, care that is not simply reflective or reactive to distress cues, but is directed toward the goal of enhancing the child’s welfare in whatever way is needed in the particular situation. Of course, the human capacity for empathic concern extends well beyond one’s own children. As long as there is no pre-existing antipathy, people can feel empathic concern for a wide range of targets, including nonhumans. (pp. 25-26)

Whatever the actual evolutionary basis for empathic emotion may be, the proposition that variation in human personality has a substantial genetic component is now generally accepted. Reviews of the evidence (e.g., Davis, 1996) find consistent support for the view that personality has a substantial level of heritability. Davis (1996) observed that “(m)ost estimates of personality heritability are in the range of 40-50 percent, and this estimate holds over a variety of personality dimensions” (p. 63). He also referred to research indicating that “genetic factors seem to make a substantial contribution to individual differences in affective empathy” (p. 64), noting that “the bulk of the evidence in this area comes from studies involving twins, particularly the comparison of personality correlations between identical, or monozygotic, twins with those between fraternal, or dyzygotic, twins” (p. 63; see also, Zahn-Waxler, Robinson, & Emde, 1992).

Interaction of Inherited Predispositions and Environmental Factors

In her review of the relevant literature, Eisenberg (2000) also concluded that “there is evidence from twin studies that some of the individual variation in empathy-related responding is due to genetic factors” (p. 684). At the same time, Eisenberg reminded us that inherited predispositions typically interact with environmental inputs, often in complex ways:

However, it is also likely that children’s experiences in the home and other social contexts affect their emotional reactions to others. Parents’ socialization practices can to some degree reflect parents’ genetic makeup, which is passed on to offspring and may affect children’s capacity for empathy. Nonetheless, observation of and interactions with socializers also probably contribute to individual differences in empathy-related reactions, above and beyond any contribution made by heredity.” (p. 684)

Indeed, there is a consensus in the literature that “socializers” (family and non-family) do contribute significantly to individual differences in empathy-related reactions. For example,

Staub's (1992) research indicated that parents, the broader family system, and school systems can all facilitate the development of empathy. Bryant's (1987b) research indicated that relationships with grandparents and other older adults can be associated in a positive manner with the development of empathy in young people. Nonetheless, in his review of this literature, Davis (1996) concluded that some "studies have addressed the question of environmental influences on dispositional empathy, yet the total number of investigations is not overwhelming, and many gaps in the literature remain" (p. 70). Subsequently, Eisenberg (2000) concurred with that conclusion: "(R)esearch on the socialization of empathy-related responding is scarce and is needed to provide an understanding of empathy and sympathy" (p. 687). One of the largest gaps in the literature involves conflicting judgments about which characteristics of family functioning contribute most significantly to the development of empathy. We turn next to the literature on this topic, a controversy that is central to this study.

Family Contributions to the Development of Empathy

During the past decade, various researchers have concurred with Eisenberg's (2003) conclusion that "socialization in the home contributes to the development of, and individual differences in, empathy-related responding" (p. 102; see also, Hoffman, 2008; Smith, Lindsey, & Hansen, 2006). Indeed, this general proposition has received support in the literature during each of the preceding three decades (see, e.g., Davis, 1996; Bryant, 1987b; Feshbach, 1975). However, as previously noted, there is no consensus about which family characteristics, or combination of characteristics, are most likely to facilitate the development of empathy. Nonetheless, three of the most prominent researchers in this field, Hoffman (2008), Eisenberg (2000), and Davis (1996) have observed that the judgments on this issue tend to fall into two

broad categories: (1) those that focus on what this study will refer to as *family affective bonds*, and (2) those that focus on what we will refer to as *parenting and discipline techniques*.

(1) Family Affective Bonds

This first school of thought, focusing on what I refer to as *family affective bonds*, seeks to explain the family's contribution to the development of empathy by what Eisenberg (2003) called "parental warmth and support" and the "expression of emotions" (p. 102). Other researchers have concurred that parental warmth during parent-child interactions promotes children's sense of security, attachment, and emotional self-regulation, and that these traits can contribute to the development of empathy (Davis & Cummings, 1994; Hoffman, 2000). Similarly, Staub (1992) argued that the quality of childhood emotional attachment to parents is important to the development of a sense of emotional connection to people outside the family, and that this development is likely to promote the capacity for empathy. Eisenberg (2000) suggested that "(i)t is possible that children with secure attachments attend to and want to please their parents more than other children, which may facilitate parental attempts to foster empathy" (p. 685). Eisenberg has frequently referred to the importance of psychiatrist John Bowlby's work (Bowlby, 1990) on attachment theory.

Davis (1996), who has concurred that two schools of thought exist concerning the primary mechanism by which families facilitate empathy, observed that "(t)he largest set of studies all address the link between an individual's empathic responding and the affective environment within that individual's family" (p. 70). Davis (1996), in his review of the literature, continued:

All of these investigations share the assumption that more secure and affectionate family relationships, especially with parents, contribute to greater dispositional empathy. At

least two mechanisms by which such an association might come about have been offered. First, children whose own emotional needs are satisfied by a secure, loving bond with parents may be less preoccupied by self-oriented concerns and thus more responsive to others' needs. Second, warm and loving behavior by parents provides a model which the child may then adopt. There is, of course, no reason that both mechanisms could not be operating. (p. 70)

Evidence in support of this school of thought, *family affective bonds*, also, conversely, comes from studies demonstrating that “parental abuse behavior appears to be negatively related to children’s empathy” (Eisenberg, 2000, p. 685; see also, Main & George, 1985). Nonetheless, despite the fact that a clear majority of the studies lend support to this first school of thought, other studies have challenged this point of view. For example, Eisenberg (2003), who is clearly sympathetic to this school of thought, conceded that “although parents’ positive expressivity sometimes has been linked to children’s empathy-related responding, this association appears to be relatively weak” (p. 106). Elsewhere, Eisenberg (2002) similarly observed that “there is empirical evidence of a link between children’s empathy and warm, empathic parenting, although not all studies have shown such relations” (pp. 141-142). For example, Bryant (1987b) found no relationship between parental emotional support and empathy for 7- and 10-year-olds. Similarly, Iannotti, Cummings, Pierrehumbert, Milano, & Zahn-Waxler (1992) did not find any relationship between the quality of parent-child emotional attachment and a self-report measure of children’s empathy. Kalliopuska (1984), in a similar study, found an insignificant relationship between these factors.

(2) Parenting and Discipline Techniques

This second school of thought, about which family characteristics are most likely to facilitate the development of empathy, has been succinctly described by Davis (1996):

Another general approach has been to investigate links between empathic responding and the use of specific child-rearing techniques, especially an inductive discipline style in which the negative impact on others of the child's misbehavior is emphasized. The logic underlying this approach is that emphasizing the social consequences of the child's actions, more so than physical force and simple prohibition, leads the child to adopt an other-oriented view of the world in general. More specifically, Hoffman and Saltzstein (1967) argue that induction techniques enlist the child's "natural proclivity for empathy," in essence encouraging a tendency which the child already possesses. (p. 54)

Martin Hoffman continues to be the most prominent exponent of the position that these types of inductive techniques of child discipline are particularly powerful contributors to the development of empathy. More recently Hoffman (2008) has summarized his ongoing research:

Inductions direct a child's attention to the other's distress, and may thus engage and strengthen the empathy-arousing modes described above. By highlighting the child's role in causing the other's distress, inductions also contribute to empathy-based guilt. Power-assertive discipline (physical force, threats, commands) is associated with low empathy. (p. 448)

Like most researchers in this field, Hoffman does not focus solely on those factors that are highlighted in one of the two schools of thought; indeed he (2008) recognized that "(t)he role of the parent has three facets: discipline, model, and nurture" (p. 448). However, like many of

these researchers, Hoffman focuses largely on one variable. As Smith, Lindsey and Hansen (2006) observed,

According to Hoffman, the development of empathy depends largely on the form of parental discipline. Discipline can be categorized as power assertion or induction. Examples of power assertion are spanking, time out, and withdrawal of privileges, which are techniques used by the parents to exercise their power differential to gain compliance from their children. Induction is a form of discipline in which the parents focus on the children's understanding of the consequences of their actions on self and others. Ideally, through the process of internalization, children learn to recognize the potential consequences of their behaviors on others and then control the behavior without regard to external punishment. (p. 292)

There is additional empirical support for Hoffman's position. Various studies have obtained evidence suggesting that inductive practices are positively related to children's empathy (see, e.g., Janssens & Gerris, 1992; Krevan & Gibbs, 1996). Parental power assertion was negatively related to empathy in one study (Janssens & Gerris, 1992). More recently, Lopez, Bonenberger, and Schneider (2001), in a study of undergraduate college students, examined the association between parental discipline styles during childhood and levels of empathy during early adulthood. Citing Hoffman's theoretical work, the study found that corporal punishment (e.g., slapping, spanking, hitting), particularly when accompanied by low utilization of inductive disciplinary techniques, was a significant predictor of low levels of emotional empathy.

However, in her review of this literature, Eisenberg (2000) concluded that "(f)indings regarding links between disciplinary practices and empathy are somewhat inconsistent" (p. 685). For example, in one study, investigators simply did not find any relationship between parental

disciplinary practices and the level of empathy in the children (Barnett, King, Howard, & Dino, 1980). In another study (Bryant, 1987b), no significant association was found between “parental power assertion” and empathy in children.

In her review of these “inconsistent” findings, Eisenberg (2002) concluded that “(c)ritical variables are probably the degree to which parental practices are overly harsh and the overall configuration of parenting behavior” (p. 144). As we turn now to the final section of this literature review, I accept Eisenberg’s suggestion that the “overall configuration of parenting behavior” may indeed be the important variable that helps to explain the multiple inconsistencies we have seen in the present review of the literature. I next examine a theory of family functioning that may help to explain these inconsistencies.

Circumplex Model of Marital and Family Systems

“More adequate theories,” White and Klein (2007) observed, “provide better explanation of the data we have and predict future occurrences of events” (p. 6). Particularly useful to the current study would be a theory of family functioning that, while helping to explain what Eisenberg (2002) called the “overall configuration of parenting behavior” (p. 144), also helped to make sense of the inconsistencies that I noted in the literature on family functioning and the development of empathy. Although each school of thought that seeks to explain the family characteristics deemed most relevant to the development of empathy has support in the empirical literature, those research findings are inconsistent and, at times, contradictory. Although various researchers cite both approaches as relevant to the development of empathy, there do not seem to be any studies specifically suggesting that it is the combination of these family characteristics that is most predictably related to the development of empathy. The most appropriate theory to

guide such a study would be a theory that explains healthy family functioning as the result of the interaction of those family characteristics separately emphasized by the two schools of thought. Specifically, such a theory would focus on the importance of developing healthy “family affective bonds” and the importance of utilizing “parenting and discipline techniques” consistent with Hoffman’s emphasis on facilitative “inductive” encounters.

The Circumplex Model of Marital and Family Systems (hereinafter “Circumplex Model”) was initially developed (Olson, Sprenkle, & Russell, 1979) as an effort to integrate three dimensions that have repeatedly been considered highly relevant in a variety of family theory models and family therapy approaches. Family cohesion, flexibility, and communication, the three dimensions in the Circumplex Model, emerged from a conceptual clustering of over 50 concepts developed to describe marital and family dynamics... a variety of other therapists and theorists have focused independently on variables related to the cohesion, flexibility, and communication dimensions. (Olson & Gorall, 2003, p. 515)

The original Circumplex Model included the three constructs of cohesion, adaptability (now referred to as flexibility), and communication, and was based on a curvilinear understanding of healthy family functioning. According to the model, “families who function best fall in the center, balanced between the two curvilinear extremes on the dimensions of cohesion and adaptability. Open and clear communication added an additional ingredient that helped families function well” (Franklin, Streeter, & Springer, 2001, p. 577). In an important early study that utilized the recently developed Circumplex Model, Barnes and Olson (1985) concluded that “communication within the context of the family appears to be particularly important during the adolescent years. Family communication affects adolescent identity

formation and role-taking ability” (p. 438). These authors, along with others (Olson, McCubbin, Barnes, Larsen, Muxen, & Wilson, 1983) had previously used a large, national data set on “normal” families, in an influential study, which concluded that the Circumplex Model was a useful theoretical framework for understanding both “normal families” and “problem families.” Observing that “major differences were found across the stages of the family life cycle,” (p. 234) and noting that “because of the importance of the adolescent stage, considerable attention was focused on these families” (p. 238), the authors nonetheless concluded that their study of 1,140 families from 31 states “provided strong support for the main hypotheses derived from the Circumplex Model” (p. 239) for all types of families at all stages of family development.

Although an extensive body of empirical research supports many of the constructs within the Circumplex Model, there has been significant controversy about the concept of curvilinearity. There is inherent within the Circumplex Model and its various central hypotheses “an assumption that the cohesion and flexibility dimensions are curvilinear with respect to family functioning. That is, moderate levels of both cohesion and flexibility are most conducive to adequate family functioning, and very high or very low levels of either cohesion or flexibility are correlated with problematic family function” (Gorall & Olson, 1995, p. 220). However, this assumption has been questioned, and “there has been mixed support for this curvilinearity hypothesis in the literature” (p. 220; see, e.g., Beavers, Hampson, & Hulgus, 1985; Fristad, 1989). Regarding the first three versions of the Family Adaptability and Cohesion Evaluation Scales (FACES I, II, and III), Kuehl, Schumm, Russell, and Jurich (1988) observed that “it appears that in non-clinical populations the relationship between adaptability and cohesion with family functioning is *linear* rather than quadratic as predicted by the Circumplex Model” (p. 248; emphasis in the original).

Various researchers, however, have suggested that family cohesion and flexibility are, in fact, curvilinear with respect to family functioning, but that the FACES scales have been inadequate to capture the curvilinearity (see, e.g., Cluff, Hicks, & Madsen, 1994; Green, Harris, Forte, & Robinson, 1991).

The most recent version of the instrument, FACES IV (Olson & Gorall, 2004), was released in 2004 and will be reviewed in detail in the methodology chapter of this study.

However, it seems relevant to note in this review of the literature that FACES IV

contains a variety of changes and new components that have been developed related to the Circumplex Model. Changes were made in the conceptual definition for Flexibility, six new scales were developed and validated, a profile scoring system was developed, specific family types were created based on cluster analysis, and ratio scores combining balanced and unbalanced aspects of family functioning were created to assess the curvilinear aspects of the Circumplex Model... (T)he curvilinear hypothesis can now be readily tested by using the ratio of balanced/unbalanced scores. (Olson & Gorall, 2004, p. 4)

There is preliminary evidence, albeit inconclusive, that FACES IV does more effectively support the model's curvilinear hypothesis. In a recent review of the evidence base of family measures relevant to pediatric psychology, Alderfer, Fiese, and Gold (2008) selected for review 29 measures of family functioning. The work group that selected the 29 measures did so under the authority of Division 54 (Society of Pediatric Psychology) of the American Psychological Association. This work group "reviewed the available psychometric data for 29 family measures and classified them in regard to the quality of their evidence base... Upon reviewing the available literature, we categorize each measure as 'well-established,' 'approaching well-

established, or ‘promising’” (p. 1047). Of the 29 family measures, 19 measures met the “well-established” criteria, and the remaining 10 – including FACES IV – met the “approaching well-established” criteria. The authors further observed:

Past versions of FACES have not been capable of capturing the curvilinear aspects of the Circumplex Model (i.e., cohesion and adaptability were found to be linearly related to adjustment instead of extremes on either end of the continuum predicting maladjustment). FACES IV includes six subscales: two designed to assess the mid-ranges of adaptability and cohesion, and four new subscales to assess the extremes of these dimensions (rigid, chaotic, disengaged, and enmeshed). Two empirical reports, from two distinct investigatory teams (Craddock, 2001; Franklin, Streeter, & Springer, 2001), provide some psychometric information for a preliminary version of FACES IV, but complete data have only been presented in nonpeer-reviewed documents. Preliminary psychometric properties are promising, but more information is needed before these measures will qualify for a well-established rating. (p. 1051)

In a review of the preliminary psychometric findings, the developers of the instrument, Olson and Gorall (2003), concluded that “the FACES IV scales have been found to be reliable and valid for research use and clinical use” (p. 532).

These promising indications that FACES IV does seem to capture the curvilinearity that Olson and his colleagues (e.g., Olson & Gorall, 2003) have long claimed characterize the Circumplex Model’s two fundamental dimensions of family functioning – cohesion and flexibility – are important to the current study. To the extent that the model’s dimensions of cohesion and flexibility largely capture variables encompassed within the two schools of thought (i.e., *family affective bonds* and *parenting and discipline techniques*) and, to the extent that

“balanced family functioning” simultaneously on those two dimensions is most predictive of empathy, then, to that extent, such findings would indeed help resolve those gaps in the literature. Thus, I conclude this chapter by examining some research findings relevant to these issues.

The Circumplex Model and FACES have been used in more than 1,200 research studies and have also been widely used in clinical settings over the past 25 years (Olson & Gorall, 2004). The model and the measurement continue to be frequently utilized by researchers who publish their studies in leading academic journals, such as *Family Relations* (Smith, Freeman, & Zabriskie, 2009), *Journal of Family Psychology* (Roest, Dubas, & Gerris, 2009), *Families, Systems, & Health* (Yi, 2009), *Community Mental Health Journal* (Birmes & Raynaud, 2009), and *The Family Journal: Counseling and Therapy for Couples and Families* (Coll, Juhnke, Thobro, Haas, & Robinson, 2008).

More generally, over the past few decades the Circumplex Model has been “one of the most researched family model(s)” (Olson & Gorall, 2003, p. 514). Its “historical roots, basic concepts, and dimensions are grounded in systems theory” (p. 514) and the model has been used with couple and family systems that have been diverse in terms of ethnicity/race, marital status, family structure (single parent, stepfamilies), sexual orientation, stage of family life, and social and economic levels (Gorall & Olson, 1995; Olson & Gorall, 2003). More recently, Yi (2009) argued that family systems theories in general, and the Circumplex Model in particular, have helped clinicians “better understand the cultural influences on family cancer survivorship” (p. 233). She concluded that “family systems theories emphasize that families exist within a larger social context and highlight the importance of exploring the cultural and social aspects in which families with diverse ethnic and cultural backgrounds are embedded” (p. 234). It should be

noted, however, that a significant body of literature has questioned whether family systems thinking has adequately accounted for such variables. For example, Goldenberg and Goldenberg (2008) noted that “the postmodern social construction outlook offers a direct challenge to systems thinking” (p. 341) and they observed that “considerations of ethnicity, culture, gender, sexual orientation, type of family organization, race, and so on” (p. 342) are sometimes not adequately factored into the family assessment by family systems theorists.

Family cohesion, one of the major dimensions of family functioning in the Circumplex Model, is defined as “the emotional bonding that couple and family members have toward one another” (Olson & Gorall, 2003, p. 516). Although some of the specific variables used to measure family cohesion include boundaries, coalitions, decision making, and friends, the central focus is on “the degree of emotional closeness within a family” (Gorall & Olson, 1995, p. 218). Operationalized in such a manner, “family cohesion” is a concept that closely coincides with the concept of “family affective bonds,” one of the two schools of thought examined earlier in this chapter, when I reviewed the literature pertaining to those family variables that are most significantly associated with the development of empathy.

The second school of thought focused on “parenting and discipline techniques,” where the research of Hoffman and others focused on the facilitating benefits of “inductive” disciplinary encounters, as opposed to harsher, more punitive techniques. The variables previously discussed when reviewing Hoffman’s research closely coincide with the variables subsumed under the concept of “family flexibility,” a second major dimension of family functioning, according to the Circumplex Model. According to Olson and Gorall (2003), “Family flexibility is the amount of change in its leadership, role relationships, and relationship rules. The specific concepts include leadership (control, discipline), negotiation styles, role

relationships, and relationship rules” (p. 519). They also contend that “authoritarian leadership” and “strict discipline” are examples of a dysfunctional, “inflexible” style of parenting (p. 517), an observation that clearly coincides with the results of Hoffman’s research findings.

On the face of it, it is not self evident that the school of thought “parenting and discipline techniques” closely coincides with the concepts subsumed under the Circumplex Model dimension of “family flexibility,” because this dimension of family life includes not only the concept of parental discipline, but also, as noted above, concepts such as relationship roles, relationship rules, and negotiation styles. However, there is a rationale grounded both in theory and in research findings for the proposition that each of these concepts falling under the dimension of “family flexibility” in fact cluster together to such an extent that each concept is a closely related component of the broader phenomenon (family flexibility). In the first published research that introduced the Circumplex Model, Olson, Sprenkle, and Russell (1979) explained that the two major dimensions of family life, family cohesion and family adaptability (later changed to “flexibility”) each “emerged from an inductive conceptual clustering” (p. 5) of over 50 concepts that had been developed by researchers to describe marital and family dynamics. Asserting that “it became increasingly clear how many concepts actually fit along these two dimensions” (p. 14), the authors noted that “the impetus for developing this Circumplex Model arose out of frustration with the lack of integration of the theoretical concepts and empirical studies in the marital and family process literature” (p. 16). Referring to their utilization of recently developed cluster analysis computer programs, they explained that a key objective in their development of the Circumplex Model was to “identify and describe the central dimensions of family cohesion and family adaptability” (p. 16) and to “demonstrate the utility of these dimensions in conceptually reducing the seeming diversity of family process concepts” (p. 16).

Therefore, despite the “seeming diversity” of the various concepts that cluster together to form the dimension of family flexibility, these closely related concepts (parenting and discipline style, family roles, family rules and negotiation styles) all “refer to the family’s flexibility as a unit in meeting difficulties, and to the family’s readiness to adjust to changed situations, and to its habits of collective discussion and decision” (p. 14). For example, a family which is rigidly inflexible toward relationship roles would be expected to be rigidly inflexible in the disciplining of children. The theory and research which extensively support this proposition form the basis of my proposition that the school of thought “parenting and discipline techniques” closely coincides with the concepts subsumed under the Circumplex Model dimension of “family flexibility.”

In order to further empirically substantiate this proposition, I will analyze the responses obtained from the FACES IV “Flexibility Scale” in order to determine whether it includes a discernable “Flexible-Discipline Sub-scale.” The absence of such a sub-scale would provide additional support for the proposition that discipline style is a subsumed component of family flexibility. The details of how I will develop and utilize such a sub-scale are presented in Chapter 3.

As one would expect from a conceptual framework with roots in general systems theory, adaptive family functioning in the Circumplex Model is positively associated with balanced functioning on both of the major dimensions of family life – cohesion and flexibility – and usually less so with balanced functioning on just one of the dimensions. “The main hypothesis of the Circumplex Model is that balanced levels of cohesion and flexibility are most conducive to healthy family functioning, while unbalanced levels of cohesion and flexibility (very low or very high levels) are associated with problematic family functioning” (Olson & Gorall, 2004, p. 4).

As noted, many research studies over the past 25 years have utilized the Circumplex Model, and the results have provided significant empirical support for the model's main hypothesis (Olson & Gorall, 2003). Results that are particularly relevant to the current study are those which have demonstrated that both low levels of "cohesion" and rigidly "inflexible" parenting styles predict behavior in children that indicates low levels of empathy.

In regard to cohesion, for example, the level of "perceived emotional bonding" within the family has been linked to the incidence of adolescent substance abuse, with lower levels of cohesion related to higher frequency of substance abuse, a pattern of behavior consistently related to low levels of self-esteem and empathy (Friedman, Tomko & Utda, 1991). Romig and Bakken (1992) found a relationship between perceived levels of low family cohesion and the adolescent's difficulties in forming intimate peer relationships, behavior that in turn has been linked to both low self-esteem and low empathy. Shields and Clark (1995) found a strong relationship between low levels of family cohesion and higher levels of adolescent delinquent behavior, behavior that is quite strongly linked to low levels of empathy for others.

In regard to rigidly "inflexible" styles of parenting, various studies have found that this type of unbalanced functioning within the family is associated with diverse dysfunctional behaviors associated with low empathy (and a variety of other characteristics as well). For example, Trepper and Sprenkle (1988), in their study of intrafamily sexual abuse, found that these families typically scored in the extreme quadrants of the Circumplex Model, including inflexible styles of parenting and low emotional cohesion. In a study of families with severely emotionally disturbed adolescents, findings indicated that the "adaptability level" (currently referred to as the "flexibility level") for the parental dyad was significantly more extreme in families with the disturbed child than a comparison normative sample (Prange, Greenbaum,

Silver, & Friedman, 1992). Lehr and Fitzsimmons (1991) found that violence-prone family systems were typically characterized by rigid levels of “adaptability” and low emotional “cohesion.”

These studies, examining the effects on children of low cohesion and rigidly inflexible parenting styles, would seem to suggest that families who simultaneously function at balanced levels on these two dimensions are most likely to facilitate the development of empathy in children. The current study explores precisely this matter and seeks thereby to clarify a controversy that presently exists in the literature on this topic.

CHAPTER 3 - Methods

The purpose of this study is to examine the relationship between specified dimensions of family functioning (cohesion and flexibility) and the level of emotional empathy in children. All aspects of research methodology used in this study are reported in this chapter. It is organized into the following subsections: (1) hypotheses, (2) research design, (3) participants, (4) procedures, (5) survey instruments, and (6) data analysis.

Hypotheses

Hypothesis 1: Emotional empathy will be related nonlinearly to family cohesion (inverse quadratic function; highest levels of empathy with balanced levels of family cohesion). When family cohesion scores are transformed in accordance with Olson's coding method, emotional empathy will be linearly related to the transformed family cohesion scores.

Hypothesis 2: Emotional empathy will be related nonlinearly to family flexibility (inverse quadratic function; highest levels of empathy with balanced levels of family flexibility). When family flexibility scores are transformed in accordance with Olson's coding method, emotional empathy will be linearly related to the transformed family flexibility scores.

Hypothesis 3: Family cohesion will predict emotional empathy more strongly than family flexibility when used jointly to predict emotional empathy.

Research Design

This study utilized a correlational research design and a "between participants" approach in order to examine the relationship between the independent/predictor variables (self-reported levels of family cohesion and family flexibility in the subject's family of origin) and the

dependent/criterion variable (self-reported level of emotional empathy). The independent variables were measured by a self-report survey questionnaire: the fourth version of the Family Adaptability and Cohesion Scales, FACES IV (Olson & Gorall, 2004). The dependent variable was measured by a self-report survey questionnaire: the Balanced Emotional Empathy Scale (Mehrabian, 2000).

In general, when a study is considering its participants to be a single group and when the study is examining the association among scores, a correlational design is considered most appropriate (Cohen, Cohen, West, & Aiken, 2003). In correlational designs, variables can be continuous or discrete. Correlational statistics are utilized to answer association or relationship types of questions. A correlational design (and related statistics) is particularly appropriate when, as here, the study conceptualizes its independent variables as continuous (e.g., the degree of family cohesion and family flexibility) and when the study examines the best combinations of independent variables to predict a single dependent variable.

Participants

As noted above, Eisenberg (2000) provided part of the rationale for utilizing a sample of undergraduate college students as the subjects in a study such as this, where the level of empathy is being measured as the criterion variable: “There is also evidence that sympathy and empathy are stable interindividually (i.e., are correlated across time) from early adolescence into early adulthood. Thus, individual differences in empathy-related responding seem to be established by late childhood” (p. 681; see also Davis & Franzoi, 1991).

A single member of a family can appropriately be surveyed about family characteristics such as family cohesion and family flexibility, the predictor variables in this study. This represents a second rationale for utilizing a sample of undergraduate college students as the

subjects. In their study of the validity of the FACES IV family assessment measure, Franklin, Streeter, and Spring (2001) observed that

the use of one adolescent to assess family characteristics may also be seen as a limitation. Although it is more desirable to assess family characteristics using more than one observer, in previous studies, adolescent populations have been shown to be useful in the validation of the FACES measures because the measurement instrument appears to be able to validly and reliably assess family characteristics based on the responses of adolescent family members. (p. 580)

Participants in the current study were all students at Washburn University in Topeka, Kansas. This mid-size (enrollment = 6,545) public university provides liberal arts and professional instruction in more than 200 programs. A non-random, purposive sample was used, and consisted of all students willing to participate in the survey, which was administered to 195 students in 11 classes, across 5 different academic departments, during the fall semester in the year 2010. Demographic data were obtained from participants. Table 4.1 in chapter 4 summarizes the demographic data (age, gender, ethnicity, and education level). All 195 subjects who participated in this study completed the questionnaires. Cohen (1992, p. 158) reported that for a multiple regression analysis with two independent variables, 67 participants would be needed to have an 80% chance (power = 0.80) of detecting a medium effect size for $\alpha = 0.05$; with as many as eight independent variables, 107 participants would be needed. To detect a small effect, 481 participants would be needed with two independent variables. To ensure adequate power in a regression analysis, Green (1991) suggested a minimum of 50 subjects, plus the number of independent variables multiplied by eight. For the present study, this would have equated to a minimum of 66 participants.

Procedures

The researcher attempted to recruit participants from a variety of academic departments in order to obtain as diverse a sample as possible under the circumstances. No classes taught by the researcher (a faculty member in the Department of Social Work) were utilized in this study.

An in-class paper-and-pencil survey was administered to students who agreed to participate. Instructors allowed the students to complete the survey during class time. Students were informed that participation was voluntary, with no adverse consequences for those who chose not to participate. As an inducement to participate, each student who did participate was given a \$5 gift certificate that could be used only at the university bookstore. An introductory letter, provided to each prospective participant (see Appendix A), fully explained the voluntary nature of the requested participation. This letter stated that the Institutional Review Boards at both Washburn University (see Appendix B) and Kansas State University (see Appendix C) had approved the use of the survey and the study. The survey was administered to the participants by the same researcher in a controlled classroom environment, thereby eliminating most of the confounding variables associated with researcher variables.

Survey Instruments

The predictor variables in this study (self-reported levels of family cohesion and family flexibility in the subject's family of origin) were measured by the fourth version of the Family Adaptability and Cohesion Scales, FACES IV (Olson & Gorall, 2004). A letter of permission to utilize this survey was obtained from the owner of the survey instrument (see Appendix D). The dependent/criterion variable (self-reported level of emotional empathy) was measured by the simultaneously administered Balanced Emotional Empathy Scale (Mehrabian, 2000). A letter of

permission to utilize this survey was obtained from the owner of the survey instrument (see Appendix E).

FACES IV

FACES IV (Olson & Gorall, 2004) measures the dimensions of “family cohesion” and “family flexibility” using six scales. Each of the six scales consists of seven short statements. Two of these six scales are “balanced scales” – one that assesses “balanced family cohesion” and one that assesses “balanced family flexibility.” The other four scales consist of two unbalanced scales for family cohesion (“disengagement” and “enmeshment”) and two unbalanced scales for family flexibility (“rigid” and “chaotic”). For example, the “balanced family cohesion” scale contains statements such as “Family members are involved in each other’s lives.” The “unbalanced family cohesion: enmeshment” scale contains statements such as “We resent family members doing things outside the family.” More generally, the unbalanced scales measure the high and low extremes of family cohesion and flexibility. The 42 items (across the six scales) use a 5-point Likert scale ranging from 1 to 5, with the choices being: (1) Strongly Disagree, (2) Generally Disagree, (3) Undecided, (4) Generally Agree, or (5) Strongly Agree.

An Excel spreadsheet program that accompanies the *FACES IV Package-Administrative Manual* (Olson, 2009) sums the item responses for each of the six FACES IV scales. The total raw score for each scale is converted into a percentage score using a Percentile Conversion Chart. The Excel program also creates a cohesion ratio, a flexibility ratio, and a total circumplex ratio score. Olson (2009) notes that these balanced/unbalanced ratio scores are very useful because they

indicate the level of functional versus dysfunctional behavior perceived in the family system. The ratio score is obtained by assessing the Balanced/Average Unbalanced score

for each dimension. The lower the ratio score below one, the more unbalanced the system. Conversely, the higher the ratio score above one, the more balanced the system.

The formulas are:

$$\text{Cohesion Ratio} = \text{Balanced Cohesion} / \frac{(\text{Disengaged} + \text{Enmeshment})}{2}$$

$$\text{Flexibility Ratio} = \text{Balanced Flexibility} / \frac{(\text{Rigid} + \text{Chaotic})}{2}$$

$$\text{Total Circumplex Ratio} = (\text{Cohesion Ratio} + \text{Flexibility Ratio}) / 2 \text{ (p. 17)}$$

Elsewhere, Olson and Gorall (2004) observed,

One of the advantages of the Balanced/Unbalanced ratio score is that it provides a methodological approach for assessing curvilinearity of cohesion and flexibility. The higher the ratio score, the more balanced the system. Conversely, the lower the ratio score, the more unbalanced the system. This ratio score also allows for the summarizing of a family's relative strength and problem areas into a single score, thus avoiding some of the complexities of the six scale scores. The ratio is calculated by dividing the average of the Balanced scales by the average of the Unbalanced scales. (p. 6)

In a study of 124 undergraduate students that specifically examined the validity and reliability of FACES IV, Olson, Gorall, and Tiesel (2007) concluded that “the six scales in FACES IV were found to be reliable and valid. Concurrent and discriminant validity was established” (p. 1). More specifically, the study noted that, as expected, “there were also high negative correlations between the balanced scales of each dimension with some of the extremes of the other dimensions” (p. 9). In addition, “an alpha reliability analysis was conducted to examine the internal consistency of the six scales....Reliability of the six FACES IV scales is as follows: Enmeshed = .77, Disengaged = .87, Balanced Cohesion = .89, Chaotic = .86, Balanced Flexibility = .84, Rigid = .82. Thus, reliability is acceptable for research purposes” (p. 9).

These findings are consistent with previous studies. For example, Franklin, Streeter, and Springer (2001) concluded, regarding reliability, that “Cronbach’s alpha for each of the four FACES IV (unbalanced) domains were as follows: Enmeshed (.75), Disengaged (.79), Rigid (.65), and Chaotic (.76). Alpha coefficients of .60 or greater are commonly accepted for nomothetic research” (p. 585). More generally, the authors concluded that “this study does lend support to the reliability and validity of the FACES IV” (p. 588).

For the reasons noted in Chapter 2, I also analyzed the responses obtained from the FACES IV “Flexibility Scale” in order to determine whether it includes a discernable “Flexible-Discipline Sub-scale.” More specifically, as part of the initial statistical analysis of this FACES IV scale, I conducted an Exploratory Factor Analysis (with a varimax rotation, extraction for eigenvalues >1.0) of the FACES IV Flexibility, Rigid, and Chaotic scale items to see how those items relate to each other. Specifically, I will review the factor loadings from this analysis to see whether multiple items that appear to measure a “Flexible Discipline Style” (determined a priori) load on the same factor.

The 5 items that appear to measure a “Flexible Disciple Style” in the FACES IV Flexibility Scale are:

Balanced Flexibility #14. Discipline is fair in our family. (Higher is healthier – score normally)

Rigid #5. There are strict consequences for breaking the rules in our family. (Higher is rigid/unhealthier – reverse score)

Rigid #11. There are clear consequences when a family member does something wrong. (Higher is rigid/unhealthier – reverse score)

Rigid #17. Our family has a rule for almost every possible situation. (Higher is rigid/unhealthier – reverse score)

Rigid #35. It is important to follow the rules in our family. (Higher is rigid/unhealthier – reverse score)

Balanced Emotional Empathy Scale

The Balanced Emotional Empathy Scale (BEES; Mehrabian, 2000) was developed in 1996 from the original Emotional Empathic Tendency Scale (EETS; Mehrabian & Epstein, 1972). As Mehrabian (2000) observed,

A considerable amount of data bearing on individual differences in emotional empathy has been accumulated since the original Emotional Empathic Tendency Scale was first published. Thus, there was a need for a new measure that would incorporate most of the important components of empathy and, thereby, provide a more up-to-date and *balanced* assessment of this trait. (p. 2; emphasis in the original)

More recent studies have concurred that “the BEES is an improved sequel to the Emotional Empathic Tendency Scale” (Smith, Lindsey, & Hansen, 2006, p. 296; see also Van Hasselt, 2005).

The coefficient alpha internal consistency of the BEES is .87. This is comparable to the coefficient alpha of .85 for the original EETS (Mehrabian, 1997). Test-retest reliability of the BEES was assessed (Mehrabian, 2000) by “administering it to 56 individuals over a 6-week interval. The resulting test-retest reliability coefficient of .79 was deemed to be satisfactory” (p. 4).

As noted in Chapter 2 of this study, the validity of the BEES has been demonstrated in an impressively wide variety of studies over the past decade (see, e.g., LeSure-Lester, 2000; Van

Hasselt, 2005). In a widely cited study in the journal *Science*, Singer and Seymour (2004) used functional imaging to assess brain activity of participants who watched a loved one receive a painful stimulus. BEES scores were significantly correlated with the level of activation of the affective component of the pain centers in the brain. More recently, the BEES has been utilized and validated in leading academic journals in fields such as adolescent development (Albiero & Matricardi, 2009), general medicine (Stepien & Baernstein, 2006), and social psychology (Toussaint & Webb, 2005). Mehrabian himself (2000) observed that “evidence on the validity of the Balanced Emotional Empathy Scale is available indirectly through its high positive correlation of .77 with the original Emotional Empathic Tendency Scale” (p. 4). Indeed the initial study by Mehrabian and Epstein (1972) provided strong support for the validity of the original EETS, and a subsequent review of the literature continued to demonstrate strong support for the validity of that scale (Chlopan & McCain, 1985).

The 30-item BEES uses a 9-point Likert-type scale to report the degree of agreement-disagreement with each item (+4 = very strong agreement, +3 = strong agreement, +2 = moderate agreement, +1 = slight agreement, 0 = neither agreement nor disagreement, -1 = slight disagreement, -2 = moderate disagreement, -3 = strong disagreement, -4 = very strong disagreement). The 30-statement questionnaire expresses ideas such as “Unhappy movie endings haunt me for hours afterward,” and “I cannot feel much sorrow for those who are responsible for their own misery” (Mehrabian, 2000). The scale is designed to reduce “acquiescence bias,” which is the tendency of some people to agree with most statements or, conversely, to disagree with most statements. This is done by one half of the questionnaire consisting of items where agreement indicates higher emotional empathy, and one half consisting of items where disagreement indicates higher emotional empathy.

A total score is computed for each subject by algebraically summing the responses to all 15 of the “positively worded” items and by then subtracting from this quantity the algebraic sum of the responses to all the “negatively worded” items (Mehrabian, 2000).

Based upon his review of the relevant research, Mehrabian (2000) provided various norms for the BEES. The mean score = 45, and the standard deviation = 24. These norms, “combined male and female norms, are appropriate most of the time....However, it is noteworthy that women tend to be generally more emotionally empathic than men. Therefore, on occasion, separate male and female norms may be helpful” (p. 3). Mehrabian noted that such an atypical study might be one in which the researcher must know how each of the same-gender subjects compares with the population of all subjects of that gender. Therefore, Mehrabian (2000) does provide the following separate male and female norms:

Male Norms: Mean = 29, Standard Deviation = 28

Female Norms: Mean = 60, Standard Deviation = 21

The current study utilized a correlational design in order to examine the relationship between the independent/predictor variables (self-reported levels of family cohesion and family flexibility in the subject’s family of origin) and the dependent/criterion variable (self-reported level of emotional empathy). Therefore, the statistical tests that were used (correlation and multiple regression analysis) worked with the obtained raw scores. As Mehrabian (2000) observed, “(i)f you are correlating the Balanced Emotional Empathy Scale (BEES) scores with other variables, you won’t need norms – you can work simply with the total unstandardized or raw scores as computed above. However, if you want to know how each subject’s BEES score compares with the rest of the population, then you need norms” (p. 3). For the latter purpose, Mehrabian provided the formula that could be used to convert a total raw score to a z-score.

As noted in Chapter 2 of this research study, Bryant (1987a) addressed the issue of self-presentational bias (based on “social desirability” issues) in her examination of construct validity for the BEES’s closely-related predecessor measure, the Emotional Empathic Tendency Scale. Bryant concluded that the instrument’s use of the Crowne and Marlowe (1960) measure of social desirability demonstrated that there was no significant relationship between empathy scores and social desirability scores. As Bryant (1987a) noted:

Using a large sample of more than 300 adults, Kalliopuska (1983) found a slight negative correlation (-.08) between the Crowne and Marlowe measure of social desirability and adult empathy scores, but the correlation accounts for so little variance that it is of no practical significance. (p. 370)

More recently, Lopez, Bonenberger, and Schneider (2001) concluded that the BEES “shows good discriminant validity, and it is not contaminated by social desirability” (p. 198). These studies are consistent with Batson’s (1987) observation that “fortunately, there is some evidence that it may be possible to control psychometrically for these self-presentational biases” (p. 358).

Data Analysis

Data were evaluated and errors corrected prior to analysis, through a normal data cleaning process. The following statistical tests were the primary tests used to examine the research hypotheses in this study: Pearson correlation coefficients and multiple regression analyses. The multiple regression analyses were performed using levels of family cohesion and levels of family flexibility as the independent/predictor variables and level of emotional empathy as the dependent/criterion variable. As Krathwohl (1998) observed, in a correlational design study that involves examining the relationship among variables in a single group of subjects, a bivariate correlation is an appropriate statistical test when the researcher is focusing on the relationship

between two variables. When the researcher also is seeking to relate more than one independent variable to one (or more) dependent variables, a multiple regression analysis often is the most appropriate statistical test. Parametric statistics are appropriate to this study; the data on all variables can be considered either interval or ratio. However, tests for normality were performed, since normality is also an assumption of parametric analyses. As control variables, age and gender were assessed as part of the overall regression analysis.

The primary statistic for analyzing both Hypothesis 1 and Hypothesis 2 was the Pearson Product-Moment Correlation. Regarding Hypothesis 1, the subject's self-reported level of emotional empathy (the dependent variable), as measured by the BEES, was predicted to be positively associated in a generally linear manner with the FACES IV "cohesion ratio." In other words, higher levels of emotional empathy will generally be associated with the subject reporting more balanced (healthier) levels of cohesion in the family of origin. Regarding Hypothesis 2, the subject's self-reported level of emotional empathy was predicted to be positively associated in a generally linear manner with the FACES IV "flexibility ratio." In other words, higher levels of emotional empathy will generally be associated with the subject reporting more balanced (healthier) levels of flexibility in the family or origin. In regard to both hypotheses, I expected the resulting correlation (R-value) to be positive and statistically significant, with $p < 0.05$. In other words, the probability of such a relationship occurring by chance alone would be less than 5%. I also report the strength of the relationship (the R-squared value) and discuss the practical significance of this finding. The sample size limits detection of effects to those of a medium size (Cohen, 1992).

Hypothesis 3 states that family cohesion will predict emotional empathy more strongly than family flexibility when used jointly to predict emotional empathy. In other words, it

predicts that family cohesion, as measured by the FACES IV “cohesion ratio,” will be more strongly associated with higher self-reported levels of emotional empathy than will be family flexibility, as measured by the FACES IV “flexibility ratio.” In my preliminary analysis, I reviewed the results of the tests for Hypothesis 1 and Hypothesis 2 and created a correlation matrix in order to better understand the relationships that are demonstrated. Then, in my primary statistical analysis, I utilized multiple regression (both “Enter” and “Stepwise”), with self-reported levels of emotional empathy as the dependent variable, and with the FACES IV cohesion ratio and flexibility ratio as the primary independent variables. I evaluated the results of this analysis by examining how much of the variance in empathy scores is accounted for by each of the independent variables. I predicted statistically significant results (based on the ANOVAs associated with the regression analysis), with $p = < 0.05$. For the stepwise regression analysis, the criterion for entering is 0.05, and the exit criterion is 0.10. I compared the actual R-squared values for cohesion and flexibility when both enter the equation together. I also compared the values for them when they enter together, versus the Hypothesis 1 and Hypothesis 2 results.

CHAPTER 4 - Results

This chapter describes the results of the study and includes the following sections: (a) descriptive statistics and preliminary analyses, (b) results for Hypothesis #1, (c) results for Hypothesis #2, (d) results for Hypothesis #3, (e) supplemental analyses, and (f) summary of the results.

Descriptive Statistics and Preliminary Analyses

All participants were students at Washburn University, a mid-size public university in Topeka, Kansas. Students in eleven classes from five academic departments completed the Balanced Emotional Empathy Scale (“BEES”), the fourth version of the Family Adaptability and Cohesion Scales (“FACES IV”), additional questionnaires, and demographic questions. All questionnaires were completed during regularly scheduled class meeting times. All 195 students in the 11 classes completed the questionnaire. Although the classes and the students attending them were selected based on convenience, and not at random, an attempt was made to obtain data from students across a variety of academic disciplines. Those disciplines included three classes in social work (60 students), four classes in criminal justice (59 students), two classes in sociology (45 students), one class in allied health/radiographic procedures (17 students), and one class in art (14 students). Additional demographic characteristics of the sample are presented in Table 4.1. As this table shows, of the entire sample, 61% were female; 77% were single; 74% were Caucasian, Non-Hispanic; 73% had no children; and 61% were between the ages of 18 and 22. Also, as indicated in Table 4.1, five students did not report their age.

Table 4.1: Demographics

Characteristic	N	%
Gender		
Male	77	39
Female	118	61
Age		
18-22	118	61
23-30	41	21
31-40	17	9
41-50	9	5
50-60	5	3
Not Reported	5	3
Year in School:		
Freshman	46	24
Sophomore	44	23
Junior	56	29
Senior	41	21
Graduate Student	7	4
Other	1	1
Relationship Status:		
Single	151	77
Married	35	18
Separated	0	0
Divorced	8	4
Widowed	1	1
Number of Children I have (biological and step-children):		
None	143	73
One	16	8
Two	24	12
Three	5	3
Four	3	2
More than Four	4	2
Ethnicity		
African American	19	10
American Indian or Native American	1	1
Asian or Pacific Islander	7	4
Caucasian, Non-Hispanic	144	74
Hispanic or Latino	13	7
Middle Eastern	0	0
Bi/Multiracial	5	3
Other	5	3
Not Reported	1	1

The ranges, means, standard deviations, skewness, and kurtosis for the BEES, FACES IV, and the additional scales are presented in Table 4.2. The distributions of the primary variables from these measures are generally normally distributed (tests for normality not

significant with $p > .05$). However, the distribution of the FACES IV cohesion ratio score was not normally distributed, as it was positively skewed (skewness = .86), and leptokurtic (kurtosis = 1.12). Although the BEES scores were normally distributed (Jarque-Bera test, chi-square = 4.88, $p = .08$), I identified one score (- 73) that was 4.9 standard deviations below the mean. Because this was an extreme and singular outlier, this score was eliminated from the analysis.

Table 4.2: Ranges, Means, Standard Deviations, Skewness, and Kurtosis for Primary Research Variables

Primary Variable	N	Range	M	SD	S	K
Empathy (BEES)	194	-30-+115	42.43	29.11	0.17	0.34
Balanced Cohesion (FACES-IV)	195	8-35	27.11	5.81	1.12	1.09
Balanced Flexibility (FACES-IV)	195	9-35	23.93	5.64	0.69	0.02
Disengaged (FACES-IV)	195	7-35	17.11	5.88	0.78	0.17
Enmeshed (FACES-IV)	195	7-30	14.49	4.57	0.85	0.77
Rigid (FACES-IV)	195	10-32	21.83	4.41	0.22	0.25
Chaotic (FACES-IV)	195	7-34	15.38	5.69	0.94	0.90
Cohesion Ratio (FACES-IV)	195	0.26-5.00	1.91	0.84	0.86	1.12
Flexibility Ratio (FACES-IV)	195	0.38-2.41	1.34	0.43	0.20	0.18
Total Circumplex Ratio (FACES-IV)	195	0.33-3.71	1.62	0.60	0.45	0.49
Flexible Discipline (FACES-IV)	195	7-25	15.87	3.54	0.11	0.01
Impulsivity	195	1.00-3.43	2.08	0.51	0.34	0.31
Religiosity	195	1-5	3.70	1.13	0.75	0.24
Relationship with Parents	195	1-5	3.71	1.15	0.62	0.71

Although the primary purpose of this study was to examine the relationship between empathy, family cohesion, and family flexibility, correlations were explored between these three main variables and several additional variables. The correlations between all of these variables are shown in Table 4.3. The correlation between empathy and gender (male = 1, female = 0)

Table 4.3: Correlation Matrix – Primary Variables, Age and Gender

Variable	Empathy (BEES)	Balanced Cohesion (FACES-IV)	Balanced Flexibility (FACES-IV)	Disengaged (FACES-IV)	Enmeshed (FACES-IV)	Rigid (FACES-IV)	Chaotic (FACES-IV)
Empathy (BEES)	1.000 .000 194						
Balanced Cohesion (FACES-IV)	.180* .012 194	1.000 .000 195					
Balanced Flexibility (FACES-IV)	.084 .247 194	.814*** .000 195	1.000 .000 195				
Disengaged (FACES-IV)	-.236** .001 194	-.847*** .000 195	-.725*** .000 195	1.000 .000 195			
Enmeshed (FACES-IV)	-.029 .691 194	-.143* .045 195	-.115 .111 195	.160* .025 195	1.000 .000 195		
Rigid (FACES-IV)	.136 .059 194	.038 .602 195	.134 .062 195	-.074 .301 195	.212** .003 195	1.000 .000 195	
Chaotic (FACES-IV)	-.150* .037 194	-.617*** .000 195	-.651*** .000 195	.620*** .000 195	.193** .007 195	-.344*** .000 195	1.000 .000 195
Cohesion Ratio (FACES-IV)	.282*** .000 194	.823*** .000 195	.709*** .000 195	-.845*** .000 195	-.497*** .000 195	.009 .905 195	-.587*** .000 195
Flexibility Ratio (FACES-IV)	.085 .241 194	.782*** .000 195	.905*** .000 195	-.733*** .000 195	-.258*** .000 195	-.100 .164 195	-.752*** .000 195
Flexible Discipline (FACES-IV)	.137 .057 194	-.134 .062 195	-.084 .241 195	.069 .338 195	.202** .005 195	.879*** .000 195	-.190** .008 195
Impulsivity	-.160* .026 194	-.073 .309 195	-.071 .325 195	.062 .388 195	.097 .179 195	-.010 .890 195	.069 .340 195
Religiosity	.186* .010 194	.227** .001 195	.267*** .000 195	-.245** .001 195	.062 .389 195	.104 .149 195	-.244 .0001 195
Relationship with Parents	.120 .096 194	.722*** .000 195	.724*** .000 195	-.665*** .000 195	-.134 .062 195	-.012 .871 195	-.569*** .000 195
Age	.136 .063 189	-.207** .004 190	-.152* .036 190	.120 .099 190	.096 .186 190	.042 .568 190	-.017 .819 190
Gender	.507*** .000 194	.051 .477 195	-.018 .805 195	-.075 .300 195	-.132 .065 195	-.081 .259 195	.034 .640 195

Table 4.3: Correlation Matrix –Primary Variables, Age and Gender (continued)

	Cohesion Ratio (FACES-IV)	Flexibility Ratio (FACES-IV)	Flexible Discipline (FACES-IV)	Impulsivity	Religiosity	Relationship with Parents
Empathy (BEES)						
Balanced Cohesion (FACES-IV)						
Balanced Flexibility (FACES-IV)						
Disengaged (FACES-IV)						
Enmeshed (FACES-IV)						
Rigid (FACES-IV)						
Chaotic (FACES-IV)						
Cohesion Ratio (FACES-IV)	1.000 .000 195					
Flexibility Ratio (FACES-IV)	.763*** .000 195	1.000 .000 195				
Flexible Discipline (FACES-IV)	-.105 .144 195	-.262*** .000 195	1.000 .000 195			
Impulsivity	-.149* .038 195	-.100 .165 195	-.050 .491 195	1.000 .000 195		
Religiosity	.241** .001 195	.268*** .000 195	.106 .142 195	-.108 .133 195	1.000 .000 195	
Relationship with Parents	.651*** .000 195	.739*** .000 195	-.189** .008 195	-.164* .022 195	.230** .001 195	1.000 .000 195
Age	-.124 .088 190	-.075 .304 190	.106 .144 190	.050 .495 190	.066 .368 190	-.236** .001 190
Gender	.165* .021 195	.023 .747 195	-.006 .939 195	-.205** .004 195	.060 .405 195	-.072 .315 195

Notes: Significant correlations are flagged as follows: * for $p < .05$, ** for $p < .01$, and *** for $p < .001$; Gender: 1=male, 2=female

indicates that female students tended to report higher levels of empathy. These initial analyses also indicated that empathy was significantly correlated with specific components of the Circumplex Model of Marital and Family Systems as measured by FACES IV. Specifically, higher levels of empathy were associated with: higher levels of family cohesion (as measured by the cohesion ratio, $r = .282, p < .001$), lower levels of disengagement ($r = -.236, p < .01$), and lower levels of chaos ($r = -.15, p < .05$). Other variables significantly correlated with empathy were religiosity ($r = .186, p < .05$), and impulsivity ($r = -.16, p < .05$). The relationships between the primary variables and empathy are more fully analyzed in the following results for each hypothesis.

As indicated in Chapter 3, page 44, I identified five items in the FACES IV “balanced flexibility,” “rigid,” and “chaotic” scales that relate to discipline style, in order to determine whether a discernable “flexible discipline” sub-scale exists. I conducted an Exploratory Factor Analysis in order to determine whether the items that relate to “discipline style” would tend to group together. The results of this analysis are shown in Table 4.4. With the exception of the “Discipline is fair in our family” item, each of the other four “flexible discipline” items loaded on factor 3. Although this factor was made up of FACES IV “rigid scale” items, the highest loading items were all “flexible discipline” items. As discussed more fully in chapter 5, this may indicate that “rigidity,” as measured by FACES IV, was largely a measure of the flexibility or inflexibility of the parents’ discipline style.

Table 4.4: Varimax Rotated Maximum Likelihood Factor Loadings for Flexibility (Balanced, Rigid, and Chaotic) Items from the FACES-IV, 3 Factor Solution, (N=195)

Scale Items (Hypothesized Flexible Discipline Scale Items in Bold)	Rotated Factors		
	1 Chaotic	2 Balanced Flexibility	3 Rigid
30. There was no leadership in our family.	.779	-.156	-.198
36. Our family had a hard time keeping track of who did various household tasks.	.740	-.011	-.080
24. It was unclear who was responsible for things (chores, activities) in our family.	.712	-.046	-.176
18. Things did not get done in our family.	.681	-.380	.015
32. We had clear rules and roles in our family (Balanced Flexibility Item)	-.646	.311	.398
42. Our family felt hectic and disorganized	.637	-.515	-.015
12. It was hard to know who the leader was in our family.	.628	-.091	-.150
6. We never seemed to get organized in our family.	.552	-.536	.035
23. Our family was highly organized (Rigid Item)	-.522	.509	.054
38. When problems arise, we compromised.	-.216	.763	-.122
2. Our family tried new ways of dealing with problems.	-.022	.714	-.025
8. Parents equally shared leadership in our family.	-.262	.690	.002
26. We shifted household responsibilities from person to person.	.106	.634	.180
14. Discipline was fair in our family	-.351	.603	-.048
20. My family was able to adjust to change when necessary.	-.452	.474	-.025
5. There were strict consequences for breaking the rules in our family.	-.174	.062	.787
17. Our family had a rule for almost every possible situation.	-.062	-.106	.715
11. There were clear consequences when a family member did something wrong.	-.429	.100	.632
35. It was important to follow the rules in our family.	-.311	.165	.612
41. Once a decision was made, it was very difficult to modify that decision.	.133	-.332	.503
29. Our family became frustrated when there was a change in our plans or routines.	.293	-.303	.311
Eigenvalues	7.028	2.934	1.360
KMO Measure of Sampling Adequacy		.889	
Bartlett Test of Sphericity		1755.122, $p < .001$ ($df=210$)	

Results for Hypothesis #1

The first research hypothesis, which proposed that emotional empathy will be linearly related to family cohesion ratio scores (as measured by FACES IV), was supported. This is demonstrated by the strong positive correlation between empathy and family cohesion ($r = .282$, $p < .001$) shown in Table 4.3. The hypothesis is also supported when analyzed via multiple regression, controlling for gender and age. As shown in Table 4.5, gender, age, and family cohesion combined account for slightly under 30% of the variation in emotional empathy ($R = .55$, $p < .001$).

Table 4.5: Multiple Regression Model Summary (N=189) Predicting BEES Scores from Gender, Age, and Cohesion Ratio

Dependent Variable	R	Adj. R ²	Significance
Emotional Empathy (BEES)	.551	.293	.000
Independent Variables	R(b)	Std. Error	Significance
Constant	75.030	8.480	.000
Gender	26.720 (.452)	3.700	.000
Age	0.428 (.128)	.208	.041
Cohesion Ratio	7.350 (.215)	2.150	.001

Results for Hypothesis #2

The second research hypothesis, which proposed that emotional empathy would be linearly related to family flexibility ratio scores (as measured by FACES IV), was not supported. This is demonstrated by the lack of correlation between empathy and family flexibility ($r = .085$, $p = .241$), as shown in Table 4.3. However, higher self-reported levels of empathy were associated with a more rigid discipline style, as measured by the above-noted “flexible-discipline” scale ($r = 0.137$, $p = .057$). Furthermore, as shown in Table 4.6, when controlling for

gender, higher “flexible-discipline” scores tend to be associated with higher self-reported levels of emotional empathy with an overall explained variance, $R = .525$ ($p < .001$).

Table 4.6: Multiple Regression Model Summary (N=194) Predicting BEES Scores from Gender and Flexible Discipline Scale

Dependent Variable	R	Adj. R ²	Significance
Emotional Empathy (BEES)	.525	.268	.000
Independent Variables	R(b)	Std. Error	Significance
Constant	75.979	10.115	.000
Gender	30.180 (.507)	3.662	.000
Flexible Discipline Scale	1.129 (.138)	.505	.027

Results for Hypothesis #3

The third research hypothesis proposed that family cohesion will predict emotional empathy more strongly than family flexibility when used jointly to predict emotional empathy. That is, I expected higher “cohesion ratios” and higher “flexibility ratios” to each predict high levels of emotional empathy, with the “cohesion ratio” being the most predictive. This hypothesis was partially supported and partially contradicted. Higher family “cohesion ratios” did predict higher levels of empathy. Although the “flexibility ratio” did predict empathy, it did so in the opposite direction, with lower “flexibility ratios” associated with higher levels of empathy. Table 4.7 shows the results of a stepwise multiple regression, with gender and age as control variables. The cohesion ratio was a significant predictor of empathy, even when the influence of “family flexibility” was also taken into account ($B = 12.641$, $df = 188$, $p < .001$). As noted in the results for Hypothesis #2, the correlation between empathy and “family flexibility” ($r = .085$, $p = .241$) was not significant. However, empathy was associated with a more “rigid” discipline style, which was a component of the overall “flexibility ratio.” The multiple

regression analysis for Hypothesis #3 (see Table 4.7) showed that higher levels of empathy were associated with lower levels of “family flexibility” ($B = -13.237$, $df = 188$, $p = .037$).

Table 4.7: Multiple Regression Model Summary (N=189) Predicting BEES Scores from Gender, Age, Cohesion Ratio, and Flexibility Ratio

Dependent Variable	R	Adj. R ²	Significance
Emotional Empathy (BEES)	.565	.305	.000

Independent Variables	R(b)	Std. Error	Significance
Constant	84.252	9.538	.000
Gender	25.455 (.431)	3.719	.000
Age	0.4475 (.134)	.206	.032
Cohesion Ratio	12.641 (.370)	3.356	.000
Flexibility Ratio	-13.237 (-.196)	6.476	.042

Because the “cohesion ratio” and the “flexibility ratio” each predicted empathy, I tested for an interaction effect between them. As shown in Table 4.8, there was no significant interaction effect between cohesion and flexibility ($B = -2.17$, $df = 188$, $p = .609$). Further analysis relevant to Hypothesis #3 is provided in the following section on “supplemental analysis.”

Table 4.8: Multiple Regression Model Summary (N=189) Predicting BEES Scores from Gender, Age, Cohesion Ratio Centered, Flexibility Ratio Centered, and Cohesion Flexibility Interaction

Dependent Variable	R	Adj. R ²	Significance
Emotional Empathy (BEES)	.566	.302	.000

Independent Variables	R(b)	Std. Error	Significance
Constant	90.346	7.664	.000
Gender	25.699 (.435)	3.757	.000
Age	0.468 (.140)	.211	.028
Cohesion Ratio Centered	13.352 (.390)	3.638	.000
Flexibility Ratio Centered	-14.305 (-.212)	6.816	.037
Cohesion Flexibility Interaction	-2.171 (-.035)	4.238	.609

Supplemental Analyses

For each multiple regression analysis that I conducted, I also performed White's test for heteroskedasticity. The statistic was not significant in any of these analyses.

In order to evaluate the influence of each of the components of family cohesion and family flexibility on emotional empathy, I conducted a stepwise multiple regression, using the raw scores from each of the six relevant scales, as well as the data on gender and age. The results of that analysis, shown in Table 4.9, demonstrate that higher levels of empathy were related to lower levels of "disengagement" ($B = -.975$, $df = 188$, $p = .001$), and higher levels of "rigidity" ($B = 1.048$, $df = 188$, $p = .010$). The possible significance of these two relationships will be discussed in Chapter 5.

Table 4.9: Multiple Regression Model Summary (N=189) Predicting BEES Scores from Gender, Age-Squared, Disengaged Scale, and Rigid Scale

Dependent Variable	R	Adj. R ²	Significance
Emotional Empathy (BEES)	.575	.316	.000

Independent Variables	R(<i>b</i>)	Std. Error	Significance
Constant	85.917	12.491	.000
Gender	28.913 (.490)	3.597	.000
Age-Squared	.006 (.123)	.003	.044
Disengaged Scale	-0.975 (-.199)	.298	.001
Rigid Scale	1.048 (.159)	.400	.010

Summary of Results

Following the descriptive statistics and preliminary analyses, this chapter presented the results of the data analysis for all three research hypotheses. Although I found some support for each of the three hypotheses, I also found an unexpected relationship between emotional

empathy and the “flexibility dimension” of family functioning: higher levels of empathy were related to higher levels of “rigidity.” The possible significance of this finding, and other findings, are discussed in Chapter 5.

CHAPTER 5 - Discussion

This final chapter includes the following sections: (a) summary and discussion of the results, (b) limitations of the study, (c) recommendations for future research, and (d) implications for practitioners.

Summary and Discussion of the Results

The purpose of this study was to examine the relationship between specified dimensions of family functioning (cohesion and flexibility) and the level of emotional empathy in children. It utilized a correlational research design and various statistical tests, including Pearson Product-Moment correlations and multiple regressions.

As noted in Chapter 4, the first research hypothesis, which proposed that emotional empathy will be linearly related in a positive direction to “family cohesion ratio scores”, was supported. The strong positive correlation between empathy and family cohesion ($r = .282, p < .001$) is consistent with the literature on a school of thought called “family affective bonds.” As noted in Chapter 2, this school of thought seeks to explain the family’s contribution to the development of empathy in children by what Eisenberg (2003) called “parental warmth and support” and the “expression of emotions” (p. 102). A decade earlier, Staub (1992) similarly found that the quality of childhood emotional attachments to parents was important to the development of a sense of emotional connection to people outside the family, and that this development likely promoted the capacity for empathy.

It is not surprising, therefore, that the first research hypothesis was strongly supported. “Family cohesion” is defined in the Circumplex Model as “the emotional bonding that couple

and family members have toward one another” (Olson & Gorall, 2003, p. 516). Although my finding of a strong positive correlation between family cohesion and emotional empathy in children may not be surprising, because it is supported by a majority of the literature on this topic, it is, nonetheless, notable. As Chapter 2 discussed, a minority of research findings have not found this positive correlation. For example, Iannotti, Cummings et al., (1992) did not find any relationship between the quality of parent-child emotional attachments and a self-report measure of children’s level of empathy. My research findings, however, are consistent with the majority of the research on this topic.

As noted in Chapter 4, the second research hypothesis, which predicted that emotional empathy would be linearly related in a positive direction to “family flexibility ratio scores”, was not supported. However, higher self-reported levels of empathy were somewhat associated with a more “rigid” parenting style, as measured by both the “rigidity scale” and the “flexible-discipline” sub-scale. I will discuss various possible explanations for this result when I discuss the closely related findings for Hypothesis #3.

As noted in Chapter 4, the third research hypothesis, which predicted that family cohesion would predict emotional empathy more strongly than family flexibility when used jointly to predict emotional empathy, was partially supported and partially contradicted. Higher family “cohesion ratios” did indeed predict higher levels of empathy in children. Although the “flexibility ratio” did predict empathy, it did so in the opposite direction, with lower “flexibility ratios” associated with higher levels of emotional empathy. As noted in the preceding paragraph, empathy, instead, was positively associated with a more “rigid” style of parental discipline, which is a component of the overall “flexibility ratio.” Also, as noted in Chapter 4, because the “cohesion ratio” and the “flexibility ratio” each predicted empathy (although in the latter case, in

an unexpected direction), I tested for an interaction effect between them. As previously noted, there was no significant interaction effect between family cohesion and family flexibility.

These results from the testing of Hypothesis #2 and Hypothesis #3 may perhaps be understood better by placing them in the context of the literature review of the school of thought referred to as “parenting and discipline techniques.” This school of thought focuses on parenting factors that appear to overlap with parenting factors that are also the focus of the “flexibility dimension” of the Circumplex Model. It will be recalled that while the majority of the literature has supported the main proposition of the “parenting and discipline techniques” school of thought (i.e., that inductive discipline techniques are the most likely to lead to the development of empathy in children), a minority of the literature has failed to find such an association. Citing the work of Martin Hoffman, for example, Lopez, Bonenberger, and Schneider (2001) found that corporal punishment such as slapping, spanking, and hitting, particularly when accompanied by low utilization of inductive disciplinary techniques, was a significant predictor of low levels of emotional empathy in children. On the other hand, Bryant (1987b) found no significant association between “parental power assertion” and empathy in children. As previously noted, Eisenberg (2000) observed that “findings regarding links between disciplinary practices and empathy are somewhat inconsistent” (p. 685). Returning to a review of this literature two years later, Eisenberg (2002) concluded that the “critical variables are probably the degree to which parental practices are overly harsh and the overall configuration of parenting behavior” (p. 144).

In light of these contradictory research findings, the current study’s failure to find the predicted positive association between “family flexibility ratio scores” and emotional empathy might plausibly be interpreted as consistent with those earlier studies that failed to find a positive association between “inductive disciplinary techniques” and emotional empathy in children.

Alternatively, it might plausibly be interpreted as consistent with Eisenberg's (2002) conclusion that the critical variable predictive of low empathy in children is a parental disciplinary practice which is "overly harsh," and not a practice which merely fails to meet Hoffman's preference for optimally facilitating "inductive disciplinary techniques," or that fails to meet Olson's preference for optimally facilitating "balanced flexibility."

Alternatively, the current study's failure to find the predicted positive association between "family flexibility ratio scores" and emotional empathy might plausibly be interpreted as indicating that "flexibility ratio scores" per FACES IV are not reliable proxies for what Hoffman is referring to when he writes about the various styles of parental disciplinary techniques. Hoffman (2008) contrasts his preferred "inductive discipline techniques" to "power-assertive discipline, physical force, threats, commands" (p. 448). Such a power-assertive style of discipline might have a negative impact on children's development of empathy, whereas a somewhat "rigid" disciplinary style per Olson's Circumplex Model might have no similar negative impact. As noted in Chapter 2, Olson and Gorall (2003) describe a somewhat rigid style of "strict discipline" by parents that is not conceptualized as necessarily including a resort to physical force, threats, and other types of "power assertive discipline."

There is, in fact, a well-known model of effective parenting that emphasizes the benefits of combining a somewhat strict discipline style with a high amount of expressed affection. Maintaining that a "warm and loving parent may also be a firm disciplinarian," (Baumrind, 1996, p. 410), Diana Baumrind (1978) developed an influential model of "parenting styles" that focused on the specific parental behaviors of responsiveness and demandingness. She categorized three parenting styles based on the relative degree to which these two behaviors were

practiced: the authoritarian style, the permissive style, and the authoritative style. Reviewing Baumrind's model, McClun and Merrell (1998) observed that:

the authoritarian style is defined through behaviors that are highly restrictive and highly demanding. Authoritarian parents tend to use punitive discipline and value conformity above individuality. A permissive parenting style is described through behaviors that are nonrestrictive, highly responsive and accepting, and the parent allows the child to be self-regulated and free from restraint. These first two categories represent the extremes of the behavioral continuum, with the third, authoritarian, representing a balance between those extremes. The authoritative category includes behaviors that are fairly restrictive and responsive, balanced by explanations of policy and equality between parent and child. (p. 383)

Baumrind's (1996) subsequent research led to her continued criticism of "both extremes of the authoritarian-permissive polarity" (p. 405). Consistent with the findings of similar research, Baumrind (1991) reported a relationship between the different parenting styles and various behaviors in adolescents. Children of parents that practiced an authoritarian style tended to be unfriendly, uncooperative, uninterested, and had higher incidents of delinquency. The permissive style was associated with adolescent behaviors of high aggression and independence. Behaviors and attributes displayed by children of parents who practiced the authoritative style seemed to be generally more positive. These included being friendly, having qualities of leadership and trust, social competence, and displaying responsibility.

Based on the foregoing research, it seems plausible to suggest that an authoritative parenting style might be positively related to the facilitation of emotional empathy in children.

Such a finding would provide an alternative explanation for the results of the present study. Future research along these lines could utilize the “Perceived Parenting Styles Survey” developed by McClun and Merrell (1998), and based on the behavioral definitions of the three parenting styles introduced by Baumrind.

From a related, but somewhat different perspective, my research findings, looked at integratively, suggest that it is plausible to speculate that a somewhat “rigid” or “strict” style of discipline might be positively associated with the development of empathy in children (a result reported in Chapter 4) because it shares the characteristic of “connectedness” with another positive predictor of empathy, that of “family cohesion.” Parents, who are “strict,” but not physically aggressive when disciplining their children, may be understood by their children as expressing a reassuring sense of involvement. Lending plausibility to this line of reasoning are the findings reported in Chapter 4 that “chaotic” families (the obverse of “rigid” families) and “disengaged” families (low on cohesion) both are significantly negatively correlated with emotional empathy in children. Both types of families appear to lack the kind of interpersonal “connectedness” that would seem to characterize families which are emotionally “cohesive” and which discipline their children in a strict, somewhat rigid, but nonaggressive manner.

This suggestion that interpersonal connectedness between parent and child might be a significant predictor of emotional empathy in children is consistent with the influential work of Nel Noddings, at Stanford University. A central thesis of Noddings’ work (2003) is that the origins of care, both “caring for” and “caring about,” have their roots in the parent-child relationship. The importance of a felt sense of connection by the child is emphasized: “A caring relation requires the engrossment and motivational displacement of the one-caring, and it requires the recognition and spontaneous response of the cared-for” (p. 78). The result “need not

lead to permissiveness nor to an abdication of responsibility for conduct and achievement. Rather, it maintains and enhances the relatedness that is fundamental to human reality” (p. 59).

Limitations of this Study

This study was conducted with a convenience sample of students at one university, and caution must be exercised in any generalization of the findings to the broader population of college students, and more so to a broader population. Also, the range of scores on many variables was somewhat restricted, perhaps because the participants were all drawn from a population that is somewhat higher functioning than broader populations.

As noted in Chapter 2, the literature supports the proposition that a single member of a family can appropriately be surveyed about family characteristics such as family cohesion and family flexibility (Franklin, Streeter, and Springer, 2001). It does represent a limitation of the study, however. A preferable method for assessing family characteristics would include obtaining data from multiple family members, as well as from professionally trained observers.

Recommendations for Future Research

In addition to addressing the above-noted methodological limitations, future research might usefully address an important question left unresolved in the current study.

This study utilized the Circumplex Model of Marital and Family Systems as the sole theoretical framework for assessing family variables that might predict the level of emotional empathy in children. Although an extensive body of literature supports the central constructs of the model, the model frequently has been used to predict dependent variables such as the likelihood of delinquent behavior in children, the ability of a family system to function adequately in the presence of external stressors, and other, primarily behavioral, criteria (Olson

& Gorall, 2003). It is possible that this model, with its roots firmly in general systems theory, is less than fully capable of predicting a “non-behavioral” criterion variable such as emotional empathy. For example, an alternative theoretical framework such as symbolic interactionism might be more helpful in exploring whether a somewhat rigid, albeit loving, style of parenting might lead a child to feel a sense of “connection” to the parent (and to the parent’s value system) and whether this felt sense of connection contributes to the capacity for a more generalized empathic responsiveness to others. A theoretical framework grounded in systems theory appears less capable of explaining how individuals interpret the deeper meanings of such parent-child interactions. A study grounded in symbolic interactionism might usefully address an important issue left unresolved in the current study: is a felt sense of connection to parents a variable that could help explain why higher levels of “cohesion” and somewhat higher levels of “rigidity” might both predict higher levels of emotional empathy in children, and, conversely, why high levels of “chaos” and high levels of “disengagement” both predict lower levels of empathy in children. Finally, as noted above, a study grounded in the model of “parenting styles” developed by Baumrind might also help to explain the results of the current study.

Implications for Practitioners

The current study is consistent with many other cited studies that have suggested that the family plays a significant role in facilitating the development of emotional empathy in children. Family life educators and other professionals who counsel families can read the current study as consistent with a body of literature that has supported the following propositions. The capacity for emotional empathy is positively related to prosocial behavior and individual life satisfaction. Although genetic predispositions and extra-family influences significantly impact a child’s level of empathic responsiveness, the family also plays a very important role. Despite some

unresolved questions, the current study is consistent with many other studies indicating that a positive, healthy level of “family cohesion” and a thoughtful, nonaggressive approach to child discipline will facilitate the development of emotional empathy in children. Family life professionals can help families move in these directions through direct counseling and through appropriate family life education programs.

When time and resource limitations require family life professionals to select a focus for their interventions, what is the central implication of the current study? Emotionally cohesive families predictably facilitate the development of emotional empathy in children. This conclusion supports the continued (and perhaps increased) attention by both family therapists and family life educators to the affective dimension of family life. Duncan and Goddard (2005) have written about the importance of “capitalizing on emotion in family life education” (p. 102), concluding that one aim of parent education is “to provide parents with the personal experience of a warm, caring environment in which they can learn effective, respectful strategies. Then they will be prepared to go home and create a warm, caring environment in which their children can learn more strong and humane ways of acting” (p. 105). Similarly, marital and family therapists will benefit from paying increased attention to the growing field of Emotion-Focused Therapy for Couples (Johnson, 2004). Leslie Greenberg of York University, the primary developer of the field of Emotion-Focused Therapy, described empathy as “an imaginative entry into the world of the other” (Greenberg, 2002, p. 78), and emphasized its importance as a vital human emotion. Greenberg has reminded clinicians to pay attention to how the affective dimension of parenting impacts the emotional development of the child: “Emotions are central to how parents and children relate... Children’s emotions signal what is working for them or not working for them

in their relationship long before they can talk. Being aware of children's emotions from birth onward is thus one of the most central tasks of parenting" (Greenberg, 2002, p. 283).

References

- Albiero, P., & Matricardi, G. (2009). The assessment of empathy in adolescence. *Journal of Adolescence*, 32(2), 393-408.
- Alderfer, M. A., Fiese, B. H., & Gold, J. I. (2008). Evidence-based assessment in pediatric psychology: Family measures. *Journal of Pediatric Psychology*, 33(9), 1046-1061.
- Barnes, H. L., & Olson, D. H. (1985). Parent-adolescent communication and the Circumplex Model. *Child Development*, 56, 438-447.
- Barnett, M. A., Howard, J. A., King, L. M., & Dino, G. A. (1980). Antecedents of empathy: Retrospective accounts of early socialization. *Personality and Social Psychology Bulletin*, 6, 361-365.
- Barnett, M. A., King, L.M., Howard, J. A., & Dino, G. A. (1980). Empathy in young children: Relation to parents' empathy, affection, and emphasis on the feelings of others. *Developmental Psychology*, 16, 243-244.
- Batson, C. D. (2010). Empathy-induced altruistic motivation. In M. Mikulincer & P. R. Shaver (Eds.), *Prosocial motives, emotions, and behaviors: The better angels of our nature* (pp. 15-34). Washington, DC: American Psychological Association.
- Batson, C. D. (1991). *The altruism question: Toward a social-psychological answer*. Hillsdale, NJ: Erlbaum.
- Batson, C. D. (1987). Self-report ratings of empathic emotion. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 356-360). Cambridge, England: Cambridge University Press.

- Batson, C. D., Chang, J., Orr, R., & Rowland, J. (2002). Empathy, attitudes, and action: Can feeling for a member of a stigmatized group motivate one to help the group? *Personality and Social Psychology Bulletin*, 28, 1656-1666.
- Baumrind, D. (1996). The discipline controversy revisited. *Family Relations*, 45, 405-414.
- Baumrind, D. (1991). The influence of parenting style on adolescent competence and substance use. *Journal of Early Adolescence*, 11, 56-95.
- Baumrind, D. (1978). Parental disciplinary patterns and social competence in children. *Youth and Society*, 9, 239-275.
- Beavers, W. R., Hampson, R. B., & Hulgus, Y. F. (1985). Commentary: The Beavers Systems approach to family assessment. *Family Process*, 24, 398-405.
- Berenguer, J. (2010). The effect of empathy in environmental moral reasoning. *Environment and Behavior*, 42(1), 110-134.
- Birmes, P., & Raynaud, J. P. (2009). Children's enduring PTSD symptoms are related to their family's adaptability and cohesion. *Community Mental Health Journal*, 45, 290-299.
- Bowlby, J. (1990). *A secure base: Parent-child attachment and healthy human development*. New York: Basic Books.
- Brothers, L. (1989). A biological perspective on empathy. *American Journal of Psychiatry*, 146, 10-19.
- Bryant, B. K. (1987a). Critique of comparable questionnaire methods in use to assess empathy in children and adults. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 361-373). Cambridge, England: Cambridge University Press.
- Bryant, B. K. (1987b). Mental health, temperament, family, and friends: Perspectives on children's empathy and social perspective taking. In N. Eisenberg & J. Strayer (Eds.),

- Empathy and its development* (pp. 245-270). Cambridge, England: Cambridge University Press.
- Chlopan, B. E., & McCain, M. L. (1985). Empathy: Review of available measures. *Journal of Personality and Social Psychology, 48*, 635-653.
- Cluff, R. B., Hicks, M. W., & Madsen, C. H. (1994). Beyond the Circumplex Model: A moratorium on curvilinearity. *Family Process, 33*, 455-470.
- Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*, 155-159.
- Cohen, P., Cohen, J., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: Erlbaum.
- Coll, K. M., Juhnke, G. A., Thobro, P., Haas, R., & Robinson, M. S. (2008). Family disengagement of youth offenders: Implications for counselors. *The Family Journal: Counseling and Therapy for Couples and Families, 16*(4), 359-363.
- Craddock, A. E. (2001). Family system and family functioning: Circumplex Model and FACES IV. *Journal of Studies, 7*, 29-39.
- Crowne, D. P., & Marlow, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology, 24*, 349-354.
- Davis, M. H. (1996). *The Empathy: A social psychological approach*. Boulder, CO: Westview Press.
- Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology, 44*, 113-126.
- Davis, M. H., & Franzoi, S. (1991). Stability and change in adolescent self-consciousness and empathy. *Journal of Research in Personality, 25*, 70-87.

- Davis, P. T. & Cummings, E. M. (1994). Marital conflict and child adjustment: An emotional security hypothesis. *Psychological Bulletin*, 116, 387-411.
- Dawkins, R. (1976). *The selfish gene*. Oxford: Oxford University Press.
- Dovidio, J. F. (1984). Helping behavior and altruism: An empirical and conceptual overview. In L. Berkowitz (Ed.), *Advances in experimental social psychology/Vol. 17* (pp. 361-427). New York: Academic Press.
- Duncan, S. F., & Goddard, H. W. (2005). *Family life education: Principles and practices for effective outreach*. Thousand Oaks, CA: Sage Publications.
- Eisenberg, N. (2010). Empathy-related responding: Links with self-regulation, moral judgment, and moral behavior. In M. Mikulincer & P. R. Shaver (Eds.), *Prosocial motives, emotions, and behavior: The better angels of our nature* (pp. 129-148). Washington, DC: American Psychological Association.
- Eisenberg, N. (2003). The development of empathy-related responding. In R. A. Dienstbier, G. Carlo, & C. P. Edwards (Eds.), *Moral motivation through the lifespan: Volume 51 of the Nebraska symposium on motivation* (pp. 73-117). Lincoln, NE: University of Nebraska Press.
- Eisenberg, N. (2002). Empathy-related emotional responses, altruism, and their socialization. In R. Davidson & A. Harrington (Eds.), *Visions of compassion: Western scientists and Tibetan Buddhists examine human nature* (pp. 131-164). New York: Oxford University Press.
- Eisenberg, N. (2000). Empathy and sympathy. In M. Lewis & J. M. Haviland (Eds.), *Handbook of emotions* (2nd ed., pp. 677-691). New York: Guilford.

- Eisenberg, N., Carlo, G., Murphy, B., & Van Court, P. (1995). Prosocial development in late adolescence: A longitudinal study. *Child Development, 66*, 911-936.
- Eisenberg, N., & Fabes, R. A. (1998). Prosocial development. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 701-778). New York: Wiley.
- Eisenberg, N., & Fabes, R. A., & Murphy, B. (1994). The relations of emotionality and regulation to dispositional and situational empathy-related responding. *Journal of Personality and Social Psychology, 66*, 776-797.
- Eisenberg, N., & Fabes, R. A., Murphy, B., Karbon, M., & Smith, M. (1996). The relations of children's dispositional empathy-related responding to their emotionality, regulation, and social functioning. *Developmental Psychology, 32*, 195-209.
- Eisenberg, N., & Fabes, R. A., Schaller, M., Miller, P., Carlo, G., Poulin, R., Shea, C., & Shell, R. (1991). Personality and socialization correlates of vicarious emotional responding. *Journal of Personality and Social Psychology, 61*, 459-470.
- Eisenberg, N., Losoya, S., & Spinrad, T. (2003). Affect and prosocial responding. In R. J. Davidson, K. R. Scherer, & H. H. Goldsmith (Eds.), *Handbook of Affective Sciences* (pp. 787-803). New York: Oxford University Press.
- Feshbach, N. D. (1975). The relationship of child-rearing factors to children's aggression, empathy, and related positive and negative behaviors. In J. DeWit & W. W. Hartup (Eds.), *Determinants and origins of aggressive behavior* (pp. 426-436). The Hague: Mouton.
- Franklin, C., Streeter, C. L., & Springer, D. W. (2001). Validity of the FACES IV family assessment measure. *Research on Social Work Practice, 11*, 576-596.

- Friedman, A. A., Tomko, L. A., & Utda, A. (1991). Client and family characteristics that predict better family outcome for adolescent drug users. *Family Dynamics of Addiction Quarterly, 1*(1), 77-93.
- Fristad, M. A. (1989). A comparison of the McMaster and Circumplex family assessment instruments. *Journal of Marital and Family Therapy, 15*, 259-269.
- Gallese, V. (2003). The roots of empathy: The shared manifold hypothesis and the neural basis of intersubjectivity. *Psychopathology, 36*, 171-180.
- Gnepp, J. C., & Gould, M. E. (1985). The development of personalized inferences: Understanding other people's emotional reactions in light of their prior experiences. *Child Development, 56*, 1455-1464.
- Goldenberg, H., & Goldenberg, I. (2008). *Family therapy: An overview* (7th ed.). Pacific Grove, CA: Brooks/Cole.
- Gorall, D. M., & Olson, D. H. (1995). Circumplex Model of Family Systems: Integrating ethnic diversity and other social systems. In R. H. Mikesell, D. D. Lusteran, & S. H. McDaniel (Eds.), *Integrating family therapy: Handbook of family psychology and systems theory* (pp. 217-233). Washington, DC: American Psychological Association.
- Gorall, D. M., Tiesel, J. W., & Olson, D. H. (2004). *FACES IV: Development and validation*. Minneapolis, MN: Life Innovations.
- Gordon, M. (2007). *Roots of empathy: Changing the world child by child*. Toronto, Canada: Thomas Allen.
- Green, R. G., Harris, R. N., Forte, J. A., & Robinson, M. (1991). Evaluating FACES III and the Circumplex Model: 2,240 families. *Family Process, 30*, 55-73.

- Green, S. B. (1991). How many subjects does it take to do a regression analysis? *Multivariate Behavioral Research*, 26 (3), 499-510.
- Greenberg, L. S. (2002). *Emotion-focused therapy: Coaching clients to work through their feelings*. Washington, DC: American Psychological Association.
- Hamilton, W. D. (1964). The genetic evolution of social behavior. *Journal of Theoretical Biology*, 7, 1-51.
- Hoffman, M. L. (2008). Empathy and prosocial behavior. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (3rd ed., pp. 440-455).
- Hoffman, M. L. (2000). *Empathy and moral development: Implications for caring and justice*. Cambridge: Cambridge University Press.
- Hoffman, M. L. (1987). The contribution of empathy to justice and moral judgment. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 47-80). Cambridge, England: University of Cambridge Press.
- Hoffman, M. L. (1982). Development of prosocial motivation: Empathy and guilt. In N. Eisenberg (Ed.), *The development of prosocial behavior* (pp. 281-313). New York: Academic Press.
- Hoffman, M. L. (1978). Psychological and biological perspectives on altruism. *International Journal of Behavioral Development*, 1, 323-339.
- Hoffman, M. L., & Saltzstein, H. D. (1967). Parent discipline and the child's moral development. *Journal of Personality and Social Psychology*, 5, 45-57.
- Hooker, C. I., Verosky, S. C., Germine, L. T., Knight, R. T., & Esposito, M. (2010). Neural activity during social signal perception correlates with self-reported empathy. *Brain Research*, 1308, 100-113.

- Hultquist, A. K. (2002). Introduction to psychological type and family functioning. *Journal of Systemic Therapies, 21*, 90-108.
- Iannotti, R. J., Cummings, E. M., Pierrehumbert, B., Milano, M. J., & Zahn-Waxler, C. (1992). Parental influences on prosocial behavior and empathy in early childhood. In J. Janssens & J. Gerris (Eds.), *Child rearing: Influence on prosocial and moral development* (pp. 77-100). Amsterdam: Swets & Zeitlinger.
- Janssens, J., & Gerris, J. (1992). Child rearing, empathy and prosocial development. In J. Janssens & J. Gerris (Eds.), *Child rearing: Influence on prosocial and moral development* (pp. 57-75). Amsterdam: Swets & Zeitlinger.
- Johnson, S. M. (2004). *The practice of emotionally focused couple therapy: Creating connection* (2nd ed.). New York: Brunner-Routledge.
- Kalliopuska, M. (1984). Relation between children's and parents' empathy. *Psychological Reports, 54*, 295-299.
- Kalliopuska, M. (1983). Verbal components of emotional empathy. *Perceptual and Motor Skills, 56*, 487-496.
- Kestenbaum, R., Farber, E. A., & Stroufe, L. A. (1989). Individual differences in empathy among preschoolers: Relation to attachment history. *New Directions for Child Development, 44*, 51-64.
- Koestner, R., Franz, C., & Weinberger, J. (1990). The family origins of empathic concern: A 26-year longitudinal study. *Journal of Personality and Social Psychology, 58*, 709-717.
- Kohler, W. (1929). *Gestalt psychology*. New York: Liveright.
- Kohut, H. (1959). Introspection, empathy, and psychoanalysis. *Journal of American Psychoanalytic Association, 7*, 459-483.

- Kramer, V. M., Mohammadi, B., Donamayor, N., Samii, A., & Munte, T. F. (2010). Emotional and cognitive aspects of empathy and their relation to social cognition – an fMRI-study. *Brain Research, 1311*, 110-120.
- Krathwohl, D. R. (1998). *Methods of educational and social science research: An integrated approach* (2nd ed.). New York, NY: Longman.
- Krevan, J., & Gibbs, J. C. (1996). Parents' use of inductive discipline: Relations to children's empathy and prosocial behavior. *Child Development, 67*, 3263-3277.
- Kuehl, B. P., Schumm, W. R., Russell, C. S., & Jurich, A. P. (1988). How do subjects interpret items in Olson's Family Adaptability and Cohesion Evaluation Scales (FACES)? *Educational and Psychological Measurement, 48*, 247-253.
- Lane, R. D. (2000). Levels of emotional awareness: Neurological, psychological, and social perspectives. In R. Bar-On & J. D. Parker (Eds.), *The handbook of emotional intelligence* (pp. 171-191). San Francisco, CA: Jossey-Bass.
- Leak, G. K., & Christopher, S. B. (1982). Empathy from an evolutionary perspective. *Journal of Theory and Social Behavior, 11*, 79-82.
- LeDoux, J. E., & Phelps, E. A. (2008). Emotional networks in the brain. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (3rd ed., pp. 159-179). New York: Guilford.
- Lehr, R. F., & Fitzsimmons, G. (1991). Adaptability and cohesion: Implications for understanding the violence prone system. *Journal of Family Violence, 6*(3), 255-265.
- Lennon, R., & Eisenberg, N. (1987). Gender and age differences in empathy and sympathy. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 195-217). Cambridge, England: Cambridge University Press.

- Lennon, R., Eisenberg, N., & Carroll, J. (1983). The assessment of empathy in early childhood. *Journal of Applied Developmental Psychology, 4*, 295-302.
- LeSure-Lester, G. E. (2000). Relation between empathy and aggression and behavioral compliance among abused group home youth. *Child Psychiatry and Human Development, 31*, 153-161.
- Lopez, N. L., Bonenberger, J. L., & Schneider, H. G. (2001). Parental disciplinary history, current levels of empathy, and moral seasoning in young adults. *North American Journal of Psychology, 3*, 193-204.
- Macaskill, A., Maltby, J., & Day, L. (2002). Forgiveness of self and others and emotional empathy. *Journal of Social Psychology, 142*, 663-665.
- Main, M., & George, C. (1985). Responses of abused and disadvantaged toddlers to distress inagemates: A study in the day care setting. *Developmental Psychology, 21*, 407-412.
- Mathews, K. A., Batson, C. D., Horn, J., & Rosenman, R. H. (1981). The heritability of empathic concern for others. *Journal of Personality, 49*, 237-247.
- McClun, L. A., & Merrell, K. W. (1998). Relationship of perceived parenting styles, locus of control orientation, and self-concept among junior high age students. *Psychology in the Schools, 35*(4), 381-390.
- Mead, G. H. (1934). *Mind, self, and society*. Chicago: University of Chicago Press.
- Mehrabian, A. (2000). *Manual for the Balanced Emotional Empathy Scale (BEES)*. Monterey, CA: Author.
- Mehrabian, A. (1997). Relations among personality scales of aggression, violence, and empathy: Validation evidence bearing on the Risk of Eruptive Violence Scale. *Aggressive Behavior, 23*, 433-445.

- Mehrabian, A. (1977). Individual differences in stimulus screening and arousability. *Journal of Personality, 45*, 237-250.
- Mehrabian, A., & Epstein, N. (1972). A measure of emotional empathy. *Journal of Personality, 40*, 525-543.
- Mehrabian, A., Young, A. L., & Sato, S. (1988). Emotional empathy and associated individual differences. *Current Psychology: Research and Reviews, 7*, 221-240.
- Miller, P. A., & Eisenberg, N. (1998). The relation of empathy to aggression and externalizing/antisocial behavior. *Psychological Bulletin, 103*, 324-344.
- Morrison, I., Poliakoff, E., Gordon, L., & Downing, P. (2007). Response-specific effects of pain observation on motor behavior. *Cognition, 104*(2), 407-416.
- Murphy, B. C., Shepard, S. A., Eisenberg, N., Fabes, R. A., & Guthrie, I. K. (1999). Contemporaneous and longitudinal relations of young adolescents' dispositional sympathy to their emotionality, regulation, and social functioning. *Journal of Early Adolescence, 19*, 66-97.
- Neidenthal, P. M. (2008). Emotion concepts. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (3rd ed., pp. 587-600).
- Noddings, N. (2003). *Caring: A feminine approach to ethics and moral education* (2nd ed.). Berkeley, CA: University of California Press.
- Olson, D. H. (2009). *FACES IV: Administration manual*. Minneapolis, MN: Life Innovations.
- Olson, D. H., & Gorall, D. M. (2004). *FACES IV: Innovations and applications*. Minneapolis, MN: Life Innovations.

- Olson, D. H., & Gorall, D. M. (2003). Circumplex Model of marital and family systems. In F. Walsh (Ed.), *Normal family processes: Growing diversity and complexity* (3rd ed., pp. 514-548). New York: The Guilford Press.
- Olson, D. H., Gorall, D. M., & Tiesel, J. W. (2007). *FACES IV and the Circumplex Model: Validation study*. Minneapolis, MN: Life Innovations.
- Olson, D. H., Gorall, D. M., & Tiesel, J. W. (2004). *FACES IV Package*. Minneapolis, MN: Life Innovations.
- Olson, D. H., McCubbin, H. I., Barnes, H. L., Larsen, A., Muxen, M. J., & Wilson, M. (1983). *Families: What makes them work*. Beverly Hills, CA: Sage.
- Olson, D. H., Sprenkle, D. H., & Russell, C. S. (1979). Circumplex model of marital and family systems I: Cohesion and adaptability dimensions, family types, and clinical applications. *Family Process, 18*, 3-28.
- Plomin, R., Chipeur, H. M., & Lochlin, J. C. (1990). Behavioral genetics and personality. In L. A. Pervin (Ed.), *Handbook of personality: Theory and research* (pp. 225-243). New York: The Guilford Press.
- Prange, M. E., Greenbaum, P. E., Silver, S. E., & Friedman, R. M. (1992). Family functioning and psychopathology among adolescents with severe emotional disturbances. *Journal of Abnormal Child Psychology, 20*(1), 83-102.
- Roest, A. M., Dubas, J. S., & Gerris, J. R. (2009). Value transmissions between fathers, mothers, and adolescent and emerging adult children: The role of the family climate. *Journal of Family Psychology, 23*(2), 146-155.
- Rogers, C. R. (1975). Empathic: An unappreciated way of being. *The Counseling Psychologist, 5*, 2-10.

- Romig, C., & Bakken, L. (1992). Intimacy development in middle adolescence: Its relationship to gender and family cohesion and adaptability. *Journal of Youth & Adolescence, 21*(3), 325-338.
- Rushton, J. P. & Fulker, D. W. (1986). Altruism and aggression: The heritability of individual differences. *Journal of Personality and Social Psychology, 50*, 1192-1198.
- Saarni, C. (1990). Emotional competence: How emotions and relationships become integrated. In R. A. Thompson (Ed.), *Nebraska Symposium on Motivation: Vol. 36. Socioemotional development* (pp. 115-182). Lincoln: University of Nebraska Press.
- Salovey, P., & Detweiler-Bedell, B. T. (2008). Emotional intelligence. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (pp. 533-547). New York, NY: Guilford Press.
- Shapiro, J., Morrison, E. H., & Boker, J. R. (2004). Teaching empathy to first year medical students: Evaluation of an elective literature and medicine course. *Education for Health: Change in Learning and Practice, 17*, 73-84.
- Shields, G., & Clark, R. D. (1995). Family correlates of delinquency: Cohesion and adaptability. *Journal of Sociology & Social Welfare, 22*(2), 93-106.
- Sibicky, M. E., Schroeder, D. A., & Dovidio, J. F. (1995). Empathy and helping: Considering the consequences of intervention. *Basic and Applied Social Psychology, 16*, 435-453.
- Singer, T. (2006). The neuronal basis and ontogeny of empathy and mind reading: Review of literature and implications for future research. *Neuroscience and Biobehavioral Reviews, 30*, 855-863.
- Singer, T., & Seymour, B. (2004). Empathy for pain involves the affective but not sensory components of pain. *Science, 303*, 1157-1162.

- Smith, K. M., Freeman, P. A., & Zabriskie, R. B. (2009). An examination of family communication within the core and balance model of family leisure functioning. *Family Relations, 58*, 79-90.
- Smith, M. S., Lindsey C. R., & Hansen, C. E. (2006). Corporal punishment and the mediating effects of parental acceptance-rejection and gender on empathy in a southern rural population. *Cross-Cultural Research, 40*(3), 287-305.
- Staub, E. (1992). The origins of caring, helping, and nonaggression: Parental socialization, the family system, schools, and cultural influence. In P. M Oliner & L. A. Blum (Eds.), *Embracing the other: Philosophical, psychological, and historical perspectives on altruism* (pp. 390-412). New York: New York University Press.
- Steinberg, L., Elmen, J. D., & Mounts, N. S. (1989). Authoritative parenting, psychosocial maturity, and academic success among adolescents. *Child Development, 60*, 1424-1436.
- Stephan, W. G., & Finlay, K. (1999). The role of empathy in improving intergroup relations. *Journal of Social Issues, 55*, 729-743.
- Stepien, K. A., & Baernstein, A. (2006). Educating for empathy. *Journal of General Internal Medicine, 21*(5), 524-530.
- Stocks, E. L., Lishner, D. A., & Decker, S. K. (2009). Altruism or psychological escape: Why does empathy promote prosocial behavior? *European Journal of Social Psychology, 39*, 649-665.
- Stotland, E. (1969). Exploratory investigations of empathy. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 4, pp. 271-314). New York: Academic Press.
- Straker, G., & Jacobson, R. S. (1981). Aggression, emotional maladjustment, and empathy in the abused child. *Developmental Psychology, 17*, 762-765.

- Toussaint, L., & Webb, J. R. (2005). Gender differences in the relationship between empathy and forgiveness. *Journal of Social Psychology, 145*(6), 673-685.
- Trepper, T. S., & Sprenkle, D. H. (1988). The clinical use of the Circumplex Model in the assessment and treatment of intrafamily child sexual abuse. *Journal of Psychotherapy and the Family, 4*, 93-111.
- Trivers, R. (1971). The evolution of reciprocal altruism. *The Quarterly Review of Biology, 46*, 35-57.
- Trommsdorff, G. (1991). Child-rearing and children's empathy. *Perceptual and Motor Skills, 72*, 387-390.
- Underwood, B., & Moore, B. (1982). Perspective-taking and altruism. *Psychological Bulletin, 91*, 143-173.
- VanHasselt, V. B. (2005). Development and validation of a role-play test for assessing crisis negotiation skills. *Criminal Justice and Behavior, 32*, 345-361.
- Waters, E., Wippman, J., & Stroufe, L. A. (1979). Attachment, positive affect, and competence in the peer group: Two studies in construct validation. *Child Development, 50*, 821-829.
- White, J. M., & Klein, D. M. (2007). *Family Theories* (3rd ed.). Newbury Park, CA: Sage Publications.
- Williams, C. A. (1990). Biopsychosocial elements of empathy: A multidimensional model. *Issues in Mental Health Nursing, 11*, 155-174.
- Wispe, L. (1986). The distinction between sympathy and empathy: To call forth a concept, a word is needed. *Journal of Personality and Social Psychology, 50*, 314-321.
- Yi, J. (2009). Cultural influences on the survivorship of families affected by childhood cancer: A case for using family systems theories. *Families, Systems, & Health, 27*(3), 228-236.

Zahn-Waxler, C., Frye, C., Goldsmith, H. H., & Davidson, R. J. (2009). Empathy is associated with dynamic change in prefrontal brain electrical activity during positive emotion in children. *Child Development, 80*, 1210-1231.

Zahn-Wexler, C., Radke-Yarrow, M., & King, R. A. (1979). Child rearing and children's prosocial initiations toward victims of distress. *Child Development, 50*, 319-330.

Zahn-Waxler, C., Radke-Yarrow, M., Wagner, E., & Chapman, M. (1992). Development of concern for others. *Developmental Psychology, 28*, 126-136.

Zahn-Waxler, C., Robinson, J., & Emde, R. N. (1992). The development of empathy in twins. *Developmental Psychology, 28*, 1038-1047.

Appendix A - Informed Consent Letter



Fall Semester, 2010

Dear Washburn University Student,

I am a social work faculty member here at Washburn. In order to complete the requirements for a doctoral dissertation at Kansas State University, I am conducting a research project, and I am requesting your voluntary assistance. If you agree to participate in this study, you will be asked to fill out a short five-part survey, which is attached to this cover letter. The purpose of my research is to help us better understand how our "families of origin" influence certain types of attitudes and feelings that we have when we are adults. There are also a few demographic questions about your age, your gender, etc.

Your participation will help researchers to better understand the kind of matters I just referred to. In addition, each participant will receive a \$5.00 gift certificate to the Washburn University Bookstore, as a token of my appreciation. There are no other benefits to you for participating in this study.

I am not administering these surveys to any classes that I teach here at Washburn – only to classes taught by other faculty members. Your participation is completely voluntary. If you decide not to participate, there will be no negative consequences to you of any kind. And, although there are no known risks to you by participating in this study, you could discontinue taking the surveys at any point. But if you do participate and return the survey to me, it will indicate that you have voluntarily consented to be part of this research. You must be at least 18 years old to participate in this research.

Your total anonymity is assured; your name will not be provided to me. Your responses to the survey will appear only in statistical data summaries.

This research project has been approved by the Institutional Review Boards at both Washburn and Kansas State University. Should you have any questions or concerns, you could contact me (785) 670-2135, or Dr. Michael Russell, the Chairperson of Washburn's IRB, (785) 670-1566.

Sincerely,

A handwritten signature in black ink that reads "Mark Kaufman".

Mark Kaufman, MSW, JD
Associate Professor

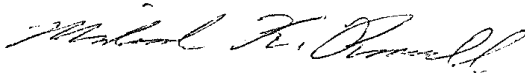
Appendix B - IRB Approval -- Washburn University



May 6, 2010

Dear Mark Kaufman:

This letter is to inform you that your IRB application (#10-37, "How Families Facilitate the Development of Empathy in Children: A Family Systems Theory Perspective") has been approved and you may begin at your leisure. If you have any questions or if you alter the procedure from that stated in your application, please contact me via phone (670-1566) or email (mike.russell@washburn.edu). Good luck with your project!



Dr. Michael K. Russell
IRB Chair

Appendix C - IRB Approval – Kansas State University



University Research
Compliance Office
203 Fairchild Hall
Lower Mezzanine
Manhattan, KS 66506-1103
785-532-3224
Fax: 785-532-3278
www.k-state.edu/research/comply

TO: Walter Schumm
FSHS
311 Justin

Proposal Number: 5670

FROM: Rick Scheidt, Chair 
Committee on Research Involving Human Subjects

DATE: November 19, 2010

RE: Proposal Entitled, "How Families Facilitate the Development of Empathy in Children: A Family Systems Theory Perspective"

The Committee on Research Involving Human Subjects / Institutional Review Board (IRB) for Kansas State University has reviewed the proposal identified above and has determined that it is EXEMPT from further IRB review. This exemption applies only to the proposal - as written - and currently on file with the IRB. Any change potentially affecting human subjects must be approved by the IRB prior to implementation and may disqualify the proposal from exemption.

Based upon information provided to the IRB, this activity is exempt under the criteria set forth in the Federal Policy for the Protection of Human Subjects, 45 CFR §46.101, paragraph b, category: 2, subsection: ii.

Certain research is exempt from the requirements of HHS/OHRP regulations. A determination that research is exempt does not imply that investigators have no ethical responsibilities to subjects in such research; it means only that the regulatory requirements related to IRB review, informed consent, and assurance of compliance do not apply to the research.

Any unanticipated problems involving risk to subjects or to others must be reported immediately to the Chair of the Committee on Research Involving Human Subjects, the University Research Compliance Office, and if the subjects are KSU students, to the Director of the Student Health Center.

Appendix D - Permission to Use FACES IV



LIFE INNOVATIONS, Inc.®

P.O. Box 190 • Minneapolis, MN • 55440-0190

800-331-1661 • 651-635-0511 • FAX: 651-636-1668

www.facesiv.com

Permission to Use FACES IV Package

Website: www.facesiv.com

Customer Service: cs@facesiv.com

Storing & Scoring Data: data@facesiv.com

I am pleased to give you permission to use the **FACES IV Package** in your research project, teaching or clinical work with couples or families. In order to use FACES IV, you must use the entire FACES IV Package which contains 62 items.

You may either duplicate the materials directly or have them retyped for use in a new format. If they are retyped, acknowledgement should be given regarding the name of the instrument, the developers' names, and Life Innovations.

In exchange for providing this permission, we would appreciate a copy of any papers, theses or reports that you complete using the **FACES IV Package**. This will help us to stay abreast of the most recent developments and research regarding this scale. We thank you for your cooperation in this effort.

Also, we are requesting that you provide us with a *set of your data* so that we can build a large and diverse norm base. We will acknowledge your contribution to the master data base. We will not use your data for individual studies on your topic or any topic. We would appreciate it if you used the format we have provided in an Excel spreadsheet (Microsoft).

In closing, I hope you find the **FACES IV Package** of value in your work with families. I would appreciate hearing from you as you make use of this package.

Sincerely,

David H. Olson, Ph.D.

Appendix E - Permission to Use Balanced Emotional Empathy Scale


Albert Mehrabian, Ph.D.

Feb. 26, 2010

Mark Kaufman & Walter Schumm,

I am enclosing a CD that contains two different versions of the BEES software you requested. One is a Console Version (and is simpler) and the other is a Windows Version (and is a bit more complex, but has more to offer you). Try out both and see which one you prefer. Both will run on IBM-compatible machines. Although the software has built-in help files, the enclosed CD has all the help files as Microsoft Word documents that you can print and use. Please be absolutely **sure to print and read** the "administrator instructions" file. **The CD also contains the BEES test manual as a Word file – kindly print that and use it as a reference.**

The software cannot run from the CD; so DO NOT attempt to run the software from the CD. First simply copy the file folders (BEES Console for shipping; BEES Windows for shipping) on the CD to your hard drive. Then go to one of the folders on your hard drive (e.g., BEES Console for shipping) and double-click the icon in the folder that has a blue bar across the top (BEES.exe) to begin using the software. **Do not attempt to open, e.g., double-click, the BEESp.txt, BEESdb.txt in the Console version (or the .p or .db files in the Windows version) under any circumstances, as you will corrupt them.**

Your (i.e., "administrator") password is: 

You only need the password when you try to look up results – it is not needed when taking the survey.

This software has a (a) preset limit of 150 on the number of cases you can test with it and (b) preset date of March 10, 2011 following which the software can no longer be used to test new cases (although you still will be able to access the data from the cases you have tested). I've run a single test case myself to check each program and you can view the results under the "administrator" menu.

You are hereby given permission to make hard-copy reproductions of the BEES scale for use with participants whom you will be testing in your own experimental studies. Please note you are **not** allowed to reproduce any items of the scale listed above in **any medium** for distribution to others (e.g., dissertation, thesis, written report, journal article, book, computer program, any internet-based communications, or in any other test or test manual). Display of the scale on any web page or inclusion of the scale in email messages to study participants is specifically prohibited.

Others in your department or school who may wish to use the scale listed above need to contact me at the address below for permission to use it.

I also am including "Selected Mehrabian Publications" on the CD that contains quite a few of my publications, including several of my books. I hope you enjoy them.

All the best, 

1130 Alta Mesa Road, Monterey, CA 93940
Telephone: 831 6495710; Fax: 831 3726829; Email: am@kaaj.com