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Positive Affect, Hemispheric Lateralization, and Relational Problem Solving: A Mixed-Methods Exploration of Parent-Adolescent Communication

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POSITIVE AFFECT, HEMISPHERIC LATERALIZATION, AND RELATIONAL PROBLEM SOLVING: A MIXED-METHODS EXPLORATION OF PARENT-ADOLESCENT COMMUNICATION

DISSERTATION

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the Department of Family Sciences, College of Agriculture at the University of Kentucky

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ABSTRACT OF DISSERTATION

POSITIVE AFFECT, HEMISPHERIC LATERALIZATION, AND RELATIONAL PROBLEM SOLVING: A MIXED-METHODS EXPLORATION OF PARENT-ADOLESCENT COMMUNICATION

Using quantitative and qualitative data analytic techniques, the present study explores the parent-adolescent relationship from a pilot study of 15 triads (overall *N = 45*). First, the statistical relationship between positive relational affect and electrical brain activity was assessed during parent-adolescent conflict communication (*N = 30)*. Specifically, using electroencephalography (EEG) technology, electrical brain activity was recorded during family problem-solving discussions between a mother, father, and adolescent child. Observational coding was used to determine participant and triad positive affect ratios (PARs). Principles of positive-to-negative affect were incorporated into an affective neuroscience framework and used as the theoretical basis for the quantitative portion of this research. Findings suggest that in relation to positive affect, hemispheric lateralization occurs during parent-adolescent problem-solving discussions.

Second, the behavioral-family systems model of parent-adolescent conflict (Robin & Foster, 1989) was used to theoretically undergird the qualitative portion of the study. Based on this theoretical model, a thematic content analysis was conducted using transcripts from the triadic problem-solving discussions (*N = 45*). Patterns of parent-adolescent communication were assessed, and a modified grounded theory approach was applied to emergent communication themes that differed from those presented in the theory. Similarities and differences in conflict communication behaviors and positive affect ratios were compared between families. Contextual descriptions of each family are offered.

KEYWORDS: Affective Neuroscience, Alpha Asymmetry, Mixed-Methods, Parent-Adolescent Communication, Positive Affect Ratios

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April 10, 2013
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Date

DEDICATION

To the three loves of my life.

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Chapter One

Introduction

Background

In parent-adolescent communication, a goal of researchers and clinicians is to learn ways to increase family cohesion and minimize family conflict. Because the adolescent years are marked as ones of increased conflict and decreased warmth between parents and children, identifying ways to promote positive interactions between family members is imperative for the future psychosocial health of the family system (Conger & Ge, 1999). Research suggests that earlier social relations between parents and children, particularly adolescent children, influence the interactional quality of their future communication practices (Conger & Ge, 1999). When family members share mutual affection, support, helpfulness and a sense of caring, family cohesion exists (Cox, Brooks-Gunn, & Paley, 1999). Understanding these positive affective behaviors is central to understanding interpersonal communication relationships and reducing unhealthy behaviors in parent-adolescent conflict resolution.

Positive Affect. A pioneer in the field of relational affect is researcher John Gottman. The research of Gottman (1994a, 1994b) and colleagues (Gottman, Coan, Carrere, & Swanson, 1998; Gottman & Levenson, 1992, 2000; Gottman, Swanson, & Murray, 1999) examines the level of positive-to-negative affect present during conflict communication in marital relationships. Gottman suggests that the ratio of positive-to-negative interactions displayed in couple communication predicts conflict and divorce in marriage. For thriving, high-functioning couples, there are five positive interactions for every one negative interaction (5:1), whereas the positive-to-negative affect ratio for couples headed for divorce is 0.8:1 (Gottman, 1994a, 1994b, 2008). The present study

seeks to apply Gottman's (1994a, 1994b) marital principles of positive affect during conflict resolution to other intimate family relationships using a mixed-methods design. Specifically, it will expand Gottman's application from the husband-wife dyad to the mother-father-child triad, while giving specific consideration to positive affect in parent-adolescent problem-solving discussions. A mixed-methods approach was chosen for the present study because the study emphasizes both process and context as it describes and explains inherent complexities associated with family life (Clark, Huddleston-Casas, Churchill, Green, & Garrett, 2008). In family science, "the ability of family scientists to study complex phenomena is restricted when they limit themselves to one type of research methodology, such as quantitative or qualitative research" (Clark et al., 2008, p. 1544). As such, the present study employs the mixing of quantitative and qualitative methods in its exploration of parent-adolescent conflict communication.

Parent-Adolescent Conflict. Concurrent with other physiological, cognitive, and emotional changes occurring during the adolescent years, the parent-child relationship also undergoes extreme transformation. A goal of applied family science is to promote positive, constructive, and developmentally appropriate conflict resolution practices. Constructive conflict resolution involves mutual problem solving and negotiation (Cox et al., 1999). In parent-child relationships, research consistently indicates that parental emotions reflect the quality of the caregiving environment: the higher the level of positive emotions that parents experience and express, the more favorable the household environment for children (Dix, 1991). This includes increasing positive affect in problem-solving communication (thereby decreasing negative affective behaviors), which promotes relational cohesion between parents and adolescents. By learning to resolve

family disputes in healthy ways, youth begin to recognize and respect opinions and actions that differ from their own as they internalize pro-social behaviors that can be applied to non-family contexts. As Fauchier and Margolin (2006) note, "The combined impact of conflict and affection across family relationships may offer greater clarity to the study of family processes than the impact of either conflict or affection alone" (p. 198).

Introduction to Dissertation

The central aim of the present study is to draw connections between positive affect and parent-adolescent communication behaviors through the examination of relational problem-solving discussions while utilizing a mixed-methods research design. This design considers intra- and interpersonal influences affecting family communication. The study applies Gottman's (1994a, 1994b) principles of couple conflict communication using positive affect ratios to the mother-father-adolescent triad. Furthermore, neural consideration is extended to the family unit through the examination of electrical brain activity during two parent-adolescent problem-solving discussions in order to better understand affective responses occurring during family communication exchanges. Finally, positive affect is examined qualitatively through a thematic analysis designed to highlight patterns of communication practices prevalent in parent-adolescent conflict discussions. The intent of this project is to provide researchers with increased knowledge about the parent-adolescent communication relationship, specifically conflict communication practices, which can be applied to positive youth and family development programs, family life and parent education efforts, and therapeutic interventions.

The dissertation follows a traditional, five-chapter format. Chapter one introduces the dissertation topic, including its rationale and purpose, as well as presents an outline that the remainder of the dissertation follows. Chapter two presents a review of literature detailing theoretical constructs relevant to both the quantitative and qualitative portions of the study, as well as their application to parent-adolescent communication with regard to the present research. Chapter three explains the methodology used in the study as well as the mixed-methods data analytic plan and preliminary analysis procedures. Chapter four presents the quantitative and qualitative findings from the analyses, and finally, chapter five offers a discussion of the results, including themes that emerged from the data. Limitations, implications, and ideas for future research are addressed.

Quantitative Rationale

To many researchers, adolescence is a socially constructed phenomenon that depends, in part, on the expectations and influences of one's micro- and macro-environments, the most influential of which is the parent-adolescent relationship (Grotevant, 1998). Adolescence can be conceptualized as beginning with physiological changes occurring at the onset of puberty, but ending with social changes as the adolescent assumes adult roles and responsibilities as mandated by the exit from childhood (Dahl, 2004). According to Grotevant (1998), "A full understanding of adolescence requires consideration of the rapidly changing individual in ongoing interaction within dynamically changing, multilayered contexts" (p. 1107). Therefore, it is important for researchers not to isolate specific components of adolescence, but rather to give equal importance to its connective elements (e.g., biological, emotional, cognitive, social) within a larger theoretical framework (Dahl, 2004).

Affective neuroscience, which is discussed in chapter two and is used as the theoretical underpinning for the quantitative portion of the present study, is one such perspective, as the present study seeks to examine both neural and social components of the parent-adolescent relationship. Successfully conducting this type of multidisciplinary research (e.g., merging family science with social neuroscience) is dependent upon researchers identifying the biological mechanisms underlying social interactions and behavior, and by doing so, providing insight into the associations and influences between social and biological levels of systemic organization (Cacioppo, Berston, & Decety, 2010).

In lifespan development, adolescence involves the evolution of social roles that include numerous pubescent changes in both the body and brain. The developing adolescent brain is punctuated with neural periods of plasticity that allow for the disorganization and reorganization of neural schemas (Cozolino, 2006). These reorganizational windows provide the cognitive flexibility needed for the adolescent to adequately adapt to and navigate these normative, yet sensitive, periods of social and emotional transition (Cozolino, 2006). Without such neural flexibility, adolescents and young adults could not make the social or emotional adaptations necessary to accommodate their shifting social roles (and evolving relational dynamics) of adolescence. Nevertheless, the neural flexibility associated with adolescence comes at price that is generally paid at the expense of the family system that must adjust to the flux of emotions related to the adolescent's cognitive and affective upheaval.

From a cognitive stance, parents are vital in the formation of neural infrastructures in the brain of a developing youth (Siegel, 1999; Cozolino, 2006; Dahl,

2004). In order for an adolescent to assume adult roles and make responsible decisions, certain cognitive processes are required; however, the neurobehavioral systems that underpin this normative maturational growth are still developing (Dahl, 2004; Yurgelun-Todd, 2007). Thus, parents are systemically and critically positioned to act as scaffolds, to provide emotional support and physical protection, as well as model positive affective behaviors and social skills associated with reasoning, self-control, and communication (Dahl, 2004). The changes occurring within the adolescent are intrapersonal, yet they are experienced interpersonally in the family system. Accordingly, the conceptualization of adolescence can be "best understood at the level of *interactions* between biological, behavioral, and social domains" (Dahl, 2004, p. 10; emphasis in original). The current study employs this conceptual lens as it examines the parent-adolescent relationship using an affective neuroscience framework.

Qualitative Rationale

As highlighted above, the study of dynamic family systems can be challenging. Thus, it can be helpful for researchers to move beyond stand-alone quantitative inquiry in order to gain a more holistic perspective of family processes (Clark et al., 2008). The present study extends its investigation of parent-adolescent conflict by including a thematic analysis to help contextualize and complement the quantitative portion of the study, moving beyond biological domains into behavioral and social purviews. In doing so, the study identifies communication behaviors in the parent-adolescent sample that may contribute to the positive-to-negative affect ratios presented in the family discussions. A qualitative approach is well suited for the current study in its attempt to allow for the malleability of existing and emergent theory in the study of parent-adolescent communication and conflict processes.

Ambert, Adler, Adler, and Detzner (1995) explain the relevance of qualitative inquiry to the study of family science by detailing five goals of qualitative research. According to Ambert et al. (1995), qualitative researchers are interested in depth, opposed to breadth, when examining a social phenomenon. Additionally, rather than focusing on what people do or what people believe, a goal of qualitative research is to learn more about how and why people think, behave, or derive meaning from their actions. Third, qualitative inquiry is appropriate for the study of family processes because it can simultaneously focus on the micro-macro spectrum of human behavior as it examines issues of both structure and process. Furthermore, qualitative researchers seek to discover new ideas about social phenomena as they redirect, modify, and expand existing ideas. Finally, a fifth goal of qualitative research is to refine the process of theory emergence by generating conceptual images, and then shaping and reshaping them according to ongoing observations, thus enhancing their developing conceptual validity (Ambert et al., 1995).

The behavioral-family systems model of parent-adolescent conflict, which is further explained in chapter two, theoretically underpins the qualitative analysis (Robin & Foster, 1989). Robin and Foster (1989) identify thirteen "flawed" communication patterns that have destructive potential when exercised regularly in parent-adolescent conflict resolution. In addition to noting the prevalence of these patterns within the qualitative analysis, a modified grounded theory approach was applied to any new constructs that emerged in the data. As Corbin and Strauss (1990) explain, "Grounded theorists share a conviction with many other qualitative researchers that the usual canons of 'good science' should be retained, but require *redefinition* in order to fit the realities of

qualitative research and the complexities of social phenomena" (p. 4; emphasis in original). Parent-adolescent communication is an example of such a complex social phenomenon. Thus, an aim of the qualitative analysis is to more thoroughly understand parent-adolescent conflict and communication behaviors, including negative communication practices displayed during family problem-solving discussions, as they relate to overall positive affect during family conflict communication.

Statement of Purpose

The purposes of this dissertation include: (1) building upon the work of John Gottman by examining positive affect in parent-adolescent relationships, as well as moving beyond physiological feedback measures to include neural ones that better capture the hemispheric lateralization of emotion; (2) examining how negative patterns of family communication may contribute to positive-to-negative affect ratios presented during family problem-solving discussions; and (3) enhancing approaches to the study of the family unit by incorporating both quantitative and qualitative inquiry, as well as progressive techniques in both data collection and analysis. These include observational video coding of relational affective processes and the utilization of neurofeedback technology in order to investigate internal cognitive processes that occur during family interaction. Furthermore, this study seeks to expand the breadth of parent-adolescent communication literature through the revision and expansion of existing theory on parent-adolescent conflict resolution.

Research Questions. This dissertation seeks to address the following overarching research questions, which are further operationalized in chapter two: (1) *Does a relationship exist between positive relational affect and electrical brain activity in*

the prefrontal cortex in mothers, fathers, and adolescent children while engaging in family problem-solving discussions? and (2) *During family problem-solving discussions, how do themes of negative communication patterns presented by parents and adolescents relate to their overall positive affect ratios?*

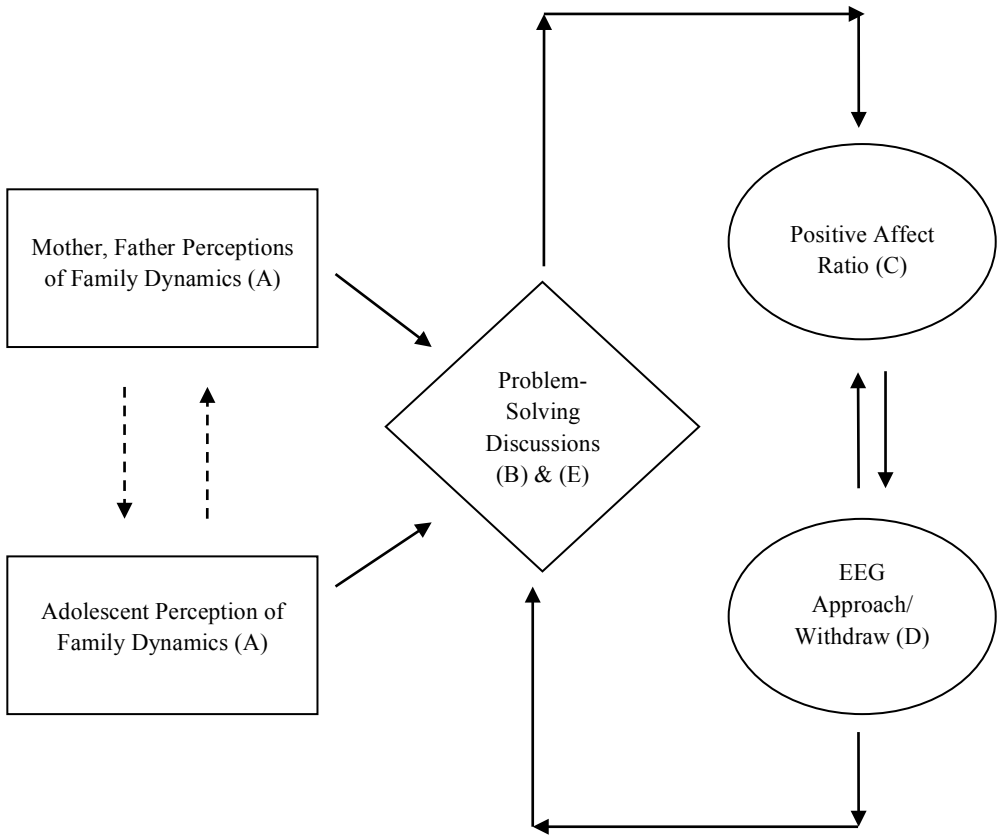
Dissertation Organization. To answer the research questions above, the current project utilizes a mixed-methods research design. First, quantitative analyses incorporate the observational coding of positive affect based on an affective neuroscience framework in order to explore the relationship between positive affect and hemispheric lateralization (i.e., electrical brain activity). Emotional valence and motivational direction are assessed using electroencephalograph (EEG) technology (i.e., a measure of electrical brain activity) during family problem-solving discussions between mothers, fathers, and adolescents. A qualitative analysis of the family problem-solving discussions follows as process and context are mutually considered in a thematic analysis that examines trends in parent-adolescent conflict resolution, which includes the identification of reoccurring patterns of conflict communication behaviors.

Conceptual Model

To facilitate the conceptual understanding of the study, Figure 1.1 introduces a model of influence that was created to briefly illustrate the connections between the respective quantitative and qualitative analyses. During data collection, the mother, father, and adolescent each completed self-report assessments (A) on a variety of relational constructs that represent their individual perceptions of the family's dynamics. The broken arrows between the participants represent the interplay (and interdependence) between family members. The participants then participated in two problem-solving

discussions (B) in which positive affect ratios were computed (C) and electrical brain activity was measured (D). The cyclical feedback loop represents the communication exchanges occurring between participants during the problem-solving discussions that were then transcribed for further qualitative examination (E). Please note, this is not a linear causal model; rather, its purpose is to graphically demonstrate the "mixing" of the qualitative and quantitative analyses (Clark et al., 2008), as well as the systemic influence that the mother, father, and adolescent have on the family system during the conflict communication exercises.

Figure 1.1. *Conceptual Model of Influence*



Definition of Terms for Present Research

For the purpose of this project, the following definitions are used:

1. **Adolescence** – a period in human development beginning with physiological changes occurring at the onset of puberty, but ending with social changes as the adolescent assumes adult roles and responsibilities as mandated by the exit from childhood (Dahl, 2004).
2. **Affect** – the verbal or nonverbal display of an emotion or an emotional phenomenon.
3. **Alpha Asymmetry** – a measurement of the differential involvement electrical brain activity in the left and right anterior regions of the brain.
4. **Electroencephalogram (EEG)** – technology used to measure electrical brain activity (i.e., post-synaptic neural processes).
5. **Emotional Affect** – positive and negative feelings that are consciously accessible (Fredrickson, 2001).
6. **Hemispheric Lateralization** – the differential involvement of the left and right sides of the brain that are involved in the expression and experience of approach- and avoidance-related emotions (Cacioppo & Berston, 2000).
7. **Positive Affect Ratio (PAR)** – the ratio of positive to negative interactions occurring during communication exchanges, specifically conflict communication, in intimate relationships.

Chapter Two

Review of Literature

This project examines the role of positive affect in parent-adolescent communication drawing from two different theoretical perspectives, affective neuroscience and the behavioral-family systems model of parent-adolescent conflict (Robin & Foster, 1989). While these constructs differ conceptually, the unique perspectives they offer on family communication make the frameworks complimentary in scope. In a recent review of literature examining 30 years of research on adolescent development in interpersonal and societal contexts, it is noted that

> the ascendance of ecological models… has led to a greater understanding of how contexts constrain, shape, and influence adolescent development. Despite significant gains, these advances also have led to a field that has become markedly less developmental. Over the past 30 years, the [evidence-based] pendulum has swung from largely decontextual research focusing on intraindividual processes of development to research that is highly contextual but has little to say about intraindividual processes" (Smetana, Campione-Barr, & Metzger, 2006, pp. 274-275; Steinberg & Morris, 2001).

Through the use of the two theoretical models as described below, the present study aims to address both intraindividual processes and contextual relationships by incorporating quantitative and qualitative study as it considers positive affect and conflict communication between parents and adolescents.

The following review of relevant literature begins with a general discussion of family communication components, including how positive affect, conflict, Gottman's Four Horsemen of the Apocalypse, and attachment relate to the shifting interpersonal dynamics of the parent-adolescent relationship. Overviews of both theoretical perspectives are then provided, including assumptions and themes associated with each conceptual lens as they relate to the quantitative and qualitative portions of the present

study. First, affective neuroscience emphasizes the interplay between mechanisms of developmental functioning, specifically the social and biological derivatives that drive behavior and interactions between human relationships (Cacioppo et al., 2010). Second, the behavioral-family systems model of parent-adolescent conflict then centers on the observation of irregularities in interpersonal communication processes between parents and their adolescent children (Robin & Foster, 1989). Patterns of conflict communication are discussed, and research questions and hypotheses are presented.

Family Communication Components

Positive Affect

The purpose of the present study is to expand the positive affect work of John Gottman (1994a, 1994b), as described in chapter one, from the marital dyad to the parent-child triad. Gottman suggests that in couple communication, the ratio of displayed positive-to-negative interactions predicts conflict and divorce in marriage. For high-functioning couples whose marriages are thriving, there are five positive interactions for every one negative interaction. Therefore, the positive affect ratio is 5:1. This opposes that of couples headed for divorce whose positive-to-negative affect ratio is 0.8:1 (Gottman, 1994a, 1994b, 2008).

Positive and negative affective behaviors represent a spectrum of positive and negative emotions (Shrira et al., 2011). Emotional affect, both positive and negative, refers to feelings that are consciously accessible and observable (Fredrickson, 2001). In intimate relationships, positive affect can be measured by computing the ratio of positive to negative interactions occurring during communication exchanges, including conflict communication. For the purposes of the current study, the term affect will refer to the

verbal or nonverbal display of an observable emotion or an emotional phenomenon. Positive affect (i.e., positive displays of emotions) may lay the foundation for many of the resources, characteristics, and successes that are correlated with happiness, as happiness has been empirically associated with the behaviors that parallel and precede successful relational and life outcomes (Lyubomirsky King, & Diener, 2005).

The experience and expression of emotion has a reciprocal effect in its association to other life events. Research highlights the power of positivity, suggesting that happy individuals are also successful across various life domains, such as in their marriages, family relationships, friendships, health, and careers (Lyubomirsky et al., 2005). This is due in part to the reciprocal capacity of positive affect to promote success and well being (Lyubomirsky et al., 2005). Furthermore, the impact of positive life events has the potential to evoke positive biopsychosocial gestalt reactions (e.g., biological, psychological, and social responses); whereas adverse, threatening, and/or negative life events have the potential to evoke strong and rapid physiological, cognitive, emotional, and social responses, often occurring simultaneously (Taylor, 1991).

The presence or absence of positivity also has permeating effects in a family system. The theoretical constructs that support positive-to-negative affect ratios parallel the psychological phenomenon of positive-negative asymmetry. In social psychology, the positive-negative asymmetry effect posits that although multiple positive events can overcome the psychological effects of a single negative event, when equal measures of positivity and negativity are present, negative psychological effects outweigh positive psychological effects (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). This theoretical construct has implications for the present study, particularly the application of

Gottman's positive-to-negative affect ratios to the study of parent-adolescent relationships. As Baumeister et al. (2001) note,

> The evidence is fairly clear and unanimous in indicating that relationships are more affected by bad events than good ones. As seen in daily interactions, broad patterns, affect of problem solving, and marital communication, bad events have stronger effects than good events. Reciprocation of bad responses appears to be especially powerful for leading to deterioration and breakup of close relationships. (p. 330)

The parent-child relationship, which precedes all future romantic relationships, has the potential to be one of the closest and most influential relationships that an individual shares. When negative affect outweighs positive affect, the quality and trajectory of the parent-child subsystem may be inevitably jeopardized.

In addition to Gottman and colleagues, researchers have found moderate positive affect ratios as low as 3:1 to be associated with optimal functioning in the midst of stress (Shira et al., 2011). Gottman's work is often referenced in psychoeducation and as a guide for therapeutic interventions, but his findings have not proven easily replicable across adult, couple samples (Kim, Capaldi, & Crosby, 2007; Stanley, Bradbury, & Markman, 2000). Disciplines outside of family science, however, have applied principles of positive affect ratios to the teacher-child relationship suggesting that teachers should offer a higher ratio of praise statements to corrective statements with ratios ranging between 3:1 and 5:1 (Fredickson & Losada, 2005; Good & Grouws, 1977; Shores, Gunter, & Jack, 1993; Walker, Ramsey, & Gresham, 2004). This application suggests the applicability of positive affect to communication relationships involving children, a notion the present study explores further. While Gottman, Katz, and Hooven (1996, 1997) have studied parental meta-emotions and how families communicate emotionally, they have not directly or empirically applied the principles of positive affect to the

parent-child relationship. The current research aims to expand Gottman's scope by examining the role of positive and negative affect in parent-child relationships, particularly in conflict communication occurring during adolescence.

Relational Conflict

Conflicts are an inevitable component in any relationship. It is not the absence of conflict that signals relationship satisfaction or health; rather, it is how a dyad resolves conflict that promotes or threatens intimacy. According to Gottman (1994a, 1994b), in romantic relationships, the way a couple addresses conflict is more predictive of martial longevity than the presence or absence of conflict in the relationship. Pivotal to the health of the relationship is the presence of positive affect in everyday interaction, especially during conflict resolution. Both positive and negative affect, however, are necessary for balance (Gottman, 1993, 1994a, 1994b, 2008). Gottman's (1993) balance theory posits that some negativity serves pro-social functions for the growth of the couple, such as highlighting harmful patterns of interaction that need to be curtailed. This concept can be applied to that of the parent and adolescent. Rather than trying to avoid conflict, family members should more closely examine reoccurring patterns of communication in their relationship as evidenced by their conflict resolution styles.

In a comprehensive literature review examining 25 years of research on adolescent development in the family context, Steinberg (2001) notes that most work on families with adolescents centers around two basic questions: 1) How can we best characterize normative family relationships during adolescence? and 2) How do variations in parent-child conflict relationships affect the developing adolescent? Steinberg (2001) distinguishes between *Conflict with a capital C* and *conflict with a small c* in parent-adolescent relationships noting that a literary shift occurred among

researchers from the first half of the twentieth century that normalized, if not mandated, parent-child conflict during adolescence. Research in the second half of the twentieth century, however, showed the opposite, finding that adolescent mental health faired better in families with close, nonconflictual, parent-child relationships (Steinberg, 2001). Current research indicates a more middle-of-the-continuum approach. It would be inaccurate to characterize the adolescent years—and the parent-adolescent relationship during that time—as free from "storm and stress" (see Hall, 1904); however, angry, frequent, or high-intensity fighting is not characteristic of the parent-adolescent relationship during normative adolescent development. Such volatile patterns of handling relational conflict have negative consequences for the family system.

In his work on marital conflict communication, Gottman (1993, 1994b) labels three relationship types: validating, volatile, and avoidant couples. In validating relationships, partners listen and attempt to understand one another; they validate one another's opinions and emotions despite opposing viewpoints. Volatile couples, on the contrary, "have little interest in hearing each other's point of view in the heat of argument…[and] they don't try to understand and empathize with their partner" (Gottman, 1994b, p. 40). Lastly, avoidant couples minimize relational conflict, making light of their differences rather than attempting to resolve them. These types of relationships are relevant to the understanding of parent-adolescent relationships for two reasons. First, they may characterize aspects of the parent-adolescent relationship. As with marital dyads, the parent-child relationship is bonded by an intimate history. In adolescence, however, conflict in the communication relationship may be confounded by

the biopsychosocial changes occurring in the developing youth. As echoed by Sillars, Koerner, and Fitzpatrick (2005),

> Some qualities of parent–adolescent relationships should facilitate intersubjective understanding. In most cases there is an intense bond, a long history together, and intimate familiarity, thus providing a rich context for interpreting the other's behavior and filling in gaps in meaning. On the other hand, understanding is complicated by developmental and relationship changes during adolescence. (pp. 104-105)

Second, Gottman's relationship styles are relevant to the understanding of parent-adolescent relationships in that aspects of the couple relationship might "spillover" to influence the adolescent's behaviors, cognitions, or beliefs. Patterns of conflict resolution influence the likelihood that a cycle of negativity will emerge in a relationship; however in marriage, one style is not more indicative of marital longevity than another. It is the cohesion of partner styles, along with the increased presence of positive affect, in conflict communication that most accurately decreases the probability of couple dissolution. Given the importance of resolving relational conflict, the present study more closely examines such parallels in parent-adolescent conflict communication.

The Four Horsemen of the Apocalypse

In conjunction with positive-to-negative affect ratios and couple communication styles, one of Gottman's most notable contributions to literature on conflict communication is the concept of the *Four Horsemen of the Apocalypse*. According to Gottman (1994a, 1994b), a couple's communication style during conflict resolution can produce a cycle of negativity that if left uninterrupted can lead to divorce. These four negative communication patterns are predictive factors of dissolution in marital relationships (Gottman, 1994a, 1994b). In conflict resolution, the results of the horseman have a cumulative effect: one pattern paves the way for subsequent patterns thus

contributing to an apocalyptic ending of the relationship. When a marriage becomes imbalanced (i.e., when the positive affect ratio is weighted more heavily with negative communication exchanges than positive ones), communication attempts are often sabotaged by the presence of the four horsemen: *criticism, contempt, defensiveness,* and *stonewalling* (Gottman, 1994a, 1994b). The behaviors represented by the Four Horseman may also influence the parent-adolescent relationship as they denote negative communication patterns that can damage the quality of intimacy and cohesion within family systems.

The Four Horsemen continuum begins with *criticism*. When blame is assigned between partners (often calling one's personality or character into question), criticism is present. Criticism differs from making a request from a spouse or complaining about his or her actions: it is a verbal attack of one partner towards the other. Time-values are placed on claims, such as "you never" and "you always," which promote contemptuous feelings in the relationship. Criticism breeds *contempt*, the second Horsemen. Contempt often manifests itself to include hostile humor, verbal abuse and name-calling, negative body language, and mockery. This intent of one partner to psychologically abuse or insult the other creates *defensiveness*, the third Horsemen. Defensiveness is a natural, protective reaction upon such verbal attacks. According to Gottman (1994b), defensiveness is so destructive because it is an understandable reaction to feeling besieged. A reaction, however, that fails to resolve conflict. Rather, conflict begins to escalate when repeatedly in the presence of defensiveness. The emotional exhaustion that results from constantly defending oneself leads to *stonewalling*, the final Horseman. Stonewalling includes feelings of apathy towards, or withdrawal from the relationship.

Stonewalling causes one or both partners to inevitably shut one another out as they emotionally shut down. Communication halts as little to no effort is made by either party to resolve relational discord.

Just as the behaviors represented by the Four Horsemen are interdependent and progressive, so too are positive and negative affective behaviors in parent-adolescent conflict communication, which are thought to also vary along a valence continuum (Montemayor, Eberly, & Flannery, 1993). The predominant valence affects that parents express towards their children, which are generally expressed in combination with or exercised through parenting style, have the potential to influence children's emotional and social development (Doohan, Carrère, Siler, & Beardslee, 2009). According to Doohan et al. (2009),

> When parents use inconsistent and restrictive discipline techniques in combination with a preponderance of cold and hostile affect, research shows that their children will display more negative affect, are more easily stressed, and have poorer social interactions than children whose parents use warmth in combination with either a restrictive or permissive consistent disciplinary style. (p. 895)

The work of Katz and Gottman (1996) supports the notion that a spillover effect exists between marital conflict and parenting, suggesting that when couples express hostility towards one another when resolving marital discord, it is generally reflected in their parenting style. Katz and Gottman (1996) assert that parenting style is often an expression of similar conflict-resolution tactics used during marital communication; tactics such as hostility, negativity, and power-assertion are unsuccessful in their ability to resolve conflict in either the couple or parent-child relationship. When one or both partners express or experience high levels of contempt, disapproval, and/or lack of respect from one another, Katz and Gottman (1996) found an increased use of negative

parenting strategies in child discipline. The same was true when rejection or withdrawal was present. The researchers emphasized that it is under such conditions that behavioral tendencies from the marriage spill over into the parent-child relationship.

This correlation between parental affect and parenting style is continually supported in literature. In a meta-analytic review of literature on affect and parenting in nonclinical samples, Rueger, Katz, Risser, and Lovejoy (2011) conducted mean effect size analyses for 63 studies (k = 18,211) examining parental affect and parenting practices. Specifically, Rueger et al. (2011) concurred that positive affect was more strongly related to supportive parenting, whereas negative affect was more strongly related to hostile parenting. The findings demonstrated a correlated association between parental affect (i.e., positive or negative) and parenting behavior (i.e., warm or harsh) across parental gender, as well as affect and behavior continuums. Additionally, although "a certain degree of misunderstanding occurs in all human relationships; the topic is especially germane to parents and adolescents, given [the] developmental and relationship changes that typify this period of family life" (Sillars, Koerner, & Fitzpatrick, 2005, p. 122). The health of the parent-adolescent relationship is pivotal to the normative psychosocial development of a youth. Research supports that a positive parent-adolescent relationship improves a child's academic outcomes and lessens the likelihood of the child exhibiting problem behaviors (Moore et al., 2004). Furthermore, the higher the quality of the parent-adolescent relationship, the higher the child's level of mental, social, and emotional well being, with the positive outcomes extending into adulthood (Moore et al., 2004).

Parent-Adolescent Attachment

Research supports the belief that reciprocity exists between couple and family dynamics, including parallels between couple communication and parent-child communication and attachment processes. Results from the 2007 National Survey of Children's Health (Moore, Kinghorn, & Bandy, 2011), which surveyed more than 64,000 parent respondents whose children ranged from six to 17 years of age indicated:

> Parents' relationship quality is very consistently and positively associated with a range of child and family outcomes, including: child behavior problems (externalizing), child social competence, child school engagement, child internalizing (depression), parent-child communication, and parental feelings of aggravation. (p. 1)

Attachment theory suggests that children's security constructs serve as internal working models, or sets of cognitive expectations, about the availability and responsiveness of attachment figures (Bowlby, 1988). Mikulincer, Florian, Cowan, and Cowan, (2002) add that it is the quality of the relationship between parents that plays a central role in the generational transmission of working models of attachment to children. Throughout his work on attachment, Bowlby (1988) maintained that emotional communication is the most important communicative exchange that can occur between two intimates providing the foundation for interpersonal connections, both psychologically and socially, as it influences behaviors and perceptions of one's self and one's relationships with others. This internal set of expectations has the capacity to impact future intimate relationships and is vital to a child's personality development (Pittman, Keiley, Kerpelman, & Vaughn, 2011).

According to Cowan and Cowan (2005), there are two central roles for couple relationships with regards to parental attachment relationships: breaking negative

intergenerational patterns and enhancing children's adaptation mechanisms. Because research supports the belief that without intervention, negative relationship patterns will be repeated in the next generation, parents are uniquely equipped with the potential to affect the quality of the parent-child relationship, both in the present and future, as well as the trajectory of their children's social, emotional, and academic development (Cowan & Cowan, 2005). The mechanisms supporting intergenerational transmission processes, or behaviors that are passed down from one generation to the next, occur through one's internal working models about what to expect in intimate family relationships, along with the presence of observable transactions between parents and children, such as those represented by communication behaviors (Cowan & Cowan, 2005; Bowlby, 1988).

As indicated by Bowlby (1988), "There are, in fact, no more important communications between one human being and another than those expressed emotionally, and no information more vital for constructing and reconstructing working models of self and other than information about how each feels towards the other" (p. 156). It is this expression and interpretation of emotion that lies at the heart of the communication relationship between a parent and child. The adolescent-parent relationship is thought to be generally fulfilling, reciprocal, and continuous over time (Grotevant, 1998). This internal representation of self results in an outward manifestation of emotion in everyday interactions, including the verbal and nonverbal communication exchanges between parent-child subsystems. Parent-child relationships during adolescence inform a range of cognitions, behaviors, and affects relevant to social relationships, social interactions, and self-construals throughout the lifespan; however, understanding the changes to the parent-adolescent relationship experienced by families

during the adolescent years continues to perplex researchers (Pittman et al., 2011). A purpose of the present study is to explore some of these complexities through new lenses, such as affective neuroscience, which as aforementioned, theoretically complements the construal of positive affect.

Affective Neuroscience

Understanding the interplay between mechanisms of developmental functioning is often an aim of researchers who study human relationships (Cacioppo et al., 2010). The present study shares this aim, giving comparable consideration to social and biological derivatives that drive behavior and interactions between parents and their adolescent children. It is through genetics and experience (i.e., nature and nurture) that neural circuits in the brain are connected; the activation of circuitry in different parts of the brain stimulates thought, action, and emotion (Fishbane, 2007). Simply put, the human brain is innately wired to connect to others (Fishbane, 2007). A common trigger of neural activation is the intimate interaction between family members, especially interactions arising from emotional stimuli and conflict (Atkinson et al., 2005). The parent-adolescent relationship is no exception (Dahl, 2004).

Themes in Affective Neuroscience

A theme in affective neuroscience, or the neurobiology of emotion, is the weight given to individual differences in emotional processes and processing (Davidson & Sutton, 1995). A goal of researchers applying affective neuroscience principles to interpersonal relationships is to concurrently investigate cognitive functioning and social interaction by measuring intra-body functioning opposed to relying on self-report measures and observational data alone. Technological advances in the understanding of biological and cognitive processes (e.g., monitoring electrical brain activity during social

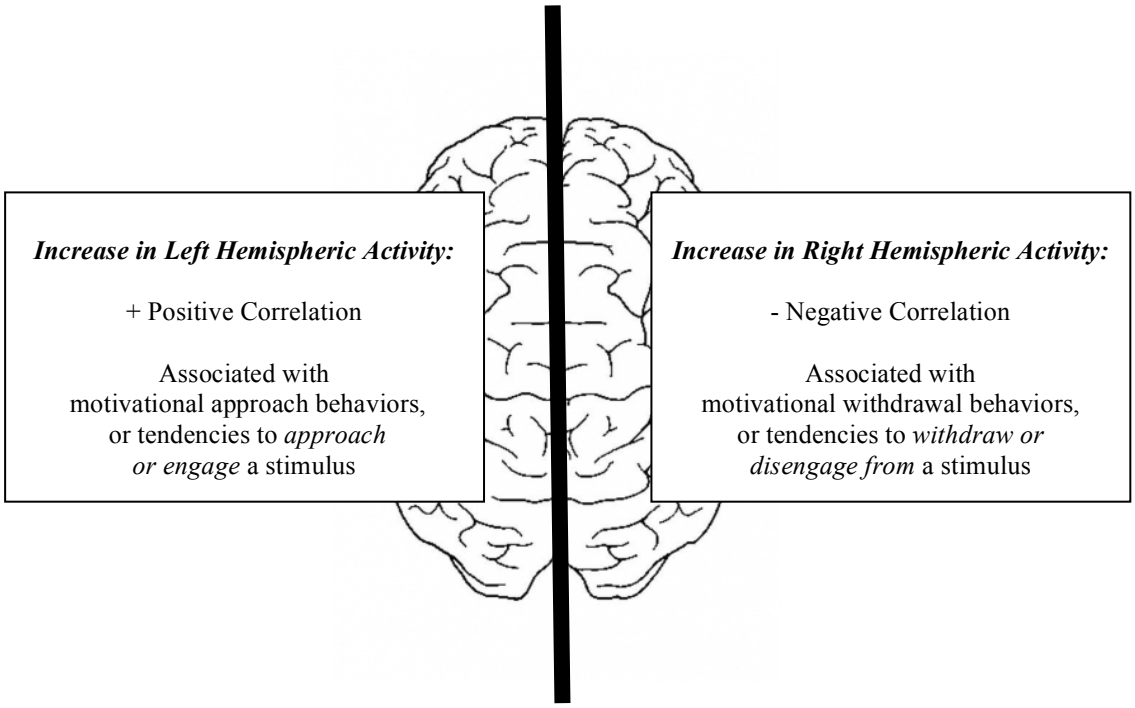
interaction) make noninvasive assessment of participants available to family researchers (Booth et al., 2000).

Although affect experiences are private, the affective expressions they manifest are public and often observable behaviors (Rueger et al., 2011). In the brain, activation processes precipitate emotions. The prefrontal cortex, a provincial region of higher cognitive control in the brain, is a key neurological actor linked to various features of affective processing (Davidson et al., 2000). The significance and strength of the neural activation determines which emotions will occur and when, and how strongly of an emotional cue will be activated (Dix, 1991). The attribution of this positive or negative emotional valence also predicates one's mood, and impacts one's attention span, judgment of others, level of cognitive activity, and one's desire to interact socially (Cacioppo, 2004; Cozolino, 2006; Davidson et al., 2009; Fauchier & Margolin, 2004; Taylor, 1991; Urry et al., 2004).

Understanding Emotion Valence. When understanding the psychophysiology of emotion, especially with regard to its neural correlates, it is important to understand basic premises of alpha asymmetry. Electroencephalogram (EEG) alpha asymmetry is used by emotion researchers to capture neural processes (i.e., post-synaptic electrical brain activity) and to predict a variety of outcome measures (Cacioppo, 2004). In other words, the left and right anterior regions of the brain appear to be differentially involved in the expression and experience of approach- and avoidance-related emotions (Cacioppo & Berston, 2000), or valence. These asymmetrical differences can be measured using electroencephalographic (EEG) technology. As Pizzagalli (2007) notes, "In many experimental situations, psychophysiologists are interested in investigating whether the

two brain hemispheres are differentially involved in specific cognitive and affective processes, personality traits, or various forms of psychopathology" (p. 67). The differential involvement of the left and right sides of the brain is referred to as hemispheric lateralization (see Figure 2.1). Specifically, increased activity in the left frontal cortex is associated with the expression and experience of positive, approach-related emotions (appetitive tendencies), and increased activity in the right frontal cortex is associated with the experience and expression of negative, withdrawal-related emotions (aversive tendencies). This basic neural model is known as the *motivational model of emotion* (Davidson et al., 1990; Davidson, 1993; Coan & Allen, 2004; Cacioppo, 2004).

Figure 2.1. *Hemispheric Lateralization*



Source: Adapted from Huff & Werner-Wilson (2011).

Valence and Motivational Direction. As the discipline of affective neuroscience progressively developed, the motivational model of emotion was contested because it included components of both motivation and emotional valence that are conceptually and empirically distinguishable (Harmon-Jones, 2004; Cacioppo, 2004). Harmon-Jones (2004) identified two models of EEG asymmetry to more fully differentiate these concepts: a *valence* model and a *motivational direction* model. According to Harmon-Jones (2004) and colleagues (Harmon-Jones & Sigelman, 2001), hemispheric lateralization does not only signify positive or negative emotional valence, it indicates motivational approach or withdrawal tendencies. A *valence model* of EEG asymmetry associates the expression and experience of positive emotions with high levels of relative left frontal activity, and the experience and expression of negative emotions with high levels of relative right frontal activity. Conversely, a *motivational direction model* associates high levels of left frontal activity with the expression of approach-related emotions, and high levels of right frontal activity with the expression of withdrawal-related emotions. For example, in hemispheric lateralization, although positive emotions are typically associated with approach motivations and negative emotions are typically associated with withdrawal motivations, there are exceptions, as described below.

Confounding concepts. Affective motivation differs from affective emotion. Take anger and aggression, for example. Although anger and aggression are negative affective constructs, people tend to act out (or approach, opposed to withdraw) when they feel these emotions. Thus, with regards to anger and aggression, asymmetric hemispheric activity may be associated with greater left than right hemispheric approach activation

(Harmon-Jones & Sigelman, 2001; Harmon-Jones, 2004). Other exceptions are noted as well. For instance, the connection between negative emotional valence and withdrawal behaviors is somewhat intuitive (e.g., when an individual experiences sadness, they may avoid or disengage from a stimulus). Research has demonstrated, however, that cognitive disengagement (i.e., motivational withdrawal) in securely attached parent-adolescent relationships may permit room for differentiation and autonomy (Huff & Werner-Wilson, 2011). In this case, motivational withdrawal may be associated with positive valence. These brief examples illustrate the confounding principles that make the interpretation of hemispheric lateralization a challenging task for researchers.

Affect, autonomy, and adolescence. The complexities described above pose unique empirical challenges particularly relevant to the present study. Because the culmination of the intrapersonal changes brought about during adolescence has the ability to shift the interpersonal dynamics of the family system, parents are central in the promotion or repression of adolescent autonomy by either encouraging or discouraging their adolescent to work towards independence (Noom, Dekovic, & Meeus, 1999). Fostering a positive social environment for the child by promoting individuation is a necessary condition for healthy adolescent developmental outcomes (Noom et al., 1999). For example, the parent-child communication relationship changes contextually as it adjusts to the social and emotional changes associated with adolescence (Williams, 2003). Research suggests that "it is the relative success of the renegotiation of these parent-child positions vis-à-vis one another that is hypothesized to be related to the young adult's personal adjustment" (Anderson & Sabatelli, 2003, p. 97).

Because the paradigms motivational direction (i.e., approach vs. withdraw) and emotional valence (i.e., positive vs. negative) are often confounded in affective and social neuroscience literature (Harmon-Jones & Sigelman, 2001; Harmon-Jones, 2004), and aim of the quantitative portion of the present study is not only to explore the relationship between positive affect and hemispheric lateralization, but also to differentiate between the two models by more closely examining the specific positive and negative affective behaviors that may influence hemispheric lateralization during parent-adolescent conflict communication.

Quantitative Research Hypotheses

By integrating principles of positive-to-negative affect ratios into an affective neuroscience framework, the following hypotheses are offered. Because the paradigms *emotional valence* and *motivational direction* can produce similar results, the research is exploratory in nature. Thus, a null hypothesis is presented, along with possible alternative hypotheses (Hypotheses 1-4). The alternative hypotheses are examined in greater detail in follow-up analyses, as described in the quantitative results section of chapter four.

> *Null Hypothesis: Participants will not demonstrate signs of hemispheric lateralization during the family problem-solving discussions.*
>
> *Hypothesis 1: Participants with higher positive affect ratios will demonstrate greater left hemispheric activity during the family problem-solving discussions, as this is associated with tendencies to approach or engage (emotional valence).*
>
> *Hypothesis 2: Participants with lower positive affect ratios will demonstrate greater left hemispheric activity during the family problem-solving discussions, as this can also be associated with specific emotions such as anger or aggression (motivational approach).*

Hypothesis 3: Participants with lower positive affect ratios will demonstrate greater right hemispheric activity during the family problem-solving discussions, as this is associated with tendencies to withdraw or disengage (emotional valence).

Hypothesis 4: Participants with higher positive affect ratios will demonstrate greater right hemispheric activity, as cognitive disengagement can also permit room for differentiation in secure attachment relationships between parents and adolescents (motivational withdrawal).

Behavioral-Family Systems Model of Parent-Adolescent Conflict

To expand contextually upon the findings from the quantitative analyses, the behavioral-family systems model of parent-adolescent conflict (Robin & Foster, 1989) served as the theoretical underpinning of the qualitative portion of the study. The behavioral-family systems model of parent-adolescent conflict is a comprehensive approach to the study and treatment of the parent-adolescent unit that combines constructs from both behavioral and family systems theories (Robin & Foster, 1989). Behavioral and systems theories emphasize the observation of regularities in interpersonal processes. As stand-alone theories, however, neither behavioral nor systems models of family functioning address both functional and structural utilities of family systems (Robin & Foster, 1989). Family systems theory recognizes the circular causality and reciprocity that exists within family units, while behavioral approaches functionally analyze the interactive behaviors of families (Robin & Foster, 1989). The behavioral-family systems model of parent-adolescent conflict integrates key concepts from behavioral and family systems theories as it specifically addresses parent-adolescent conflict communication (Robin & Foster, 1989).

Assumption of the Model

In parent-adolescent conflict, Robin and Foster (1989) posit that deficits in positive problem-solving and communication skills lead to unresolved disagreements and heated verbal arguments between parents and adolescents. The authors detail five key assumptions in their approach that specifically address family conflict during adolescence, as described below.

Assumption One. *Families are homeostatic systems. The biological changes of puberty lead to adolescent independence seeking, which disrupts homeostatic functioning, and parent-adolescent conflict erupts as families attempt to restore homeostatic functioning.*

General family systems theory suggests that families are dynamic units who possess the capacity to change; however, change is often met with resistance (Von Bertanlaffy, 1981; Guttman, 1991). This change threatens to disrupt the system from a state of homeostasis, or balance (Von Bertanlaffy, 1981). In adolescence, psychosocial markers of normative development (e.g., burgeoning independence; shifts from parent-to-peer attachment) can disrupt established family patterns of daily interaction, as well as pose challenges to the structure and authority of the family system (Allen, 2008; Robin & Foster, 1989). In general systems theory, change occurs on one of two levels: first order change and second-order change (Von Bertanlaffy, 1968). When minor structural or individual changes are made in the system, but the interactional patterns of the family unit remain intact, first-order change has occurred; conversely, second-order change occurs when new transactional patterns reorganize the overall system (Von Bertanlanffy, 1981).

In order to more successfully navigate adolescence, and thus promote differentiation and healthy psychosocial growth for the teenager transitioning from childhood into adulthood, a reorganization of the family system should occur (Allen, 2008). Change is often challenged, but is said to be morphogenetic if these newly formed relational patterns remain in place over time (Guttman, 1991). As Robin and Foster (1989) assert,

> From a behavioral-family systems perspective, homeostatic functioning is a convenient construct that represents circular sequences…where each member's behavior influences and is influenced by the others' behavior. Over time these mutual control contingencies are self-maintaining. (p. 32)

When challenges are posed to this homeostatic functioning, relational conflict is likely to ensue. According to Sorkhabi (2010), "The ways parents initially construct the rules and expectations that affect adolescents' activities and define the limits of adolescents' autonomy may be one potential source of parent-adolescent conflict" (p. 762). In fact, many of the frustrations that parents and adolescents associate with their relational conflict are not related to the content of the conflict so much as they are to the manner in which the conflict is typically resolved, especially whether or not reciprocal respect is extended (Sorkhabi, 2010).

Assumption Two. *Deficits in positive problem-solving and communication skills lead to unresolved disagreements and heated verbal arguments.*

By nature, families are social entities. Because one cannot not communicate (Watzlawick, Beavin-Bavelas, & Jackson, 1967), the nature of a family's existence predicates its necessity for communication. This is true whether family members

communicate regularly or rarely. In family systems, the influence between individual members is thought to be reciprocal. Family members individually possess cognitive belief systems and repertoires of problem-solving communication skills that both determine and are in part determined by their interactions with other family members (Robin & Foster, 1989). When communication deficits exist in the parent-adolescent relationship, conflicts arise. Communication and problem-solving skills are of particular salience in the study of parent-adolescent relationships due in part to the challenges posed by adolescent differentiation and individuation. When disputes are not resolved properly (e.g., through negotiation or by reasoning), family and individual functioning is threatened (Robin & Foster, 1989). In parent-adolescent relationships, when more permanent difficulties arise, it is the result of a history of reiterated conflict (Williams, 2003). Research indicates that in parent-adolescent conflict resolution,

> Families who fail to stay problem-focused and instead resort to the exchange of negatively charged emotions during family problem-solving discussions tend to have more distressed adolescents and also fail to solve their disputes. (Capaldi, Forgatch, & Crosby, 1994, p. 28)

A parent-adolescent relationship characterized by closeness and constructive conflict however, as mediated by healthy communication exchanges, may influence more positive family outcomes in the renegotiation of parent-adolescent roles (Cox et al., 1999). A longitudinal study of 142 European American family triads (mothers, fathers, and their early adolescents) conducted by Diana Baumrind's Family Socialization Project (FSP) at the University of California, Berkeley, examined three categories of parental regulation to assess their contribution to conflict frequency in the triad's relationship

(Sorkhabi, 2010). Specifically, researchers found that "the reciprocal use of reason and explanation by parent and adolescent affects frequency of parent-adolescent conflicts in particular on occasions when parent and adolescent disagree or when the adolescent is unwilling to comply" (Sorkhabi, 2010, p. 765).

Assumption Three. *Strong adherence to unreasonable beliefs or misattributions about family life promotes conflict. This link occurs because unrealistic expectations or malevolent misattributions induce angry reactions to parent-adolescent disagreements, impeding effective communication or problem solving and promoting reciprocity of negative affect and behavior.*

Research suggests that a positive relationship exists between cognitions and affect: positive cognitions educe positive affect while negative cognitions educe negative affect (Robin & Foster, 1989). In family systems, social learning occurs between members, including personal beliefs and expectations. During adolescence, "neither parents nor children typically recognize the fact that this *one* relationship has *two* perceived realities [emphasis added]" (Williams, 2003, p. 59), which can lead to miscommunication and conflict. When cognitions are distorted, affect follows suit. In parent-adolescent relationships, common cognitive distortions center on adolescent autonomy seeking, as cognitive distortions (e.g., inflexible parenting styles, parent-child battles over independence and authority) preserve homeostatic functioning and stifle family communication (Robin & Foster, 1989). Although social misperceptions of the parent-adolescent relationship indicate the deterioration of the parent-child relationship during adolescence, "overwhelming evidence from the past 30 years [of research] indicates that extreme alienation from parents, active rejection of adult values and

authority, and youthful rebellion are the exception, not the norm" (Smetana, Campione-Barr, & Metzger, 2006, p. 259).

In a multi-tiered relational study by Sillars, Koerner, and Fitzpatrick (2006), researchers explored parent-adolescent communication patterns and their connection to triadic understanding and adjustment. The sample included 50 parent-adolescent triads with data collected through researcher-coded discussions, video-assisted recall feedback, and self-report questionnaires. A multivariate analysis of data suggested that during the communication exercises, families demonstrated little understanding of one another as substantiated through the triangulation of data. Sillars et al. (2006) found that overall the use of more authoritarian parenting practices (i.e., parental power and control) to promote adolescent conformity and submission correlated with negative relationship satisfaction and lower family adjustment, whereas more authoritative parenting styles (as demonstrated through open, supportive communication patterns) correlated with higher relationship satisfaction. The researchers highlighted the need for additional multifaceted research on parent-adolescent relationships as "the connections between intersubjective understanding, communication, and family adjustment are complex, in part, because there are so many domains in which understanding can be assessed" (Sillars et al., 2006, p. 122).

Assumption Four. *Distressed families exhibit greater reciprocity of negative and less reciprocity of positive behavior and affect than nondistressed families.*

As with the intrapersonal relationship existing between cognitions and affect (e.g., positive cognitions elicit positive affect), a reciprocal interpersonal relationship exists between displays of positive and negative affective behaviors, especially for distressed

families (Robin & Foster, 1989). When parents consistently exhibit negative emotions, adolescents begin to match the affective tone modeled in the home. This process of social referencing begins at infancy and continues throughout the lifespan development of the family (Walden, 1991). According to Dix (1991), the expression of parental emotions reflects the health of the parent-child relationship and reflects the quality of parenting, as well as expected child developmental outcomes, and the impact that environmental supports and stresses are having on the family system.

When the parent-adolescent relationship is overshadowed by patterns of conflict and strife, breaking communicative cycles of reciprocated negative affect can be challenging. According to Williams (2003),

> The best model for good adjustment is one where the adolescent feels autonomy but is embedded in a relational attachment system. Parents who encourage autonomy within the context of affective support and connectedness provide the best environment for development of social skills, psychological and social health, and so forth. It is likely that parents who let their children know that they have confidence in them build self-esteem and personal efficacy, leading to more spontaneous disclosure and a cycle of positive patterns. (pp. 60-61)

Assumption Five. *There is not always a relationship between parent-teen and marital conflict. However, marital discord is occasionally a causal and/or maintaining variable in parent-teen conflict in severe and long-standing or when adolescents' conflictual behavior comes to serve inappropriate homeostatic functions in parents' affairs.*

Research suggests a strong link exists between marital and parent-child relationship quality (Erel & Burman, 1995; Katz & Gottman, 1991, 1993; Cox et al., 1999; Cummins & Wilson, 1999; Robin & Foster, 1989). The results of a meta-analytic review of marital relations and parent-child relations by Erel and Burman (1995) highlight the difficultly that parents have buffering the impact of marital discord on their children. Even when a positive parent-child relationship exists and parents are able to prevent their children from observing marital strife, parents cannot shield children from secondary negative effects on family functioning. Not all researchers agree with this assertion, however. Cummings and Wilson (1999) explored the notion of conflict expression within marital and parent-child relationships hypothesizing, instead that the negative impacts of marital conflict on children may be over-pathologized. When married dyads resolve conflict in healthy ways, Cummings and Wilson (1999) posit that conflict can act as a constructive model for children, suggesting that children assess the overall meanings and messages displayed in parental interactions. This belief coincides with the work of Gottman as described earlier in this chapter.

Children internalize and come to understand parental and marital discord in both direct and indirect ways (Katz & Gottman, 1993). Stress and coping hypotheses postulate that marital discord creates stress in the family that directly places stress on the child; whereas more indirect pathway models of marital discord and child outcomes suggest that marital disconnect influences the quality of parent-child interactions, whereby children innately sense family disconnect (Katz & Gottman, 1993). Robin and Foster (1989) suggest a reciprocal relationship between parent-adolescent and marital conflict: challenges posed to family homeostasis as brought about by normative

adolescent development can cause marital discord, especially if a high occurrence of adolescent misbehavior is present or if spouses disagree about parenting decisions. Additionally, marital discord in the wake of adolescence can exacerbate family conflict. Because of the circular causality present in the family system, a more gestalt approach to investigating the parent-adolescent relationship is needed.

Parent-Adolescent Communication "Flaws"

The behavioral family-systems model of parent-adolescent communication offers specific perspectives on "flawed" communicative practices that when present in parent-adolescent interactions can elevate levels of dysfunction within family systems. When dysfunction in family communication escalates, conflict increases. According to Robin and Foster (1989), "the extent to which family members distort information in particular interactions will influence the ways in which behavior is influenced by cognitions" (p. 15). In the model, Robin and Foster (1989) detail five *common logical errors of family conflict*, as well as eight *dysfunctional cognitive themes*, often present in parent-adolescent conflict communication. These parent-adolescent communication flaws served as markers for the qualitative data analysis as detailed in chapters three and four.

Common Logical Errors of Family Conflict. *Arbitrary inference* occurs when a person draws a specific conclusion in the absence of evidence, or when supporting evidence contradicts the conclusion. *Selective abstraction* refers to conceptualizing an experience based on a fragmented detail; when one person takes a detail out of context, thereby ignoring more salient features of the situation. *Overgeneralization* occurs when someone generalizes a conclusion based on related and unrelated situations, or drawing a general conclusion after one or more isolated incidents. *Magnification and minimization*

focus on making gross errors in evaluating the significance of events. *Absolutistic, dichotomous reasoning* refers to the tendency for one party to polarize all experiences into extremely positive or negative categories; this typically includes the negative classification of one another's actions.

Dysfunctional Cognitive Themes. *Perfectionism* occurs when parents expect their adolescent to behave flawlessly. *Ruination* refers to parental beliefs that if their adolescent engages in a proscribed behavior, catastrophic consequences will result. *Fairness* occurs when "adolescents believe that their parents should always treat them fairly and that it is a terrible injustice if their parents propose unfair rules and regulations" (Robin & Foster, 1989, p. 17). *Love and approval* involves the misconception that love is associated with disclosure and approval of one's behavior; conversely, disapproval or nondisclosure represents the absence of love. *Obedience* is the belief that adolescents should always willingly comply with parental rules and requests without question. *Self-blame* involves the parental belief that an adolescent's mistakes signify parental inadequacy. *Malicious intent* refers to both the parental belief that adolescents purposely rebel or misbehave and to the adolescent ascription of hurtful motives to parental displays of authority or criticism of any kind. *Autonomy* is the adolescent expectation that based on their transition into adulthood, they should be granted full freedom from parental restriction.

Qualitative Research Questions

Based on the thirteen flaws of conflict communication presented above in the behavioral-family systems model of parent-adolescent conflict, the following research questions (RQ) are posed:

Research Question 1: In what ways are the communication themes posited by the behavioral-family systems model of parent-adolescent conflict supported in the transcribed family problem-solving discussions?

Research Question 2: What new theoretical concepts of parent-adolescent conflict emerge during the transcribed family problem-solving discussions?

Chapter Three

Methodology

Participants

The present study utilized a convenience sampling technique. After receiving Institutional Review Board (IRB) approval from the University of Kentucky Office of Research Integrity (see Appendix A), digital and hardcopy advertisements (see Appendix B) were distributed throughout South-Central Kentucky, predominately through the Kentucky Cooperative Extension service and area churches. Data was collected in summer 2011. Recruitment efforts resulted in a sample size of 15 family triads, each consisting of a mother, father, and adolescent child, for a total of 45 participants; however, missing data resulted in a smaller sample sizes for each analysis, as detailed later in this chapter. Families were compensated $150 for their participation, which took approximately two hours to complete. All research was conducted at the University of Kentucky Family Interaction Research Laboratory. As one of its main purposes, the study was intended to serve as a pilot project for future research examining the relationship between electrical brain activity and family interaction as it tested the appropriateness of the methodology selected for the study. The small sample size is considered acceptable for EEG research: the range of sample sizes for EEG studies has varied from 8 to 160 participants, with most studies utilizing a sample size between 30 and 40 individuals (Werner-Wilson et al., 2011). Sufficient sample sizes for EEG studies generally include 15 to 40 participants (Robins, Fraley, & Krueger, 2007).

Inclusion criteria were used to minimize the influence of possible confounding variables. For the participating triad, the inclusion criteria required the adolescent child to be between the ages of 12 and 18, live in the family home, and be enrolled in middle or

high school. Additionally, biological, step, and adoptive parents were included in the sample, provided that they were the parents with whom the adolescent primarily resided. Table 3.1 presents a basic demographic sketch of the study sample.

Table 3.1. *Demographic Information for Sample*

Category	*N*	Mean (SD)
Age of Participant		
Adolescent	15	14 (1.73)
Mother	15	42.93 (7.42)
Father	15	44 (6.15)

Category	*N*	Percentage
Sex of Adolescence		
Male	9	60.0
Female	6	40.0
Relationship of Parent to Adolescent		
Biological	26	86.7
Step	2	6.7
Adoptive	2	6.7
Race		
White	37	82.2
African-American	5	11.1
Other	3	6.7
Level of Parent Education		
Some high school	2	6.7
HS diploma/GED	1	3.3
Some college	5	16.7
2-year college degree	3	10.0
4-year college degree	9	30.0
Master's degree	10	33.3
Professional or terminal degree	0	0
Grade Level of Adolescent		
7^{th}	3	20.0
8^{th}	6	40.0
9^{th}	1	6.7
10^{th}	1	6.7
11^{th}	1	6.7
12^{th}	3	20.0

n = 45 total participants: 15 mothers; 15 fathers; 15 adolescents

Self-Report Measures

After arriving to the University of Kentucky Family Interaction Research Laboratory, each participant (i.e., adolescent mother, and father) independently completed a battery of self-report measures (see Appendices C and D) before identifying a problem area in the relationship that they wanted to discuss during a face-to-face family interaction. All participants were instructed to answer the self-report questionnaires below based on the parental dyad or adolescent participating with them in the study. The self-report measures used in this study were as follows:

Family Functioning. To assess family functioning and distress, each participant completed the McMaster Family Assessment Device (FAD; Epstein, Baldwin, & Bishop, 1983). The FAD is a 60-item Likert-questionnaire that includes a subscale for six dimensions of family functioning: *problem solving*, *communication*, *roles*, *affective responsiveness*, *affective involvement*, and *behavior control*. It also includes a score for *general* and *overall family functioning*. The FAD subscales have demonstrated concurrent validity, adequate test-retest reliability (.66 to .75), low correlations with social desirability (-.06 to -.19), high internal validity (.72 to .92), and has been shown to statistically differentiate between clinician-rated healthy and unhealthy families (Miller, Epstein, Bishop, & Keitner, 1985).

Adult Attachment. Parental dyads individually completed the Multi-Item Measure of Adult Romantic Attachment (MIMARA), a 36-item instrument developed to assess overall adult attachment on a 7-point Likert-scale (Brennan, Clark, & Shaver, 1998). The MIMARA (also referred to as the Experiences in Close Relationships (ECR) scale) has two dimensions, *avoidance* and *anxiety*, that identify attachment style along a

continuum rather than categorically. The measure has demonstrated high internal consistency (avoidance = .94; anxiety = .91) (Brennan et al., 1998).

Adolescent Attachment. Adolescent participants completed the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987). The IPPA has been used successfully with adolescents as young as 12, with the initial development samples ranging from 16-20 years of age (Greenberg, 2009). Separate 25-item questionnaires independently measured the adolescent's attachment to his/her mother and father using a 5-point Likert-scale response format (Greenberg, 2009). The peer attachment scale was not administered. The results of the parent attachment scales produced one *overall attachment* score and three sub-scores per parent: *degree of mutual trust*, *quality of communication*, and *extent of anger and alienation* perceived in the relationship. As a measure of the perceived quality of close relationships in adolescence, the IPPA has demonstrated substantial reliability and validity (Armsden & Greenberg, 1987). Internal reliability Cronbach alphas are reported at .87 for perceived mother attachment and .89 for perceived father attachment (Greenberg, 2009).

Table 3.2 presents detailed information about the scales that includes which scale was administered to which participant and the variable codes used during data analysis.

Table 3.2. *Table of Self-Report Measures*

Scale	*Acronym*	*Variables*	*Participant*
Inventory of Parent and Peer Attachment	IPPA	*IPPAmother* *IPPAfather* *IPPAtrust_mom* *IPPAtrust_dad* *IPPAcomm_mom* *IPPAcomm_dad* *IPPAalienation_mom* *IPPAalienation_dad*	Adolescent
Multi-Item Measure of Adult Romantic Attachment	MIMARA	*MIMARAavoid_mom* *MIMARAavoid_dad* *MIMARAanx_mom* *MIMARAanx_dad*	Mother Father
McMaster Family Assessment Device	FAD	*FADproblem_solv* *FADcomm* *FADgeneral*	Mother Father Adolescent

Measure of Electrical Brain Activity

After completing the self-report assessments, a lab assistant fitted each participant with an EEG electrode cap to measure the participant's electrical brain activity. EEG methodology benefits family science research in three primary ways: 1) EEG monitoring is a noninvasive, cost-efficient procedure that reliably captures certain aspects of brain functioning, including brain waves that are typically associated with the regulation of emotion; 2) EEG technology is well-suited for studies requiring the interaction of larger sample units, such as dyadic and triadic interactions; and 3) EEG technology provides fast time resolution, which bodes well when studying behavioral phenomena occurring within a short duration of time (Davidson et al., 2009).

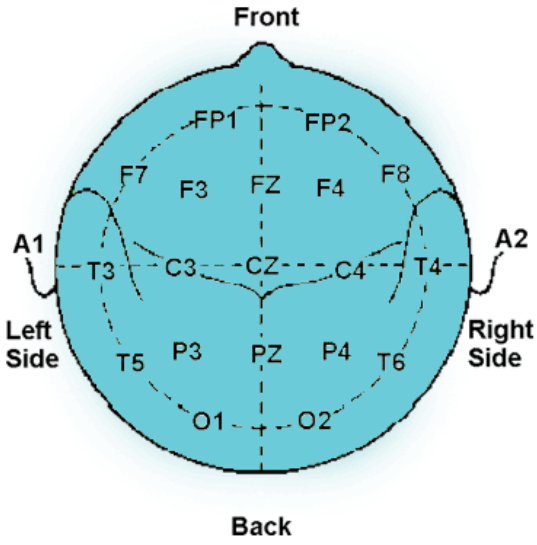
Each electrode cap included Ag/AgCL electrodes manufactured by Medi Factory (Nieuwkoop, The Netherlands) and 21 channels of EEG. The ground electrode was located in the cap on the midline between the frontal pole and the frontal site. The

reference electrode was located on the cap at the left and right mastoid, so that off-line linked-ears reference could be computed. Vertical and horizontal eye movements (EOG) were also recorded to provide reference information to artifact the EEG. All electrode impedances were under 25,000 Ω. During the interactions, physiological arousal and electrical brain activity (EEG) were measured with the NeXus-32 (Mind Media, The Netherlands), which provides 24 channels of EEG (true DC) including slow cortical potential (SCP) with an additional eight channels for auxiliary modalities (e.g., heart rate, galvanic skin response, electro-oculograph).

Electrodes in the cap are located in positions that correspond to the *International 10-20* system of electrode placement (Jasper, 1958). The 10-20 system is based on the relationship between the location of an electrode and the underlying area of cerebral cortex (see Figure 3.1). The letters used are: "F" (Frontal lobe), "T" (Temporal lobe), "C" (Central lobe), "P" (Parietal lobe), and "O" (Occipital lobe). Even numbers (2, 4, 6, 8) refer to the right hemisphere and odd numbers (1, 3, 5, 7) refer to the left hemisphere. "Z" refers to an electrode placed on the mid-line (Harmon-Jones & Peterson, 2009). The smaller the number, the closer the position to the mid-line. EEG research associated with psychological and behavioral outcomes commonly includes the investigation of specific frequency bands: delta (1-4 Hz), theta (4-8 Hz), alpha (8-13 Hz), beta (13-20 Hz), and gamma (>20 Hz) (Harmon-Jones & Peterson, 2009). The present study assessed alpha activity in electrode sites FP1/FP2 and F7/F8, which have been associated with the following functions (Anderson, 2008):

- FP1: Attention, concentration, verbal episodic retrieval, visual working memory, network interactions, planning, decision making, and task completion
- FP2: Emotional attention, judgment, sense of self, self/impulse control, face/object processing, emotional inhibition, and verbal episodic memory
- F7: Verbal expression, speech fluency, cognitive mood regulation, visual and auditory working memory, attentional gate, and Broca's area
- F8: Emotional expression, drawing, endogenous mood regulation, face recognition, emotional processing, visual/spatial working memory, and sustained attention

Figure 3.1. *International 10-20 System of Electrode Placement*



Source: BrainMaster Technologies, Inc. (2009).

To establish a baseline for each participant, EEG recordings were made during the following situations for comparative purposes: 1) Baseline, eyes open; 2) Baseline, eyes closed; 3) Stress Test; and 4) Recovery. Baseline readings were performed by asking the participants to relax with their eyes open and then closed. This was followed by a simple stress test that involved the use of a computer screen on which a list of color words appeared individually on the monitor written in a font color contrary to the word presented (e.g., the word blue may have been written in red font). In a restricted timeframe, the participants were asked to state the color of the word rather than read the name of the color. Finally, recovery was analyzed by asking the participants to relax after their stress test.

Electrical brain activity for each participant was monitored throughout the remainder of the research study. Electroencephalographic data was artifacted using Neuroguide (2011), a software package that provides semi-automatic artifacting of EEG data.

Measure of Positive Affect

Following the individual self-report and baseline assessments, family members were reunited and asked to participate in a neutral or baseline conversation in which they discussed their day for 5-minutes (Levenson & Ekman, 2002). This occurred prior to participating in two 10-minute problem-solving discussions: one topic chosen by the parental dyad and one from the adolescent. Prior to reconvening, the mother and father individually suggested a topic for discussion and a coin flip by a research assistant determined whose topic was selected. A coin flip also determined the order of the problem-solving discussion topics (i.e., whether the adolescent's or parents' topic was

discussed first). A research assistant entered and exited the laboratory only to give instruction (e.g., when to sit quietly, when to begin and end topics, etc.). While in the laboratory, three chairs were arranged in a triangle so that each participant was facing the other two participants. The family interactions were video-recorded using three cameras positioned to individually record the mother, father, and adolescent during the family discussions.

To measure affective behaviors presented in the parent-adolescent problem-solving discussions, each video-recorded session was transcribed and coded using a modified version of the coding procedure produced by Waldinger, Hauser, Schulz, Allen, and Crowell (2004). Basic guidelines for establishing a socially-based observational coding scheme as set forth by Bakeman and Gottman (1986) were included in the modification process. The Waldinger et al. (2004) positive affect coding procedure produces statistically favorable outcomes as compared to the Specific Affect Coding System (SPAFF; Gottman, McCoy, Coan, & Collier, 1996; Gottman & Krokoff, 1989) while eliminating the complexities associated with expert coder training and the extensive manualized coding system required of the SPAFF (Waldinger et al., 2004). As Bakeman and Gottman (1986) explain, physically-based coding schemes "are time consuming to learn and to apply, and therefore, as a practical manner, it may be much easier to use a socially based alternative" (p. 25). The protocol developed by Waldinger and colleagues employs the emotional intuitions of minimally trained naïve coders and the pooling of coded data to produce reliable ratings of emotional expression, or affect.

After all data was collected for the study, and after each session was transcribed, two student coders were recruited in June 2012 to analyze the problem-solving parent-

adolescent interactions. The coders were female, early-mid twenties; one coder was African-American, the other was Caucasian; one undergraduate, one beginning graduate student; one social work major, one family sciences major; one involved in a dating relationship, one a single mother balancing work and school obligations. The coders underwent one, two-hour training on positive affect and emotional expression, including principle concepts of Gottman and colleagues and basic coding procedures associated with the modified Waldinger et al. (2004) method. Practice video sessions were viewed, coded, and discussed from a prior study on marital communication until basic coder agreement was established. The coders then independently viewed and assessed each of the participant's video-recorded sessions as detailed below.

Similar to Waldinger et al.'s (2004) procedure, two coders were asked to rate participants' verbal and nonverbal displays of affect using video-recorded interactions and a predetermined code catalog. Each coder independently viewed each session. Although sound was audible from all family members, only digital images of one participant was captured in each video (i.e., of the three cameras used in the lab, one camera was directed to each the mother, father, and adolescent producing three separate digital video disks per triad). Different from Waldinger et al.'s (2004) procedure, which was developed to examine marital dyads, the transcript from each triad's session was provided to the coders. The transcripts were divided into numbered, turn-taking episodes (TTE) for each the mother, father, and adolescent opposed to dividing the videos into 30-second clips. This technique was employed to allow for the coding of smaller, more manageable video segments while also considering the context and process of all interactions occurring during the family discussions. The combination of the Waldinger

et al. (2004) and Bakeman and Gottman (1986) observational techniques strategically employed the human inferential abilities of the coders while under the discipline of field-specific training and investigator-led discussion. A sample video code sheet is provided in Appendix E.

All affective codes were operationalized during the coder training session using SPAFF concepts of emotional coding as presented in Coan and Gottman (2007). The coders indicated the presence of all observable affective behaviors per TTE for one participant per transcript using the codes presented in Table 3.3.

Table 3.3. List of Positive and Negative Affect Codes

Positive Affect		Negative Affect	
APP	acknowledges partner's perspective	ANG	angry
AFF	affectionate	BEL	belligerent
HUM	humorous	CON	contemptuous
IUP	interested in understanding partner	CRI	critical
TPF	tuned in to partner's feelings	DEF	defensive
WAR	warm	DIS	disgusted
		DOM	domineering
		FEA	fearful
		IRR	irritable
		SAD	sad
		T/A	tense/anxious
		WIT	withdrawn

Quantitative Data Management

Sample Size

Reliable EEG data was only captured for 12 of the 15 families. Additionally, video-feed for four of the 45 individually-recorded sessions did not record properly and therefore could not be viewed or coded for affect behaviors. These measurement errors eliminated three families from any statistical analyses including positive affect ratios, as triad data sets are necessary for comparative purposes. Thus, the sample size in quantitative analyses involving both EEG and PAR scores was reduced to 10 triads, or 30 participants. While this is a small sample size, it still falls within the acceptable range for EEG research as aforementioned.

Data Preparation

To prepare the data for primary analysis, a concise data set was created using only triads without missing PAR or EEG data. The completed quantitative data set included Triads 1, 2, 4, 5, 6, 7, 11, 12, 14, and 15. Using the data analytic procedures as detailed below, positive affect ratios (PAR) and alpha asymmetry indexes (EEG) were calculated for each participant. Composite scores were then calculated for self-report subscales, which were used during follow-up analyses. Any missing values in the self-report items were replaced with sample means.

Positive Affect Ratios. Before positive affect ratios could be computed, coder agreement was assessed. An agreement matrix was created to distinguish between coder agreement and disagreement (Bakeman & Gottman, 1986). Because errors of omission or commission during a turn-taking-episode (TTE) are probable with this type of coding (e.g., one coder marked *acknowledges partner's perspective* while the other marked *tuned in to partner's feelings*; yet both display similar positive affects), computing a

standard inter-coder agreement percentage is not a straightforward process (Bakeman & Gottman, 1986). To account for this, "similarly-coded constructs" were factored in to Cohen's Kappa calculations for inter-rater reliability. Inter-rater reliability was acceptable (K = .89). Coder ratings were pooled (Waldinger et al., 2004; Shultz & Waldinger, 2005) and positive affect ratios (PAR) were computed for each triad by dividing the total number of positively-coded affects by the total number of negatively-coded affects (Fredrickson & Losada, 2005) for four given scenarios (*neutral conversation*, *adolescent-chosen topic*, *parent-chosen topic*, and *total*) per participant.

Alpha Asymmetry Index. To measure EEG activation, an alpha asymmetry index was calculated for each participant using data from the symmetric FP1/FP2 and FP7/FP8 electrode sites. To calculate alpha asymmetry scores, the natural log of the left hemisphere alpha power was subtracted from the natural log right hemisphere alpha power (ln[R alpha] – ln[L alpha]) (Coan & Allen, 2004; Pizzagalli, 2007). As alpha power tends to be inversely associated with activation in the waking EEG (Davidson, Jackson, & Larson, 2000; Harmon-Jones & Peterson, 2009; Pizzagalli, 2007; Urry et al., 2004), alpha asymmetry indexes compute EEG cortical activity associated with hemispheric lateralization in the left and right frontal cortexes (Coan & Allen, 2004; Harmon-Jones et al., 2009; Pizzagalli, 2007; Urry et al., 2007). Calculating an asymmetry index controls for individual differences in skull thickness, makes statistical tests more sensitive by increasing power, and conceptually simplifies certain statistical analyses between frontal asymmetry measures and individual difference scores (e.g., EEG and positive affect ratios) (Coan & Allen, 2004; Pizzagalli, 2007; Werner-Wilson et al., 2011). These differences were reflected by the analysis of FP1/FP2 and F7/F8 alpha

asymmetry scores during the conditioning conversation scenarios. Table 3.4 presents the correlation variables used during primary analysis.

Table 3.4. *Table of Correlational Variables*

EEGsite_ Participant _ Topic	*PositiveAffectRatio_Participant_Topic*
FP1/FP2_ Adolescent_AdolesProb	*PAR_Family_Total*
FP1/FP2_Mother _ AdolesProb	*PAR_Adolescent_Total*
FP1/FP2_Father _ AdolesProb	*PAR_Mother_Total*
F7/F8_Adolescent _ ParentProb	*PAR_Father_Total*
F7/F8_Mother _ ParentProb	*PAR_ Family_AdolesProb*
F7/F8_Father _ ParentProb	*PAR_ Adolescent_AdolesProb*
	PAR_ Mother_AdolesProb
	PAR_ Father_AdolesProb
	PAR_ Family_ParentProb
	PAR_ Adolescent_ParentProb
	PAR_ Mother_ParentProb
	PAR_ Father_ParentProb

Assessing Interdependence

Because participants in this research are *distinguishable* (Kenny, Kashy, & Cook, 2006), meaning they each serve distinct roles in the relationship (i.e., mother, father, and adolescent), it is important to differentiate between distinguishable and indistinguishable cases when modeling interdependent data. The intraclass correlation in the distinguishable case is numerically similar to the Pearson correlation in most situations as it compares the variability between dyads versus the variability within dyads (Gonzalez, 2010). Interdependence was calculated using a two-tailed pairwise approach method ($p <$ .01) between the following variables, respectively: overall participant positive affect ratios, eyes-open baseline FP1-FP2 alpha asymmetry, and eyes-open baseline F7-F8 alpha asymmetry. Only two relationships demonstrated significant interdependence

overall: the adolescent/mother PAR, and the adolescent/father eyes-open baseline F7-F8 alpha asymmetry scores (see Tables 3.5-3.7). Although not significant, moderately high correlations were also found between the mother/father PAR and adolescent/father PAR, suggesting the interdependence of the positive affect ratios. Interdependence of PAR is expected given that positive affect ratios are traditionally computed per dyad and not individually (Gottman, 1994a, 1994b). In the present study, however, to better extrapolate the relationship between positive affect and alpha asymmetry, both family and individual scores are offered.

Please note, given the small sample size and unique, distinguishable relationship between members of each triad, overall interdependence has been minimally assessed and reported, not controlled.

Table 3.5. *Total Positive Affect Ratio*

Variable	*M*	*SD*	1.	2.	3.
1. Adolescent	1.76	1.77	--		
2. Mother	1.69	1.20	.855**	--	
3. Father	2.06	1.85	.587	.558	--

** $p < .01$

Table 3.6. *Baseline Eyes-Open FP1-FP2 Alpha Asymmetry*

Variable	*M*	*SD*	1.	2.	3.
1. Adolescent	.016	.09	--		
2. Mother	.065	.62	.338	--	
3. Father	.093	.15	.056	-.021	--

** $p < .01$

Table 3.7. *Baseline Eyes-Open F7-F8 Alpha Asymmetry*

Variable	*M*	*SD*	1.	2.	3.
1. Adolescent	-.073	.35	--		
2. Mother	-.07	.23	-.506	--	
3. Father	.18	.19	-.869**	.464	--

** $p < .01$

Qualitative Data Management

Sample Size

Complete transcripts were produced for all 15 triads. General qualitative analysis included the full data set; however, four of the 45 individually recorded sessions did not produce proper video-feed, thus positive affect ratios could not be computed for three families. The sample size in the analyses involving both thematic analysis and PAR scores was reduced to 12 triads.

Data Preparation

Transcripts (*n = 15*) were produced from the triad problem-solving discussions to use in a qualitative analysis. A graduate research assistant viewed the video-recorded sessions for the mother, father, and adolescent to produce one full transcript per triad. In an effort to double-check the accuracy of the transcribed interactions, the PAR video coders were asked to note any errors or omissions on the hardcopies of their coding sheets as they independently viewed each session. All necessary corrections were made to the electronic transcripts by the primary investigator prior to qualitative data analysis.

Thematic Analysis

A thematic content analysis of the 15 transcribed parent-adolescent problem-solving sessions was conducted, which included data from all triads for a total of 45 participants (15 mothers, 15 fathers, and 15 adolescents). Each transcript (*n = 15*) was read independently by two coders: the primary investigator and a triangulated investigator. The triangulated investigator also served as an observational coder during the PAR assessment.

For each triad, the coders were asked to note specific relational and communication themes for the mother, father, and adolescent based on select communication concepts extracted from the behavioral-family systems model of parent-adolescent conflict (Robin & Foster, 1989), as described in chapter two, as well as any new categories or themes that emerged. The following qualitative research procedures were followed (Lindlof & Taylor, 2002):

1) The primary and triangulated investigator initially convened to discuss coding procedures, including the operationalization of the theoretical concepts as described by Robin and Foster (1989) in the behavioral-family systems model of parent-adolescent conflict.
2) All transcripts were independently and individually assessed by the primary and triangulated investigators using categorization and open coding (see Appendix F for sample code sheet). Where applicable, chunks of text were marked that fell into one of the 13 pre-specified categories below, which were operationalized in chapter two:
    1. Arbitrary Inference
    2. Selective Abstraction
    3. Overgeneralization
    4. Magnification/Minimization
    5. Absolutistic/Dichotomous Reasoning
    6. Perfectionism
    7. Ruination
    8. Fairness

9. Love And Approval
10. Obedience
11. Self-Blame
12. Malicious Intent
13. Autonomy

3) All other text was assessed using an open coding method.
4) For each triad, the investigators also identified the primary topic of discussion selected by each adolescent and parental dyad.
5) After all transcripts were assessed, a working codebook was created based on the theoretical constructs and emergent themes. For all new themes identified, categories were integrated using axial coding (Strauss & Corbin, 1990; LaRossa, 2005; Lindlof & Taylor, 2002). More specifically, this required the creation of new categories or themes using codes to make connections between categories. The process of integration serves to change "the nature of categories from mere collections of incidents into more theoretical constructs" (Lindlof & Taylor, 2002, pp. 221-222). Category development focused on making the categories mutually exclusive, exhaustive, and reliable (Stroman & Jones, 1998).
6) Finally, a process of dimensionalization was applied in which the components of each concept were examined and key variations were teased out.
7) This process continued until the data set reached theoretical saturation, or until no new insights emerged.

Improving Trustworthiness

In qualitative research, reliability and validity are grounded upon the establishment of trustworthiness (Lincoln & Guba, 1985). To enhance the confidence of the research findings, reliability and validity were assessed as follows:

1) As stated previously, all transcripts were independently assessed by the primary and triangulated investigators. This helped to establish credibility, or internal validity, within the findings (Lincoln & Guba, 1985). During the content analysis, coders were required to reach full agreement on the organization of themes. Agreement was achieved through discussion.
2) Prior to beginning the research, bias statements were obtained from the primary (Appendix G) and triangulated investigators (Appendix H).
3) To establish the dependability of the findings, an audit trail was created (Lincoln & Guba, 1985) (Appendix I). Once the qualitative analysis began, this required that the primary investigator record documentation of interactions with the triangulated investigator.
4) The audit trail was used to establish objectivity in the results to ensure that "there is an isomorphism between the data of a study and reality, [that results] when the appropriate methodology is used, and when inquiry is value free" (Lincoln & Guba, 1985, pp. 299-300). The discussion between investigators served as an accountability measure between what was present on the transcript and the biases that may be present.

Chapter Four

Results

Due to the mixed-methods design of this research, results presented in chapter four are organized in the same manner as the previous chapters, in which the quantitative and qualitative analyses are reported in separate sections. The quantitative analysis first provides a summary of the results of the primary and follow-up EEG/PAR analyses. The section for qualitative results provides a summary of the thematic analysis, followed by descriptions of the sample with regard to communication behaviors and positive affect ratios, and results of the follow-up analyses. Table 4.44 at the end of this chapter provides a summary of the research hypotheses and conclusions for both sections.

Quantitative Analysis

Pearson *r* bivariate correlation analyses were conducted for mother, father, and adolescent participants using positive affect ratios and the alpha asymmetry indexes for EEG sites FP1/FP2 and F7/F8 during the conditioning conversations (i.e., whether the discussion topic was introduced by the adolescent or the parental dyad). Correlation analysis is commonly used in social and affective neuroscience research (Coan & Allen, 2004; Urry et al., 2007; Werner-Wilson et al., 2011). Using a correlational approach, relative hemispheric activity is represented by a unidimensional scale where the midpoint equals zero, or symmetrical activity, higher scores indicate relatively greater left frontal activity, and lower scores indicate relatively greater right frontal activity (Coan & Allen, 2004).

In exploratory research, especially in studies that employ small samples, the American Psychological Association (APA, 2010) recommends that researchers not rely solely on statistical significance to imply theoretical significance, as statistical

significance is fundamentally implied by sample size. This is especially relevant to the present study. Marginally significant results are reported ($p < .10$), as well as results that revealed a non-significant trend in the predicted direction, which refers in this case to hemispheric lateralization. Furthermore, in social science research involving correlations, an acceptable threshold for moderate correlations ranges between .3 and .5, whereas high correlations (ranging from moderately high to very high) are above .6 (Cohen, 1988). This threshold was applied to the present study when evaluating emergent data trends in addition to only examining statistically significant correlations.

Overall the quantitative portion of the current study sought to answer the following research question: *Does a relationship exist between positive relational affect and electrical brain activity in the prefrontal cortex in mothers, fathers, and adolescent children while engaging in family problem-solving discussions?* Given the review of literature presented in chapter two, the following hypotheses were offered:

> *Null Hypothesis: Participants will not demonstrate signs of hemispheric lateralization during the family problem-solving discussions.*
>
> *Hypothesis 1: Participants with higher positive affect ratios will demonstrate greater left hemispheric activity during the family problem-solving discussions, as this is associated with tendencies to approach or engage (emotional valence).*
>
> *Hypothesis 2: Participants with lower positive affect ratios will demonstrate greater left hemispheric activity during the family problem-solving discussions, as this can also be associated with specific emotions such as anger or aggression (motivational approach).*
>
> *Hypothesis 3: Participants with lower positive affect ratios will demonstrate greater right hemispheric activity during the family problem-solving discussions, as this is associated with tendencies to withdraw or disengage (emotional valence).*

Hypothesis 4: Participants with higher positive affect ratios will demonstrate greater right hemispheric activity, as cognitive disengagement can also permit room for differentiation in secure attachment relationships between parents and adolescents (motivational withdrawal).

The null hypothesis above stated that participants would not demonstrate signs of hemispheric lateralization during the family problem-solving discussions. Based on the results of bivariate correlations between alpha asymmetry scores and positive affect ratios (see Tables 4.1-4.8), the null hypothesis was rejected. Alpha asymmetry during both conditioning discussions was compared to the total positive affect ratio (i.e., overall positive-to-negative affect during both communication exercises), as well as the positive affect ratio during each specific conditioning discussion. Implications of the findings are offered in chapter five.

Results indicated that a significant relationship existed between Mother EEG (FP1/FP2) and Father Total PAR during the adolescent-initiative problem-solving discussion ($r = .914, p = .00$) and the parent-initiated problem-solving discussion ($r = .909, p = .00$). Although not statistically significant, but consistent with the aforementioned findings, Mother EEG (FP1/FP2) was moderately-to-highly correlated with Family Total PAR ($r = .650, p = .06$), Adolescent Total PAR ($r = .428, p = .25$), and Mother Total PAR ($r = .391, p = .39$) during the adolescent-initiated problem-solving discussion, and Family Total PAR ($r = .680, p = .06$), Adolescent Total PAR ($r = .463, p = .25$), and Mother Total PAR ($r = .602, p = .11$) during the parent-initiated problem-solving discussion. The positive correlations suggest that mother left hemispheric activation (approach/engage) occurred during both conditioning conversations in response to the affect of the family overall, as well as to the affect of the father, adolescent, and mother specifically.

Results also indicated that a significant relationship existed between Adolescent EEG (F7/F8) and Father Total PAR during the parent-initiative problem-solving discussion ($r = -.660, p = .04$). While not statistically significant, but consistent with the aforementioned finding, Adolescent EEG (F7/F8) and Family Total PAR also indicated a moderate negative correlation ($r = -.393, p = .26$) during the parent-initiated problem-solving discussion. This suggests that for the adolescent, right hemispheric activation (withdraw/disengage) occurred during the parent-initiated conversation in response to the family's total affect, the father's total affect in particular.

Other significant relationships were found after comparing participants' PAR computed during the specific conditioning conversations with alpha asymmetry scores. Statistically significant results included Mother EEG (FP1/FP2) and Father PAR ($r = .724, p = .04$), Mother PAR ($r = .770, p = .04$), and Family PAR ($r = .731, p = .04$) during the parent-initiated problem-solving discussion. While not statistically significant, but consistent with the aforementioned results, Mother EEG (FP1/FP2) and Adolescent PAR also indicated a strong correlation ($r = .544, p = .16$) during the parent-initiated problem-solving discussion. These findings corroborate the pattern of mother left hemisphere activation (approach/engage) in response to these affective relationships.

Additional results that did not prove statistically significant, but whose moderate correlations may have theoretical implications for the present study, include Adolescent EEG alpha asymmetry (F7/F8) during the parent-initiated problem-solving discussion and the following PAR relationships: Family ($r = -.440, p = .20$), Adolescent ($r = -.298, p = .40$), Mother ($r = -.480, p = .16$), and Father ($r = -.510, p = .13$). These results

suggest a possible pattern of adolescent withdrawal (i.e., right hemispheric activation) specifically during the parent-initiated conflict conversations.

Furthermore, Mother EEG (F7/F8) was moderately correlated with Adolescent PAR ($r = -.344, p = .41$) and Mother PAR ($r = -.397, p = .33$) during the adolescent-initiated discussions. These results suggest that during the adolescent-initiated conflict conversations, right hemispheric lateralization (withdraw/disengage) occurred in the mother, particularly in response to the mother and adolescent's positive-to-negative affect ratios.

This trend is corroborated with the father. Father EEG (F7/F8) was moderately correlated with Adolescent PAR ($r = -.293, p = .41$) and Mother PAR ($r = -.306, p = .39$) during the adolescent-initiated conflict conversations. These results suggest that during conflict conversations initiated by the adolescent, right hemispheric lateralization (withdraw/disengage) occurred in the father, particularly in response to the adolescent and mother's positive-to-negative affect ratios.

Table 4.1

FP1/FP2 Alpha Asymmetry/Total Positive Affect during the Adolescent-Initiated Problem

Variable	1.	2.	3.	4.	5.	6.	7.
1. Adolescent FP1/FP2 Adolescent Problem	--						
2. Mother FP1/FP2 Adolescent Problem	-.120	--					
3. Father FP1/FP2 Adolescent Problem	.185	-.241	--				
4. Total Family PAR	.257	.650	.194	--			
5. Total Adolescent PAR	.173	.428	.265	.931**	--		
6. Total Mother PAR	.316	.391	.270	.870**	.855**	--	
7. Total Father PAR	.157	.914**	-.045	.822**	.587	.558**	--

** $p < .01$, * $p < .05$

Table 4.2

FP1/FP2 Alpha Asymmetry/Positive Affect during the Adolescent-Initiated Problem Only

Variable	1.	2.	3.	4.	5.	6.	7.
1. Adolescent FP1/FP2 Adolescent Problem	--						
2. Mother FP1/FP2 Adolescent Problem	-.120	--					
3. Father FP1/FP2 Adolescent Problem	.185	-.241	--				
4. Family PAR Adolescent Problem	.119	.205	.394	--			
5. Adolescent PAR Adolescent Problem	.046	-.011	.425	.946**	--		
6. Mother PAR Adolescent Problem	.014	-.283	.221	.631	.593	--	
7. Father PAR Adolescent Problem	.035	.651	-.170	.107	-.107	-.252	--

** $p < .01$, * $p < .05$

Table 4.3

FP1/FP2 Alpha Asymmetry/Total Positive Affect during the Parent-Initiated Problem

Variable	1.	2.	3.	4.	5.	6.	7.
1. Adolescent FP1/FP2 Parent Problem	--						
2. Mother FP1/FP2 Parent Problem	-.014	--					
3. Father FP1/FP2 Parent Problem	.767**	-.150	--				
4. Total Family PAR	-.209	.680	-.075	--			
5. Total Adolescent PAR	-.154	.463	.034	.931**	--		
6. Total Mother PAR	-.208	.602	-.149	.870**	.855**	--	
7. Total Father PAR	-.241	.909**	-.183	.822**	.587	.558**	--

** $p < .01$, * $p < .05$

Table 4.4

FP1/FP2 Alpha Asymmetry/Positive Affect during the Parent-Initiated Problem Only

Variable	1.	2.	3.	4.	5.	6.	7.
1. Adolescent FP1/FP2 Parent Problem	--						
2. Mother FP1/FP2 Parent Problem	-.014	--					
3. Father FP1/FP2 Parent Problem	.767**	-.150	--				
4. Family PAR Parent Problem	-.182	.731*	-.105	--			
5. Adolescent PAR Parent Problem	-.357	.544	-.221	.936**	--		
6. Mother PAR Parent Problem	-.123	.770*	-.108	.992**	.912**	--	
7. Father PAR Parent Problem	-.030	.724*	.020	.907**	.763**	.885**	--

** $p < .01$, * $p < .05$

Table 4.5

F7/F8 Alpha Asymmetry/Total Positive Affect during the Adolescent-Initiated Problem

Variable	1.	2.	3.	4.	5.	6.	7.
1. Adolescent F7/F8 Adolescent Problem	--						
2. Mother F7/F8 Adolescent Problem	.488	--					
3. Father F7/F8 Adolescent Problem	.560	.714*	--				
4. Total Family PAR	-.039	.065	.269	--			
5. Total Adolescent PAR	-.052	-.014	.118	.931**	--		
6. Total Mother PAR	.056	-.144	.009	.870**	.855**	--	
7. Total Father PAR	-.211	.136	.328	.822**	.587	.558**	--

** $p < .01$, * $p < .05$

Table 4.6

F7/F8 Alpha Asymmetry/Positive Affect during the Adolescent-Initiated Problem Only

Variable	1.	2.	3.	4.	5.	6.	7.
1. Adolescent F7/F8 Adolescent Problem	--						
2. Mother F7/F8 Adolescent Problem	.488	--					
3. Father F7/F8 Adolescent Problem	.560	.714*	--				
4. Family PAR Adolescent Problem	-.073	-.340	-.192	--			
5. Adolescent PAR Adolescent Problem	-.125	-.344	-.293	.946**	--		
6. Mother PAR Adolescent Problem	.229	-.397	-.306	.631	.593	--	
7. Father PAR Adolescent Problem	-.014	.107	.113	.107	-.107	-.252	--

** $p < .01$, * $p < .05$

Table 4.7

F7/F8 Alpha Asymmetry/Total Positive Affect during the Parent-Initiated Problem

Variable	1.	2.	3.	4.	5.	6.	7.
1. Adolescent F7/F8 Parent Problem	--						
2. Mother F7/F8 Parent Problem	.195	--					
3. Father F7/F8 Parent Problem	.359	.538	--				
4. Total Family PAR	-.393	-.030	-.106	--			
5. Total Adolescent PAR	-.247	.044	.112	.931**	--		
6. Total Mother PAR	-.231	-.244	-.214	.870**	.855**	--	
7. Total Father PAR	-.660*	-.037	-.159	.822**	.587	.558**	--

** $p < .01$, * $p < .05$

Table 4.8

F7/F8 Alpha Asymmetry/Positive Affect during the Parent-Initiated Problem Only

Variable	1.	2.	3.	4.	5.	6.	7.
1. Adolescent F7/F8 Parent Problem	--						
2. Mother F7/F8 Parent Problem	.195	--					
3. Father F7/F8 Parent Problem	.359	.538	--				
4. Family PAR Parent Problem	-.440	.013	.005	--			
5. Adolescent PAR Parent Problem	-.298	.150	.131	.936**	--		
6. Mother PAR Parent Problem	-.480	-.005	-.068	.992**	.912**	--	
7. Father PAR Parent Problem	-.510	.004	.155	.907**	.763**	.885**	--

** $p < .01$, * $p < .05$

Alternative Hypotheses

Because the null hypothesis was rejected, the alternative hypotheses were explored. Hypotheses one through four inquired about differences in hemispheric lateralization based on positive affect ratios. Using a mean split, participants were categorized into high PAR and low PAR using each participant's total PAR (*Adolescent M* = 1.757; *Mother M* = 1.688; *Father M* = 2.056). Note, for the father, one participant's PAR more than doubled the others; thus, the father's score was split using the median score (1.69), which more accurately reflected the central tendency of this group. Pearson *r* bivariate correlation analyses then examined hemispheric lateralization based on the high and low groups in each participant category (see Tables 4.10-4.12). Table 4.9 displays descending participant PAR case summaries by family triad (e.g., PA1 = Parent-Adolescent Triad 1). Because the already small sample size was reduced further to note differences in high and low groups, no statistically significant results were found. This was expected; thus, data trends are noted as they partially supported each hypothesis. Possible explanations for the findings are offered in chapter five.

Table 4.9

Descending Participant Positive Affect Ratios by Triad

ID	Adoles	ID	Mother	ID	Father	ID	Family
PA14	5.40	PA14	4.10	PA14	7.00	PA14	5.18
PA15	3.76	PA7	3.00	PA11	2.61	PA15	2.18
PA7	3.36	PA12	2.67	PA2	2.08	PA7	2.13
PA12	1.48	PA15	1.87	PA5	1.96	PA12	1.47
PA5	.87	PA11	1.22	PA4	1.92	PA5	1.04
PA4	.81	PA6	1.07	PA15	1.46	PA4	1.02
PA1	.62	PA2	1.04	PA12	1.07	PA11	.93
PA6	.51	PA4	.99	PA1	1.05	PA2	.79
PA2	.44	PA1	.48	PA7	.77	PA6	.76
PA11	.32	PA5	.44	PA6	.64	PA1	.69

Table 4.10

Adolescent Alpha Asymmetry and PAR Correlations

EEG Variable	High PAR (Hemisphere)	Low PAR (Hemisphere)
Adolescent FP1/FP2 Adolescent Problem	.704 (Left) *p = .50*	-.143 (Right) *p = .76*
Adolescent F7/F8 Adolescent Problem	.805 (Left) *p = .40*	.579 (Left) *p = .17*
Adolescent FP1/FP2 Parent Problem	-.491 (Right) *p = .67*	-.550 (Right) *p = .20*
Adolescent F7/F8 Parent Problem	-.997 (Right) *p = .05*	.355 (Left) *p = .43*

Table 4.11

Mother Alpha Asymmetry and PAR Correlations

EEG Variable	High PAR (Hemisphere)	Low PAR (Hemisphere)
Mother FP1/FP2 Adolescent Problem	.600 (Left) *p = .40*	.357 (Left) *p = .56*
Mother F7/F8 Adolescent Problem	-.103 (Right) *p = .89*	.102 (Left) *p = .89*
Mother FP1/FP2 Parent Problem	.967 (Left) *p = .16*	.429 (Left) *p = .47*
Mother F7/F8 Parent Problem	-.531 (Right) *p = .47*	.012 (Left) *p = .99*

Table 4.12

Father Alpha Asymmetry and PAR Correlations

EEG Variable	High PAR (Hemisphere)	Low PAR (Hemisphere)
Father FP1/FP2 Adolescent Problem	-.463 (Right) *p = .43*	-.435 (Right) *p = .46*
Father F7/F8 Adolescent Problem	-.625 (Right) *p = .26*	.070 (Left) *p = .91*
Father FP1/FP2 Parent Problem	.180 (Left) *p = .77*	-.428 (Right) *p = .47*
Father F7/F8 Parent Problem	-.688 (Right) *p = .19*	.342 (Left) *p = .57*

Hypothesis one posited that participants with higher positive affect ratios would demonstrate greater left hemispheric activity during the family problem-solving discussions, as this is associated with tendencies to approach or engage (emotional valence). Hypothesis one was partially supported. All three high participant groups demonstrated evidence in support of left hemispheric activation: the adolescent during the adolescent-initiated problem conversation (FP1/FP2, $r = .704, p = .50$; F7/F8, $r = .805, p = .40$); the mother during both the adolescent problem (FP1/FP2, $r = .600, p = .40$) and parent problem (FP1/FP2, $r = .967, p = .16$); and the father during the parent problem (FP1/FP2, $r = .180, r = .77$).

Hypothesis two posited that participants with lower positive affect ratios would demonstrate greater left hemispheric activity during the family problem-solving discussions, as this can also be associated with specific emotions such as anger or aggression (motivational approach). Hypothesis two was partially supported. All three low participant groups demonstrated evidence in support of left hemispheric activation: the adolescent during both the adolescent problem (F7/F8, $r = .579, p = .17$) and the parent problem (F7/F8, $r = .355, p = .36$); the mother during all four conditioning scenarios (FP1/FP2, adolescent problem, $r = .357, p = .56$), (F7/F8, adolescent problem, $r = .102, p = .89$), (FP1/FP2, parent problem, $r = .429, p = .47$), and (F7/F8, parent problem, $r = .012, p = .98$); and the father during both the adolescent problem (F7/F8, $r = .070, p = .91$) and the parent problem (F7/F8, $r = .342, p = .57$).

Hypothesis three posited that participants with lower positive affect ratios would demonstrate greater right hemispheric activity during the family problem-solving discussions, as this is associated with tendencies to withdraw or disengage (emotional

valence). Hypothesis three was partially supported. The adolescent and father low participant groups demonstrated evidence in support of right hemispheric activation: the adolescent during both the adolescent problem (FP1/FP2, $r = -.143, p = .76$) and the parent problem (FP1/FP2, $r = -.550, p = .20$); and the father during both the adolescent problem (FP1/FP2, $r = -.435, p = .46$) and the parent problem (FP1/FP2, $r = -.428, p = .47$).

Hypothesis four posited that participants with higher positive affect ratios would demonstrate greater right hemispheric activity, as cognitive disengagement can also permit room for differentiation in secure attachment relationships between parents and adolescents (motivational withdrawal). Hypothesis four was partially supported. All three high participant groups demonstrated evidence in support of right hemispheric activation: the adolescent during the parent problem (FP1/FP2, $r = -.491, p = .67$; F7/F8, $r = -.997, p = .05$); the mother during both the adolescent problem (F7/F8, $r = -.103, p = .89$) and the parent problem (F7/F8, $r = -.531, p = .47$); and the father during both the adolescent problem (FP1/FP2, $r = -.463, p = .43$; F7/F8, $r = -.625, p = .26$) and the parent problem (F7/F8, $r = -.688, p = .19$).

The confounding results highlight the complexities associated with studying hemispheric lateralization, especially when deciphering between emotional valence and motivational direction, during interpersonal communication. The results were further explored and contextualized during follow-up analyses.

Follow-Up Analysis

Follow-up analyses were conducted to further explore the confounding hypotheses and emergent data trends in order to more precisely answer the following research question: *What specific affect codes were coded when computing positive-to-*

negative affect ratios that may differentiate between emotional valence and motivational direction? To do this, family positive affect ratios were deconstructed in order to more closely examine the composition and frequency of positive and negative affect codes during the problem-solving discussions. Additional analyses may offer insight into which paradigm (*emotional valence* or *motivational direction*) is represented by the EEG alpha asymmetry correlations. For instance, for a participant with low positive affect (PAR) who displayed greater left hemispheric activity, it would be expected that more hostile affect codes (e.g., *anger* and *contempt*) would compose the PAR; whereas a participant with low PAR and greater right hemispheric activity would be expected to have codes reflecting disengagement (e.g., *withdrawn* and *sad*). Thus, the following follow-up hypotheses were offered:

> *Hypothesis 5: Participants with high PAR/left hemispheric activity will have PAR codes containing more positive than negative affect codes, which suggests the experience or expression of positive emotions (emotional valence).*
>
> *Hypothesis 6: Participants with low PAR/left hemispheric activity will have PAR codes containing more negative than positive affect codes, which suggests the experience or expression of emotions such as anger or aggression (motivational approach).*
>
> *Hypothesis 7: Participants with low PAR/right hemispheric activity will have PAR codes containing more negative than positive affect codes suggesting the experience or expression of negative emotions (emotional valence).*
>
> *Hypothesis 8: Participants with high PAR/right hemispheric activity will have PAR codes containing more positive than negative affect codes suggesting a more securely attached relationship between parents and adolescents (motivational withdrawal).*

Because the conditions to determine which PAR codes comprised which scenario were so contextually specific, as represented by 2x2x2x3 matrix (i.e., High or Low Positive Affect Ratio Group *by* FP1/FP2 or F7/F8 Alpha Asymmetry Site *by* Adolescent or Parent Conditioning Problem Conversation *by* Adolescent or Mother or Father), its analysis was streamlined to more closely examine positive affect codes related only to the median participant (see Table 4.9) in each high/low PAR group. Patterns emerging through the deconstruction of positive affect codes for the median high/low participant in each category should present a general picture of the affect codes represented by each group (see Tables 4.13-4.18). Results demonstrated partial support of the different paradigms represented by hypotheses five, six, and eight. Results from hypothesis seven were inconclusive. Possible explanations for the results are further discussed in chapter five.

Hypothesis five posited that participants with high PAR/left hemispheric activity would have PAR codes containing more positive than negative affect codes, which suggests the experience or expression of positive emotions (emotional valence). Based on the results presented in Table 4.13 (Adolescent PA15: High PAR/Left Hemispheric Activity at FP1/FP2 and F7/F8 during the adolescent problem), there were 43 positive affect codes compared to 8 negative affect codes. These findings support hypothesis five. Of the adolescent's 43 positive affect codes, 26 were *Interested in Understanding Partner*, which corroborates the suggestion of approach/engagement behaviors often associated with left hemispheric activation.

Hypothesis six posited that participants with low PAR/left hemispheric activity would have PAR codes containing more negative than positive affect codes, which suggests the experience or expression of emotions such as anger or aggression (motivational approach). The results presented in Table 4.15 (Mother PA4: Low PAR/Left Hemispheric Activity at FP1/FP2 and F7/F8 during the adolescent problem) and Table 4.16 (Mother PA4: Low PAR/Left Hemispheric Activity at FP1/FP2 and F7/F8 during the parent problem) support hypothesis six. For example, for the mother during the adolescent problem, there were 52 negative affective codes compared to 43 positive affective codes, of which several negative approach behaviors were noted: *Domineering* (14), *Defensive* (13), and *Critical* (9). For the mother during the parent problem, there were 47 negative codes noted, opposed to 16 positive ones. Again, approach-related negative affects were observed: *Critical* (14), *Defensive* (7), and *Domineering* (3).

Hypothesis seven suggested that participants with low PAR/right hemispheric activity would have PAR codes containing more negative than positive affect codes suggesting the experience or expression of negative emotions (emotional valence). Based on the results of the EEG/PAR correlations, the results were inconclusive. There was not a participant in the low PAR group who displayed right hemispheric activity at both FP1/FP2 and F7/F8 simultaneously; therefore, the deconstructed PAR codes could not be used in support or opposition of hypothesis seven.

Hypothesis eight suggested that participants with high PAR/right hemispheric activity would have PAR codes containing more positive than negative affect codes suggesting a more securely attached relationship between parents and adolescents (motivational withdrawal). The results presented in Table 4.14 (Adolescent PA15: High

PAR/Right Hemispheric Activity at FP1/FP2 and F7/F8 during the parent problem) and Table 4.17 (Father PA2: High PAR/Right Hemispheric Activity at FP1/FP2 and F7/F8 during the adolescent problem) support hypothesis eight. For example, for the adolescent during the parent problem, there were 36 positive affect codes compared to 14 negative affect codes, of which several positive behaviors were noted that may support motivational withdrawal and the promotion of autonomy/individuation: *Interested in Understanding Partner* (14), *Humorous* (9), and *Acknowledges Partner's Perspective* (7). For the father during the adolescent problem, there were 12 positive codes noted, opposed to 10 negative ones. Again, positive behaviors related to motivational withdrawal were observed: *Interested in Understanding Partner* (4), *Affectionate* (3), and *Warm* (3).

Table 4.13

Adolescent Positive Affect Codes and Hemispheric Lateralization (Adolescent Problem)

	Adolescent PA 15 (High)		Adolescent PA 1 (Low)	
EEG Variable	Hemispheric Lateralization	PAR Codes (Frequency) **POSITIVE (43)** *NEGATIVE (8)*	Hemispheric Lateralization	PAR Codes (Frequency) **POSITIVE (31)** *NEGATIVE (62)*
Adolescent FP1/FP2 Adolescent Problem	Left	**INTERESTED IN UNDERSTANDING PARTNER (26)** **ACKNOWLEDGES PARTNER'S PERSPECTIVE (10)** **HUMOROUS (7)** *TENSE/ANXIOUS (3)* *FEAR (2)* *SAD (2)* *IRRITABLE (1)*	Right	**ACKNOWLEDGES PARTNER'S PERSPECTIVE (10)** **WARM (8)** **INTERESTED IN UNDERSTANDING PARTNER (7)** **HUMOROUS (6)** *DEFENSIVE (25)* *IRRITABLE (19)* *BELLIGERENT (6)* *SAD (6)* *DISGUSTED (4)* *CONTEMPTUOUS (1)* *FEAR (1)*
Adolescent F7/F8 Adolescent Problem	Left		Left	

Table 4.14

Adolescent Positive Affect Codes and Hemispheric Lateralization (Parent Problem)

	Adolescent PA 15 (High)		Adolescent PA 1 (Low)	
EEG Variable	Hemispheric Lateralization	PAR Codes (Frequency) **POSITIVE (36)** *NEGATIVE (14)*	Hemispheric Lateralization	PAR Codes (Frequency) **POSITIVE (15)** *NEGATIVE (98)*
Adolescent FP1/FP2 Parent Problem	Right	**INTERESTED IN UNDERSTANDING PARTNER (16)** **HUMOROUS (9)** **ACKNOWLEDGES PARTNER'S PERSPECTIVE (7)** **AFFECTIONATE (3)** **WARM (1)** *DEFENSIVE (12)* *IRRITABLE (1)* *TENSE/ANXIOUS (1)*	Right	**INTERESTED IN UNDERSTANDING PARTNER (7)** **ACKNOWLEDGES PARTNER'S PERSPECTIVE (3)** **WARM (3)** **HUMOROUS (2)** *SAD (28)* *DEFENSIVE (20)* *IRRITABLE (18)* *TENSE/ANXIOUS (14)* *BELLIGERENT (8)* *ANGRY (5)* *CRITICAL (2)* *DISGUSTED (2)* *CONTEMPTUOUS (1)*
Adolescent F7/F8 Parent Problem	Right		Left	

Table 4.15

Mother Positive Affect Codes and Hemispheric Lateralization (Adolescent Problem)

	Mother PA 7 (High)		Mother PA 4 (Low)	
EEG Variable	Hemispheric Lateralization	PAR Codes (Frequency) **POSITIVE (62)** *NEGATIVE (14)*	Hemispheric Lateralization	PAR Codes (Frequency) **POSITIVE (43)** *NEGATIVE (52)*
Mother FP1/FP2 Adolescent Problem	Left	**INTERESTED IN UNDERSTANDING PARTNER (27)** **AFFECTIONATE (11)** **ACKNOWLEDGES PARTNER'S PERSPECTIVE (10)** **HUMOROUS (5)** **TUNED IN TO PARTNER (5)** **WARM (4)** *DOMINEERING (10)* *DEFENSIVE (2)* *DISGUSTED (1)* *IRRITABLE (1)*	Left	**INTERESTED IN UNDERSTANDING PARTNER (21)** **WARM (9)** **HUMOROUS (6)** **AFFECTIONATE (2)** **TUNED IN TO PARTNER (4)** **ACKNOWLEDGES PARTNER'S PERSPECTIVE (1)** *DOMINEERING (14)* *DEFENSIVE (13)* *CRITICAL (9)* *IRRITABLE (9)* *SAD (4)* *DISGUSTED (2)* *BELLIGERENT* (1)
Mother F7/F8 Adolescent Problem	Right		Left	

Table 4.16

Mother Positive Affect Codes and Hemispheric Lateralization (Parent Problem)

	Mother PA 7 (High)		Mother PA 4 (Low)	
EEG Variable	Hemispheric Lateralization	PAR Codes (Frequency) **POSITIVE (24)** *NEGATIVE (30)*	Hemispheric Lateralization	PAR Codes (Frequency) **POSITIVE (16)** *NEGATIVE (47)*
Mother FP1/FP2 Parent Problem	Left	**INTERESTED IN UNDERSTANDING PARTNER (15)** **HUMOROUS (4)** **AFFECTIONATE (3)** **ACKNOWLEDGES PARTNER'S PERSPECTIVE (1)** **TUNED IN TO PARTNER (1)** *DOMINEERING (9)* *SAD (7)* *IRRITABLE (5)* *CRITICAL (3)* *DEFENSIVE (3)* *DISGUSTED (3)*	Left	**INTERESTED IN UNDERSTANDING PARTNER (9)** **WARM (5)** **ACKNOWLEDGES PARTNER'S PERSPECTIVE (1)** **HUMOROUS (1)** *SAD (16)* *CRITICAL (14)* *DEFENSIVE (7)* *IRRITABLE (7)* *DOMINEERING (3)*
Mother F7/F8 Parent Problem	Right		Left	

Table 4.17

Father Positive Affect Codes and Hemispheric Lateralization (Adolescent Problem)

	Father PA 2 (High)		Father PA 1 (Low)	
EEG Variable	Hemispheric Lateralization	PAR Codes (Frequency) **POSITIVE (12)** *NEGATIVE (10)*	Hemispheric Lateralization	PAR Codes (Frequency) **POSITIVE (44)** *NEGATIVE (73)*
Father FP1/FP2 Adolescent Problem	Right	**INTERESTED IN UNDERSTANDING PARTNER (4)** **AFFECTIONATE (3)** **WARM (3)** **HUMOROUS (2)** *BELLIGERENT (2)* *CRITICAL (2)* *DOMINEERING (2)* *IRRITABLE (2)* *CONTEMPTUOUS (1)*	Right	**AFFECTIONATE (14)** **WARM (13)** **INTERESTED IN UNDERSTANDING PARTNER (9)** **ACKNOWLEDGES PARTNER'S PERSPECTIVE (7)** **TUNED IN TO PARTNER (1)** *IRRITABLE (26)* *DOMINEERING (20)* *DEFENSIVE (16)* *CRITICAL (8)* *BELLIGERENT (3)* *ANGRY (2)* *CONTEMPTUOUS (2)* *DISGUSTED (2)* *HUMOROUS (2)* *TENSE/ANXIOUS (1)*
Father F7/F8 Adolescent Problem	Right		Left	

Table 4.18

Father Positive Affect Codes and Hemispheric Lateralization (Parent Problem)

	Father PA 2 (High)		Father PA 1 (Low)	
EEG Variable	Hemispheric Lateralization	PAR Codes (Frequency) **POSITIVE (8)** *NEGATIVE (7)*	Hemispheric Lateralization	PAR Codes (Frequency) **POSITIVE (39)** *NEGATIVE (8)*
Father FP1/FP2 Parent Problem	Left	**INTERESTED IN UNDERSTANDING PARTNER (5)** **HUMOROUS (1)** **TUNED IN TO PARTNER (1)** **WARM (1)** *DOMINEERING (6)* *CONTEMPTUOUS (1)*	Right	**AFFECTIONATE (15)** **INTERESTED IN UNDERSTANDING PARTNER (9)** **WARM (9)** **ACKNOWLEDGES PARTNER'S PERSPECTIVE (5)** **TUNED IN TO PARTNER (1)** *CRITICAL (3)* *DOMINEERING (3)* *IRRITABLE (2)*
Father F7/F8 Parent Problem	Right		Left	

To further support the hemispheric lateralization occurring in hypotheses four and eight, which suggest the presence of securely attached relationships, additional follow-up analyses were conducted using participant self-report measurements. Subscale scores from the Inventory of Parent-Peer Attachment (IPPA) and the Multi-Item Measure of Adult Romantic Attachment (MIMARA) were used along with PAR to test whether or not secure attachment and positive affect are predictive of hemispheric lateralization. Thus, based on the literature discussed in chapter two, the following hypotheses were offered:

> *Hypothesis 9: Positive affect ratios will be positively correlated with secure attachment.*
>
> *Hypothesis 10: Secure attachment and PAR will be predictive of hemispheric lateralization suggesting normative differentiation and motivational withdrawal in families with more securely attached relationships.*

To test hypothesis nine, Pearson *r* bivariate correlation analyses were conducted between total family PAR/IPPA and PAR/MIMARA subscales using the variables displayed in chapter three. Results are displayed in Tables 4.19 and 4.20, respectively. While several significant correlations were found between IPPA variables, no significant relationships emerged between PAR and IPPA scores. Four non-significant but moderate correlations were found, however, between Total Family PAR and the adolescent's perceived attachment with the father: (trust, $r = -.274, p = .44$; communication, $r = -.458, p = .18$; alienation, $r = .349, p = .32$; and total, $r = -.38, p = .28$). No significant correlations were found between PAR and MIMARA scores; however, two moderate non-significant correlations were found (PAR/mother avoidance, $r = .306, p = .39$; and PAR/mother anxiety, $r = .278, p = .44$). Based on these results, there is not sufficient evidence to support hypothesis nine.

Table 4.19

Adolescent Attachment and Total Positive Affect Ratio

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Mother Trust	--								
2. Mother Communication	.865**	--							
3. Mother Alienation	-.834**	-.844**	--						
4. Mother Total	.953**	.963**	-.92**	--					
5. Father Trust	.638*	.819**	-.606	.741*	--				
6. Father Communication	.407	.707*	-.476	.575	.833**	--			
7. Father Alienation	-.218	-.518	.357	-.393	-.834 **	-.85 **	--		
8. Father Total	.758*	.494	-.536	.644*	.955**	.950**	-.92**	--	
9. Total Family PAR	.090	-.196	.238	-.111	-.274	-.458	.349	-.39	--

** $p < .01$, * $p < .05$

Table 4.20

Parent Attachment and Total Positive Affect Ratio

Variable	1.	2.	3.	4.	5.
1. Mother Avoidance	--				
2. Father Avoidance	.400	--			
3. Mother Anxiety	.624	.386	--		
4. Father Anxiety	.331	.585	-.109	--	
5. Total Family PAR	.306	-.117	.278	-.112	--

** $p < .01$, * $p < .05$

Hypothesis 10 predicted that secure attachment and positive affect were predictive of hemispheric lateralization during the family problem-solving discussions, thus suggesting normative differentiation and motivational withdrawal in families with more securely attached relationships. To test this, IPPA and MIMARA subscale scores, along with PAR scores, were used. Specifically, 16 multiple linear regression analyses were conducted: eight for the adolescent (FP1/FP2 and F7/F8 for both the adolescent and parent problems) with attachment (IPPA communication, trust, alienation for each the mother and father) and PAR entered as independent variables, and alpha asymmetry entered as the dependent variable; and four each for the mother and father (FP1/FP2 and F7/F8 for both the adolescent and parent problems) with attachment (MIMARA avoidance and anxiety) and PAR entered as independent variables and alpha asymmetry entered as the dependent variable. Of the 16 regressions, one significant model was

found: Mother EEG FP1/FP2 during the parent problem and adult attachment (MIMARA avoidance and anxiety). Specifically, Mother alpha asymmetry at FP1/FP2 during the parent problem was predicted by the mother's perception of her attachment relationship with the father and the family's overall positive affect ratio ($p = .017$). The overall variance explained by the two predictors was 90%. The predictors had different relationships to the outcome variable (perceived mom avoidance, $\beta = .597$, $p = .039$; perceived mom anxiety, $\beta = .128$, $p = .549$; family PAR affect, $\beta = .523$, $p = .031$). When controlling for anxiety, PAR and mother avoidance had significant effects on mother alpha asymmetry at FP1/FP2 during the parent problem. Based on these analyses, hypothesis 10 was partially supported.

To further explore family functioning and alpha asymmetry, *general family functioning*, *communication*, and *problem-solving* subscale scores from the McMaster Family Assessment Device (FAD) were used to test the relationship between PAR, hemispheric lateralization, and communication components of family functioning. The following hypotheses were offered:

> *Hypothesis 11: Positive affect ratios will be positively correlated with general family functioning, communication, and problem-solving subscale scores.*
>
> *Hypothesis 12: Family functioning and positive affect ratios will be predictive of hemispheric lateralization in participants during the family problem-solving discussions.*
>
> *Hypothesis 13: Participants' perceptions of family problem-solving and communication skills will be predictive of positive-to-negative affect ratios in family problem-solving discussions.*

To test hypothesis 11, Pearson *r* bivariate correlation analyses were conducted between total family PAR and the following FAD subscale scores for each participant: general family functioning, problem solving, and communication (see Tables 4.21-4.23).

Significant correlations were found between total family PAR and mother problem solving ($r = .638, p = .047$), mother communication ($r = .716, p = .020$), and father general functioning ($r = -.707, p = .02$). Based on these results, hypothesis 11 was partially supported.

Table 4.21

Adolescent Family Functioning and Total Positive Affect Ratio

Variable	1.	2.	3.	4.
1. Total Family PAR	--			
2. Adolescent Problem Solving	.174	--		
3. Adolescent Communication	.018	.638*	--	
4. Adolescent General Functioning	.039	.212	.358	--

** $p < .01$, * $p < .05$

Table 4.22

Mother Family Functioning and Total Positive Affect Ratio

Variable	1.	2.	3.	4.
1. Total Family PAR	--			
2. Mother Problem Solving	.638*	--		
3. Mother Communication	.716*	.429	--	
4. Mother General Functioning	-.096	-.488	-.087	--

** $p < .01$, * $p < .05$

Table 4.23

Father Family Functioning and Total Positive Affect Ratio

Variable	1.	2.	3.	4.
1. Total Family PAR	--			
2. Father Problem Solving	-.018	--		
3. Father Communication	-.049	.732*	--	
4. Father General Functioning	-.707*	-.483	-.146	--

** $p < .01$, * $p < .05$

Hypothesis 12 predicted that family functioning and positive affect were predictive of hemispheric lateralization during the family problem-solving discussions. To test this, general family functioning subscale scores from the McMaster Family Assessment Device (FAD), along with PAR scores, were used. Specifically, four multiple linear regressions per adolescent, mother, and father group (FP1/FP2 and F7/F8 for both the adolescent and parent problems) with family functioning and PAR entered as independent variables and alpha asymmetry entered as the dependent variable revealed two significant models:

Adolescent alpha asymmetry at F7/F8 during the adolescent problem was predicted by the adolescent's perception of general family functioning and the family's overall positive affect ratio ($p = .018$). The overall variance explained by the two predictors was 68%. The predictors had different relationships to the outcome variable (perceived family functioning, $\beta = .827$, $p = .006$; family PAR, $\beta = -.071$, $p = .749$).

When controlling for PAR, family functioning had a significant effect on adolescent alpha asymmetry at F7/F8 during the adolescent problem.

Mother alpha asymmetry at FP1/FP2 during the adolescent problem was predicted by the mother's perception of general family functioning and the family's overall positive affect ratio ($p = .046$). The overall variance explained by the two predictors was 64%. The predictors had different relationships to the outcome variable (perceived family functioning, $\beta = -.471$, $p = .103$; family PAR affect, $\beta = .619$, $p = .045$). When controlling for family functioning, PAR had a significant effect on mother alpha asymmetry at FP1/FP2 during the adolescent problem.

Based on these analyses, hypothesis 12 was partially supported.

Hypothesis 13 predicted that participants' perceptions of family problem-solving and communication skills would predict PAR ratios in family problem-solving discussions. To test this, participant subscale scores from the McMaster Family Assessment Device (FAD), along with participant PAR scores, were used. Specifically, three multiple linear regressions (one per adolescent, mother, and father group) with problem solving and communication entered as independent variables, and PAR entered as the dependent variable, did not produce significant models. Hypothesis 13 was not supported by these analyses.

Qualitative Analysis

The qualitative portion of the present study sought to answer the following overall research question: *During family problem-solving discussions, how do themes of communication patterns presented by parents and adolescents relate to their overall positive affect ratios?* Specifically, based on thirteen themes of conflict communication,

as presented in the behavioral-family systems model of parent-adolescent conflict (Robin & Foster, 1989; see chapter two), the following research questions (RQ) were posed:

> *Research Question 1: In what ways are the communication themes posited by the behavioral-family systems model of parent-adolescent conflict supported in the transcribed family problem-solving discussions?*
>
> *Research Question 2: What new theoretical concepts of parent-adolescent conflict emerge during the transcribed family problem-solving discussions?*

A thematic content analysis of the 15 transcribed parent-adolescent problem-solving sessions was conducted. Each transcript was read independently, and then discussed, by the primary and triangulated investigators. For each triad, the coders noted when specific communication themes were present based on the behavioral-family systems model of parent-adolescent conflict (Robin & Foster, 1989), as well as any new themes that emerged.

Of the 13 themes presented in the model, 12 emerged during the thematic analysis. These included, alphabetically: (1) Absolutistic, Dichotomous Reasoning, (2) Arbitrary Inference, (3) Autonomy, (4) Fairness, (5) Magnification/Minimization, (6) Malicious Intent, (7) Obedience, (8) Overgeneralization, (9) Perfectionism, (10) Ruination, (11) Selective Abstraction, and (12) Self-blame. The only concept not found in the present study that was original to the parent-adolescent conflict model was Love and Approval.

Using axial coding (Strauss & Corbin, 1990; LaRossa, 2005; Lindlof & Taylor, 2002), eight new themes of parent-adolescent conflict communication behaviors were identified by the primary and triangulated investigators. These included, alphabetically: (1) Culminating Consequences, (2) Democratic Reasoning, (3) Disrespect/Belligerence, (4) Friends/Comparison, (5) Hurt, (6) Reframing, (7) Responsibility, and (8) Validation.

Table 4.24 identifies in descending order from most-to-least prevalent the number of triads from the sample in which each theme was found. Both existing and new constructs are operationalized below, with examples provided from different families to support each theme.

Table 4.24

Themes Presented in Qualitative Transcript Analysis

Existent Theme	**# of Families Demonstrating Theme**	**New Theme**	**# of Families Demonstrating Theme**
Obedience	10	Responsibility	12
Fairness	7	Democratic Reasoning	9
Absolutistic, Dichotomous Reasoning	6	Validation	8
Selective Abstraction	6	Reframing	7
Autonomy	5	Culminating Consequences	6
Magnification / Minimization	4	Friends/Comparison	5
Malicious Intent	4	Hurt	4
Overgeneralization	3	Disrespect/Belligerence	1
Perfectionism	3		
Ruination	3		
Self-blame	2		
Arbitrary Inference	1		
Love and Autonomy	0		

Existing Constructs

Obedience refers to the belief that adolescents should always willingly comply with parental rules and requests without question.

> *(Mother to Adolescent)*
>
> *I don't want to hear no "I don't wanna go to bed, and I don't wanna do this, and I'm not gonna do nuttin you say" cause that's just gonna get you in more trouble.*

(Mother to Adolescent)

> *M: You don't decide here or out of here about when we are and when we aren't discussing something.*
>
> *A: Well, guess what I am.*
>
> *M: Well then you can have an immediate consequence for that. If you don't want to cooperate and discuss things with us then there will be no discussion about anything. On your side or ours.*

Fairness occurs when "adolescents believe that their parents should always treat them fairly and that it is a terrible injustice if their parents propose unfair rules and regulations" (Robin & Foster, 1989, p. 17).

> *(Adolescent to Mother)*
>
> *I think you don't recognize the difficulty of the class. It's really hard. It is hard and I think you're judging me based on what you think it is. You didn't get all As.*
>
> *(Adolescent to Mother)*
>
> *A: Yeah, but when I do homework, I have to take breaks. I can't just do homework like Hannah does and like that's it. I can't concentrate for very long.*
>
> *M: Well, just don't compare yourself to Hannah. Hannah has issues too.*

Absolutistic, Dichotomous Reasoning refers to the tendency for one party to polarize all experiences into extremely positive or negative categories; this typically includes the negative classification of others' actions.

> *(Father to Adolescent)*
>
> *Well it's the standard topic that we've had about we feel like you don't respect us as your parents. And you try not to obey us and stuff. And you're stubborn, and you don't want to do the things we ask you to do.*
>
> *(Adolescent to Parents)*
>
> *But we've had this discussion countless times and you, you always promise to do something but you never take the initiative. All you do is, "You need to do more of this," but I do everything you ask me to.*

Selective Abstraction refers to the conceptualization of an experience based on a fragmented detail; when one person takes a detail out of context, thereby ignoring more salient features of the situation.

(Adolescent to Mother)

A: Should be a PS3.
M: I'm glad that's the most important topic to you of anything you want to talk to us about.
A: PS3.
M: The answer is no.
A: The answer is yes.

(Mother to Adolescent)

M: So, I think that's a reasonable thing. So by 10:30, you've got to be in by 10:30.

A: Wait wait. What if I'm like 4 minutes early, you know how I was 4 minutes early that one time.

Autonomy refers to the adolescent expectation that based on their transition into adulthood, they should be granted full freedom from parental restriction.

(Adolescent to Mother)

Okay. Well I'm just saying, I pay for, I pay for everything I do. And I go places and I'm mature enough to do that and I act like an adult and I should make my own decisions. If I don't want to play, I don't have to play.

(Mother to Adolescent)

M: So what do you want to know? Your freedom as in what?

A: As in a little bit more freedom.

M: Okay, you've got to become a little bit more independent.

A: Well, okay. I think I need a little bit more experience doing stuff on my own.

Magnification and Minimization refers to making gross errors in evaluating the significance of events.

> *(Father to Adolescent, in prompting a conversation about why the adolescent had his computer privileges taken away.)*
>
> *F: You don't remember what happened?*
>
> *A: No…maybe.*
>
> *F: About the email notices and the threat from Paramount Pictures? Ummm, so they were going to bring a lawsuit and sue us for trafficking copyrighted material that belongs to them.*
>
> *(Adolescent to Mother)*
>
> *A: At least my friends expect it now. They don't count me late until I'm at least like 45 minutes late. But in the first half hour though, "No, she'll be here eventually."*
>
> *M: Did you ever really miss anything real big and important?*
>
> *A: Yes, my teenage life.*

Malicious Intent refers to both the parental belief that adolescents purposely rebel or misbehave and to the adolescent ascription of hurtful motives to parental displays of authority or criticism of any kind.

> *(Adolescent to Father)*
>
> *A: Can't you let me talk here? I don't understand why…every time I go to second I make the plays and I get the outs. Sometimes more than the other players do.*
>
> *F: I sit the other kids too after they make plays. Because I expect all of you to make the plays… It has nothing to do with you not making a play…It has nothing to do with how well you're performing.*
>
> *(Mother to Adolescent)*
>
> *It's how you look at me right now. Like okay mom is stupid. It's not in a kind way or not in a loving way, you know. You look at me very mad to express yourself.*

Overgeneralization occurs when someone generalizes a conclusion based on related and unrelated situations, or drawing a general conclusion after one or more isolated incidents.

> *(Adolescent to Mother)*
> *A: I think I have ADHD. I'm not even joking when I say this.*
> *M: You don't have ADHD.*
>
> *(Father to Adolescent)*
>
> *Unless we trust you implicitly, there's no way that's going to happen. Because in the back of my mind, Trey's not over at the movies, he's over at Jimmy's house havin a beer.*

Perfectionism occurs when parents expect their adolescent to behave flawlessly.

> *(Father to Adolescent, reiterating Mother)*
>
> *It seems what you're saying is that if perfection is obtainable, you should ruthlessly pursue perfection for the sake of perfection.*
>
> *(Father to Adolescent)*
>
> *That's good. But we're letting you know that while you're getting better, there's still room for improvement.*

Ruination refers to the parental beliefs that if the adolescent engages in a proscribed behavior, catastrophic consequences will result.

> *(Mother to Adolescent)*
>
> *M: You know people who go to work, they get in to their Facebook, and eventually they get caught and they get fired. So, you know if you carry on this, you're going to be one of those people who can't stay off Facebook and you won't have a job like that. I mean, they used to. It's just not right.*
>
> *A: I just feel like this is a problem that has existed ever since the dawn of time though…*

(Mother to Adolescent)

What's scary is that if somebody took that video and put it up on YouTube, I mean you've seen other things on YouTube like they bully a girl, tell her she's fat and call her names or they play a prank on her and she kills herself. I mean this is very serious stuff…You could ruin a child's life with this kind of thing.

Self-blame refers to the parental belief that an adolescent's mistakes signify parental inadequacy.

(Mother to Adolescent)

So that, that upsets me. Um 'cause it makes me go, "What have I done to make you think that's acceptable behavior?"

(Father to Adolescent)

Well, I guess it was partly my fault for not being so, well, the way it was set up I wouldn't have known what it was doing anyways.

Arbitrary Inference occurs when a personal draws a specific conclusion in the absence of evidence, or when supporting evidence contradicts the conclusion.

The theme 'Arbitrary Inference' was only found once in the thematic analysis:

(Adolescent to Mother)

No, I'm saying that you'll assume that if I do my homework in a short period of time that whatever it is if it's a short period of time, you'll assume that I did not do a good job or that it was really easy.

Love and Approval refers to the misconception that love is associated with disclosure and approval of one's behavior; conversely, disapproval or nondisclosure represents the absence of love.

The theme 'Love and Approval' was not found in the thematic analysis.

New Constructs

Responsibility refers to parental efforts to instill responsibility in their adolescent, or to the parents' efforts to promote the adolescent's understanding that with age comes responsibility.

> *(Father to Adolescent)*
>
> *It's part of if. When you've got responsibilities you've got to man up. And believe it or not, they don't get any easier. If anything it gets harder cause you get more of them. Don't ya momma?*
>
> *(Mother to Adolescent)*
>
> *When your grades are poor, it's not because you don't know what you're doing. It's because you haven't taken responsibility for what you're supposed to do.*

Democratic Reasoning occurs when parents employ negotiation skills when discussing topics with their adolescent; parents demonstrate respect for their adolescent's point-of-view as they engage an authoritative, conversation-oriented approach to parenting.

> *(Mother to Adolescent)*
>
> *M: Any chores you particularly like?*
>
> *A: Any chores I like?*
>
> *M: Or chores you don't like?*
>
> *(Mother to Adolescent, in negotiating a later bedtime.)*
>
> *I would be willing to try it with maybe two—I've got two caveats. One would be the 10-11 period in your room, maybe watching TV or something like that. Not necessarily downstairs. And definitely no phone involved.*

Validation occurs when one or both parties offer words of encouragement, extend compliments, express approval, or reassure unconditional love and acceptance; this typically occurs prior to offering constructive criticism or advice.

> *(Mother to Adolescent)*
>
> *I think you're an incredible scholar. I think you're wonderful. I don't want you to be perfect, I really don't. I just want to make sure that you're giving things your best effort and if you tell me you are, then I believe you.*
>
> *(Adolescent to Mother)*
>
> *A: I'm not afraid of saying what I have to say.*
>
> *M: And that's fine and I want you to always be confident in your opinion. It's just the way you can go about things sometimes.*

Reframing occurs when one or both parties encourage the other to see things from a different point-of-view or acknowledge a new perspective, person, or idea.

> *(Mother to Adolescent)*
>
> *M: But I think that's one thing that we need to be aware of, all of us.*
>
> *A: We can still have the conversation, it's not like we have to put it off. We just have to realize that there's more to some people's feelings that you might realize.*
>
> *(Mother to Adolescent)*
>
> *Let me just say something general. You're a very logical and intelligent person, okay, but sometimes people will ask you to do something that will not logically make sense to you and then you weigh… "This seems to be a big deal to that person, is it important to me?"*

Culminating Consequences refers to parental efforts to convey to their adolescent that often actions have sequential consequences, of which they will be held accountable.

(Father to Adolescent)

If you start going to bed an hour later, you're not going to get as much sleep, and it's going to be harder to wake up in the mornings. School days it's not such a big deal, but that doesn't mean you get to stay in bed til noon on Saturday.

(Father to Adolescent)

If you're disrespectful with us then what are you going to do with other people?

Friends/Comparison occurs when one or both parties make a comparison between how the adolescent's peers, friends, or friends' parents handle a given situation.

(Mother to Adolescent)

How much money do your friends get for allowances?

(Mother to Adolescent)

Umm, what time does some of your friends go to bed?

Hurt refers to the explicit or implied expression of emotional pain or discomfort, usually in response to the words or actions of the other party.

(Father to Adolescent)

That hurt my feelings so bad. You were in 8th grade, you weren't even in the position you are now, so I don't expect you to remember. I'm just telling you. When you don't tell the truth to somebody it hurts. Really bad.

(Mother to Adolescent)

I know you like to go out and have fun with your friends and I'm glad you have a lot of friends but you need to be able to stay involved with our family too.

Disrespect/Belligerence refers to intentional disobedience of the adolescent towards the parents, or the adolescent's expression of disrespectful words, actions, or both.

(Adolescent to Mother)

A: This thing is buggin the shit out of me.

M: Don't say that. Curse words.

A: Shit.

(Adolescent to Mother)

A: But, I, okay. I'll find something else but I will not play baseball. That's a statement. I will not play it. If y'all force me to play it then there will be a bomb tryout. I mean, I'm not trying to make y'all mad or anything, but I will not play it. No.

Follow-Up Analysis

Additionally, after the thematic analysis was conducted, the families were then ranked in descending order by positive affect ratios (PAR) and numerically grouped by PAR in order to qualitatively compare similarities and differences in conflict communication behaviors. A descriptive qualitative summary is presented to detail these findings with regards to the hypotheses offered below.

Hypothesis 14: An inverse relationship will exist between positive affect ratios and negative communication behaviors (e.g., Families with higher positive affect ratios will demonstrate fewer negative communication behaviors than those with lower positive affect ratios).

Hypothesis 15: Families with similar positive affect ratios will exhibit similar communication behaviors.

Hypothesis 14 posited that an inverse relationship would exist between positive affect ratios and negative communication behaviors. Specifically, families with higher positive affect ratios would demonstrate fewer negative communication behaviors than those with lower positive affect ratios. Based on a qualitative comparison of the family

positive affect ratios, hypothesis 14 was partially supported. Table 4.25 lists total positive affect ratios, in descending order, for the sample. Using a mean split, (*M* = *1.44*), the families were divided into high/low PAR groups. Participants in the high group, on average, demonstrated less negative communication behaviors than those in the low group.

Due to video-feed error, families PA3, PA9, and PA10 do not have PAR scores; however, based on the themes presented by each triad and in comparison with the families with known PAR scores, it could be hypothesized that PAR for PA9 was towards the high end of the rankings, PA10 towards the middle, and PA3 towards the bottom.

Table 4.25

Family Positive Affect Ratios in Descending Order

Group	Family	PAR
High PAR	PA14	5.18
	PA15	2.18
	PA7	2.13
	PA12	1.47
Low PAR	PA5	1.04
	PA4	1.02
	PA11	.93
	PA8	.89
	PA2	.79
	PA6	.76
	PA1	.69
	PA13	.31
No PAR	PA3	-
	PA9	-
	PA10	-

Table 4.26

High PAR Similarities in Themes

Family	PAR	Existent Theme	New Theme
PA14	5.18	Fairness Obedience	Democratic Reasoning Reframing Responsibility Validation
PA15	2.18	Fairness Perfectionism	Democratic Reasoning Friends/Comparison Responsibility Validation
PA7	2.13	Obedience Ruination Self-blame	Democratic Reasoning Friends/Comparison Culminating Consequences
PA12	1.47	Absolutistic, Dichotomous Reasoning Magnification/Minimization Obedience Overgeneralization Self-blame	Democratic Reasoning Hurt Responsibility Culminating Consequences

Table 4.27

Low PAR Similarities in Themes

Family	PAR	Existent Theme	New Theme
PA5	1.04	Absolutistic, Dichotomous Reasoning Malicious Intent Obedience Ruination	Democratic Reasoning Hurt Responsibility Culminating Consequences
PA4	1.02	Fairness Selective Abstraction	Democratic Reasoning Responsibility Hurt Validation
PA11	.93	Absolutistic, Dichotomous Reasoning Arbitrary Inference Autonomy Fairness Obedience Perfectionism Selective Abstraction	Democratic Reasoning Reframing Responsibility Validation
PA8	.89	Obedience Selective Abstraction	Friends/Comparison
PA2	.79	Absolutistic, Dichotomous Reasoning Autonomy Obedience Selective Abstraction	Disrespect/Belligerence Friends/Comparison Reframing Responsibility
PA6	.76	Fairness Malicious Intent Magnification/Minimization	Reframing Responsibility
PA1	.69	Absolutistic, Dichotomous Reasoning Fairness Malicious Intent Magnification/Minimization Obedience Overgeneralization Perfectionism Selective Abstraction	Friends/Comparison Reframing Responsibility Culminating Consequences Validation
PA13	.31	Absolutistic, Dichotomous Reasoning Autonomy Malicious Intent Obedience	Responsibility Culminating Consequences Validation

Hypothesis 15 posited that families with similar positive affect ratios would exhibit similar communication behaviors. Referring back to Tables 4.26 and 4.27 above, based on a qualitative comparison of the family positive affect ratios, hypothesis 16 was partially supported. While there were similarities between parent-adolescent conflict themes among many of the families in the sample, noted similarities were apparent between members of the high and low groups, respectively.

Finally, in qualitatively examining the 15 families using a thematic content analysis, table 4.28 offers a list of the topics discussed by each triad, including whether the topics were introduced by the adolescent or the parental dyad. Additionally, tables 4.29-4.43 offer summaries of the existent and new themes of parent-adolescent conflict communication behaviors identified in each triad. The tables are ranked in descending order by positive affect ratio and offer examples of each identified theme in the contexts of the family discussions.

Table 4.28

Problem-Solving Discussion Topics

Family	**PAR**	**Adolescent Problem**	**Parent Problem**
PA14	5.18	Improving Communication	Chores
PA15	2.18	Allowance Increase	Being Responsible
PA7	2.13	Later Bedtime	Good and Bad Behaviors
PA12	1.47	Computer Usage	Truthfulness
PA5	1.04	Hanging Out at the Mall	Respecting Parents
PA4	1.02	Buying a New Game System	Lack of Time with Family
PA11	.93	Homework Difficulty	Chores
PA8	.89	Later Bedtime	Child's Choice of Friends
PA2	.79	Baseball	School
PA6	.76	Dad's Coaching Style	Competitive Schools
PA1	.69	Playing the Saxophone	Arguing with Mom
PA13	.31	Freedom	Financial Responsibility/ Buying a Car
PA3	-	Mom's Habitual Tardiness	School and Distractions (Internet/Phone)
PA9	-	Holiday Plans	Staying Close/ Feelings
PA10	-	Cleaning Room	Talking Back to Parents

Table 4.29

Parent-Adolescent Conflict Communication Behaviors PA14

Family Positive Affect Ratio = 5.18

Existent Theme	Example (Speaker)	New Theme	Example (Speaker)
Fairness	(Father to Adolescent) I don't think you're maturing as fast as Amanda. When she was 3 years old she was going on 30.	Democratic Reasoning	(Mother to Adolescent) M: Any chores you particularly like? A: Any chores I like? M: Or chores you don't like?
Obedience	(Father to Adolescent) Sometimes getting reminded after a while gets tired. We're tired of reminding ya. When I was a kid, you were told one time and if you didn't do it, you get the paddle.	Reframing	(Mother to Adolescent) M: But I think that's one thing that we need to be aware of, all of us. A: We can still have the conversation, it's not like we have to put it off. We just have to realize that there's more to some people's feelings that you might realize.
		Responsibility	(Father to Adolescent) It's part of if. When you've got responsibilities you've got to man up. And believe it or not, they don't get any easier. If anything it gets harder cause you get more of them. Don't ya momma?
		Validation	(Adolescent to Father) I appreciate that one time when you took me out and I didn't really see it myself but you just addressed it and that really does help. And it just helps me and I'm glad that you guys are watchin' out for me. Sometimes I do stuff that I don't even realize and it helps to have someone else around to watch me.

Table 4.30

Parent-Adolescent Conflict Communication Behaviors PA 15

Family Positive Affect Ratio = 2.18

Existent Theme	Example (Speaker)	New Theme	Example (Speaker)
Fairness	(Mother to Adolescent) Yeah, that's exactly right. Victoria only gets $50 and she has, she has more things. But I buy you more things. So with your increasing allowance comes decreasing reliance on your parents.	Democratic Reasoning	(Mother to Adolescent) *In response to the adolescent requesting to spend time with some new friends whom the parents did not know. The mother is proposing a compromise.* M: Maybe we could start with like ice-skating. I kind of like to know where they are, like where their houses are and stuff.
Perfectionism	(Father to Adolescent) That's good. But we're letting you know that while you're getting better, there's still room for improvement.	Friends/ Comparison	(Mother to Adolescent) How much money do your friends get for allowances?
		Responsibility	(Mother to Adolescent) When your grades are poor, it's not because you don't know what you're doing. It's because you haven't taken responsibility for what you're supposed to do.
		Validation	(Mother to Adolescent) M: Were there interesting [survey] questions? A: Most of them were like, "Do you trust your parents?" and I'm like, "Duh." M: I didn't have duh. That word wasn't an option. F: *laughing* A: *laughing* But that's what I was thinking.

Table 4.31

Parent-Adolescent Conflict Communication Behaviors PA7

Family Positive Affect Ratio = 2.13

Existent Theme	Example (Speaker)	New Theme	Example (Speaker)
Obedience	(Mother & Father to Adolescent) M: Do you know what would happen to you if you came to me and said your hand was broken cause you got in a fight? Now, it'd be different if you were defending yourself, you know, if somebody was hurting you or doing something mean to you. But just to fight just cause you don't like each other or you call each other names… F: You'd be grounded for weeks. M: You'd be grounded. I'll tell you that.	Democratic Reasoning	(Mother to Adolescent) *In negotiating a later bedtime.* I would be willing to try it with maybe two—I've got two caveats. One would be the 10-11 period in your room, maybe watching TV or something like that. Not necessarily downstairs. And definitely no phone involved.
Ruination	(Mother to Adolescent) What's scary is that if somebody took that video and put it up on YouTube, I mean you've seen other things on YouTube like they bully a girl, tell her she's fat and call her names or they play a prank on her and she kills herself. I mean this is very serious stuff…You could ruin a child's life with this kind of thing.	Friends/ Comparison	(Mother to Adolescent) Umm, what time does some of your friends go to bed?
Self-blame	(Mother to Adolescent) So that, that upsets me. Um 'cause it makes me go, "What have I done to make you think that's acceptable behavior?"	Culminating Consequences	(Father to Adolescent) If you start going to bed an hour later, you're not going to get as much sleep, and it's going to be harder to wake up in the mornings. School days it's not such a big deal, but that doesn't mean you get to stay in bed til noon on Saturday.

Table 4.32

Parent-Adolescent Conflict Communication Behaviors PA12

Family Positive Affect Ratio = 1.47

Existent Theme	Example (Speaker)	New Theme	Example (Speaker)
Absolutistic, Dichotomous Reasoning	(Father to Adolescent) F: Do you know why you can't use the computer? A: Because you're stubborn?	Democratic Reasoning	(Mother to Father, reiterating Adolescent's response) Well, so far what I've heart T say is that he's willing to use it next to you while you're on the computer. Same as the other computer, with you, in the house. Right, isn't that what you just said?
Magnification / Minimization	(Father to Adolescent) *In prompting a conversation about why the adolescent had his computer privileges taken away.* F: You don't remember what happened? A: No…maybe. F: About the email notices and the threat from Paramount Pictures? Ummm, so they were going to bring a lawsuit and sue us for trafficking copyrighted material that belongs to them.	Hurt	(Father to Adolescent) That hurt my feelings so bad. You were in 8th grade, you weren't even in the position you are now, so I don't expect you to remember. I'm just telling you. When you don't tell the truth to somebody it hurts. Really bad.
Obedience	(Father to Adolescent) One of my requirements is going to be that you get to use a restricted account. Which means you won't be able to install anything.	Responsibility	(Father to Adolescent) What do you feel you can do to get us to the point where we trust you implicitly? Meaning we don't question what you say. Ever. What can you do to get us there?
Overgeneral-ization	(Father to Adolescent) Unless we trust you implicitly, there's no way that's going to happen. Because in the back of my mind, Trey's not over at the movies, he's over at Jimmy's house havin a beer.	Culminating Consequences	(Father to Adolescent) If you like about any one thing, everything comes into question. Even for the stuff that's true. So it's sort of like, for one thing you're losing everything.

Table 4.32 (continued)

Self-blame	(Father to Adolescent) Well, I guess it was partly my fault for not being so, well, the way it was set up I wouldn't have known what it was doing anyways.		

Table 4.33

Parent-Adolescent Conflict Communication Behaviors PA5

Family Positive Affect Ratio = 1.04

Existent Theme	Example (Speaker)	New Theme	Example (Speaker)
Absolutistic, Dichotomous Reasoning	(Father to Adolescent) Well it's the standard topic that we've had about we feel like you don't respect us as your parents. And you try not to obey us and stuff. And you're stubborn, and you don't want to do the things we ask you to do.	Democratic Reasoning	(Father to Adolescent) Well, what's your side? What's your view on this? Be honest.
Malicious Intent	(Mother to Adolescent) It's how you look at me right now. Like okay mom is stupid. It's not in a kind way or not in a loving way, you know. You look at me very mad to express yourself.	Hurt	(Mother to Adolescent) I'm just so upset that…it's hard.
Obedience	(Mother to Adolescent) You do not accept a "no" at all… "No" for you, what does it mean? Because we are the authority and if we say no it's because you can't.	Responsibility	(Adolescent to Mother & Father) A: I didn't do anything though… It was Darcy. He spilled a milkshake or something on the floor. F: I know, it's not that. What we're saying though is that it's not that you didn't necessarily do anything but you're in a group and once you're in a group… M: You're part of it.

Table 4.33 (continued)

Ruination	(Father to Adolescent) We look at what kids do at the mall from our past. And we see that it is a place, you know, that you're able to get in to trouble and we don't want to be the kind of parents who just throw our kids out there and let them do whatever. We want to be aware of what you're doing, what you're in to, and what you're being exposed to.	Culminating Consequences	(Father to Adolescent) If you're disrespectful with us then what are you going to do with other people?

Table 4.34

Parent-Adolescent Conflict Communication Behaviors PA4

Family Positive Affect Ratio = 1.02

Existent Theme	Example (Speaker)	New Theme	Example (Speaker)
Fairness	(Mother to Adolescent) M: Dad and Nick play it all the time. A: Yeah, Dad and Nick. You guys never play anything with me.	Democratic Reasoning	(Father & Mother to Adolescent) F: Are there things you want to do, that you'd be interested in? M: Together, that you'd be interested in?
Selective Abstraction	(Adolescent to Mother) A: Should be a PS3. M: I'm glad that's the most important topic to you of anything you want to talk to us about. A: PS3. M: The answer is no. A: The answer is yes.	Responsibility	(Mother to Adolescent) *In response to adolescent getting a laptop versus a PS3 console.* You talk about wanting a laptop and all these other things. You need to think about how much use you're going to get out of something like that as you're getting older.
		Hurt	(Mother to Adolescent) I know you like to go out and have fun with your friends and I'm glad you have a lot of friends but you need to be able to stay involved with our family too.

Table 4.34 (continued)

		Validation	(Mother to Adolescent) Cause I mean, we can just do stuff on our own and Nick wants to be with us, but it's like we're missin' something if you're not with us.

Table 4.35

Parent-Adolescent Conflict Communication Behaviors PA11

Family Positive Affect Ratio = .93

Existent Theme	Example (Speaker)	New Theme	Example (Speaker)
Absolutistic, Dichotomous Reasoning	(Adolescent to Parents) But we've had this discussion countless times and you, you always promise to do something but you never take the initiative. All you do is, "You need to do more of this," but I do everything you ask me to.	Democratic Reasoning	(Adolescent to Mother) A: If you're going to give me chores, give me a list to do. M: Okay, I'll do that. I'll do it. Okay, so what are some reasonable chores to expect you to do?
Arbitrary Inference	(Adolescent to Mother) No, I'm saying that you'll assume that if I do my homework in a short period of time that whatever it is if it's a short period of time, you'll assume that I did not do a good job or that it was really easy.	Reframing	(Mother to Adolescent) Let me just say something general. You're a very logical and intelligent person, okay, but sometimes people will ask you to do something that will not logically make sense to you and then you weigh… "This seems to be a big deal to that person, is it important to me?"
Autonomy	(Adolescent to Parents) But in the morning I want to get up and get in the shower and go back and like down for about 20 minutes before I have to go to school. I mean, that's what I want to do. Why should I make it in the morning, my opinion, when all it would do is gather dust until I go to bed?	Responsibility	(Mother to Adolescent) M: I'm saying you want to go to college and get good scholarships, correct? Why are you rolling your eyes at me? I'm just saying I'm curious to know what would happen if you went the extra mile, because I don't feel that you are going the extra mile.

Table 4.35 (continued)

Fairness	(Adolescent to Mother) I think you don't recognize the difficulty of the class. It's really hard. It is hard and I think you're judging me based on what you think it is. You didn't get all As.	Validation	(Mother to Adolescent) I think you're an incredible scholar. I think you're wonderful. I don't want you to be perfect, I really don't. I just want to make sure that you're giving things your best effort and if you tell me you are, then I believe you.
Obedience	(Mother to Adolescent) You don't have to agree with it, but you do get to do it.		
Perfectionism	(Father to Adolescent, reiterating Mother) It seems what you're saying is that if perfection is obtainable, you should ruthlessly pursue perfection for the sake of perfection.		
Selective Abstraction	(Adolescent to Mother) No, what I'm saying is that's my room, it's my bed, and if I find it, my bed and I sleep in it at night and I find it more convenient…		

Table 4.36

Parent-Adolescent Conflict Communication Behaviors PA8

Family Positive Affect Ratio = .89

Existent Theme	Example (Speaker)	New Theme	Example (Speaker)
Obedience	(Mother to Adolescent) I don't want to hear no "I don't wanna go to bed, and I don't wanna do this, and I'm not gonna do nuttin you say" cause that's just gonna get you in more trouble.	Friends/ Comparison	(Mother to Adolescent) You've got to pick better friends.
Selective Abstraction	(Mother to Adolescent) M: So, I think that's a reasonable thing. So by 10:30, you've got to be in by 10:30. A: Wait wait. What if I'm like 4 minutes early, you know how I was 4 minutes early that one time.		

Table 4.37

Parent-Adolescent Conflict Communication Behaviors PA2

Family Positive Affect Ratio = .79

Existent Theme	Example (Speaker)	New Theme	Example (Speaker)
Absolutistic, Dichotomous Reasoning	(Adolescent to Mother) A: I'm not going to get all As and Bs. I've never gotten all As and Bs. Never.	Disrespect/ Belligerence	(Adolescent to Mother) A: This thing is buggin the shit out of me. M: Don't say that. Curse words. A: Shit.
Autonomy	(Adolescent to Mother) Okay. Well I'm just saying, I pay for, I pay for everything I do. And I go places and I'm mature enough to do that and I act like an adult and I should make my own decisions. If I don't want to play, I don't have to play.	Friends/ Comparison	(Mother/Father to Adolescent) M: There's no reason you should ever make a C. A: Lane makes a C. M: Lane doesn't study. F: You've got to make an effort. A: Brandon made a C.
Obedience	(Mother to Adolescent) M: You don't decide here or out of here about when we are and when we aren't discussing something. A: Well, guess what I am. M: Well then you can have an immediate consequence for that. If you don't want to cooperate and discuss things with us then there will be no discussion about anything. On your side or ours.	Reframing	(Mother to Adolescent) We had this discussion last night that you cannot judge somebody and make a statement about them if you don't know anything whatsoever about that subject matter.
Selective Abstraction	(Mother to Adolescent) M: Okay, well, we can have this discussion again that we've had over and over again. But we feel like you need to be involved in a school-related activity.	Responsibility	(Mother to Adolescent) M: So, then how do you think we should go about keeping track? A: Nothing. M: Well you know that parents can't just do nothing. That's how kids flunk out of school. I'm giving you an opportunity to make some decisions about the consequences, but if you don't want to do that then we'll just make them.

Table 4.38

Parent-Adolescent Conflict Communication Behaviors PA6

Family Positive Affect Ratio = .76

Existent Theme	Example (Speaker)	New Theme	Example (Speaker)
Fairness	(Mother to Father) *Regarding the father who is also the adolescent's baseball coach.* My biggest wish is that you would just treat Kyle like all of the other players during the game and then handle anything else at home.	Reframing	(Mother to Adolescent) Your dad is trying to say that you've got to understand the culture that he grows up in and that's why he responds the way he does because that's the way he's been raised.
Malicious Intent	(Adolescent to Father) A: Can't you let me talk here? I don't understand why…every time I go to second I make the plays and I get the outs. Sometimes more than the other players do. F: I sit the other kids too after they make plays. Because I expect all of you to make the plays… It has nothing to do with you not making a play…It has nothing to do with how well you're performing.	Responsibility	(Mother to Adolescent) It's not going to work that way. It's not going to be my responsibility. It's going to be yours. Seriously, it can't be my responsibility.
Magnification / Minimization	(Adolescent to Mother) Can't I just drop out of school?		

Table 4.39

Parent-Adolescent Conflict Communication Behaviors PA1

Family Positive Affect Ratio = .69

Existent Theme	Example (Speaker)	New Theme	Example (Speaker)
Absolutistic, Dichotomous Reasoning	(Adolescent to Mother) A: You're arguing with me. M: That's because… A: You're yelling at me. M: That's because you argue back and you won't stop arguing. A: I don't argue back, I'm just stating what happened.	Friends/ Comparison	(Father to Adolescent) F: You basically want to be doing what your friends are doing…and that's fine. A: What, the courses? F: Yeah. A: I'm not doing this for them. I'm doing this for me.
Fairness	(Father to Adolescent) F: You've seen how Nathan struggles trying to take advanced course load and then do all these different things. A: But I'm different than him.	Reframing	(Father to Adolescent) F: And then again, Brianna, you could look at it like, what's your relationship with the teacher? A: I mean, she likes me. F: Then maybe she was looking to you to ask you, since you're in a leadership position, to set an example.
Malicious Intent	(Mother to Adolescent) It's my issue and that is, you know how you can argue with me about certain stuff, and I tell you to do something and, or how you should handle something at school, in particular maybe with teachers or substitute teachers, and then you get all angry and you storm off upstairs and you talk about how you're so mad and all I'm trying to do is talk to you about it.	Responsibility	(Mother & Father to Adolescent) M: Yeah, you have to manage your time. F: Exactly. It's time management. M: It's all about time management.

Table 4.39 (continued)

Magnification / Minimization	(Adolescent to Mother) A: We're not just talking about saxophones, we're talking about lessons. M: That's your biggest problem is a saxophone problem?	Culminating Consequences	(Father to Adolescent) That's it. And then the next day you get up and you do it again, and then you have a lesson. So you can get even that much further behind. So you'll have to either make plans to get that extra load done either the day before or be up late every night.
Obedience	(Father to Adolescent) When it's homework time, you won't have your cell phone to worry about and I'm blocking Facebook completely out for the hours you're supposed to be doin homework.	Validation	(Adolescent to Mother) A: I'm not afraid of saying what I have to say. M: And that's fine and I want you to always be confident in your opinion. It's just the way you can go about things sometimes.
Overgeneral-ization	(Adolescent to Mother) A: I think I have ADHD. I'm not even joking when I say this. M: You don't have ADHD.		
Perfectionism	(Mother to Adolescent) I'm not worried about what everyone else was doing. You just have to…you don't worry about what everybody else is doing. And if the teacher asks you to do something, and it's a reasonable request, you just do it.		
Selective Abstraction	(Adolescent to Mother) A: I mean, marching band will only take up two months. M: No, Brianna, marching band is July, August, September, October, and ends at the beginning of November. It's a solid four months.		

Table 4.40

Parent-Adolescent Conflict Communication Behaviors PA13

Family Positive Affect Ratio = .31

Existent Theme	Example (Speaker)	New Theme	Example (Speaker)
Absolutistic, Dichotomous Reasoning	(Mother to Adolescent) I'll tell you something and you're like, "You didn't tell me that," and I'm like, "Yes I did." Cause you're thinking about your own and what you want to do and don't listen to what we gotta get done or accomplished.	Responsibility	(Father to Adolescent) In other words, it's basically a choice. If you would like to eat out, then what you need to do, because we can't afford it, is pay for yourself. Otherwise, we go back to the house and eat.
Autonomy	(Mother to Adolescent) M: So what do you want to know? Your freedom as in what? A: As in a little bit more freedom. M: Okay, you've got to become a little bit more independent. A: Well, okay. I think I need a little bit more experience doing stuff on my own.	Culminating Consequences	(Mother to Adolescent) Maybe if you went to bed the night before you would have got more sleep and the same with our studying and stuff. "Don't worry about it, as long as you can make a C, you don't care." When you go to college, it's different. It's competitive. You've got to keep the grades to get into the programs.
Malicious Intent	(Mother to Adolescent) M: You get upset with me when I say, "Okay, pay for your food this time," or "Pay for this." I don't see that as a problem. A: Well, it's just you're always like, "You've got money, you can do it, you can do it." Well, no. Some stuff you're supposed to provide me.	Validation	(Mother to Adolescent) Kelly, you're such a good kid. But you don't listen.
Obedience	(Mother to Adolescent) This week, get it done. Don't wait til next week or next month or whatever.		

Table 4.41

Parent-Adolescent Conflict Communication Behaviors PA3

Family Positive Affect Ratio = no PAR computed

Existent Theme	Example (Speaker)	New Theme	Example (Speaker)
Autonomy	(Mother to Adolescent) *Regarding the mother's habitual tardiness.* M: …You'll have your license next year. So, we won't have to worry about the school thing anymore. A: Yea, I'll just solve my problems myself.	Hurt	(Adolescent to Mother) We're late to pretty much everything and it's embarrassing. It's been that way my whole life and it's really, really, really embarrassing.
Fairness	(Adolescent to Mother) A: Yeah, but when I do homework, I have to take breaks. I can't just do homework like Hannah does and like that's it. I can't concentrate for very long. M: Well, just don't compare yourself to Hannah. Hannah has issues too.	Responsibility	(Adolescent to Parents) M: This is your real world… A: No, this is like high school. F: This is practice for the real world. M: It's habits that you're creating that you will carry when you're done.
Magnification / Minimization	(Adolescent to Mother) A: At least my friends expect it now. They don't count me late until I'm at least like 45 minutes late. But in the first half hour though, "No, she'll be here eventually." M: Did you ever really miss anything real big and important? A: Yes, my teenage life.		

Table 4.41 (continued)

Obedience	(Mother & Father to Adolescent) M: But still, you're breaking a rule. F: You're not supposed to be doing that. You'd get your homework done a lot faster if you were [on Facebook].		
Overgeneral-ization	(Mother to Adolescent) Let me just say, you need to balance. Okay? It's an obsession. It consumes you. And when something consumes you, it's not good.		
Ruination	(Mother to Adolescent) M: You know people who go to work, they get in to their Facebook, and eventually they get caught and they get fired. So, you know if you carry on this, you're going to be one of those people who can't stay off Facebook and you won't have a job like that. I mean, they used to. It's just not right. A: I just feel like this is a problem that has existed ever since the dawn of time though…		
Selective Abstraction	(Mother to Adolescent) M: You're right. We do. We have a problem. We need to be on time. A: It's really mostly you. M: Me? A: Yes. M: Well, I'm not changing.		

Table 4.42

Parent-Adolescent Conflict Communication Behaviors PA9

Family Positive Affect Ratio = no PAR computed

Existent Theme	Example (Speaker)	New Theme	Example (Speaker)
		Validation	(Adolescent to Father) *In reference to the father and adolescent spending more time together.* Yeah, then I think we could go bowling. That'd be fun. But, I'm not really good at it so, you'd have to teach me skills.
		Democratic Reasoning	(Mother & Father to Adolescent) M: That'd be good if when you have a problem or if you're just tired, just to say, "I'm just tired and I don't have any problems. A: Yeah. F: Yea, it doesn't need to be complicated. A: I would like that.
		Reframing	(Adolescent to Father) *Regarding living in the house with three "women."* We're grouchy, we can for sure be overly-sensitive, we can be underly-sensitive. Just don't take it personally.

Table 4.43

Parent-Adolescent Conflict Communication Behaviors PA10

Family Positive Affect Ratio = no PAR computed

Existent Theme	Example (Speaker)	New Theme	Example (Speaker)
Autonomy	(Adolescent to Mother) Well, I was thinking, you know, mom, you're always telling me I have to clean my room all the time. And I was thinking, it's my room.	Democratic Reasoning	(Mother to Adolescent) Cause I'm open to you tryin something different if you feel like you can do that.
		Reframing	(Father to Adolescent) Sort of like a big pile of dishes. And the thing that kind of comes to mind, because I'm a problem solver at making things sort of efficient, kind of like me talking the other night with the dishes, you know like, put away those rather than having a big pile of dishes that flows everywhere. And is a big job and sort of like the same thing I was sayin the other night, it gets overwhelming to me and I don't want to do it.
		Responsibility	(Father to Adolescent) And maybe doing it differently, this way, so maybe in the future you wont even have this problem to deal with because this problem wont even exist. And we need to kind of figure out a system, sort of like how where your DVDs go, or your Legos go, or your books or something like that. … You might have a couple of books, a couple of DVDs or whatever, say you're going to put up six or seven things everyday, then it's easy.

Table 4.43 (continued)

		Culminating Consequences	(Father to Adolescent) Yeah, on that note, right now the issue is the respecting your mom … I think that the main thing is that is you continue to go down the right path as you age and it's real important not just for our family household, but even as you start to get in relationships. … I don't want you to play that role with your partners and as you get into relationships. You know? I dunno, I want you to be happy but I also want you to treat other human beings with kindness, and directly how you treat mom will show how you will treat other women, too.
		Validation	(Mother to Adolescent) Okay. Um, so I guess we're discussing backtalk. But the first thing I would like to say is that you're doing really awesome and any problem in the past you've really improved so the only reason we're discussing it is because of this study right now.

Table 4.44

Summary of Hypotheses and Conclusions

Hypotheses	Data Analysis	Conclusion
Null Hypothesis	Pearson *r* Bivariate Correlations	Rejected
Hypothesis 1	Pearson *r* Bivariate Correlations	Partially Supported
Hypothesis 2	Pearson *r* Bivariate Correlations	Partially Supported
Hypothesis 3	Pearson *r* Bivariate Correlations	Partially Supported
Hypothesis 4	Pearson *r* Bivariate Correlations	Partially Supported
Hypothesis 5	PAR Deconstruction & Analysis	Partially Supported
Hypothesis 6	PAR Deconstruction & Analysis	Partially Supported
Hypothesis 7	PAR Deconstruction & Analysis	Inconclusive
Hypothesis 8	PAR Deconstruction & Analysis	Partially Supported
Hypothesis 9	Pearson *r* Bivariate Correlations	Not Supported
Hypothesis 10	Multiple Linear Regressions	Partially Supported
Hypothesis 11	Pearson *r* Bivariate Correlations	Partially Supported
Hypothesis 12	Multiple Linear Regressions	Partially Supported
Hypothesis 13	Multiple Linear Regressions	Not Supported
Hypothesis 14	Qualitative Comparison	Partially Supported
Hypothesis 15	Qualitative Comparison	Partially Supported

Chapter Five

Discussion, Limitations, Implications

Because all families are different, as represented by varying structures, functions, memberships, roles, belief systems, and demographic variables, the study of family processes is challenging. Developing theory that applies across nonparallel systems is a multifaceted task for researchers. Regardless of how one defines family, communication is at the core of is functional existence. While all families communicate differently, finding commonalities among communication patterns helps researchers and practitioners learn ways to strengthen parent-adolescent relationships. Family communication can be comprehensively defined as "the process of developing intersubjectivity and impact through the use of codes among a group of intimates who generate a sense of home and group identity, complete with strong ties of loyalty and emotion, and experience a history and a future." (Noller & Fitzpatrick, 1993, p. 14). The present study examined the use of codes (positive affect ratios) between groups of intimates (parent-adolescent triads) who share intersubjectivity, impact, identity, emotion, and experiences. Specifically, parent-adolescent conflict communication was explored from distinct quantitative and qualitative analytical lenses to offer insight into the internal dynamics of the parent-adolescent communication relationship that can be applied to a multitude of interpersonal and family contexts.

Hemispheric Lateralization

As this study was designed as a pilot study exploring the unique parent-adolescent communication relationship, a tentative stance is taken when contextualizing and discussing the quantitative results. Primary quantitative analyses for the current study compared alpha asymmetry during the conditioning conversations to overall positive

affect in order to detect suggestions of hemispheric lateralization in each participant. Results indicated several significant large correlations, as well as non-significant but moderate-to-strong correlations that may prove significant with a larger sample, that substantiate this occurrence.

Left Hemispheric Lateralization

Left hemispheric lateralization, or the tendency to engage with or approach a stimulus, occurred (or demonstrated consistent patterns of occurring) during the following scenarios:

- Mother FP1/FP2 and total family/adolescent/mother/father affect, both topics
- Mother FP1/FP2 and family/adolescent/mother/father affect, parent-initiated topic

The suggested occurrence of left hemispheric lateralization in the mother indicates that differences may exist between participant groups. Because participants each serve distinct roles in the relationship (i.e., mother, father, and adolescent) that are distinguishable from one another (Kenny et al., 2006), it is reasonable to expect notable differences in lateralization in relation to family roles as well. Mothers may bear more responsibility for engaging the family during conflict conversations, or may exhibit more approach-related behaviors when discussing topics related to relational conflict.

Additionally, FP1/FP2 alpha asymmetry appears to be associated with left hemispheric lateralization, or the tendency to approach or engage. If you will recall from the literature (Anderson, 2008), FP1 has been associated with attention, concentration, verbal episodic retrieval, visual working memory, network interactions, planning, decision-making, and task completion. FP2 has been associated with emotional attention, judgment, sense of self, self/impulse control, face/object processing, emotional inhibition,

and verbal episodic memory. The mothers' left hemispheric activation at FP1/FP2 provides support for these approach- and engagement-related behaviors.

Right Hemispheric Lateralization

Right hemispheric lateralization, or the tendency to withdraw from or avoid a stimulus, occurred (or demonstrated consistent patterns of occurring) during the following scenarios:

- Adolescent F7/F8 and total father positive affect, parent-initiated topic
- Adolescent F7/F8 and total family positive affect, parent-initiated topic
- Adolescent F7/F8 and family/adolescent/mother/father affect, parent topic
- Mother F7/F8 and adolescent/mother positive affect, adolescent-initiated topic
- Father F7/F8 and adolescent/mother positive affect, adolescent-initiated topic

The occurrence of right hemispheric lateralization appears to have two specific associations: whether the topic was initiated by the adolescent or the parent, and F7/F8 alpha asymmetry.

First, whether the parent or adolescent introduced the problem-solving discussion topic appears to impact the neural withdrawal behaviors of the participants. It is of interest to note that the adolescents displayed right hemispheric activation during the parent-initiated discussions, whereas the parents displayed right hemispheric activation during the adolescent-initiated discussions. This suggests that family members may display engagement biases when they are discussing a topic that they introduced. On the contrary, family members may "tune out," withdraw, disengage, or avoid discussion topics that they did not initiate. A proclivity for this phenomenon to occur may exist during parent-adolescent conflict communication.

Furthermore, although total family affect was related to adolescent alpha asymmetry during the parent-initiated topic, father affect was of particular importance. This again may suggest the differences in relational roles of the mother and father when setting the tone for conflict conversations. The fathers' affect may contribute more to the withdrawal behaviors of the adolescent, particularly when discussing a parent-initiated topic. During the adolescent-initiated conversation, however, mother and father alpha asymmetry appeared to be related to the positive affect relationship of the adolescent and mother. This suggests the importance of positive communication behaviors, particularly between the mother and adolescent, with regards to the approach and withdrawal tendencies of the parental dyad.

Second, F7/F8 alpha asymmetry appears to be associated with right hemispheric lateralization, or the tendency to withdraw, avoid, or disengage. If you will recall from the literature (Anderson, 2008), F7 has been associated with verbal expression, speech fluency, cognitive mood regulation, visual and auditory working memory, attentional gate, and Broca's area, which is linked to speed in speech production. F8 has been associated with emotional expression, drawing, endogenous mood regulation, face recognition, emotional processing, visual/spatial working memory, and sustained attention. The participants' right hemispheric activation at F7/F8 provides support for withdrawal- and avoidance-related manifestations of these communication and emotional behaviors.

Motivational Approach and Emotional Valence

Because the primary analyses suggested the occurrence of hemispheric lateralization in the participants in response to positive-to-negative affect ratios, the alternative hypotheses were explored to learn more about different catalytic forces driving these relational effects. Results were inconclusive, as hypotheses one through four were each partially supported. Although no significant results were found once the sample was segmented into smaller high and low participant groups, emergent data trends were explored as they may shed insight into the complexities of investigating interpersonal communication using intrapersonal assessment measures.

Hypothesis one posited that participants with higher positive affect ratios would demonstrate greater left hemispheric activity during the family problem-solving discussions, as hemispheric lateralization in these scenarios is associated with emotional valence. All three high participant groups demonstrated evidence in support of left hemispheric lateralization, as detailed below:

- Adolescent EEG FP1/FP2 and F7/F8 during the adolescent-initiated topic
- Mother EEG FP1/FP2 during both topics
- Father EEG FP1/FP2 during the parent-initiated topic

This suggests that participants with higher positive-to-negative affect demonstrated signs of positive emotional valence, approach behaviors, and engagement. This may imply that the more positive affect exhibited during parent-adolescent conflict communication, the more positive the discussion, and the more family engagement.

Hypothesis two posited that participants with lower positive affect ratios would demonstrate greater left hemispheric activity during the family problem-solving discussions, as this can also be associated with specific emotions such as anger or aggression. All three low participant groups demonstrated evidence in support of left hemispheric lateralization, as detailed below:

- Adolescent EEG F7/F8 during both topics
- Mother EEG FP1/FP2 and F7/F8 during both topics
- Father EEG F7/F8 during both topics

This suggests that participants with lower positive-to-negative affect demonstrated signs of negative motivational approach. This may imply that the more negative approach-related behaviors exhibited during parent-adolescent conflict communication, such as anger or aggression, the more negative the discussion, and the more aggressive the environment.

Hypothesis three posited that participants with lower positive affect ratios would demonstrate greater right hemispheric activity during the family problem-solving discussions, as this is associated with emotional valence. Two of the three low participant groups demonstrated evidence in support of right hemispheric lateralization, as detailed below:

- Adolescent EEG FP1/FP2 during both topics
- Father EEG FP1/FP2 during the adolescent-initiated topic

This suggests that participants with lower positive-to-negative affect demonstrated signs of negative emotional valence, or tendencies to withdraw or disengage. This may imply that the more negative affect exhibited during parent-adolescent conflict communication, the more negative the discussion, and the less family engagement.

Hypothesis four posited that participants with higher positive affect ratios would demonstrate greater right hemispheric activity, which would suggest motivational withdrawal. All three high participant groups demonstrated evidence in support of right hemispheric lateralization, as detailed below:

- Adolescent EEG FP1/FP2 and F7/F8 during the parent-initiated topic
- Mother EEG F7/F8 during both topics
- Father EEG FP1/FP2 during the adolescent-initiated topic
- Father EEG F7/F8 during both topics

This suggests that participants with higher positive-to-negative affect demonstrated signs of positive motivational withdrawal, as cognitive disengagement may allow for differentiation to occur in securely attached parent-adolescent relationships. This may imply that the more securely-attached the family members, the greater the display of positive affect during parent-adolescent conflict communication, and the more adolescent differentiation is promoted.

The complexity of the results, which suggest both emotional valence and motivational direction occurring in confounding situations, highlights the complexities associated with studying hemispheric lateralization during interpersonal communication. It emphasizes the importance of biopsychosocial considerations when examining the conflict communication behaviors of parents and adolescents.

Contextualizing Parent-Adolescent Affect

Follow-up analyses were conducted to further explore and contextualize affective factors that may differentiate emotional valence and motivational direction in order to better understand which specific affect codes comprised the positive-to-negative affect ratios of the sample. Positive affect ratios were deconstructed in order to more closely examine the composition and frequency of positive and negative affect codes observed during the problem-solving discussions. Hypotheses five, six, and eight were partially supported; hypothesis seven was inconclusive.

Hypothesis five posited that participants with high positive affect ratios, who demonstrated left hemispheric activity, would have positive-to-negative affect ratios containing more positive than negative affects. The high adolescent group met these criteria at FP1/FP2 and F7/F8 during the adolescent problem, thus suggesting the experience or expression of positive emotions, or emotional valence. Based on the adolescent's eight negative affect codes and 43 positive affect codes, 26 of which were *Interested in Understanding Partner*, the suggestion of positive approach and engagement behaviors often associated with left hemispheric activation were corroborated.

Hypothesis six posited that participants with low positive affect ratios, who demonstrated left hemispheric activity, would have positive-to-negative affect ratios containing more negative than positive affects. The low mother group met these criteria at FP1/FP2 and F7/F8 during the adolescent problem, and at FP1/FP2 and F7/F8 during the parent problem, thus suggesting negative motivational approach. When negative motivational approach is found in association with left hemispheric activity, it typically

includes the experience or expression of emotions such as anger or aggression. Based on the 47 negative affects coded for the mother during the parent problem, opposed to 16 positive ones, this association was corroborated. Negative affects such as *Critical* was coded 14 times, *Defensive* was coded seven times, and *Domineering* was coded three times, implying that the mother used negative approach behaviors during the conflict discussions.

Hypothesis seven suggested that participants with low positive affect ratios, who demonstrated right hemispheric activity, would have positive-to-negative affect ratios containing more negative than positive affects. This conditioning combination suggests emotional valence, or the experience or expression of negative emotions. Based on the results of the EEG/PAR correlations, the findings were inconclusive. There was not a participant in the low positive affect ratios group who displayed right hemispheric activity at both FP1/FP2 and F7/F8 simultaneously; therefore, the deconstructed positive affect ratios could not be used in support or opposition of hypothesis seven.

Hypothesis eight suggested that participants with high positive affect ratios, who demonstrated right hemispheric activity, would have positive-to-negative affect ratios containing more positive than negative affects. The high adolescent group met these criteria at FP1/FP2 and F7/F8 during the parent problem, and the high father group met these criteria at FP1/FP2 and F7/F8 during the adolescent problem, which both suggest motivational withdrawal, possibly in relation to secure attachment. For the adolescent during the parent problem, there were 36 positive affect codes compared to 14 negative affect codes, of which several positive behaviors were noted that may support secure attachment and the promotion of autonomy/individuation: *Interested in Understanding*

Partner (which was coded 14 times), *Humorous* (which was coded 9 times), and *Acknowledges Partner's Perspective* (which was coded 7 times). These demonstrate positive engagement behaviors, which are typically associated with left hemispheric activation. The occurrence of right hemispheric activation the high participant groups, however, supports the hypothesis that in securely attached parent-child relationships, parents and adolescents may provide one another with the relational space needed to foster developmental differentiation while still engaging and communicating with each other.

Attachment, Affect, and Hemispheric Lateralization

To further investigate the aforementioned findings, specifically the suggestions of securely attached relationships, additional follow-up analyses were conducted using participant self-report measurements. Subscale scores from the Inventory of Parent-Peer Attachment (IPPA) and the Multi-Item Measure of Adult Romantic Attachment (MIMARA) were used along with positive affect ratios to test whether or not secure attachment and positive affect were predictive of hemispheric lateralization.

Hypothesis nine posited that positive affect ratios would be positively correlated with secure attachment. Based on the results from the correlation analysis, there was not sufficient evidence to support hypothesis nine. Although no significant relationships were found, four non-significant but moderate correlations emerged between adolescent attachment and positive affect, as well as two moderate correlations between adult attachment and positive affect. The findings suggest the need for more research exploring the relationship between relational affect and attachment.

Hypothesis 10 projected that secure attachment and positive affect would be predictive of hemispheric lateralization during the family problem-solving discussions, thus suggesting normative differentiation and motivational withdrawal in families with more securely attached relationships. Based on results from the regression analyses, hypothesis 10 was partially supported. Specifically, Mother alpha asymmetry at FP1/FP2 during the parent problem was predicted by the family's overall positive affect ratio and the mother's perception of her attachment relationship with the father. When controlling for anxiety, family affect and mother avoidance had significant effects on mother alpha asymmetry at FP1/FP2 during the parent problem. Of the 16 multiple linear regressions conducted, however, only once significant model was found. This may again allude to the specific role of the mother in conflict communication. It may also suggest that the attachment relationship of the marital dyad has systemic implications for parent-adolescent interactions. This supports possible "spillover" effects between marital and parent-child dynamics as discussed in chapter two.

Family Functioning, Affect, and Hemispheric Lateralization

Family functioning and alpha asymmetry were further explored as general family functioning, communication, and problem-solving subscale scores from the McMaster Family Assessment Device (FAD) were used to test the relationship between positive affect, hemispheric lateralization, and family communication. Partial support was found for hypotheses 11 and 12. Hypothesis 13, however, was not supported.

Hypothesis 11 posited that positive affect ratios would be positively correlated with general family functioning, communication, and problem-solving subscale scores. Significant positive correlations were found between total family positive affect and

mother problem solving and mother communication, respectively. These results suggest that as mother's perceived problem solving and communication skills increase, so do family positive affect ratios (and vice-versa). This again supports the unique role the mother plays in the possible regulation of parent-adolescent conflict communication. Furthermore, a significant negative correlation was found between family positive affect and father general family functioning. This suggests that an inverse relationship exists between positive affect and the father's perception of general family functioning. As family positive affect increases, the father's perception of general family functioning decreases (and vice versa). This interesting, even counterintuitive finding, may speak to the traditional role of the father as an authoritarian figure. The father may perceive family functioning to be higher when less conversationally oriented, democratic, or authoritative affective behaviors are expressed.

Hypothesis 12 projected that family functioning and positive affect would be predictive of hemispheric lateralization during the family problem-solving discussions. Of the 12 multiple linear regressions conducted, two significant models were found. First, adolescent alpha asymmetry at F7/F8 during the adolescent problem was predicted by the adolescent's perception of general family functioning and the family's overall positive affect ratio. When controlling for positive affect, family functioning had a significant effect on adolescent alpha asymmetry at F7/F8 during the adolescent problem. This differs from the second significant model, which found that when controlling for family functioning, positive affect had a significant effect on mother alpha asymmetry at FP1/FP2 during the adolescent problem. The findings imply that positive affect and family function may predict hemispheric lateralization, but possibly in different ways and

in different circumstances. More research is needed with a larger sample to better gauge the relationship between these variables.

Hypothesis 13 projected that participants' perceptions of family problem-solving and communication skills would predict positive affect ratios in family problem-solving discussions. Specifically, three multiple linear regressions (one per adolescent, mother, and father group) with problem solving and communication entered as independent variables, and PAR entered as the dependent variable, did not produce significant models. Hypothesis 13 was not supported by these analyses. This may suggest that participants' perceptions of their problem-solving and communication skills are inaccurate (e.g., under- or over-inflated) and therefore not predictive of the family's observed positive-to-negative affect ratios.

Emergent Patterns

The quantitative portion of the present research was primarily exploratory; but four interesting relational patterns emerged in the data that may have implications for parent-adolescent communication.

First, hemispheric lateralization appears to occur during parent-adolescent conflict communication. According to the results of the current study, hemispheric lateralization may be influenced by contextual specifics, such as whether the adolescent or the parent initiated the problem-solving discussion, as well as the distinguishable roles of the mother, father, and adolescent within the relationship.

Second, affective distinctions may exist between the FP1/FP2 and F7/F8 alpha asymmetry electrode sites. Primarily, FP1/FP2 alpha asymmetry may be associated with left hemispheric lateralization, or the tendency to approach or engage; whereas F7/F8

alpha asymmetry may be associated with right hemispheric lateralization, or the tendency to withdraw or avoid.

Third, the present study supports previous research on the two differential models of hemispheric lateralization: *motivational direction* and *emotional valence*. At least some evidence was found to support both positive and negative motivational direction, as well as both positive and negative emotional valence. This implies that, given the complexities surrounding interpersonal family communication, deciphering contextual influences, emotions, affects, intentions, et cetera, continues to pose problems for researchers. Relationships are not black and white, but rather shade upon shade of relational "color" variation that may be perceived differently given the lens from which circumstances are viewed.

Fourth, positive affective behaviors appear to impact the communication behaviors and relational dynamics of the parent-adolescent triad. The more positive affects, the more prevalent positive communication practices. These include communication behaviors that elicit positive emotions, as well as those that promote healthy, normative developmental functioning. Conversely, the more negative affects, the higher the prevalence of negative communication practices. These include communication behaviors that elicit negative emotions, as well as those that foster anger and aggression between parties.

Parent-Adolescent Conflict Communication

To expand contextually upon the findings from the quantitative analyses, the qualitative portion of the present study sought to answer the following overall research question based on 13 themes of conflict communication as presented in the behavioral-family systems model of parent-adolescent conflict (Robin & Foster, 1989): *During*

family problem-solving discussions, how do themes of communication patterns presented by parents and adolescents relate to their overall positive affect ratios? This overarching research question was segmented into two specific questions designed to consider parent-adolescent conflict communication patterns.

Existent Themes

To address research question one (*In what ways are the communication themes posited by the behavioral-family systems model of parent-adolescent conflict supported in the transcribed family problem-solving discussions?*), a thematic content analysis was conducted. Of the 13 themes presented in the model, 12 emerged during the thematic analysis. These included, alphabetically: (1) *Absolutistic, Dichotomous Reasoning*, (2) *Arbitrary Inference*, (3) *Autonomy*, (4) *Fairness*, (5) *Magnification/Minimization*, (6) *Malicious Intent*, (7) *Obedience*, (8) *Overgeneralization*, (9) *Perfectionism*, (10) *Ruination*, (11) *Selective Abstraction*, and (12) *Self-blame*. The only concept original to the parent-adolescent conflict model that was not found in the present study was *Love and Approval*.

In descending order of frequency, the five most comment existent themes found during the analysis included: (1) *Obedience* (the belief that adolescents should always willingly comply with parental rules and requests without question); (2) *Fairness* (the adolescent believe that it is a terrible injustice if their parents do not always treat them fairly); (3) *Absolutistic, Dichotomous Reasoning* (the tendency for one party to polarize all experiences into extremely positive or negative categories; this typically includes the negative classification of one another's actions); (4) *Selective Abstraction* (conceptualizing an experience based on a fragmented detail; when one person takes a

detail out of context, thereby ignoring more salient features of the situation); and (5) *Autonomy* (the adolescent expectation that based on their transition into adulthood, they should be granted full freedom from parental restriction).

The five most frequently occurring themes were not alarming given empirical and societal expectations of parent-adolescent relationships. *Obedience*, the most prevalent theme, was found in 10 of the 15 families. This finding is not surprising given that obedience is a realistic expectation of many parents towards their children. *Fairness*, which was found in seven of the 15 families, centered primarily on the comparison of the adolescent with a siblings, either by a parent or an adolescent participant. Both *Absolutistic, Dichotomous Reasoning* and *Selective Abstraction* were each found in six of the families, and are representative of irrational—albeit common—conflict communication behaviors that are often found in interpersonal relationships, as detailed chapter two. Finally, *Autonomy* was found in five of the 15 families. Like obedience, the theme of autonomy is not surprising given that adolescence is a time of differentiation from the parental dyad as the youth developmentally progresses to adulthood.

While the aforementioned themes are not surprising, they do demonstrate the beliefs of Grotevant (1998) and others that the adolescent-parent relationship is thought to be generally fulfilling, reciprocal, and continuous over time. More negative—and destructive—relational themes such as *Malicious Intent*, *Ruination*, and *Self-blame*, were seen with much less frequency. This helps dismiss social misperceptions of the parent-adolescent relationship that suggest the deterioration of the parent-child relationship during adolescence, and instead supports research that indicates that "extreme alienation

from parents, active rejection of adult values and authority, and youthful rebellion are the exception, not the norm" (Smetana, Campione-Barr, & Metzger, 2006, p. 259).

This is further evidence by the only concept not found in the thematic analysis, *Love and Approval*, or the misconception that love is associated with disclosure and approval of one's behavior; conversely, disapproval or nondisclosure represents the absence of love. This theme was not supported by the current study; no associations were found equating love and communication between parents and adolescents. If anything, the opposite was found (*Validation*) in the emergent themes, as described below.

Emergent Themes

To address research question two (*What new theoretical concepts of parent-adolescent conflict emerge during the transcribed family problem-solving discussions?*), a modified grounded theory approach was applied during the thematic analysis. Nine new themes of parent-adolescent conflict communication behaviors were identified. These included, alphabetically: (1) Culminating Consequences, (2) Democratic Reasoning, (3) Disrespect/Belligerence, (4) Friends/Comparison, (5) Hurt, (6) Reframing, (7) Responsibility, and (8) Validation. Note: The emergent themes are new to the theoretical model that was applied to the thematic analysis; they are not new communication concepts.

In descending order of frequency, the five most comment emergent themes found during the analysis included: (1) *Responsibility* (parental efforts to instill responsibility in their adolescent, or to the parents' efforts to promote the adolescent's understanding that with age comes responsibility); (2) *Democratic Reasoning* (parents' use negotiation skills when discussing topics with their adolescent; parents demonstrate respect for their

adolescent's point-of-view as they engage an authoritative, conversation-oriented approach to parenting); (3) *Validation* (when one or both parties offer words of encouragement, extend compliments, express approval, or reassure unconditional love and acceptance; this typically occurs prior to offering constructive criticism or advice); (4) *Reframing* (when one or both parties encourage the other to see things from a different point-of-view or acknowledge a new perspective, person, or idea); and (5) *Culminating Consequences* (parental efforts to convey to their adolescent that often actions have sequential consequences, of which they will be held accountable).

The five most frequently occurring themes of parent-adolescent conflict communication that emerged from the current research may be of particular interest to family and communication scholars and practitioners, especially as they convey positive affect and communication behaviors. *Responsibility* was the most prevalent new theme, which was found in 12 of the 15 families. *Responsibility* typically coincided with *Obedience* as parents often encouraged their adolescents to take responsibility for their action, generally expecting compliance. Following suit, the next most common new theme that emerged was *Democratic Reasoning*, which was found in nine of the 15 families. This represented an act of positive negotiation on the part of the parents to accommodate—within reason—the requests of their adolescent. *Validation* was found in eight of the families, often preceding constructive criticism, as a way for both parents and adolescents to express unconditional love, support, or understanding in spite of the relational conflict being discussed. In the same respect, *Reframing*, which was found in seven of the families, occurred by both parents and adolescents as they offered differing perspectives on the discussion topics in an attempt to encourage another family member

to see the problem from a different angle. Finally, *Culminating Consequences* was found in six of the families, and represented somewhat of a combination between *Ruination* and *Responsibility*, in which parents attempted to convey a snowball-effect of consequences to their adolescent—again within reason—using tactics similar to *Reframing* in order to shift the adolescent's thoughts about a given topic.

The new themes presented by the current study reiterate the importance of positive affect and constructive communication behaviors in parent-adolescent conflict. As discussed in chapters one and two, in parent-child relationships, research consistently indicates that parental emotions reflect the quality of the caregiving environment: the higher the level of positive emotions that parents experience and express, the more favorable the household environment for children (Dix, 1991). This includes increasing positive affect in problem-solving communication and promoting relational cohesion between parents and adolescents. By learning to resolve family disputes in healthy ways, such as through the utilization of conflict resolution patterns such as democratic reasoning, validation, and reframing, youth begin to recognize and respect opinions and actions that differ from their own as they internalize pro-social behaviors that can be applied to non-family contexts.

Parent-Adolescent Conflict and Positive Affect

After the thematic analysis was conducted, the families were then ranked in descending order by positive affect ratios (PAR) and numerically grouped by PAR in order to qualitatively compare similarities and differences in conflict communication behaviors. Two final hypotheses were posed, and both were partially supported. Hypothesis 15 posited that an inverse relationship would exist between positive affect

ratios and negative communication behaviors. Based on the qualitative comparison of the family positive affect ratios, families with higher positive affect ratios demonstrated, on average, fewer negative communication behaviors than those with lower positive affect ratios. In addition, hypothesis 16 posited that families with similar positive affect ratios would exhibit similar communication behaviors. While there were similarities between parent-adolescent conflict themes among many of the families in the sample, noted similarities were especially apparent between members of the high and low groups, respectively. For example, the two families with the highest positive-to-negative affect ratios both exhibited the following positive themes: democratic reasoning, responsibility, validation, and fairness. This is in opposition to the two families with the lowest positive-to-negative affect ratios, who both exhibited the following more negative themes: absolutistic, dichotomous reasoning, malicious intent, obedience, and culminating consequences.

Emerging Patterns

In the qualitative portion of the present study, four interesting relational patterns emerged in the transcribed data that may have implications for parent-adolescent communication.

First, similarities were observed in the problem-solving discussion topics based on whether they were chosen by the adolescent or the parental dyad. Adolescent topics more frequently included obtaining parental permission and gaining autonomy (e.g., receiving an allowance increase, acquiring a later bedtime, hanging out at the mall, playing in the school band, buying a new gaming system); whereas parent topics centered on relational issues such as responsibility, trust, disrespect, and spending more quality

time together as a family. These distinctions suggest differing sources potential parent-adolescent conflict depending on the distinguishable role (i.e., the parent or the adolescent).

Second, parent-adolescent communication may involve more negotiation and less authoritarian parenting practices than in past generations. While the expectations of obedience and responsibility frequently occurred in the sample, other themes such as democratic reasoning, validation, and reframing demonstrated affirmative communication behaviors that may represent positive trends in parent-adolescent conflict resolution.

Third, parents who employ more democratic and validating parenting practices may demonstrate higher levels of positive relational affect, and vice versa. This supports the work of Rueger et al. (2011) who found that positive affect was more strongly related to supportive parenting, whereas negative affect was more strongly related to hostile parenting, thus demonstrating a correlated association between parental affect (i.e., positive or negative) and parenting behavior (i.e., warm or harsh).

This leads to the fourth pattern, which was mentioned earlier: It would be inaccurate to characterize the adolescent years—and the parent-adolescent relationship during that time—as free from "storm and stress" (see Hall, 1904). Angry, frequent, or high-intensity fighting, however, is not characteristic of the parent-adolescent relationship during normative adolescent development, as was demonstrated by 14 of our 15 families. The present study concurs with other current research that indicates a more middle-of-the-continuum approach to parent-adolescent communication.

Limitations

As with all research, this study is not without limitations. First, the sample was small, which may have lowered the statistical significance of the findings. Second, during the observational coding, the coding scheme used was designed for an adult sample (specifically one consisting of romantic dyads). The couple-coding scheme did not fully capture the positive and negative affects represented in parent-adolescent conflict communication. For example, a coding scheme that included affects such as sarcasm (opposed to just "humor" or "defensive" – two codes that were often coded simultaneously) may have been more relationally appropriate for an adolescent sample. Also, the code "authoritative" may have better represented parental affect (opposed to "dominant" which was used with the couple-coding scheme). A more developmentally appropriate coding scheme would likely have influenced the positive-to-negative affect ratio computations.

Limitations of the thematic content analysis primarily include the choice of analytic design. Specifically, by separating the observational and thematic analyses, a more complete contextual view of the parent-adolescent conflict discussions was missing. A better approach would have been to conduct the thematic analysis using both the transcripts and corresponding video feed in order to capture verbal and nonverbal affects and communication patterns.

Theoretical Implications

The intent of this project was to provide researchers with increased knowledge about the parent-adolescent communication relationship, specifically conflict communication practices, which can be practically applied to positive youth and family

development programs, family life and parent education efforts, and therapeutic interventions. Understanding these positive affective behaviors is central to understanding interpersonal communication relationships and reducing unhealthy communication behaviors in parent-adolescent conflict resolution.

A specific aim of the present study was to apply Gottman's (1994a, 1994b) marital principles of positive affect during conflict resolution to other intimate family relationships using a mixed-methods design. Specifically, it sought to expand Gottman's application from the husband-wife dyad to the mother-father-child triad, while giving specific consideration to positive affect in parent-adolescent problem-solving discussions, as it moved beyond physiological measures to include neuro-feedback. In applying Gottman's work to parent-adolescent conflict communication, one central theme emerged: *balance*. In nearly all of the observationally coded problem-solving discussions, for every one negative affect, at least one positive affect was displayed. Balance seemed to be the communicative key in addressing parent-adolescent conflict. Thus, based on the mean results of the families with the highest positive affect ratios in this study, a positive affect ratio greater than or equal to between 2:1 and 3:1 is recommended for parents and adolescents when discussing relational conflict.

Additional theoretical implications include the expansion of the behavioral-family systems model of parent-adolescent conflict (Robin & Foster, 1989) to include eight new constructs used by parents and adolescents in conflict resolution. While these constructs are not new communication concepts, within the model they reveal healthier problem-solving practices in families with adolescents. As demonstrated by the comparison of positive affect ratios to positive conflict resolution behaviors, the correlational

relationships suggest that families with higher levels of positive affect tend to display more positive communication behaviors, and vice versa.

Future Directions

As validated in both the quantitative and qualitative analyses of this study, there are many complexities associated with interpersonal, family research—particularly that occurring between the parent and adolescent child. Future research involving hemispheric lateralization should include larger samples, and should pay particular attention to the contextual effects as discussed earlier in this chapter (e.g., role differences, topic prompts, motivation direction vs. emotional valence) as well as the differences between electrode sites. Additionally, future research involving the observational coding of parent-adolescent affect would benefit from the creation of a coding scheme more representative of parent-adolescent samples. A suggestion using this data would be to watch the videos again, and using the transcripts, have minimally trained naïve coders indicate which affect(s) they observed per turn-taking-episode using an open coding system. Then, from the qualitative results, apply a grounded theory approach similar to that used in the present study in order to generate a coding scheme that could be used with parent-adolescent samples.

Conclusion

The central aim of the present study was to draw connections between positive affect and parent-adolescent communication behaviors through the examination of relational problem-solving discussions while utilizing a mixed-methods research design. The design considered intra- and interpersonal influences affecting family communication. As previously noted, "The combined impact of conflict and affection

across family relationships may offer greater clarity to the study of family processes than the impact of either conflict or affection alone" (Fauchier & Margolin, 2006, p. 198). A goal of applied family science, the present study in particular, is to promote positive, constructive, and developmentally appropriate conflict resolution practices that incorporate the study of biopsychosocial and contextual influences as they relate to interpersonal communication relationships. To reiterate the words of John Bolwby (1988), "There are, in fact, no more important communications between one human being and another than those expressed emotionally" (p. 156). The parent-child relationship is arguably the most important interpersonal relationship of all.

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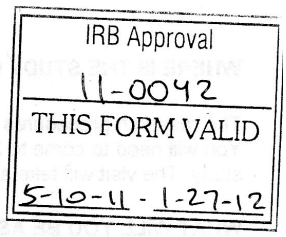
Appendix B



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A Pilot Study Testing Parent-Adolescent Communication Patterns, Attachment, Physiological Arousal, and Electrical Brain Activity

WHY ARE YOU BEING INVITED TO TAKE PART IN THIS RESEARCH?

You are being invited to take part in a research study about how parents and adolescents communicate with one another. You are being invited to take part in this research study because you have a child between the ages of 12-18. If you volunteer to take part in this study, you will be one of about 10 families to do so during the initial phase of the study at the University of Kentucky.

WHO IS DOING THE STUDY?

Nichole Huff, MS, a doctoral student in the Department of Family Studies at the University of Kentucky Department is in charge of this study. She is being guided in this research by the chair of the Department of Family Studies, Ronald Werner-Wilson, PhD. There may be other people on the research team assisting at different times during the study.

WHAT IS THE PURPOSE OF THIS STUDY?

By doing this study, we hope to have a better understanding of the ways in which parents and adolescents communicate with one another. We hope to learn more about parent-adolescent attachment bonds, and about the parental relationships that influence adolescent development. We are interested in learning more about how one's body and mind respond during communication, especially during problem-solving discussions.

ARE THERE REASONS WHY YOU SHOULD NOT TAKE PART IN THIS STUDY?

You should not participate in this study if talking to your partner about a problem you would like to solve would create extreme stress for you personally.

IRB

WHO WILL SEE THE INFORMATION THAT YOU GIVE?

We will make every effort to keep private all research records that identify you to the extent allowed by law.

Your information will be combined with information from other people taking part in the study. When we write about the study to share it with other researchers, we will write about the combined information we have gathered. You will not be personally identified in these written materials. We may publish the results of this study; however, we will keep your name and other identifying information private.

We will make every effort to prevent anyone who is not on the research team from knowing that you gave us information, or what that information is. All information obtained from your participation including questionnaire responses, video recording, and physiological arousal measures will be stored on a locked computer in a locked office. We may be required to show information that identifies you to people who need to be sure we have done the research correctly; these would be people from such as organizations as the University of Kentucky Human Subjects Committee.

CAN YOUR TAKING PART IN THE STUDY END EARLY?

If you decide to take part in the study you still have the right to decide at any time that you no longer want to continue. You will not be treated differently if you decide to stop taking part in the study.

WHAT IF YOU HAVE QUESTIONS, SUGGESTIONS, CONCERNS, OR COMPLAINTS?

Before you decide whether to accept this invitation to take part in the study, please ask any questions that might come to mind now. Later, if you have questions, suggestions, concerns, or complaints about the study, you can contact the faculty advisor and chair of the Department of Family Studies, Dr. Ronald Werner-Wilson at 859-257-7750. If you have any questions about your rights as a volunteer in this research, contact the staff in the Office of Research Integrity at the University of Kentucky at 859-257-9428 or toll free at 1-866-400-9428. We will give you a signed copy of this consent form to take with you.

_____ _____

Signature of person agreeing to take part in the study Date

_____

Printed name of person agreeing to take part in the study

PARENTAL CONSENT ***(One parent's signature is required for adolescent participation if under age 18)***

By signing this consent form, you grant permission for your adolescent to participate in the study as well.

_____ _____

Signature of parent allowing adolescent to take part in the study Date

_____

Printed name of parent allowing adolescent to take part in the study

_____

Printed name of adolescent to taking part in the study

_____ _____

Name of [authorized] person obtaining informed consent Date

ASSENT FORM

A Pilot Study Testing Parent-Adolescent Communication Patterns, Attachment, Physiological Arousal, and Electrical Brain Activity

You are invited to be in a research study being done by Nichole Huff, MS, from the University of Kentucky. You are invited because you are between the ages of 12 and 18, you currently live at home with both parents who are participating in this study with you, and you attend middle or high school, or are a current high school graduate who has not yet begun college. The study is to learn more about how parents and adolescents communicate.

If you agree to be in the study, you will be asked to come to the University of Kentucky with your mom and dad one time. You will fill out a few questionnaires about yourself, and will watch a video screen that will ask you to read the names of colors. During this activity, you will be asked to wear sensors on your hands and arms and a swimmer's-like cap on your head that tells us how fast your heart is beating and shows us your brain activity during the color activity, and while we get some baseline measurements. You will then be asked to think of a topic you would like to discuss with your parents such as your curfew or allowance, or any problem area you want to talk about with them. Your parents will also decide on a topic to discuss with you. Then the three of you will be brought together to talk about your topics while wearing the sensors and cap. The conversations will be video-recorded.

For participating in the study, each family is given $150. The money will be given to your parents to divide at their discretion.

Your personal information is confidential, and any information collected during your participation in this study will be coded and kept private. Your name will not be revealed in any way, nor will the fact that you participated in this study.

If something makes you feel bad while you are in the study, please tell one of the research assistants. If you decide at any time you do not want to finish the study, you may stop whenever you want. You can ask any research assistant questions at any time about anything in this study. You can also ask your parents any questions you might have about this study.

Signing this paper means that you have read this or had it read to you, and that you want to be in the study. If you do not want to be in the study, do not sign the paper. Being in the study is up to you, and no one will be mad if you do not sign this paper or even if you change your mind later. You agree that you have been told about this study and why it is being done, and what will be asked of you if you participate.

_____ _____

Signature of Person Agreeing to be in the Study | Date Signed

A Pilot Study Testing Parent-Adolescent Communication Patterns, Attachment, Physiological Arousal, and Electrical Brain Activity

Family Interaction Research Lab

Adolescent Survey

Nichole Huff, M.S.

Ronald Werner-Wilson, Ph.D.

Spring 2011

ADOLESCENT DEMOGRAPHIC QUESTIONNAIRE

1. Age: _____

2. Gender: ☐ Male ☐ Female

3. Do you have brothers or sisters? ☐ Yes ☐ No

4. If yes, please list ages and indicate whether or not they live in the family home:
   Age of child _____ Lives at home ☐ Yes ☐ No
   Age of child _____ Lives at home ☐ Yes ☐ No
   Age of child _____ Lives at home ☐ Yes ☐ No
   Age of child _____ Lives at home ☐ Yes ☐ No
   Age of child _____ Lives at home ☐ Yes ☐ No

5. How do you define your ethnicity? (Check all that apply)
   ☐ White (Caucasian)
   ☐ African-American
   ☐ Hispanic
   ☐ Native American
   ☐ Asian
   ☐ Pacific Islander
   ☐ Other (Please specify)
   _____

6. What grade level are you in?
   ☐ 7th
   ☐ 8th
   ☐ 9th
   ☐ 10th
   ☐ 11th
   ☐ 12th

Please complete the following surveys. If you are part of an adoptive or step family, base your answers on the parents who are present with you in the study. Your answers are confidential and will <u>not</u> be seen by your parents.

FAD

Following are a number of statements about families. Please read each statement carefully, and decide how well it describes your own family. You should answer according to how you see your family. For each statement there are four (4) possible responses:

1 = Strongly Agree
2 = Agree
3 = Disagree
4 = Strongly Disagree

Select 1 if you feel that the statement describes your family accurately.
Select 2 if you feel that the statement describes your family for the most part.
Select 3 if you feel that the statement does not describe your family for the most part.
Select 4 if you feel that the statement does not describe your family at all.

Try not to spend too much time thinking about each statement.
Please be sure to answer every statement.

_____ 1. Planning family activities is difficult because we misunderstand each other.
_____ 2. We resolve most everyday problems around the house.
_____ 3. When someone is upset the others know why.
_____ 4. When you ask someone to do something, you have to check that they did it.
_____ 5. If someone is in trouble, the others become too involved.
_____ 6. In times of crisis we can turn to each other for support.
_____ 7. We don't know what to do when an emergency comes up.
_____ 8. We sometimes run out of things that we need.
_____ 9. We are reluctant (slow) to show our affection for each other.
_____ 10. We make sure members meet their family responsibilities.
_____ 11. We cannot talk to each other about the sadness we feel.
_____ 12. We usually act on our decisions regarding problems.
_____ 13. You only get the interest of others when something is important to them.
_____ 14. You can't tell how a person is feeling from what they are saying.
_____ 15. Family tasks (jobs) don't get spread around enough.
_____ 16. Individuals are accepted for what they are.
_____ 17. You can easily get away with breaking the rules.
_____ 18. People come right out and say things instead of hinting at them.
_____ 19. Some of us just don't respond emotionally.
_____ 20. We know what to do in an emergency.
_____ 21. We avoid discussing our fears and concerns.
_____ 22. It is difficult to talk to each other about tender feelings.
_____ 23. We have trouble meeting our bills.
_____ 24. After our family tries to solve a problem, we usually discuss whether it worked or not.
_____ 25. We are too self-centered.
_____ 26. We can express feelings to each other.

_____ 27. We have no clear expectations about toilet habits (personal cleanliness).
_____ 28. We do not show our love for each other.
_____ 29. We talk to people directly rather than through go-betweens.
_____ 30. Each of us has particular duties and responsibilities.
_____ 31. There are lots of bad feelings in the family.
_____ 32. We have rules about hitting people.
_____ 33. We get involved with each other only when something interests us.
_____ 34. There's little time to explore personal interests.
_____ 35. We often don't say what we mean.
_____ 36. We feel accepted for what we are.
_____ 37. We show interest in each other when we can get something out of it personally.
_____ 38. We resolve most emotional upsets that come up.
_____ 39. Tenderness takes second place to other things in our family.
_____ 40. We discuss who is to do household jobs.
_____ 41. Making decisions is a problem for our family.
_____ 42. Our family shows interest in each other only when they can get something out of it.
_____ 43. We are frank (direct) with each other.
_____ 44. We don't hold to any rules or standards.
_____ 45. If people are asked to do something, they need reminding.
_____ 46. We are able to make decisions about how to solve problems.
_____ 47. If the rules are broken, we don't know what to expect.
____ 48. Anything goes in our family.
_____ 49. We express tenderness.
_____ 50. We confront problems involving feelings.
_____ 51. We don't get along well together.
_____ 52. We don't talk to each other when we are angry.
_____ 53. We are generally dissatisfied with the family duties assigned to us.
_____ 54. Even though we mean well, we intrude too much into each other’s lives.
_____ 55. There are rules about dangerous situations.
_____ 56. We confide in each other.
_____ 57. We cry openly.
_____ 58. We don't have reasonable transportation.
_____ 59. When we don't like what someone has done, we tell them.
_____ 60. We try to think of different ways to solve problems.

IPPA

This questionnaire asks about your relationships with important people in your life: your mother, your father, and your close friends. ***Please read the directions to each part carefully.***

Part I

Some of the following statements ask about your feelings about your mother or the person who has acted as your mother. Please read each statement and circle the ONE number that tells how true the statement is for you now.

		Almost Never or Never True	Not Very Often True	Some-times True	Often True	Almost Always or Always True
1.	My mother respects my feeling.	1	2	3	4	5
2.	I feel my mother does a good job as my mother.	1	2	3	4	5
3.	I wish I had a different mother.	1	2	3	4	5
4.	My mother accepts me as I am.	1	2	3	4	5
5.	I like to get my mother's point of view on things I'm concerned about.	1	2	3	4	5
6.	I feel it's no use letting my feelings show around my mother.	1	2	3	4	5
7.	My mother can tell when I'm upset about something.	1	2	3	4	5
8.	Talking over my problems with my mother makes me feel ashamed or foolish.	1	2	3	4	5
9.	My mother expects too much from me.	1	2	3	4	5
10.	I get upset easily around my mother.	1	2	3	4	5
11.	I get upset a lot more than my mother knows about.	1	2	3	4	5
12.	When we discuss things, my mother cares about my point of view.	1	2	3	4	5
13.	My mother trusts my judgment.	1	2	3	4	5
14.	My mother has her own problems, so I don't bother her with mine.	1	2	3	4	5
15.	My mother helps me to understand myself better.	1	2	3	4	5
16.	I tell my mother about my problems and troubles.	1	2	3	4	5
17.	I feel angry with my mother.	1	2	3	4	5

		Almost Never or Never True	Not Very Often True	Some-times True	Often True	Almost Always or Always True
18.	I don't get much attention from my mother.	1	2	3	4	5
19.	My mother helps me to talk about my difficulties.	1	2	3	4	5
20.	My mother understands me.	1	2	3	4	5
21.	When I am angry about something, my mother tries to be understanding.	1	2	3	4	5
22.	I trust my mother.	1	2	3	4	5
23.	My mother doesn't understand what I'm going through these days.	1	2	3	4	5
24.	I can count on my mother when I need to get something off my chest.	1	2	3	4	5
25.	If my mother knows something is bothering me, she asks me about it.	1	2	3	4	5

Part II

This part asks about your feelings about your father. Please read each statement and circle the ONE number that tells how true the statement is for you now.

		Almost Never or Never True	Not Very Often True	Some-times True	Often True	Almost Always or Always True
1.	My father respects my feeling.	1	2	3	4	5
2.	I feel my father does a good job as my father.	1	2	3	4	5
3.	I wish I had a different father.	1	2	3	4	5
4.	My father accepts me as I am.	1	2	3	4	5
5.	I like to get my father's point of view on things I'm concerned about.	1	2	3	4	5
6.	I feel it's no use letting my feelings show around my father.	1	2	3	4	5
7.	My father can tell when I'm upset about something.	1	2	3	4	5
8.	Talking over my problems with my father makes me feel ashamed or foolish.	1	2	3	4	5
9.	My father expects too much from	1	2	3	4	5

		Almost Never or Never True	Not Very Often True	Some-times True	Often True	Almost Always or Always True
	me.					
10.	I get upset easily around my father.	1	2	3	4	5
11.	I get upset a lot more than my father knows about.	1	2	3	4	5
12.	When we discuss things, my father cares about my point of view.	1	2	3	4	5
13.	My father trusts my judgment.	1	2	3	4	5
14.	My father has his own problems, so I don't bother him with mine.	1	2	3	4	5
15.	My father helps me to understand myself better.	1	2	3	4	5
16.	I tell my father about my problems and troubles.	1	2	3	4	5
17.	I feel angry with my father.	1	2	3	4	5
18.	I don't get much attention from my father.	1	2	3	4	5
19.	My father helps me to talk about my difficulties.	1	2	3	4	5
20.	My father understands me.	1	2	3	4	5
21.	When I am angry about something, my father tries to be understanding.	1	2	3	4	5
22.	I trust my father.	1	2	3	4	5
23.	My father doesn't understand what I'm going through these days.	1	2	3	4	5
24.	I can count on my father when I need to get something off my chest.	1	2	3	4	5
25.	If my father knows something is bothering me, he asks me about it.	1	2	3	4	5

Part III

This part asks about your feelings about your relationships with your close friends. Please read each statement and circle the ONE number that tells how true the statement is for you now.

		Almost Never or Never True	Not Very Often True	Some-times True	Often True	Almost Always or Always True
1.	I like to get my friend's point of view on things I'm concerned	1	2	3	4	5

		Almost Never or Never True	Not Very Often True	Some-times True	Often True	Almost Always or Always True
	about.					
2.	My friends can tell when I'm upset about something.	1	2	3	4	5
3.	When we discuss things, my friends care about my point of view.	1	2	3	4	5
4.	Talking over my problems with friends makes me feel ashamed or foolish.	1	2	3	4	5
5.	I wish I had different friends.	1	2	3	4	5
6.	My friends understand me.	1	2	3	4	5
7.	My friends encourage me to talk about my difficulties.	1	2	3	4	5
8.	My friends accept me as I am.	1	2	3	4	5
9.	I feel the need to be in touch with my friends more often.	1	2	3	4	5
10.	My friends don't understand what I'm going through these days.	1	2	3	4	5
11.	I feel alone or apart when I am with my friends.	1	2	3	4	5
12.	My friends listen to what I have to say.	1	2	3	4	5
13.	I feel my friends are good friends.	1	2	3	4	5
14.	My friends are fairly easy to talk to.	1	2	3	4	5
15.	When I am angry about something, my friends try to be understanding.	1	2	3	4	5
16.	My friends help me to understand myself better.	1	2	3	4	5
17.	My friends care about how I am.	1	2	3	4	5
18.	I feel angry with my friends.	1	2	3	4	5
19.	I can count on my friends when I need to get something off my chest.	1	2	3	4	5
20.	I trust my friends.	1	2	3	4	5
21.	My friends respect my feelings.	1	2	3	4	5
22.	I get upset a lot more than my friends know about.	1	2	3	4	5
23.	It seems as if my friends are irritated with me for no reason.	1	2	3	4	5
24.	I can tell my friends about my problems and troubles.	1	2	3	4	5
25.	If my friends know something is bothering me, they ask me about it.	1	2	3	4	5

TOPIC FOR PROBLEM-SOLVING DISCUSSION

Thank you for completing the survey packet. During the next part of the study, you will discuss a problem in <u>your relationship with your parents</u> that you would like to solve. Please identify two possible topics to discuss.

1. Topic1:_____

How difficult will it be to talk to your parents about this issue?

Not Very Difficult Very Difficult
1 2 3 4 5 6 7 8 9

How often does this problem arise in your discussions?

Not Very Often Very Often
1 2 3 4 5 6 7 8 9

2. Topic 2: _____

How difficult will it be to talk to your parents about this issue?

Not Very Difficult Very Difficult
1 2 3 4 5 6 7 8 9

How often does this problem arise in your discussions?

Not Very Often Very Often
1 2 3 4 5 6 7 8 9

Please rank-order these topics. Which one would you most like to talk about?

First choice: ☐ Topic 1 ☐ Topic 2

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Family Interaction Research Lab

Parent Survey

Nichole Huff, M.S.

Ronald Werner-Wilson, Ph.D.

Spring 2011

PARENTAL DEMOGRAPHIC QUESTIONNAIRE

1. Age: _____

2. Gender: ☐ Male ☐ Female

3. What is your current relationship status? (Check one)
   ☐ Married How long? _____
   ☐ Living with partner How long? _____

4. How long have you known your spouse/partner? _____

5. Are you the biological parent of the child in the study? ☐ Yes ☐ No

   a. If not, what is your relationship? ☐ Stepparent ☐ Adoptive Parent

   b. If not, how long have you been a parental figure to the child in the study? _____

6. Age and gender of adolescent participating in study: _____

7. Gender of adolescent participating in study: ☐ Male ☐ Female

8. Do you and your spouse have other children? ☐ Yes ☐ No

9. If yes, please list ages and indicate whether or not they live in the family home:
   Age of child _____ Lives at home ☐ Yes ☐ No
   Age of child _____ Lives at home ☐ Yes ☐ No
   Age of child _____ Lives at home ☐ Yes ☐ No
   Age of child _____ Lives at home ☐ Yes ☐ No
   Age of child _____ Lives at home ☐ Yes ☐ No

   ☐ 1-3 times per month
   a) ☐ N/A

10. How do you define your ethnicity? (Check all that apply)
    ☐ White (Caucasian)
    ☐ African-American
    ☐ Hispanic
    ☐ Native American
    ☐ Asian
    ☐ Pacific Islander
    ☐ Other (Please specify) _____

11. How would you describe your total household annual income?

- ☐ $0 – 9,999
- ☐ $10,000-19,999
- ☐ $20,000-29,999
- ☐ $30,000-39,999
- ☐ $40,000-49,999
- ☐ $50,000-59,999
- ☐ $60,000-69,999
- ☐ $70,000-79,999
- ☐ $80,000 or above

12. What is the highest level of education you have completed?

- ☐ Some high school
- ☐ High school diploma or equivalent
- ☐ Some college
- ☐ 2-year college degree
- ☐ 4-year college degree
- ☐ Master's degree
- ☐ Professional or terminal degree

Please complete the following surveys. Base your answers on the family members who are present with you during this study. Your answers are confidential and will <u>not</u> be seen by your spouse or child.

FAD

Following are a number of statements about families. Please read each statement carefully, and decide how well it describes your own family. You should answer according to how you see your family. For each statement there are four (4) possible responses:

1 = Strongly Agree
2 = Agree
3 = Disagree
4 = Strongly Disagree

Select 1 if you feel that the statement describes your family accurately.
Select 2 if you feel that the statement describes your family for the most part.
Select 3 if you feel that the statement does not describe your family for the most part.
Select 4 if you feel that the statement does not describe your family at all.

Try not to spend too much time thinking about each statement.
Please be sure to answer every statement.

_____ 1. Planning family activities is difficult because we misunderstand each other.
_____ 2. We resolve most everyday problems around the house.
_____ 3. When someone is upset the others know why.
_____ 4. When you ask someone to do something, you have to check that they did it.
_____ 5. If someone is in trouble, the others become too involved.
_____ 6. In times of crisis we can turn to each other for support.
_____ 7. We don't know what to do when an emergency comes up.
_____ 8. We sometimes run out of things that we need.
_____ 9. We are reluctant (slow) to show our affection for each other.
_____ 10. We make sure members meet their family responsibilities.
_____ 11. We cannot talk to each other about the sadness we feel.
_____ 12. We usually act on our decisions regarding problems.
_____ 13. You only get the interest of others when something is important to them.
_____ 14. You can't tell how a person is feeling from what they are saying.
_____ 15. Family tasks (jobs) don't get spread around enough.
_____ 16. Individuals are accepted for what they are.
_____ 17. You can easily get away with breaking the rules.
_____ 18. People come right out and say things instead of hinting at them.
_____ 19. Some of us just don't respond emotionally.
_____ 20. We know what to do in an emergency.
_____ 21. We avoid discussing our fears and concerns.
_____ 22. It is difficult to talk to each other about tender feelings.
_____ 23. We have trouble meeting our bills.
_____ 24. After our family tries to solve a problem, we usually discuss whether it worked or not.
_____ 25. We are too self-centered.
_____ 26. We can express feelings to each other.

_____ 27. We have no clear expectations about toilet habits (personal cleanliness).
_____ 28. We do not show our love for each other.
_____ 29. We talk to people directly rather than through go-betweens.
_____ 30. Each of us has particular duties and responsibilities.
_____ 31. There are lots of bad feelings in the family.
_____ 32. We have rules about hitting people.
_____ 33. We get involved with each other only when something interests us.
_____ 34. There's little time to explore personal interests.
_____ 35. We often don't say what we mean.
_____ 36. We feel accepted for what we are.
_____ 37. We show interest in each other when we can get something out of it personally.
_____ 38. We resolve most emotional upsets that come up.
_____ 39. Tenderness takes second place to other things in our family.
_____ 40. We discuss who is to do household jobs.
_____ 41. Making decisions is a problem for our family.
_____ 42. Our family shows interest in each other only when they can get something out of it.
_____ 43. We are frank (direct) with each other.
_____ 44. We don't hold to any rules or standards.
_____ 45. If people are asked to do something, they need reminding.
_____ 46. We are able to make decisions about how to solve problems.
_____ 47. If the rules are broken, we don't know what to expect.
____ 48. Anything goes in our family.
_____ 49. We express tenderness.
_____ 50. We confront problems involving feelings.
_____ 51. We don't get along well together.
_____ 52. We don't talk to each other when we are angry.
_____ 53. We are generally dissatisfied with the family duties assigned to us.
_____ 54. Even though we mean well, we intrude too much into each other’s lives.
_____ 55. There are rules about dangerous situations.
_____ 56. We confide in each other.
_____ 57. We cry openly.
_____ 58. We don't have reasonable transportation.
_____ 59. When we don't like what someone has done, we tell them.
_____ 60. We try to think of different ways to solve problems.

MIMARA

The following statements concern how you feel in romantic relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by indicating how much you agree or disagree with it. Write the number in the space provided, using the following rating scale:

Disagree strongly **Neutral/mixed** **Agree strongly**
1 2 3 4 5 6 7

_____ 1. I prefer not to show a partner how I feel deep down.
_____ 2. I worry about being abandoned.
_____ 3. I am very comfortable being close to romantic partners.
_____ 4. I worry a lot about my relationships.
_____ 5. Just when my partner starts to get close to me I find myself pulling away.
_____ 6. I worry that romantic partners won't care about me as much as I care about them.
_____ 7. I get uncomfortable when a romantic partner wants to be very close.
_____ 8. I worry a fair amount about losing my partner.
_____ 9. I don't feel comfortable opening up to romantic partners.
_____ 10. I often wish that my partner's feelings for me were as strong as my feelings for him/her.
_____ 11. I want to get close to my partner, but I keep pulling back.
_____ 12. I often want to merge completely with romantic partners, and this sometimes scares them away.
_____ 13. I am nervous when partners get too close to me.
_____ 14. I worry about being alone.
_____ 15. I feel comfortable sharing my private thoughts and feelings with my partner.
_____ 16. My desire to be very close sometimes scares people away.
_____ 17. I try to avoid getting too close to my partner.
_____ 18. I need a lot of reassurance that I am loved by my partner.
_____ 19. I find it relatively easy to get close to my partner.
_____ 20. Sometimes I feel that I force my partners to show more feeling, more commitment.
_____ 21. I find it difficult to allow myself to depend on romantic partners.
_____ 22. I do not often worry about being abandoned.
_____ 23. I prefer not to be too close to romantic partners.
_____ 24. If I can't get my partner to show interest in me, I get upset or angry.
_____ 25. I tell my partner just about everything.
_____ 26. I find that my partner(s) don't want to get as close as I would like.
_____ 27. I usually discuss my problems and concerns with my partner.
_____ 28. When I'm not involved in a relationship, I feel somewhat anxious and insecure.
_____ 29. I feel comfortable depending on romantic partners.
_____ 30. I get frustrated when my partner is not around as much as I would like.
_____ 31. I don't mind asking romantic partners for comfort, advice, or help.
_____ 32. I get frustrated if romantic partners are not available when I need them.
_____ 33. It helps to turn to my romantic partner in times of need.

_____ 34. When romantic partners disapprove of me, I feel really bad about myself.
_____ 35. I turn to my partner for many things, including comfort and reassurance.
_____ 36. I resent it when my partner spends time away from me.

TOPIC FOR PROBLEM-SOLVING DISCUSSION

Thank you for completing the survey packet. During the next part of the study, you will discuss a problem in <u>your relationship with your adolescent</u> that you would like to solve. Please identify two possible topics to discuss.

2. Topic1:_____

How difficult will it be to talk to your adolescent about this issue?

Not Very Difficult Very Difficult
1 2 3 4 5 6 7 8 9

How often does this problem arise in your discussions?

Not Very Often Very Often
1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9

3. Topic 2: _____

How difficult will it be to talk to your adolescent about this issue?

Not Very Difficult Very Difficult
1 2 3 4 5 6 7 8 9

How often does this problem arise in your discussions?

Not Very Often Very Often
1 2 3 4 5 6 7 8 9

Please rank-order these topics. Which one would you most like to talk about?

First choice: ☐ Topic 1 ☐ Topic 2

Appendix E

Sample Video-Coding Observational Code Sheet

PA: 01A (Adolescent) INTERVIEW TRANSCRIPT
177

Mother (M), Father (F), Adolescent (A), Interviewer (I) (Enters and exits to give direction)

A1	You're such a hypocrite. You told me, Brianna, you better not sleep in. You're waking up at nine in the morning.	APP DEF IRR	AFF DIS SAD	ANG DOM T/A	BEL FEA TPF	CON HUM WAR	CRI IUP WIT
M1	Yeah and I let you sleep until eleven.						
A2	Actually, I got up.	APP DEF IRR	AFF DIS SAD	ANG DOM T/A	BEL FEA TPF	CON HUM WAR	CRI IUP WIT
M2	No, you didn't.						
A3	Are you kidding me? I made a PowerPoint for Nathan.	APP DEF IRR	AFF DIS SAD	ANG DOM T/A	BEL FEA TPF	CON HUM WAR	CRI IUP WIT
F1	At what time?						
M3	Okay. Well, I got up at eight. And I drank coffee, read the paper, and then I went to visit Kristin in the hospital.						
A4	My day has been very hectic. I have been talking to Nathan. I had to pee really bad but I almost didn't make it to the toilet (laughs) in time. It was pretty scary. And. Um. You have a new guy to beat up cause this Bosnian dude when we went to go get my dress fixed, he looked at the dressed and he looked at momma and he was like "you are very beautiful" and I looked at him and I was like (gives dirty look).	APP DEF IRR	AFF DIS SAD	ANG DOM T/A	BEL FEA TPF	CON HUM WAR	CRI IUP WIT
M4	No, he was talking about the dress.						
A5	No, that's why he said you.	APP DEF IRR	AFF DIS SAD	ANG DOM T/A	BEL FEA TPF	CON HUM WAR	CRI IUP WIT

Appendix F

Sample Thematic Content Analysis Code Sheet

PA: 01 INTERVIEW TRANSCRIPT
178

Mother (M), Father (F), Adolescent (A), Interviewer (I) (Enters and exits to give direction)

A1	You're such a hypocrite. You told me, Brianna, you better not sleep in. You're waking up at nine in the morning.	
M1	Yeah and I let you sleep until eleven.	
A2	Actually, I got up.	
M2	No, you didn't.	
A3	Are you kidding me? I made a PowerPoint for Nathan.	
F1	At what time?	
M3	Okay. Well, I got up at eight. And I drank coffee, read the paper, and then I went to visit Kristin in the hospital.	
A4	My day has been very hectic. I have been talking to Nathan. I had to pee really bad but I almost didn't make it to the toilet (laughs) in time. It was pretty scary. And. Um. You have a new guy to beat up cause this Bosnian dude when we went to go get my dress fixed, he looked at the dressed and he looked at momma and he was like "you are very beautiful" and I looked at him and I was like (gives dirty look).	
M4	No, he was talking about the dress.	
A5	No, that's why he said you.	

Appendix G

Primary Investigator Bias Statement

The primary goal of this research project is to identify patterns of flawed communication practices that exist in parent-adolescent problem solving discussions. Based on my understanding of parent-adolescent communication, work experience in this field, and previous research on family functioning and communication, I suspect that parents and adolescents will exhibit signs of flawed (unhealthy) communication patterns while engaging in family problem-solving discussions. I also believe that demonstrations of positive affect (healthy) communication patterns will be present during the family problem-solving discussions. Lastly, I believe this research will offer insight into common relational dynamics existing between parents and adolescents during this period of lifespan development.

In addition to the present study, I have conducted other research related to parent-adolescent interaction and communication. These studies differ, however, to the present research in that they were analyses of quantitative data. Specifically, I have explored the relationships between electrical brain activity and adolescent attachment and family functioning, as well as parental perceptions of family communication patterns and avoidance behaviors while talking with adolescents about risky behavior topics. The present study differs in that its purpose is to qualitatively examine reciprocal communication patterns between parents and adolescents while actually communicating during a problem-solving discussion.

Prior to pursuing my Ph.D. in Family Sciences, I received a Master of Science degree in Marriage and Family Therapy and a Bachelor of Arts degree in Psychology and Political Science. I have been a Certified Family Life Educator with the National Council on Family Relations for more than six years, and have been employed as an elementary and high school teacher, as well as a college instructor. In addition to my direct clinical and pedagogical work with adolescents, my university teaching load has included classes in child development, focusing on ages 6-18, and family life education. Most recently I have accepted a full-time faculty position at a state institution where my teaching and research is focused in the area of youth development.

My educational background, prior research, and work experiences may influence my interpretation of the data; however, I believe that my knowledge in the areas of adolescence and family relationships will serve as a useful tool in analyzing the transcribed family problem-solving discussions. Ultimately, my goal is to identify patterns in parent-adolescent communication that accurately depict the family's interaction and not my own biases.

Appendix H

Triangulated Investigator's Bias Statement

The purpose of this research project is to identify unhealthy communication patterns that occur in problem-solving interactions between parents and adolescents. Based on my understanding of family relationships, I expect to find some unhealthy patterns in parent-adolescent communication. Though I believe unhealthy patterns will exist, I also expect to see some level of healthy patterns. Overall, I believe this research will provide insight to how the success of problem solving for parents and adolescents is influenced by communication style.

For the present study, I served as an observational coder for the quantitative portion of the analysis. In the past, I have served as an observational coder for the quantitative portion of another study, which examined communication patterns and conflict styles between partners in a couple. Although different in the population studied, these studies are similar, as they both examined communication using qualitative data.

I am currently pursuing my Master of Science in Couple and Family Therapy. Prior to pursuing my M.S., I received a Bachelor of Science degree in Family Sciences. Throughout my educational experience, I have had clinical experience working with families. My knowledge of parent-adolescent communication is limited; however, this limited knowledge may allow me to offer unbiased insight in the interpretation of the data in this study. My educational and clinical background in family relationships will prove useful in analyzing family problem-solving discussions.

Appendix I

Abbreviated Qualitative Analysis Audit Trail

January 30	Primary Investigator emailed coding procedures and operationalized constructs from the qualitative model to the Triangulated Investigator. A review schedule was drafted.
February 12	PI and TI discussed (PA1) via conference call.
February 18	PI and TI discussed (PA6, PA7, PA8, PA9) via conference call.
February 20	PI and TI discussed (PA11, PA12, PA13) via conference call.
February 23	PI and TI discussed (PA2, PA3, PA4, PA5, PA10, PA14, PA15) via conference call.
February 25	PI emailed qualitative results and summary to TI for review.

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