AN ANALYSIS OF RELATIONAL MAINTENANCE AND CONFLICT IN GEOGRAPHICALLY DISTANCED SIBLING RELATIONSHIPS

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DEDICATION

I would like to dedicate this thesis to my family. Mom, thank you for instilling in me kindness and compassion; you showed me how to live life with grace and humility. Dad, thank you for instilling in me boldness and courage; you showed me how to find success in chasing my dreams and taking chances. Kaetlyn, I admire your kindheartedness and poise, and, Francesca, I admire your confidence and spunk; thank you for being the best little sisters and friends I could ever ask for. I attribute everything I am to you.
I sustain myself with the love of family.

-Maya Angelou
ABSTRACT OF THE THESIS

An Analysis of Relational Maintenance and Conflict in Geographically Distanced Sibling Relationships
by
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Sibling relationships are considered one of the longest peer relationships people maintain over the course of their lifetimes. However, less is known about the interpersonal communicative behaviors in nonvoluntary relationships, such as the sibling relationship. This study proposed an extension of Olson’s circumplex model, a model predominately used to analyze and treat families going through therapy. This extension and application of the model introduced dimensions of relational communication to the family context of sibling relationships. Dimensions explored in this study were relational maintenance behaviors (RMBs), conflict, relational quality, and birth spacing among geographically distanced sibling pairs. Specifically, it was expected that siblings balanced on the dimensions of cohesion and flexibility would communicate and function more effectively than unbalanced sibling relationships. An online survey was completed by 297 participants located at a large southwestern university. Results primarily supported the hypothesis concerning balanced sibling relationships as proposed by the circumplex model. Specifically, balanced sibling relationships predominately utilized more RMBs than unbalanced sibling relationships. Balanced sibling pairs also reported lower levels of conflict than unbalanced sibling pairs. The use of positive communication was associated with perceptions of conflict competence, and such perceptions of competence were associated with relational quality. Additionally, this study analyzed how geographic distance played a role in balanced family relationships and use of relational maintenance behaviors. However, effects of geographic distance on the sibling relationship appeared minimal. It appears that short-term or temporary distance does not significantly affect siblings’ uses of RMBs, frequency of conflict, or relational quality. Implications for this analysis include support for sibling dyads going through times of change and application of Olson’s circumplex model to effectively functioning sibling pairs. After further discussion of theoretical and practical implications, this analysis concludes with limitations and directions for future research.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
</tr>
<tr>
<td><strong>CHAPTER</strong></td>
</tr>
<tr>
<td>1 INTRODUCTION</td>
</tr>
<tr>
<td>Rationale</td>
</tr>
<tr>
<td>Literature Review</td>
</tr>
<tr>
<td>Circumplex Model of Marital and Family Systems</td>
</tr>
<tr>
<td>Cohesion</td>
</tr>
<tr>
<td>Flexibility</td>
</tr>
<tr>
<td>Communication</td>
</tr>
<tr>
<td>Relational Maintenance Behaviors</td>
</tr>
<tr>
<td>Conflict</td>
</tr>
<tr>
<td>Geographic Distance</td>
</tr>
<tr>
<td>Relational Quality</td>
</tr>
<tr>
<td>Birth Spacing</td>
</tr>
<tr>
<td>2 METHODS</td>
</tr>
<tr>
<td>Participants and Procedure</td>
</tr>
<tr>
<td>Measures</td>
</tr>
<tr>
<td>3 RESULTS</td>
</tr>
<tr>
<td>Hypothesis One</td>
</tr>
<tr>
<td>Hypothesis Two</td>
</tr>
<tr>
<td>Hypothesis Three</td>
</tr>
<tr>
<td>Hypothesis Four</td>
</tr>
<tr>
<td>Section</td>
</tr>
<tr>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>Hypothesis Five</td>
</tr>
<tr>
<td>Hypothesis Six</td>
</tr>
<tr>
<td>Hypothesis Seven</td>
</tr>
<tr>
<td>Hypothesis Eight</td>
</tr>
<tr>
<td>Hypothesis Nine</td>
</tr>
<tr>
<td>Hypothesis Ten</td>
</tr>
<tr>
<td>Hypothesis Eleven</td>
</tr>
<tr>
<td>Research Question One</td>
</tr>
<tr>
<td>Research Question Two</td>
</tr>
<tr>
<td>Research Question Three</td>
</tr>
<tr>
<td>DISCUSSION</td>
</tr>
<tr>
<td>Implications, Limitations, and Future Directions</td>
</tr>
<tr>
<td>Conclusion</td>
</tr>
<tr>
<td>REFERENCES</td>
</tr>
<tr>
<td>APPENDIX</td>
</tr>
<tr>
<td>A THESIS QUESTIONNAIRE</td>
</tr>
</tbody>
</table>
LIST OF TABLES

Table 1. Factor analyses of conflict strategies items ........................................................25
LIST OF FIGURES

PAGE

Figure 1. Positivity RMB ..........................................................26
Figure 2. Understanding RMB ...................................................27
Figure 3. Self-disclosure RMB ...................................................28
Figure 4. Assurances RMB .......................................................29
Figure 5. Tasks RMB ..............................................................30
Figure 6. Networks RMB .........................................................31
Figure 7. Relationship Talks RMB .............................................32
Figure 8. Conflict frequency .....................................................33
Figure 9. Conflict competence .................................................34
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CHAPTER 1

INTRODUCTION

Many scholars have identified the sibling relationship as one of the longest peer relationships people maintain over the course of their lifetimes (Myers, 2001; Rocca, Martin, & Dunleavy, 2010; Stafford, 2013). Throughout the lifespan, siblings serve a range of roles. They are friends during childhood, role models during adolescence, and providers of social support during adulthood (Whiteman, McHale, & Soli, 2011). With siblings fulfilling a variety of interpersonal functions, it is not surprising that previous research has identified benefits of maintaining close sibling relationships. Psychological benefits include high levels of life satisfaction, high self-esteem, and lower levels of loneliness (Milevsky, 2005; Sherman, Lansford, & Volling, 2006). A major health benefit is lower levels of depression (Cicirelli, 1989; Milevsky, 2005; Sherman et al., 2006). It is evident that sibling relationships are relevant and beneficial; therefore this thesis will explore a variety of dimensions of the relationship between siblings.

RATIONALE

Although much is known about the use of relational maintenance behaviors in voluntary relationships, such as friendships and romantic relationships, less is known about the use of relational maintenance behaviors in nonvoluntary relationships, such as the sibling relationship (Myers, 2001). Although some researchers consider adult sibling relationships as voluntary (Floyd & Parks, 1995), it is more commonly believed that throughout the life course, as sibling contact stabilizes, many siblings continue to maintain contact with each other (Whiteman et al., 2011). Even with the presence of interpersonal conflict, it is believed that the sibling relationship cannot completely deteriorate like other relationships with intense conflict (Bedford, Volling, & Avioli, 2000), such as friendships or romantic relationships. This study will extend such knowledge by addressing why siblings want to maintain relationships with each other. As those aforementioned studies suggest, individuals
might be motivated to maintain sibling relationships whether or not they resemble friendships when they reach adulthood.

To better understand people’s motivations for maintaining relationships with siblings, scholars have developed models and theories in an attempt to explain such motivations. One such model is Olson’s circumplex model. In a review of the past twenty years of family research, Stamp and Shue (2013) only reported one instance of Olson’s circumplex model specifically published in a communication journal. This is surprising considering the circumplex model is one of the most widely used models of family functioning (Yahav, 2002). When Schrodt (2005) applied the circumplex model to the field of communication, his primary goal was to extend the model in relation to Koerner and Fitzpatrick’s (2002) general family communication patterns (FCP). Schrodt’s (2005) study made great strides toward understanding how dimensions of communication, specifically family schemata, aid in family functioning. Despite this advance, there are other dimensions of relational communication that might help families negotiate their connections with one another. An additional consideration is that Schrodt’s study examined adult offspring from first-marriage families (Schrodt, 2005) and did not encompass or represent the variety of family types scholars study today. Toward those ends, the goals of this study are twofold: first, communication concepts will be examined as potential extensions of the circumplex model, and second, the study will also examine the sibling relationship, a family unit that has historically been understudied in research based on the circumplex model.

**LITERATURE REVIEW**

**Circumplex Model of Marital and Family Systems**

Olson and his colleagues developed the circumplex model of marital and family systems as an integration of systems theory and family development theory (Olson, 2000). To date, the circumplex model has been undergoing revisions for approximately three decades (Vogel-Bauer, 2003); however, the main hypothesis has stayed the same. According to the circumplex model, balanced family relationships tend to be more functional than unbalanced family relationships (Olson, 2000). Balanced family relationships are believed to have the ability to adjust to situations in times of change or crisis (Peroza & Peroza, 2001) because of their moderate rankings of closeness and stability and use of positive
communication (Olson, 2000). Whereas extreme closeness and stability behaviors might be fitting for situations where the family system is under stress, Olson and his colleagues believe that families perpetually fixed at such extremes encounter problems, such as the inability to alleviate stress (Garbarino, Sebes, & Schellenbach, 1984). Thus, applying concepts from the circumplex model, unbalanced, or dysfunctional (Olson, 1986), families are hypothesized to rank extremely on the charted dimensions of the model (Thomas & Olson, 2007)—cohesion and flexibility—detailed below.

**COHESION**

Cohesion is defined as “the emotional bonding that family members have towards one another” (Olson, 2000, p. 145). The cohesion dimension of the circumplex model focuses on how families balance members who are separate from the family system and members who are together with the family system. Cohesion, then, appears to be similar to interpersonal closeness. Interpersonal closeness, or intimacy, is conceptualized as the level of interdependence between members in a dyad (Berscheid, Snyder, & Omoto, 1989). The dimension of cohesion was created to encompass and measure various concepts, such as boundaries, decision-making, emotional bonding, and interests (Olson, Russell, & Sprenkle, 1983).

The model highlights four levels of cohesion: disengaged, separated, connected, and enmeshed. The disengaged level of cohesion represents families with very low cohesion while the enmeshed level of cohesion represents the other side of the spectrum, that is, families with very high cohesion. Disengaged family systems are often marked by low attachment or commitment to family members. On the other hand, enmeshed family systems are often marked by over identification, meaning that high levels of loyalty “prevent individualization of family members” (Olson et al., 1983, p. 70). The final two levels of cohesion, separated and connected, are moderate, with separated leaning slightly more toward low cohesion and connected leaning slightly more toward high cohesion.

According to the major hypothesis of the circumplex model, families with balanced levels of cohesion (separated and connected) have more effective family functions. Families with very high and very low levels of cohesion (enmeshed and disengaged, respectively) are hypothesized to be more problematic for the long-term development of families (Olson,
Given that the focus of this thesis is on geographically distanced sibling relationships, it is important to consider how geography might influence siblings’ cohesion with their families of origin and with one another. Thus, when analyzing the cohesion dimension of the circumplex model, the focus will be on siblings who are separate from the family, specifically students who have moved away from the home to attend college.

**Flexibility**

Flexibility refers to “the amount of change in...leadership, role relationships and relationship rules” (Olson, 2000, p. 147). The flexibility dimension of the circumplex model focuses on how families balance stability and change within the family system. Until recently, theorists did not stress the importance of potential change within family roles and rules (Olson, 2000). Rather, when applying systems theory to the family unit, theorists focused on the high levels of rigidity in the family and its tendency not to change. However, the circumplex model challenges that previously held notion by acknowledging that high levels of functioning can be a positive outcome of balanced flexibility. The dimension of flexibility was created to encompass and measure various concepts, such as negotiation styles, assertiveness, relationship rules, and discipline (Olson et al., 1983).

The model highlights four levels of flexibility: rigid, structured, flexible, and chaotic. The rigid level of flexibility represents families with very low flexibility whereas the chaotic level of flexibility represents families with very high flexibility. The rigid level of flexibility could be associated with the early applications of systems theory to the family unit: families with rigid flexibility have a tendency not to change the rules or roles established in the family unit. However, chaotic flexibility is marked by too much negotiation or change in roles or rules to the point where a balance cannot be achieved. The structured and flexible levels of flexibility are moderate, with structured leaning slightly more toward low flexibility and flexible leaning slightly more toward high flexibility.

Similar to cohesion, according to the major hypothesis of the circumplex model, families with balanced levels of flexibility (structured and flexible) experience more effective family functioning. The more extreme dimensions of flexibility (rigid and chaotic) are hypothesized to be more problematic for the long-term development of families (Olson, 2000). Since the focus of this study is on geographically distanced sibling relationships,
when analyzing the flexibility dimension of the circumplex model, the focus will be on siblings who are experiencing change in the family. An example of change is a sibling moving away from the home to attend college (Newman, 1991).

Changes such as a child reaching adolescence or moving out of the home have been conceptualized, but not tested, using the circumplex model. As such, the application of the circumplex model to help explain the conceptualized phenomena was used in different contexts than the focus of this study. In one explanation of the circumplex model, Olson (2000) discussed a hypothetical marital couple and the changes they could endure throughout their development as a couple (i.e. dating, marriage, child-rearing, and sending children off to college). Another explanation of the circumplex model, also offered by Olson (2000), discussed the family as a unit and the changes they could endure when one parent suffered from a sudden health condition. Although one child was said to be attending college, Olson (2000) still focused on the family as a unit. Given that the focus of the previous hypothetical applications is on the family as a unit or the marital couple as a unit, more attention should be given to understanding the effects of flexibility on siblings as a discrete unit.

**COMMUNICATION**

Communication is the third component of the circumplex model; this component focuses on contact and disclosure between members of a family unit (Olson et al., 1983). Unlike the cohesion and flexibility dimensions of the circumplex model, which have subvariables and thus can be charted, the communication component of the circumplex model aids in the movement of the charted dimensions (Olson, 1986, 2000).

According to a major hypothesis of the circumplex model, balanced family relationships tend to have more positive communication than unbalanced family relationships. Such positive communication skills include the use of clear messages, responding with empathy, offering support, and utilizing problem-solving techniques (Olson et al., 1983; Perosa & Perosa, 2001). Positive communication is used to facilitate balanced relationships through aiding changes enacted in levels of cohesion and flexibility. Whereas positive communication aids in support experienced in balanced family relationships, “a lack of communication skills is believed to inhibit the family system’s ability to change when needed” (PeroSA & Perosa, 2001, p. 407). Additionally, the use of negative communication
skills, such as criticism or double messages, are also thought to inhibit the family system by restricting movement on the various dimensions (Olson et al., 1983).

Rodick, Henggeler, and Hanson (1986) examined Olson’s (2000) family communication hypothesis when they applied assumptions from the circumplex model to mother-son dyads. In the study, approximately half of the sons had a record of juvenile offense and the other half had no such history. Results showed that, in the families with balanced levels of cohesion and flexibility, the mothers showed more supportive and explicit communication and displayed greater warmth and affection to their sons than families with extreme degrees of cohesion and flexibility. However, while there is support for this hypothesis, there is no empirical evidence to provide support for the association between balanced or unbalanced family relationships and a specific type of family. Researchers could not make accurate predictions correlating the families with record of juvenile offense to unbalanced family relationships. This could be because even balanced family relationships have moments when they rank more extremely on the charted dimensions of cohesion and flexibility during moments of stress, such as when a child is making a juvenile offense. Therefore, it appears that scholars cannot make assumptions about level of balance in the family based on the type, or record history, of the family. However, it is important to remember that what marks a balanced family relationship is their ability to bounce back after crisis and adjust during times of change (Perosa & Perosa, 2001).

Although the circumplex model is one of the most widely utilized models of family interaction (Yahav, 2002), it has not gained complete support from researchers. For instance, Perosa and Perosa (2001) failed to provide support for Olson’s hypothesis of balanced family relationships. In their study, the participants, both clinical and non-clinical high school seniors and college freshmen, were chosen because late adolescence lends itself to life changes, such as moving away from the home, that promote dysfunction of other issues. Results of Perosa and Perosa’s (2001) study revealed a linear relationship between cohesion and communication, specifically communication expressiveness, clarity, and problem solving, a difference from the curvilinear pattern Olson (2000) suggested. It is therefore important to continue researching the claims of the circumplex model so as to clear up discrepancies concerning the applications of the model.
Relational Maintenance Behaviors

Relational maintenance behaviors (RMBs) are defined as the communicative actions individuals use to sustain the desired status of their interpersonal relationships (Canary & Stafford, 1994; Dindia, 2003). RMBs are not used solely to prevent relational deterioration; they are also used to continue or preserve the relational qualities of the relationship (Stafford, Dainton, & Haas, 2000), such as closeness or trust (Dindia, 2003). RMBs can be used to repair relationships, which refers to both the “preventative and corrective maintenance” utilized when a relationship has been damaged (Dindia, 2003, p. 4). The combination of behaviors used when keeping a relationship in repair essentially prevents the relationship from deteriorating.

In understanding the motives for the uses of RMBs, it is important to recognize those specific maintenance behaviors utilized. RMBs include self-disclosure, positivity, assurances, networks, sharing tasks, understanding, and relationship talks (Canary & Stafford, 1992; Canary, Stafford, Hause, & Wallace, 1993; Stafford, 2011). Self-disclosure, or openness, involves sharing information, such as thoughts or feelings, beyond just talk about the relationship. Positivity refers to communicating enthusiastically and optimistically. Assurances include validating the continuation of the relationship. Networks refer to communicating with shared relationships and relatives. Sharing tasks includes the performances of responsibilities in the relationship, such as doing chores (Canary & Stafford, 1992), partaking in family events, or even staying in contact with siblings (Myers, 2001). Understanding refers to the patience and collaboration relevant to both conflict and non-conflict interactions (Stafford, 2011). Finally, relationship talks involve directly discussing the relationship. Such relational maintenance behaviors are used as part of the process of maintenance, meaning that the levels and uses of RMBs are dynamic and can change at any time (Canary & Stafford, 1994). Baxter (1994) points out the importance of fluctuation and change in RMBs since relationships cannot remain static. Although stability can be achieved through maintenance, relationships are complex. RMBs help explain how people uphold the statuses of their complex relationships.

RMBs can be used strategically or routinely (Canary & Stafford, 1994; Dainton & Stafford, 1993; Duck, 1988; Myers, Byrnes, Frisby, & Mansson, 2011). While both strategic and routine RMBs are utilized to achieve the same goal, that is, maintenance (Stafford et al.,
2000), there are differences between the two. Strategic RMBs occur when interpersonal participants utilize the behaviors purposefully and consciously (Duck, 1988; Myers et al., 2011) in order to either sustain or improve the relationship (Stafford et al., 2000). Individuals who enact strategic maintenance behaviors are often focused on achieving specific goals in the relationship (Canary & Stafford, 1994). Often, that goal is the continuance of the relationship (Stafford et al., 2000); however, other goals might be to reduce the uncertainty about the relationship or to communicate affection in an attempt to counteract the negative effects of computer-mediated communication (CMC) (Myers et al., 2011). When individuals are putting in a conscious effort to utilize RMBs, it is thought that they are engaging in strategy.

Conversely, routine RMBs are those interpersonal behaviors individuals utilize less intentionally or less consciously than strategic behaviors (Dainton & Stafford, 1993); essentially, individuals are less mindful of their uses of RMBs until the relationship is questioned (Canary & Stafford, 1994). When individuals are not deliberately engaging in specific behaviors, it is thought that they are utilizing routine RMBs. However, it is sometimes difficult to differentiate strategic and routine RMBs since the terms are not dichotomous (Dindia, 2003). Whereas one dyad might utilize sharing tasks strategically – for example, specifically doing chores for the other so as not to complete the chores the next week – other dyads might utilize sharing tasks routinely, in that completing chores has become a part of their daily lives and routines. Regardless of intention, strategic and routine RMBs serve as ways to maintain relationships.

Data support the importance of RMBs in all ongoing relationships, both voluntary and nonvoluntary (Myers, 2001), so as to avoid the deterioration of relationships. RMBs have been examined across varying relational contexts (Myers, 2001), including friendships (Bippus & Rollin, 2003; Canary et al., 1993; Guerrero & Chavez, 2005), romantic relationships (Canary & Stafford, 1992; Ragsdale, 1996; Weigel & Ballard-Reisch, 1999), and more recently, sibling relationships (Mikkelson, Myers, & Hannawa, 2011; Myers, 2001; Myers et al., 2011). Among those studies examining sibling communication, researchers have identified RMBs used uniquely in sibling relationships. Such RMBs include confirmation, humor, social support, family visits, escape, and verbal aggression (Myers & Weber, 2004). Confirmation refers to the validation of the importance of the sibling
relationship. **Humor** refers to the cheer or amusement of the sibling. **Social support** includes the depth and breadth of topics covered in the communication between siblings (Myers & Weber, 2004). **Family visits** references attendance at family events where both siblings are present. **Escape** includes viewing the sibling as an oasis or distraction at such family functions. Finally, **verbal aggression** refers to aggressive communication between the siblings, such as sarcasm or screaming. Under closer examination, it appears that the reported sibling RMBs are reflected in the traditional RMBs used by romantic relationships and friendships. For instance, confirmation mirrors the relationship talks and assurances relational maintenance behaviors while family visits mirrors the networks RMB. Thus, this finding supports the use of Stafford’s (2011) seven RMBs across varying interpersonal contexts.

Multiple studies have applied the five RMBs to the sibling relationship. Mikkelson, Myers, et al. (2011) concluded that genetically related siblings use RMBs more frequently than less genetically related siblings (e.g., stepsiblings, half siblings, adopted siblings). Among the various types of sibling relationships, research supports the notion that the RMB used most frequently in sibling relationships is sharing tasks whereas openness is used least frequently (Myers, 2001). Through the performance of responsibilities, some siblings treat staying in contact with each other as a task. Siblings’ priorities shift due to starting families of their own, and maintaining contact with each other becomes less convenient when siblings are living geographically apart. Thus, siblings might utilize the sharing tasks RMB the most because of the extra effort they need to put into maintaining the relationship when entering adulthood. Openness, however, is used least frequently in the sibling relationship. This can be explained by comparing sibling dyads to other relationships, such as romantic partners. Relational research supports a negative correlation between self-disclosure and relationship duration (Goodboy, Myers, & Patterson, 2009; Weigel & Ballard-Reisch, 1999). This could be because the nature of the relationship is established, so conversations about the nature of the relationship are not as necessary as compared to when the relationship was in its infancy. Thus, it can be conceived that long-term relationships, much like marriage and the sibling relationship, utilize the openness RMB less frequently than the other RMBs.

The circumplex model argues that balanced family relationships, that is, those families who are moderate in their degrees of cohesion and flexibility, exhibit positive
communication skills to facilitate family functioning. What remains to be seen from this research is whether or not sibling pairs, as a sub-unit of the larger family unit, experience those same benefits. Given that RMBs are conceptualized as a means of positive communication and that studies have specifically identified relevant RMBs within the sibling context, the following hypothesis is advanced:

\[ H_1: \text{Sibling pairs who are balanced on dimensions of cohesion and flexibility utilize more relational maintenance behaviors more than unbalanced siblings.} \]

**Conflict**

Conflict is unavoidable in family relationships (H. D. Johnson, 2002). So, in understanding that the circumplex model relies on the comparison of balanced and unbalanced family relationships (Perosa & Perosa, 2001), it is important to introduce a variable categorized in the dark side of relational communication to this thesis. Specifically, unbalanced family relationships are associated with high levels of aggression and conflict (H. D. Johnson, 2002). Conversely, it is understood that balanced family relationships have better conflict resolution (Olson & Gorall, 2006) and utilize more constructive conflict tactics (H. D. Johnson, 2002) than unbalanced family relationships. Clearly there is a divide between balanced and unbalanced family relationships when it comes to conflict.

In reference to sibling relationships specifically, although studies have shown that college undergraduates tend to have favorable relationships with their siblings (Newman, 1991), researchers have noted limitations of that research, such as the time of year the students completed the surveys. Newman (1991) noted that investigating college students’ sibling relationships after a long visit home, such as holiday break, might result in more negativity toward the relationship. This is due to increased conflict during face-to-face interactions after long periods of time being apart. Newman (1991) confronted the notion that conflict is a part of any close relationship, even those deemed positive.

In line with Newman’s (1991) notion, sibling conflict has been a topic of interest in communication research (Bevan, 2010; Spitzberg, Canary, & Cupach, 1994). Various scholars have studied the presence of conflict in the sibling relationship (Avtgis, 2003; Bedford et al., 2000; Pawlowski, Myers, & Rocca, 2000). Brody, Stoneman, McCoy, and Forehand (1992) found that harmonious family discussion about sibling issues is associated
with lower levels of sibling conflict. Beyond the amount of conflict, Pawlowski et al. (2000) studied the relationship between conflict styles and relational communication messages in sibling relationships. Results from the study revealed that siblings who use certain relational communication themes, such as immediacy, similarity, receptivity, composure, and equality, tend to use the integrative conflict strategy (Pawlowski et al., 2000). The integrative conflict strategy “involves negotiation and a high concern for both parties” (Bevan, 2010, p. 55). Whereas siblings utilizing the integrative conflict strategy seem to engage in pro-social relational communication, siblings utilizing the avoidant conflict strategy do not engage in such relational communication themes. The avoidant conflict strategy involves dodging confrontations and changing of argumentative topics (Bevan, 2010). Those conflict avoidant individuals do not engage in similarity and equality; rather, they utilize immediacy more often than task orientation (Pawlowski et al., 2000). Pawlowski et al. (2000) concluded that the themes used might have to deal with the reciprocity in the sibling relationship.

Interestingly, Bevan (2010) noted that the types of conflict strategies did not vary by relationship type (romantic or family relationships), although amount of distress or conflict might alter that result. Thus, it is important to investigate the amount of conflict in interpersonal relationships.

Other researchers have taken different approaches to studying the presence of sibling conflict. Avtgis (2003) specifically investigated the brother-brother sibling pair, concluding that when brothers feel confident about their ability to predict sibling behavior, they are likely to perceive social support styles and unlikely to experience interpersonal conflict. Bedford et al. (2000) took a descriptive approach to sibling conflict when studying the positive benefits of sibling conflict. In the study, researchers interviewed middle-aged and older adults about their childhood conflict experiences with their siblings and how those experiences culminated in positive advantages of conflict. The results yielded several categories such as parenting, social competence, sibling relationship, and sense of self. Specifically, adults who experienced negative conflict in their childhood sibling relationships applied such lessons to their own parenting in that they supported and mentored their own children’s conflict. In regard to social competence, many participants noted their present compassionate and sensitized feelings toward not only their siblings, but others outside of the family unit. Adults reporting childhood conflict noted benefits toward their sibling
relationship, including increased honesty, establishment of trust, and engagement in open communication. Finally, participants reported how their sense of self changed through their experiences of sibling conflict. Specifically, the participants noted opportunities of self-discovery and utilizing the sibling as a role model (or negative role model).

Whereas many scholars have focused on the effects of the frequency of conflict in the sibling relationship, other scholars have focused on the role of competence in sibling interactions. Cupach, Canary, and Spitzberg (2009) recognized the complexity of conflict through adopting a framework of competence. This framework of competence allowed the researchers to focus on the evaluation of behaviors in conflict situations and the processes involved in conflict rather than conflict management skills (Spitzberg et al., 1994).

To begin, there are two guiding criteria of conflict competence: effectiveness and appropriateness (Cupach et al., 2009). Effectiveness is determined by how well individuals achieve their set goals during an interaction. While the quantity and type of goals can vary in each context, the goals are often what motivate communication in conflict situations. Effectiveness, then, can be conceptualized as the degree to which individuals achieve their desired goals or outcomes (Cupach et al., 2009). This can be through winning the argument or minimizing the losses in lose-lose conflict situations. However, it is important to note that the effectiveness component of competence does not refer to the actual actions of abilities or skills communicators’ display (Spitzberg, 2013), rather, competence refers to the judgments or perceptions of such skills utilized in the situation. So while skills and abilities can influence the perception of competence, skills and abilities do not constitute competence (Spitzberg, 2013).

The second criterion, appropriateness, is defined as the evaluation of the partner’s behaviors in the conflict situation. If individuals view their partners’ communication and behaviors as competent, then they perceive those behaviors as acceptable and suitable to the situation. Competence, then, is the combination of one’s perceptions of effectiveness and appropriateness (Cupach et al., 2009). These perceptions are subjective since they are essentially judgments of effectiveness and appropriateness in the context or situation (Spitzberg, 2013). Effectiveness and appropriateness vary on a continuum (Spitzberg, 2013), meaning that individuals can be perceived as having high or low effectiveness and high or low appropriateness given the conflict situation.
A basic understanding of competence can lend individuals to see how competence plays a role in conflict situations. Specifically, competence is considered to affect relational outcomes. Competence is viewed as both a moderating and mediating factor between perceptions of conflict behavior and relational outcomes (Cupach et al., 2009; Spitzberg et al., 1994). When perceptions of conflict behaviors, such as negative judgment toward others, are stressed in conflict interactions, competence is considered to be a moderating variable: competence is essentially interacting with conflict behaviors to affect relational outcomes. The influence of behaviors on relational outcomes depends partly on the perceptions of appropriateness and effectiveness in the conflict situation. However, when competence is “interpretative[ly] screen[ed]” in conflict interactions (Spitzberg et al., 1994, p. 188), competence is considered to be a mediating variable: competence is influencing relational outcomes through framing particular conflict behaviors. For example, when individuals view conflict behaviors as competent, regardless of the negativity involved in the conflict, the chances of positive outcomes are increased. Similarly, when individuals view conflict behaviors as incompetent, regardless of the positivity involved in the conflict, the chances of negative outcomes are increased. While competence can serve a variety of functions, the exact function of competence depends on the situation and the individual’s interpretation of competence.

Based on this reasoning, it is expected that balanced sibling pairs will engage in lower levels of conflict and the conflict will be considered competent. Thus, the following hypotheses are advanced:

\[
\begin{align*}
H_2: & \quad \text{Sibling pairs who are balanced on cohesion and flexibility report low levels of conflict.} \\
H_3: & \quad \text{Sibling pairs who are balanced on cohesion and flexibility engage in more competent conflict.} \\
H_4: & \quad \text{Siblings’ engagement in positive communication is directly associated with conflict competence.}
\end{align*}
\]

**Geographic Distance**

As siblings enter adulthood, many experience a change in geographic distance from their childhood environments. For example, siblings move out of the house to attend college
or start families of their own. For the purposes of this analysis, college students are an ideal population to study because many students experience their first time away from their families of origin when they move to college. It is often in this change of location when students must form new peer groups and identities (Newman, 1991). Thus, it could be conceptualized that geographic distance is the degree to which siblings are physically separated by miles.

While much scholarship examines college students out of convenience, other research focuses primarily on college students as a specific population. For instance, a study conducted by G. M. Johnson, Stanton, and Jorgensen-Earp (1995) compared the importance of communication in three categories of university freshmen: students living in the dorms, students living in Greek houses, and students living at home who commute to school. Through utilizing communication, students reported adjusting to their role as college freshmen on campus (G. M. Johnson et al., 1995). However, the students’ new identities as college freshmen did not just affect the students; they affected the family system as well. For example, students who still lived at home reported having to inform their parents about their school and social schedules. Also, whereas commuting students relied on their family members, such as parents or siblings, for social support, students living away from home reported relying on roommates and friends on campus for such support. However, unlike commuter students, the students living in the dorms or Greek houses reported problems maintaining family relationships, conflicting with Newman’s (1991) findings suggesting that college students generally report positive sibling relationships. Nevertheless, all three-student categories reported changes in family dynamics as a result of the transition to college (G. M. Johnson et al., 1995). Students had to adjust to new living arrangements, create new friendships, balance tensions occurring during changes in relationships, and confront more challenging academic work (G. M. Johnson et al., 1995).

Besides adjusting to the role of college student, there are other roles that siblings may have to adjust to that affect their sibling relationship. For instance, adult siblings may have to adjust to the role of parent, aunt or uncle, or even caregiver to their parents (Myers, Brann, & Rittenour, 2008). Given these changing family dynamics and the various family changes that compete for siblings’ time as they age, it is predicted that familial RMBs will adjust as well (Vogel-Bauer, 2003; Weigel & Ballard-Reisch, 1999). Thus, some scholars have suggested
that affection becomes an important act of strategic communication in adult sibling relationships. In a study conducted by Myers et al. (2011), the researchers concluded that siblings use affectionate communication as a way to maintain involvement in each others’ lives. It was hypothesized that affectionate communication is used as a strategic RMB more often than as a routine RMB (Myers et al., 2011). First, because of sibling separation of geographic distance, sibling communication is often limited. It appears that siblings resort to mediated communication, such as email, or infrequent visits, such as going home for the holidays, as popular means of communication, impacting the sibling relationship (Whiteman et al., 2011). Second, as siblings enter adulthood, they begin to take on more responsibilities, such as demands of a career or raising a family. These demands “compete with their ability to interact and spend time with each other” (Myers et al., 2011, p. 153). Thus, to maintain their relationships strategically, adult siblings report using affectionate communication to reduce uncertainty about their distanced sibling relationship. However, it is also possible that siblings genuinely show interest in maintaining their sibling relationships.

Other researchers have not focused on college students specifically, but have also analyzed how geographic distance plays a role in the sibling relationship. For example, Lee, Mancini, and Maxwell (1990) concluded that geographic proximity was strongly correlated to sibling contact. Essentially, the closer siblings live geographically, the more frequently siblings contacted each other, both face-to-face and over the phone, and the more siblings felt obligated to contact each other. Similarly, White (2001) suggested that there is a negative relationship between the geographic distance between siblings as they get older and the frequency of sibling contact. Although researchers have identified a negative correlation between geographic distance and frequency of sibling contact, there is still a need for research to support this claim in the context of relational communication. This is because proximity does not necessarily imply or guarantee contact (Stocker, Lanthier, & Furman, 1997). It appears that geographic distance and sibling contact might depend on relational communication concepts examined in this analysis, such as use of RMBs or perceptions of relational quality.

Based on this reasoning, it is expected that geographic distance between siblings affects their use of RMBs. Additionally, little is known about how geographic distance
interacts with the cohesion and flexibility dimensions of the circumplex model. Thus, the following hypotheses and research questions are advanced:

**H5:** Overall, geographic distance is negatively associated with use of all RMBs.

**H6:** Intentionality of relational maintenance (strategic v. routine) moderates the effect of geographic distance on RMBs such that geographic distance is positively associated with RMBs when RMBs are strategic.

**H7:** Geographic distance is negatively related to frequency of conflict.

**RQ1:** How does geographic distance play a role in siblings’ levels of cohesion?

**RQ2:** How does geographic distance play a role in siblings’ levels of flexibility?

### Relational Quality

Relational quality is important to consider in interpersonal studies because it is related to various communication concepts explored in this thesis. Specifically, Dindia (2003) noted that the caliber of communication in relationships predominately influences the quality of the relationships. Additionally, relational quality is considered an outcome of conflict (Spitzberg et al., 1994) in that greater competence correlates with greater relational quality (Spitzberg, 2013). It is also considered that siblings with strong family ties might desire to live closer geographically to their siblings (Blaauboer, Stromgren, & Stjernstrom, 2013). Thus, relational quality appears to be an intricate piece to the understanding of sibling relationships.

There have been many approaches to measuring relational quality in the social sciences that Fletcher, Simpson, and Thomas (2000) appear to question. Particularly, Fletcher et al. (2000) noticed that many of the constructs of relational quality, such as commitment, trust, and satisfaction, seemed to be measured independently. This is evident in much of the early and current family communication research insofar as many researchers look at specific constructs of relational quality instead of overall relational quality. For example, Floyd (1995) compared perceptions of closeness in two contexts: the sibling relationship and friendships. Closeness, or intimacy, is conceptualized as substantial interdependence between both members in a dyad regarding the frequency of reliance, the strong impact of the members, and the diversity of activities (Berscheid et al., 1989). Although participants did not report feeling closer to their friends than their siblings, Floyd (1995) noted a difference in the way closeness was communicated. Between siblings, closeness was communicated as a
function of dependability; siblings reported not talking about the level of closeness in the relationship because that closeness was evident through helping each other with chores. Between friends, however, closeness was communicated as a function of similarity; the individuals were close because they shared interests. The singular concept of closeness was also investigated in a study conducted by Weaver, Coleman, and Ganong (2003). Similarly to Floyd (1995), Weaver et al. (2003) noticed that perceptions of sibling functions, such as completing chores for one another, were associated with feelings of closeness. This was especially evident in sisters’ responses about siblings of either sex. Studies such as these show how closeness plays a role in the grander notion of relational quality.

Another concept of relational quality that has been studied independently is commitment. Commitment is defined as dedication to the relationship, out of personal desire, moral obligation, or fear of potential consequences of an ended relationship (Adams & Jones, 1999). Rittenour, Myers, and Brann (2007) studied commitment across the sibling lifespan, concluding that sibling commitment appears stable across the years. Rittenour et al. (2007) also noted correlations between sibling commitment and intimacy. It appears that siblings feel committed because of their closeness and affection toward one another (Rittenour et al., 2007), resulting in predictable relational satisfaction (Myers & Bryant, 2008). The commitment behaviors sibling enact, such as protection, offering support, and everyday talk (Myers & Bryant, 2008), leave siblings feeling satisfied about the quality of their relationships.

In understanding the complexity of relational quality, this thesis will adopt Fletcher et al.’s (2000) approach of measuring overall relational quality. It is expected that overall relational quality will be associated with RMBs, conflict competence, and geographic proximity. Thus, the following hypotheses are advanced:

H₈: Relational maintenance behaviors are positively correlated to relational quality.

H₉: Conflict competence is positively associated with relational quality.

H₁₀: Geographic distance is negatively correlated to relational quality.
Birth Spacing

In family research, spacing is considered the difference in time between live births. Parents may have more control over spacing between children, unlike birth order (Buckles & Munnich, 2012). Researchers have noted that parents’ birthing a healthy firstborn increases the probability of a closely spaced second child (Rosenzweig, 1986).

Larger spacing seems to have many benefits for siblings and the sibling relationship. For example, accounting for miscarriages, Buckles and Munnich (2012) found that larger spacing between children significantly increased academic achievement for older siblings. Additionally, larger spacing has been considered a factor countering the negative effects of birth order (Zajonc, 1976). When it comes to sharing advice, Cicirelli (1975) noted that spacing in sibling pairs had a large effect on willingness to accept advice. Specifically, younger siblings in pairs four years apart were more likely to accept advice than younger siblings in pairs two years apart.

Birth spacing has also been reviewed in geographic communication literature. Blaauboer et al. (2013) conducted a study examining the relationship between sibling ties, sibling life course preferences, and geographic distance of siblings in Sweden. The researchers concluded that siblings move geographically apart from each other for educational and occupational reasons; however, the researchers specifically hypothesized that greater spacing between siblings would lead to greater geographic distance. This hypothesis was supported through explaining that siblings who are largely spaced also tend to be socially distanced in relation to life course preferences; in other words, the distance between siblings allows for less role modeling from older siblings.

There are conflicting findings concerning the spacing of dyads and conflict (Riggio, 2006). Although some researchers report siblings in closely-spaced dyads experience more conflict than siblings in widely-spaced dyads (Minnett, Vandal, & Santrock, 1983; Stocker et al., 1997; Van Volkom, Machiz, & Reich, 2011), other researchers have not found such significant effects (Abuhatoum & Howe, 2013; Lee et al., 1990). Riggio (2006) suggested that when reflecting on their childhood relationships, adult siblings think of those relationships as positive and meaningful. However, this suggestion should be evaluated with caution. Riggio (2006) asked participants to report on “the sibling with the greatest impact on your life” (p. 1250), encouraging participants to select a relationship they deem positive. This
exclusive focus on positive sibling relationships might be problematic because it is known that equal contact is not always maintained with each sibling (Newman, 1991). Due to these conflicting findings, it is important to evaluate the spacing of dyads and their engagement in positive and negative communication. Thus, the following hypotheses are advanced:

H11: There is a negative correlation between sibling birth spacing and frequency of conflict.

RQ3: How does the spacing of sibling dyads affect frequency of engagement in RMBs?
CHAPTER 2

METHODS

PARTICIPANTS AND PROCEDURE

A total of 297 participants (all college students over the age of 18) from a large southwestern university participated in this study. Participants included 213 females (66.60%), 80 males (25%), and 27 individuals who did not disclose their sex (8.40%). Participants also reported the sex of their sibling, indicating 151 females (47.20%), 139 males (43.40%), and 3 non-speciﬁed (.90%). The majority of the participants identiﬁed ethnically as Caucasian/white (n = 162, 50.60%). The remaining participants indicated their ethnicities as Latina/Hispanic (n = 66, 20.60%), Asian/Paciﬁc Islander (n = 49, 15.30%), African American (n = 18, 5.60%), Native American (n = 3, .90%), and other (n = 23, 7.20%). Participants also reported the ethnicities of their siblings as follows: Caucasian/white (n = 164, 51.20%), Latina/Hispanic (n = 66, 20.60%), Asian/Paciﬁc Islander (n = 48, 15%), African American (n = 20, 6.30%), Native American (n = 3, .90%), and other (n = 69, 21.60%).

While participants had to identify having at least one sibling to complete the survey, they were asked to reﬂect on the siblings closest in age to them (M = 3.99 years apart, SD = 3.17). Close to half of the participants reporting being younger than their sibling (n = 151, 47.20%). This requirement helped account for the variance in students selecting their favorite sibling when completing the survey (Mikkelson, Floyd, & Pauley, 2011). Of importance to this analysis was the geographic distance between siblings. Only 84 participants indicated that they currently live with their sibling (26.30%) with the majority of the participants indicating that they do not currently live with their sibling (n = 213, 66.60%). The difference in miles varied among the participants indicating they did not live with their siblings, with 47 living in the same city as their siblings (14.70%), 50 living in a different city, less than 100 miles away from their siblings (15.60%), 42 living more than 200 miles apart from their
siblings (13.10%), 25 living more than 500 miles from their siblings (7.80%), and 47 living more than 1,000 miles from their siblings (14.70%).

In addition, participants indicated their genetic relationship with their sibling. The majority of the siblings indicated that they were full genetic siblings (n = 249, 77.80%). The remaining participants indicated being half siblings (n = 31, 9.70%), stepsiblings (n = 7, 2.20%), twins (n = 3, .90%), and adopted siblings (n = 3, .90%). Finally, the marital statuses were reported for both the participants and their siblings. The majority of the participants indicated that they were single, never married (n = 281, 87.80%). The remaining participants indicated that they were married (n = 8, 2.50%) or other (n = 4, 1.30%). The majority of participants reported that their siblings were single, never married (n = 242, 75.60%). The remaining participants indicated that their siblings were married (n = 35, 10.90%), divorced (n = 5, 1.60%), or other (n = 11, 3.40%).

MEASURES

Relational maintenance behaviors were measured using Stafford’s (2011) revised 28-item Relational Maintenance Strategy Measure (RMSM) (α = .97). The RMSM examines the degree to which participants use the seven relational maintenance behaviors within their identified relationships: positivity (α = .96), understanding (α = .88), assurances (α = .92), networks (α = .87), sharing tasks (α = .92), self-disclosure (α = .96), and relationship talk (α = .97). Sample items are “I include our friends in our activities” and “my partner tells me how much I mean to him/her.” When completing the 28-item scale, participants indicated the degree to which they agree with the statements on a seven-point Likert-type scale (1 = strongly disagree; 7 = strongly agree). Wording on the scale was changed to reflect the sibling relationship (Mikkelson, Myers, et al., 2011).

In addition to the above measurement, strategic and routine relational maintenance behaviors were measured using four items created by the researcher for the present study (α = .70). Sample items include “I feel obliged to engage in relational activities with my sibling” and “I purposefully plan relational activities with my sibling.” When completing the 4-items, participants indicated the degree to which they agree with the statements on a four-point scale (1 = strongly disagree; 7 = strongly agree).
Family of origin flexibility and cohesion was measured using Olson’s (1985) 20-item Family Adaptability and Cohesion Evaluation Scales (FACES III). The instrument tests how participants currently perceive their family system (α = .88). When completing the 20-item scale, participants indicated the degree to which they agreed with the statements on a five-point Likert-type scale (1 = strongly disagree; 5 = strongly agree). Sample items include “rules change in our family” and “family togetherness is very important.” This essentially explains how satisfied participants currently felt with their family members. For hypothesis tests pertaining to “balanced families” (i.e., H₁, H₂, and H₃), the subscales of flexibility and cohesion were combined into a single measure of family balance. For all other hypotheses pertaining to either flexibility (α = .84) or cohesion (α = .72), only the specific subscale was used.

Conflict was measured using multiple scales. First, frequency of conflict was measured using 23 items from Stocker et al.’s (1997) 81-item Adult Sibling Relationship Questionnaire. Only the 23-items relating to conflict frequency were included in the questionnaire (α = .93). Sample conflict items include “how much do you and your sibling argue with each other” and “how much do you irritate your sibling?” Participants reported the frequency to which they executed the items on a five-point Likert-type scale (1 = hardly at all; 5 = extremely much).

Second, conflict styles were measured using Cupach’s (1980) 42-item Interpersonal Conflict Tactics and Strategies Scale (α = .87). The scale measured the participants’ behaviors during conflict interactions. Sample items include “[During a conflict interaction, I] ignore the issue” and “[During a conflict interaction, I] cooperate with the other person.” Participants reported the likelihood of performing the behaviors during conflict interactions on a five-point Likert-type scale (1 = very unlikely; 5 = very likely). Conflict styles are important to measure because they relate to competence.

Conflict styles gave participants a frame of reference when assessing competency. Competence was measured using Rubin and Martin’s (1994) 10-item Interpersonal Communication Competency Scale (ICCS) short form scale (α = .86). The ICCS short form measured the degree to which individuals agreed with statements regarding effectiveness, relational appropriateness, and situational appropriateness. Sample items include “I accomplish my communication goals” and “I can put myself in others’ shoes.” All items
related to sibling conflict. When responding to the items, participants indicated the degree of how often they engage in activities prompted by the statements on a five-point Likert-type scale (1 = never; 5 = always).

*Geographic distance* was measured by first asking if the participants currently live with their sibling. If the respondents replied “no,” then they were prompted to report how many miles apart the siblings live using the following scale developed by Stocker et al. (1997): 1 = same city; 2 = different city, less than 100 miles; 3 = more than 200 miles; 4 = more than 500 miles; 5 = more than 1,000 miles.

*Relational quality* was measured using Fletcher et al.’s (2000) 18-item Perceived Relational Quality Component (PRQC). Because of the inconsistencies and overlaps across measures, Fletcher et al. (2000) developed the PRQC, which measures six constructs: satisfaction, commitment, intimacy, trust, passion, and love. Although Fletcher et al. (2000) attempted to conceptualize relational quality as a unidimensional concept, it appears that relational quality is more complex. For example, an individual could rate their relationship high on trust but low on love. Regardless, the PRQC demonstrated to be a reliable and valid measure testing overall relational quality (α = .97).

The PQRC asked individuals the degree to which they agreed to the statements associated with six components: relationship satisfaction, commitment, intimacy, trust, passion, and love. Sample items include “how much can you count on your partner” and “how close is your relationship?” When completing the questionnaire, participants indicated the degree to which they agreed with the statements on a seven-point Likert-type scale (1 = not at all; 7 = extremely). Wording on the scale was altered to reference the sibling relationship. Additionally, the component of passion was eliminated since it regards sexual acts in romantic relationships.

*Birth spacing* was measured by asking the participants the difference in years between their ages and their siblings’ ages.

In addition to the above measures, the questionnaire asked general demographic information about both the participant and the sibling in mind. Such demographic information included sex, marital status, and number of children.
CHAPTER 3

RESULTS

When testing the reliability of Cupach’s (1980) Interpersonal Conflict Tactics and Strategies subscales, the results indicated a poor fit to the data (48.69% initial variance explained). The 42-items were subjected to exploratory factor analysis utilizing principal components extraction with Varimax rotation. Seven factors were proposed, but after executing the 60-40 rule, four components with Eigenvalues greater than 1.0 were advanced. The resulting four-component solution accounted for 53.08% of the common variance. The first component was labeled *destructive strategies*, one of Cupach’s initial three subcategories, and ten items including include ‘punish,’ ‘hurt,’ and ‘bribe,’ loaded on this factor. The second component was also modeled after Cupach’s original subcategories and was labeled *constructive strategies*. This category included six items such as ‘cooperate,’ ‘openly discuss,’ and ‘compromise.’ The third component was not modeled after Cupach’s subcategories and was instead labeled *negative emotional expression*. This category included three items: ‘lose temper,’ ‘shout,’ and ‘defensive.’ The fourth component was labeled *avoidance strategies* after Cupach’s initial three categories and included three items. Sample items include ‘avoid conflict,’ ‘ignore issue,’ and ‘change subject.’ The full list of all items appears in Table 1. All items that did not load to a factor were eliminated.
Table 1. Factor analyses of conflict strategies items

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor loadings</th>
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<tbody>
<tr>
<td></td>
<td>Factor 1</td>
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<tr>
<td>Item</td>
<td>Destructive Strategies</td>
</tr>
<tr>
<td>Punish</td>
<td>.79</td>
</tr>
<tr>
<td>Hurt</td>
<td>.76</td>
</tr>
<tr>
<td>Bribe</td>
<td>.75</td>
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<tr>
<td>Trick</td>
<td>.75</td>
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<tr>
<td>Exploit</td>
<td>.75</td>
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<tr>
<td>Jealous</td>
<td>.72</td>
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<tr>
<td>Hit</td>
<td>.72</td>
</tr>
<tr>
<td>Embarrass</td>
<td>.69</td>
</tr>
<tr>
<td>Throw</td>
<td>.69</td>
</tr>
<tr>
<td>Accept position</td>
<td>.68</td>
</tr>
<tr>
<td>Cooperate</td>
<td></td>
</tr>
<tr>
<td>Openly discuss</td>
<td></td>
</tr>
<tr>
<td>Compromise</td>
<td></td>
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<tr>
<td>Calmly discuss</td>
<td></td>
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<tr>
<td>Discuss procedures</td>
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<tr>
<td>Trust</td>
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<tr>
<td>Lose temper</td>
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<td>Shout</td>
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<tr>
<td>Defensive</td>
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<td>Avoid conflict</td>
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<tr>
<td>Ignore issue</td>
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<tr>
<td>Change subject</td>
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</tbody>
</table>

HYPOTHESIS ONE

Hypothesis one proposed that sibling pairs balanced on the dimensions of cohesion and flexibility utilize more relational maintenance behaviors than unbalanced sibling pairs. Curvilinear regression analyses revealed a significant relationship between balanced family relationships and the RMB of positivity, \( F (2, 296) = 60.62, p < .001, R^2 = .29 \). Results indicated that the curvilinear effect was significant, \( \beta = .51, t = 10.22, p < .001 \). Figure 1 shows the nature of the hypothesized relationship between family balance and the RMB of positivity. As \( H_1 \) predicted, the relationship between the use of positivity and family balance is curvilinear. Figure 1 suggests a point of diminishing returns for positivity at moderately high levels of flexibility and cohesion.
Curvilinear regression analyses revealed a significant relationship between balanced family relationships and the RMB of understanding, $F (2, 296) = 70.01, p < .001$, adj. $R^2 = .32$. Results indicated that the curvilinear effect was significant, $\beta = -1.08$, $t = -3.63$, $p < .001$. Figure 2 shows the nature of the hypothesized relationship between family balance and the RMB of understanding. As $H_1$ predicted, the relationship between the use of understanding and family balance is curvilinear. Figure 2 suggests a point of diminishing returns for understanding at moderately high levels of flexibility and cohesion.
Figure 2. Understanding RMB

Curvilinear regression analyses revealed a significant relationship between balanced family relationships and the RMB of self-disclosure, $F (2, 296) = 59.13, p < .001$, adj. $R^2 = .28$. Results indicated that the curvilinear effect was significant, $\beta = -.98$, $t = -3.20$, $p < .01$. Figure 3 shows the nature of the hypothesized relationship between family balance and the RMB of self-disclosure. As $H_1$ predicted, the relationship between the use of self-disclosure and family balance is curvilinear. Figure 3 suggests a point of diminishing returns for self-disclosure at moderately high levels of flexibility and cohesion.
Curvilinear regression analyses revealed a significant relationship between balanced family relationships and the RMB of assurances, $F(2, 296) = 77.90, p < .001$, adj. $R^2 = .34$. Results indicated that the curvilinear effect was significant, $\beta = -.77, t = -2.61, p < .01$. Figure 4 shows the nature of the hypothesized relationship between family balance and the RMB of assurances. As $H_1$ predicted, the relationship between the use of assurances and family balance is curvilinear. Figure 4 suggests a point of diminishing returns for assurances at moderately high levels of flexibility and cohesion.
Curvilinear regression analyses revealed a significant relationship between balanced family relationships and the RMB of tasks, $F(2, 296) = 54.03, p < .001$, adj. $R^2 = .26$. However, results indicated that the curvilinear effect was not significant, $\beta = -.50, t = -1.69, p = .11$. Regression analyses revealed that linear regression demonstrated better fit than a curvilinear regression. Regression analyses revealed a significant relationship between balanced family relationships and the RMB of sharing tasks, $F(1, 290) = 104.94, p < .001$, adj. $R^2 = .26$. Results indicated that the linear effect was significant, $\beta = .18, t = 10.24, p < .001$. Figure 5 shows the nature of the hypothesized relationship between family balance and conflict competence. Therefore, as family balance increases, so do tasks, regardless of family balance becoming extreme and dysfunctional.
Curvilinear regression analyses revealed a significant relationship between balanced family relationships and the RMB of networks, $F(2, 296) = 76.01$, $p < .001$, adj. $R^2 = .34$. Results indicated that the curvilinear effect was significant, $\beta = -.89$, $t = -3.03$, $p < .01$. Figure 6 shows the nature of the hypothesized relationship between family balance and the RMB of networks. As $H_1$ predicted, the relationship between the use of network support and family balance is curvilinear. Figure 6 suggests a point of diminishing returns for networks at moderately high levels of flexibility and cohesion.
Curvilinear regression analyses revealed a significant relationship between balanced family relationships and the RMB of relationship talks, $F(2, 296) = 70.58, p < .001$, adj. $R^2 = .32$. Results indicated that the curvilinear effect was significant, $\beta = -.29, t = -2.01, p < .05$. Figure 7 shows the nature of the hypothesized relationship between family balance and the RMB of networks. As $H_1$ predicted, the relationship between the use of relationship talks and family balance is curvilinear. Figure 7 suggests a point of diminishing returns for relationship talks at moderately high levels of flexibility and cohesion.
HYPOTHESIS TWO

Hypothesis two posited that sibling pairs who are balanced on cohesion and flexibility would report low levels of conflict. Curvilinear regression analyses revealed a significant relationship between balanced family relationships and frequency of conflict, $F(2, 292) = 8.63, p < .001$, adj. $R^2 = .05$. Results indicated that the curvilinear effect was significant, $\beta = 1.31, t = 3.69, p < .001$. Figure 8 shows the nature of the hypothesized relationship between family balance and levels of conflict. Unbalanced family relationships, those ranking extreme on the dimensions of cohesion and flexibility, reported higher levels of conflict than balanced family relationships, those ranking moderately on the dimensions of flexibility and cohesion. Therefore, hypothesis two was supported.
HYPOTHESIS THREE

Hypothesis three stated that sibling pairs who are balanced on cohesion and flexibility engage in more competent conflict. Regression analyses revealed that linear regression demonstrated better fit than a curvilinear regression. Regression analyses revealed a significant relationship between balanced family relationships and conflict competence, $F (1, 290) = 106.55, p < .001$, adj. $R^2 = .27$. Results indicated that the linear effect was significant, $\beta = .52, t = 10.32, p < .001$. Figure 9 shows the nature of the hypothesized relationship between family balance and conflict competence. As flexibility and cohesion increase, so does conflict competence. Therefore, hypothesis three was partially supported.
Figure 9. Conflict competence

HYPOTHESIS FOUR

Hypothesis four predicted that siblings’ engagement in positive communication is positively associated with conflict competence. Correlational analyses revealed a moderate, positive relationship between siblings’ engagement in positive communication and conflict competence, $r (290) = .52$, $p < .01$. Therefore, hypothesis four was supported.

HYPOTHESIS FIVE

Hypothesis five suggested that geographic distance would be negatively associated with the use of all RMBs. Correlational analyses did not reveal a significant relationship between geographic distance and use of RMBs, except for the RMB of assurances, $r (207) = -.12$, $p < .05$. Therefore, hypothesis five was partially supported.

HYPOTHESIS SIX

Hypothesis six posited that the intentionality of relational maintenance (strategic and routine) would moderate the effect of geographic distance on RMBs such that geographic distance would be positively associated with RMBs when RMBs are strategic. The overall
models for each individual RMB were significant. However, when inspecting the regression coefficients, the only predictor of RMBs was the intentionality of relational maintenance, not the interaction of RMBs and geographic distance. Therefore, hypothesis six was not supported.

**Hypothesis Seven**

Hypothesis seven proposed that geographic distance would be negatively related to frequency of conflict. Correlational analyses did not reveal a significant relationship between geographic distance and frequency of conflict, $r (208) = .10, p = .07$. Therefore, hypothesis seven was not supported.

**Hypothesis Eight**

Hypothesis eight predicted that RMBs would be positively correlated with relational quality. Correlational analyses revealed a moderately high, positive relationship between relational quality and the RMB of positivity, $r (295) = .68, p < .001$. Correlational analyses revealed a moderately high, positive relationship between relational quality and the RMB of understanding, $r (295) = .71, p < .001$. Correlational analyses revealed a moderately high, positive relationship between relational quality and the RMB of self-disclosure, $r (295) = .59, p < .001$. Correlational analyses revealed a moderately high, positive relationship between relational quality and the RMB of assurances, $r (295) = .67, p < .001$. Correlational analyses revealed a moderately high, positive relationship between relational quality and the RMB of sharing tasks, $r (295) = .60, p < .001$. Correlational analyses revealed a moderately high, positive relationship between relational quality and the RMB of networks, $r (295) = .59, p < .001$. Correlational analyses revealed a moderately high, positive relationship between relational quality and the RMB of relationship talks, $r (295) = .53, p < .001$. Therefore, hypothesis eight was supported.

**Hypothesis Nine**

Hypothesis nine posited that conflict competence (ICCS short form) would be positively associated with relational quality. Correlational analyses revealed a moderately high, positive relationship between conflict competence and relational quality, $r (290) = .68, p < .001$. Therefore, hypothesis nine was supported.
HYPOTHESIS TEN

Hypothesis ten posited that geographic distance would be negatively correlated to relational quality. Correlational analyses did not reveal a significant relationship between geographic distance and relational quality, \( r (208) = -.07, p = .15 \). Therefore, hypothesis ten was not supported.

HYPOTHESIS ELEVEN

Hypothesis eleven posited that there would be a negative relationship between sibling birth spacing and frequency of conflict. Correlational analyses did not reveal a significant relationship between birth spacing and frequency of conflict, \( r (288) = -.03, p = .29 \). Therefore, hypothesis eleven was not supported.

RESEARCH QUESTION ONE

Research question one asked how geographic distance plays a role in siblings’ levels of cohesion. Correlational analyses did not reveal a significant relationship between geographic distance and siblings’ level of cohesion, \( r (208) = -.07, p = .29 \). Results from an independent samples t-test did not reveal a significant difference between siblings who lived together (\( M = 3.18, SD = .62 \)) versus siblings who did not live together (\( M = 3.19, SD = .57 \)) and siblings’ levels of cohesion, \( t (294) = -.22, p = .28 \), 95% CI (\( M_{\text{diff}} \)) = ( -.16, .13 ). Therefore, it appears that geographic distance does not play a role in siblings’ level of cohesion.

RESEARCH QUESTION TWO

Research question two asked how geographic distance plays a role in siblings’ levels of flexibility. Correlational analyses did not reveal a significant relationship between geographic distance and siblings’ levels of flexibility, \( r (208) = .02, p = .77 \). Results from an independent samples t-test did not reveal a significant difference between siblings who lived together (\( M = 3.35, SD = .77 \)) versus siblings who did not live together (\( M = 3.39, SD = .68 \)) and siblings’ levels of flexibility, \( t (294) = -.51, p = .35 \), 95% CI (\( M_{\text{diff}} \)) = ( -.23, .13 ). Therefore, it appears that geographic distance does not play a role in siblings’ level of flexibility.
**Research Question Three**

Research question three asked how the spacing between sibling dyads affects the frequency of engagement in RMBs. Correlational analyses did not reveal a significant relationship between birth spacing and frequency of engagement in the RMB of positivity, $r(290) = .03, p = .61$. Correlational analyses did not reveal a significant relationship between birth spacing and frequency of engagement in the RMB of understanding, $r(290) = .04, p = .52$. Correlational analyses did not reveal a significant relationship between birth spacing and frequency of engagement in the RMB of self-disclosure, $r(290) = .02, p = .77$. Correlational analyses did not reveal a significant relationship between birth spacing and frequency of engagement in the RMB of assurances, $r(290) = .04, p = .49$. Correlational analyses did not reveal a significant relationship between birth spacing and frequency of engagement in the RMB of sharing tasks, $r(290) = .01, p = .84$. Correlational analyses did not reveal a significant relationship between birth spacing and frequency of engagement in the RMB of networks, $r(290) = .00, p = .96$. Correlational analyses did not reveal a significant relationship between birth spacing and frequency of engagement in the RMB of relationship talks, $r(290) = -.07, p = .21$. Therefore, it appears that birth spacing does not affect frequency of engagement in RMBs.
CHAPTER 4

DISCUSSION

This analysis focused primarily on explaining concepts fundamental to functional sibling relationships. Such concepts included in this research were the enactment of relational maintenance behaviors (RMBs), frequency of conflict, the perceived competence of conflict, and relational quality. Many of the predications advanced in this research were primarily applicable to balanced sibling relationships; this means that, according to the circumplex model, siblings engaging in moderate levels of cohesion and flexibility operate more effectively than siblings engaging in extreme levels of cohesion and flexibility (Olson, 1986, 2000; Olson et al., 1983).

Balanced sibling relationships were expected to engage in more RMBs than unbalanced sibling relationships. When analyzing RMBs individually, all RMBs, except sharing tasks, acted as expected. Balanced sibling relationships did indeed engage in more RMBs than unbalanced sibling relationships. The only RMB balanced sibling relationships did not engage in more of than unbalanced siblings relationships was sharing tasks. It rather appears that the higher levels of cohesion and flexibility siblings engaged in, even to the point of being extreme, the more siblings engaged in the RMB of sharing tasks. This could be explained through previous research regarding the RMB of sharing tasks. Myers (2001) stated that siblings use the sharing tasks RMB most frequently. This result is also mirrored in other relationships, including heterosexual romantic relationships (Dainton & Stafford, 1993), homosexual romantic relationships (Haas & Stafford, 1998), and friendships (Nix, 1999). Since sharing tasks is clearly a predominately used and highly valued RMB in the sibling relationship (Floyd, 1996), perhaps the sharing tasks RMB acts differently than the other RMBs. It is then feasible that there is a value placed on this particular RMB that could be perceived as dysfunctional and suggestive of codependence. For instance, if siblings
complete too many tasks for each other, they cannot be self-sufficient. Therefore, too much engagement in sharing tasks is considered displeasing and dysfunctional.

A finding of this analysis receiving full statistical support was that balanced sibling relationships engaged in low levels of conflict. This makes sense considering unbalanced siblings relationships are more likely to be dysfunctional; low levels of conflict are better associated with harmonious families (Brody et al., 1992). Although balanced, or functional, sibling relationships engaged in lower levels of conflict, it was also important to consider how those siblings handled conflict, since conflict is ultimately inevitable.

Balanced sibling pairs were also expected to engage in competent conflict. This finding only received partial support. Rather than the hypothesized curvilinear effect derived from the predictions of the circumplex model, results indicated that assessments of conflict competence were positively associated with the combined measure of flexibility and cohesion. This could be explained through one of the components of conflict competence, effectiveness. Effectiveness is determined by the degree to which individuals achieve their goals in a situation (Cupach et al., 2009). Lakey and Canary (2002) confirmed that goal achievement, or effectiveness, was a predictor of competence. Therefore it is logical that siblings who achieved their goals in conflict interactions perceived those conflict interactions as competent. The same logic can be applied to unbalanced sibling relationships. For instance, one such goal for a conflict interaction could be to win the argument. If individuals in unbalanced sibling relationship are so rigid in their cohesion and flexibility, it makes sense that they would not give up until they win the argument. By definition, if that goal is met, then the conflict is perceived competently. It makes sense, then, that persistence in achieving goals, even if unbalanced or dysfunctional, could lead to perceiving conflict as competent.

Another finding related to conflict was that siblings’ engagement in positive communication was directly related to perceptions of competent conflict. This means that the more positive communication siblings use, the more effective and appropriate they viewed the conflict situation. Considering the previous finding and that balanced sibling relationships utilized positive communication, this finding also makes sense. Positive communicative strategies, such as responding with empathy and offering support (Olson et al., 1983; Perosa & Perosa, 2001), when utilized in conflict situations can help that conflict be perceived as competent. That is, these examples of positive communication can help siblings achieve their
goals for the interaction and evaluate behaviors as appropriate for the conflict situation (Spitzberg, 2013). It thus appears that balanced sibling relationships effectively engaged in conflict through utilizing positive communication, therefore viewing the conflict as competent. Perceiving conflict competently resulted in positive relational outcomes, as explained through the next statistically supported finding.

Another major finding resulting from this analysis was perceptions of competent conflict were positively associated with relational quality. This means that the more effective and appropriate the conflict situation was perceived, the higher quality observed in the sibling relationship. This finding makes sense considering that viewing conflict as competent generally results in a higher possibility that positive relational outcomes can be achieved (Spitzberg et al., 1994). Such positive relational outcomes are inclusive of relational quality. It thus appears that siblings perceiving conflict as competent utilized conflict to enhance, rather than weaken, their relationships.

Of major interest to this study was the influence of geographic distance on the sibling relationship. A major finding of this analysis was that geographic distance has little to no effect on communicative concepts fundamental to the sibling relationship. This finding seems counterintuitive considering the research supporting the hypotheses advanced in this analysis (G. M. Johnson et al., 1995; Lee et al., 1990; Vogel-Bauer, 2003; Weigel & Ballard-Reisch, 1999; White, 2001; Whiteman et al., 2011). Several conjectures arise to account for this null result. First, it is generally believed that the sibling relationship is a nonvoluntary relationship (Bedford et al., 2000; Myers, 2001). Therefore, siblings continue to maintain contact with each other throughout adulthood (Whiteman et al., 2011). Because of this continued communication and contact, siblings are still engaging in RMBs, experiencing conflict, and perceiving their relationships as high quality, regardless of geographic distance. It thus appears that the nonvoluntary nature of the relationship is transcending distance.

Another plausible explanation for why geographic distance does not affect the sibling relationship could be because of the high accessibility of CMC. When the opportunity for face-to-face contact is limited, such as when siblings move geographically away from each other, siblings enact other means of communication with each other, such as CMC (Myers et al., 2011; Whiteman et al., 2011). Particularly, siblings reported using synchronous communication methods, such as telephone or Skype, to maintain and mirror levels of
emotional closeness versus using asynchronous methods, such as email or text message (Xiang et al., 2010). Because of the accessibility and utilization of CMC, it makes sense that the perceived negative effects of geographic distance are minimalized and therefore insignificant.

A final reasonable explanation for the lack of support of the effects of geographic distance is that siblings might view their living situations as temporary (Merolla, 2010). Considering the population of interest to this study was college students, perhaps the participants viewed their years of college as temporary time away from their siblings. Siblings still have opportunities for face-to-face contact over holiday breaks (Whiteman et al., 2011) so as to maintain their relationships. Maybe that time in between breaks, when viewed as temporary, offers no real urge or reason to alter RMBs. Or perhaps siblings have already adjusted to their temporary living conditions, considering participants were at least in their second semester of college. Maybe the timing of this study did not account for the real transition siblings experience when living geographically apart, therefore siblings had already adjusted their RMBs to work effectively for them. Regardless, Newman (1991) stated that college students generally report positive relationships with their siblings, so it is justified that geographic distance might have no real effect on the sibling relationship.

Finally, the last major finding related to relational quality was that RMBs were positively correlated with relational quality. This means that the more RMBs utilized, the higher quality perceived in the sibling relationship. This finding makes sense considering the overlap between the two concepts. Specifically, scholars such as Floyd (1995) and Weaver et al. (2003) discussed how siblings who completed chores for one another, a prime example of the sharing tasks RMB, reported strong feelings of closeness, a construct of relational quality. Additionally, Myers and Bryant (2008) noted that siblings who engaged in behaviors such as support and everyday talk, facets of the self-disclosure and relationship talks RMBs, reported feeling committed to their sibling relationships. Such commitment translated to feeling satisfied about the quality of the sibling relationship. There is a clear connection between RMBs and relational quality, so it is not surprising that this finding was fully supported.
IMPLICATIONS, LIMITATIONS, AND FUTURE DIRECTIONS

This study contributes to the existing body of literature devoted to examining family relationships by applying Olson’s circumplex model to a relationship not yet explored in this theoretical fashion: the sibling relationship. While applications of the circumplex model have predominately analyzed parent-child relationships in the past (H. D. Johnson, 2002; Rodick et al., 1986), this analysis focused on siblings as a discrete unit. This allowed for a new perspective and interpretation of the family unit in relation to balanced and unbalanced sibling relationships otherwise only previously conceptualized (Olson, 2000). This analysis serves as a practical application of previous hypothetical situations referring to changes in the family such as a child reaching adolescence and moving out of the home (Olson, 2000). Results from the present study revealed that the dimensions of flexibility and cohesion have theoretical applications on various communicative concepts, specifically RMBs and conflict.

The main hypothesis of the circumplex model posits that balanced family relationships are more functional than unbalanced family relationships due to their moderate levels of cohesion and flexibility (Olson, 1986, 2000). According to this hypothesis, balanced family relationships engage in more positive communication than unbalanced family relationships (Olson, 2000). This analysis noted the categorization of RMBs under the category of positive communication. As such, results from this analysis noted that balanced sibling relationships utilized more RMBs than unbalanced sibling relationships. However, in understanding that RMBs can be utilized strategically or routinely, it would be interesting to analyze the potential connection between balanced family relationships and intentionality of RMBs. Additionally, these results bring to question the temporal pattern of RMBs and family balance. It is not understood if RMBs precede balanced sibling relationships or if the balanced sibling relationship itself fosters the use of RMBs as a type of positive communication. Future research regarding the circumplex model and RMBs might attend to these patterns and note how fluctuations in sibling balance and use of RMBs might affect the relationship between the variables.

Results also indicated that conflict communication seems more functional in balanced family relationships. It is believed that families stuck in extreme levels of such cohesion and flexibility lend themselves to problems in the long-term development of the family (Olson, 2000), such as the inability to alleviate stress (Garbarino et al., 1984). An example of a
stressful situation families inevitably encounter is conflict (H. D. Johnson, 2002). Specifically, the flexibility dimension of the circumplex model was created to encompass concepts such as negotiation and discipline (Olson et al., 1983), concepts lending themselves to the study of conflict. Previous research has studied how balanced and unbalanced family relationships deal with conflict (H. D. Johnson, 2002; Olson & Gorall, 2006), yet this analysis takes such results a step further by analyzing the amount of conflict and the perceptions of conflict competence in sibling pairs. Balanced sibling relationships exhibit lower levels of conflict than unbalanced sibling pairs. Additionally, perceptions of conflict competence are better associated with balanced sibling relationships and sibling ranking extremely high on the dimensions of cohesion and flexibility than siblings ranking extremely low on the dimensions of cohesion and flexibility. Such interpretations of effectiveness and appropriateness are important to look at during family conflict interactions due to the communication and techniques balanced family relationships utilize, such as problem-solving or offering support (Olson et al., 1983; Perosa & Perosa, 2001) to increase the positive outcomes of such interactions.

Additionally, this analysis extracts and builds upon particular facets of Olson’s circumplex model so as to narrow the scope of clinical and non-clinical family types under investigation. This analysis focused primarily on balanced sibling relationships, opposed to a combination of balanced and unbalanced family relationships in general, to thoroughly and theoretically explain the functioning of balanced sibling relationships. Particularly, one of the facets of communication analyzed by both the circumplex model and this research is positive communication. Balanced sibling relationships utilize more positive communication than unbalanced sibling relationships (Olson, 1986, 2000). For the most part, balanced sibling relationships also utilize more RMBs than unbalanced sibling relationships. For the purposes of this analysis and all future analyses of the circumplex model and RMBs, RMBs can be categorized under the positive communication exhibited in balanced family relationships.

Finally, although the circumplex model is a popular model used to analyze family functioning (Yahav, 2002), it has not gained full support from researchers. Specifically, the circumplex model posits a curvilinear pattern for the correlations of communicative concepts with the dimensions of flexibility and cohesion (Olson, 1986, 2000). However, researchers have often failed to support this hypothesis, instead revealing linear relationships (Perosa &
This analysis cleared up some of the discrepancies of these previous findings. The suggested curvilinear pattern was supported for the majority of the hypotheses; these hypotheses analyzed the relationships of RMBs and conflict with the dimensions of flexibility and cohesion. However, the RMB of sharing tasks and perceptions of conflict competence did not follow the predicted curvilinear pattern, rather charted linearly. These results primarily support the hypothesized curvilinear pattern associated with family balance, with few exceptions.

In regard to practical implications, it is important to understand and conceptualize variables in the sibling relationship. Siblings serve as huge sources of support throughout the lifespan (Whiteman et al., 2011), resulting in many health benefits. Siblings experiencing changes in geographic distance, such as students going off to college, can find guidance and encouragement from the results of this analysis. Through understanding the flexibility and variability of interpersonal relationships, siblings can better understand and potentially improve the maintenance tactics used in their established family relationships. Additionally, health outcomes, such as self-esteem and depression (Milevsky, 2005; Sherman et al., 2006), might be a result of family functioning similarly exhibited in this research. Adults concerned about such outcomes can find solace in maintaining their sibling relationships.

Although this study makes strides toward more fully understanding sibling relationships, it is not without its limitations. First, a major limitation this study shares with many studies of relational communication is the lack of dyadic data. It appears logical to collect data from both parties in a relationship to counteract biases of the self-reported results of this research. Although the researcher intended to collect dyadic data for this thesis, that hope was not accomplished. The participants of this study were asked to report their siblings’ email addresses, but less than half actually provided such information, resulting in low response rates. Therefore, a primary limitation of this research was the lack of dyadic data and understanding of relational research from only one side. Another limitation of this analysis is the inability to include all variables potentially affecting the sibling relationship. It is well understood that relationships are complex; therefore, a wider variety of variables, such as age or family size (Mares, 1995; Stafford, 2005), could have impact on the sibling relationship. However, for the sake of cohesion and simplicity, only a handful of variables fundamental to the primary arguments were explored. Considering the limitations and
implications, this study could serve as a springboard for several possible avenues for future research.

First, due to the lack of statistical support for the effects of geographic distance on the RMBs utilized in the sibling relationship, it would be beneficial to investigate how siblings handle the transitional period surrounding a geographic move. This could be done through a pre-test, post-test experimental design. There is a need for this type of data since relational maintenance has seldom been studied longitudinally (Merolla, 2010). For example, siblings could complete a survey reviewing their RMBs pre-move and complete a post-test three months after a move. This could shed light on how RMBs are used over time (Dainton, 2003) and how RMBs are utilized outside of face-to-face encounters (Merolla, 2010). Additionally, because many of the predictions surrounding the effects of geographic distance were not supported, scholars might gain better insight if distance was measured as a continuous variable. Merolla (2010) addressed the issue of measurement when stating, “researchers often collapse participants into distant or proximal groups without examining within-group differences regarding noncopresence. This practice obfuscates differences regarding noncopresence within relationships, even though these differences might affect partners’ communication and relational characteristics” (p. 180). Through measuring geographic distance as a continuous variable, this might allow for more variance, thus potentially offering differing results leading to the understanding of geographic distance.

A second avenue for future research might be investigating geographically distanced sibling relationships from the perspective of a long-distance relationship (LDR). Conceptually, a relationship is considered a LDR if geographic distance limits communication opportunities between individuals and those individuals maintain expectations of closeness for the relationship (Stafford, 2005). While much communication research focuses on LDRs in the context of romantic relationships, other examples of LDRs of interest to future studies might be military families, young adult siblings moving away from the family home, and siblings moving away for college (Stafford, 2005). However, LDRs are a topic still considered to be “understudied” in the literature, resulting in the need for further research (Stafford, 2005, p. 5). Thus, although not all distanced sibling relationships can be categorized under the term LDR, introducing the concept to future
research might help explain relationships between variables such as geographic distances and sibling use of RMBs.

A final avenue for future research might be investigating the variable of time difference, a variable that challenges the ideas of both chronological time and space as evident in changes across time zones (Xiang et al., 2010). While much of chronological time difference research has been studied in the context of organizational communication (Lipnack & Stamps, 1999; O’Leary & Cummings, 2007), such literature is also applicable to LDRs in the context of families. For instance, Xiang et al. (2010) conducted an exploratory study examining family communication across time zones. One of the most prominent findings from the study was the limited time frame to communicate. When individuals live in different time zones, their schedules often do not align. This is unlike families living in the same time zone where the possibility of alignment is more probable; therefore, the communication among family members in the same time zone is more flexible and less structured chronologically. Additionally, Xiang et al. (2010) noted that siblings, in particular, report communicating less frequently with their siblings in other time zones. This would be an interesting avenue for research considering not much research has been conducted on sibling relationships across time differences.

**CONCLUSION**

This study extended research concerning sibling communication. The sibling relationship is special in that it is considered one of the longest peer relationships people have in their lifetimes. Throughout the years, families go through many changes, and as siblings enter adulthood and adjust to new roles as students or parents, those sibling relationships adjust too. This analysis extended research concerning how siblings maintain their desirable relationships regardless of geographic distance. When siblings are faced with restricted communication mediums and limited face-to-face contact because of the geographic distance, it is important to study how siblings preserve their relationships so as to provide practical advice to siblings seeking information about communication.

Additionally, this investigation extended the application of the circumplex model in communication research. The circumplex model is predominately used to explain problem families. However, with the intersection of RMBs and the model, it is proposed that such
behaviors will aid in the communication of balanced family relationships. Balanced family relationships are believed to be more functional than unbalanced family relationships, thus it is probable that RMBs influence positive communication among siblings. Furthermore, little is known about how geographic distance plays a role in the cohesion and flexibility of families. This research aimed to address how geographic distance affects siblings’ cohesion and flexibility dimensions, although no statistical support was provided. From this analysis, siblings can better understand how their communication affects the family balance and effective family functioning.
REFERENCES


APPENDIX

THESIS QUESTIONNAIRE

A. Consent Form

Thank you for your interest in taking part in a study about adult sibling relationships. Alaina M. Veluscek, a graduate student and researcher in the School of Communication at San Diego State University, is conducting this study to learn more about how siblings maintain their adult relationships through changes in geographical distance from the family of origin. We are recruiting approximately 200-300 (all adults over the age of 18) who have at least one current sibling relationship to participate in this study.

This questionnaire will ask you about the maintenance of your sibling relationship and the ways that you engage in a variety of communication behaviors with your sibling. We will specifically be asking questions related to your own relational maintenance behaviors with your sibling, your current and ideal perceptions of the relationship with your sibling, the quality of your sibling relationship, conflict present in your sibling relationship, and how far away you live geographically from your sibling. The questionnaire should take approximately 45-60 minutes to complete. Because this study is being conducted online, you are free to fill out this questionnaire at any computer with a working Internet connection.

Your answers to the questions will be completely confidential to the extent allowed by law. The only way for anyone to know your responses will be for you to tell them. When your results and those of other participants are combined and entered into a computer, they will not contain any identifying information that could connect the data to you. The results of the study may be published but only the combined data from all participants will be made public.

The only risks that have been identified with this study are the possibility that you might feel uncomfortable with some of the questions on this questionnaire and your sibling might feel uncomfortable with some of the responses you provide on this questionnaire.
Although these risks are small, there are ways you can prevent them. First, please remember that you are free to skip any question that makes you uncomfortable or that you simply do not wish to answer for any reason. If your discomfort becomes so great that you wish to discontinue your participation altogether, you will be given the ability to “opt out” of the study completely by clicking the link (button) at the bottom of each page. Your decision to skip questions or opt out of the study completely will in no way affect the incentives that are associated with this research.

In order to minimize the possibility that your sibling might feel uncomfortable with some of the answers you provide on this questionnaire, please make sure that your participation occurs in a private area where he/she will not be able to view your responses as you enter them. Once you have submitted your responses, you (or your sibling) will not be able to use your browser’s “back” button to see any of your answers on this questionnaire. You can take additional precautions by clearing your browser’s history following the completion of this questionnaire and completely closing your browser window.

Please know that we will keep all of your personal information confidential and will not use it for any purpose outside of this study. We will also delete all names and any other identifying information from our computerized records when the data collection is complete.

In exchange for your participation, you will receive extra credit in one of your communication or psychology classes at San Diego State University. Please make sure to have the name of the course in which you would like to receive extra credit ready at the end of this study. Once you complete this questionnaire, you will be redirected to a completely different form that will confirm your name and the last four digits of your RedID for participation purposes only. We will not be able to connect your personal identification to any of the responses you provide on the study questionnaire.

Your participation in this study is completely voluntary. You may withdraw from the study at any time by clicking the “opt out” link (button) that appears at the bottom of each page without penalty. You may also decide to skip any parts of the questionnaire that you do not wish to answer. Your choice of whether or not to participate will not influence your future relations with San Diego State University. If you have any questions about the research now, please contact Alaina M. Veluscek (aveluscek@gmail.com). If you have any
questions about your rights as a participant in this study, you may contact the Division of Research Administration San Diego State University (619-594-6622, irb@mail.sdsu.edu).

If at any point you feel like you have questions about the state of your relationship or wish to speak with a professional counselor about any of the items on this questionnaire, please feel free to contact a qualified therapist in your area. You can find out more information about mental health counseling or find a therapist in your area by visiting San Diego States Counseling and psychological services office. This office can be reached online at http://studentaffairs.sdsu.edu/cps/index.html or by phone at (619) 594-5220.

By filling out any portion of this questionnaire, you will be signifying your consent to participate in this project.

By clicking "agree" below, you are indicating that you have read and agree to the terms of this consent form. If you no longer wish to participate, simply close your browser now to end your participation; no additional action is necessary on your part.

I agree to the terms of this form and consent to participate in this study.

Do you have at least one sibling? 1 = Yes; 2 = No

B. Stafford’s (2011) Relational Maintenance Strategy Measure (RMSM)

If you have more than one sibling, please respond thinking of the sibling closest in age to you.

People maintain their relationships in various ways. Please indicate below the extent to which you agree or disagree with the following statements concerning your current relationship with your sibling: (1 = Strongly Disagree; 7 = Strongly Agree)

1. My sibling acts positively with me. (Positivity)
2. My sibling is upbeat when we are together. (Positivity)
3. My sibling acts cheerfully with me. (Positivity)
4. My sibling acts optimistically when he/she is with me. (Positivity)
5. My sibling is understanding. (Understanding)
6. My sibling is forgiving of me. (Understanding)
7. My sibling apologizes when he/she is wrong. (Understanding)
8. My sibling does not judge me. (Understanding)
9. My sibling talks about his/her feelings. (Self-disclosure)
10. My sibling is open about his/her feelings. (Self-disclosure)
11. My sibling encourages me to share my thoughts with him/her. (Self-disclosure)
12. My sibling encourages me to share my feelings with him/her. (Self-disclosure)
13. My sibling discusses the quality of our relationship. (Relationship talks)
14. My sibling tells me how he/she feels about the relationship. (Relationship talks)
15. My sibling has talks about our relationship. (Relationship talks)
16. My sibling talks about future events in our relationship. (Assurances)
17. My sibling talks about our plans for the future. (Assurances)
18. My sibling tells me how much I mean to him/her. (Assurances)
19. My sibling shows me how much I mean to him/her. (Assurances)
20. My sibling shares in the joint responsibilities that face us. (Sharing tasks)
21. My sibling performs his/her household responsibilities. (Sharing tasks)
22. My sibling helps with the tasks that need to be done. (Sharing tasks)
23. My sibling does not shrink his/her duties. (Sharing tasks)
24. My sibling includes our friends in our activities. (Networks)
25. My sibling does things with our friends. (Networks)
26. My sibling spends time with our families. (Networks)
27. My sibling asks a family member for help. (Networks)
28. My sibling turns to a family member for advice. (Networks)

C. RMB intentionality

People engage in relational activities in various ways. Please indicate below the extent to which you agree or disagree with the following statements concerning the current relational activities you engage in with your sibling: (1 = Strongly Disagree; 5 = Strongly Agree)

1. I interact with my sibling to achieve specific goals in the relationship. (Strategic)
2. I purposefully plan relational activities with my sibling. (Strategic)
3. I feel obliged to engage in relational activities with my sibling. (Strategic)
4. Many of the relational activities I engage in with my sibling are routine or mundane activities. (Routine) *Recode

D. Olson’s (1985) Family Adaptability and Cohesion Evaluation Scales (FACES III)
How do you currently perceive your relationship with your sibling and/or family? (1 = Strongly Disagree; 5 = Strongly Agree)

1. Family members ask each other for help. (Cohesion)
2. In solving problems, the children's suggestions are followed. (Flexibility)
3. We approve of each other's friends. (Cohesion)
4. Children have a say in their discipline. (Flexibility)
5. We like to do things with just our immediate family. (Cohesion)
6. Different persons act as leaders in our family. (Flexibility)
7. Family members feel closer to other family members than to people outside the family. (Cohesion)
8. Our family changes its way of handling tasks. (Flexibility)
9. Family members like to spend free time with each other. (Cohesion)
10. Parent(s) and children discuss punishment together. (Flexibility)
11. Family members feel very close to each other. (Cohesion)
12. The children make the decisions in our family. (Flexibility)
13. When our family gets together for activities, everybody is present. (Cohesion)
14. Rules change in our family.
15. We can easily think of things to do together as a family. (Cohesion)
16. We shift household responsibilities from person to person. (Flexibility)
17. Family members consult other family members on their decisions. (Cohesion)
18. It is hard to identify the leader(s) in our family. (Flexibility)
19. Family togetherness is very important. (Cohesion)
20. It is hard to tell who does which household chores. (Flexibility)

What is your idea of an ideal sibling relationship? (1 = Strongly Disagree; 5 = Strongly Agree)

1. Family members ask each other for help. (Cohesion)
2. In solving problems, the children's suggestions are followed. (Flexibility)
3. We approve of each other's friends. (Cohesion)
4. Children have a say in their discipline. (Flexibility)
5. We like to do things with just our immediate family. (Cohesion)
6. Different persons act as leaders in our family. (Flexibility)
7. Family members feel closer to other family members than to people outside the family. (Cohesion)
8. Our family changes its way of handling tasks. (Flexibility)
9. Family members like to spend free time with each other. (Cohesion)
10. Parent(s) and children discuss punishment together. (Flexibility)
11. Family members feel very close to each other. (Cohesion)
12. The children make the decisions in our family. (Flexibility)
13. When our family gets together for activities, everybody is present. (Cohesion)
14. Rules change in our family.
15. We can easily think of things to do together as a family. (Cohesion)
16. We shift household responsibilities from person to person. (Flexibility)
17. Family members consult other family members on their decisions. (Cohesion)
18. It is hard to identify the leader(s) in our family. (Flexibility)
19. Family togetherness is very important. (Cohesion)
20. It is hard to tell who does which household chores. (Flexibility)

E. Fletcher et al.’s (2000) Perceived Relational Quality Component (PRQC)

People perceive the quality of their sibling relationships differently. Please indicate below the extent to which you agree or disagree with the following statements concerning the quality of your current sibling relationship: (1 = Not at all; 7 = Extremely)

1. How satisfied are you with your sibling relationship?
2. How content are you with your sibling relationship?
3. How happy are you with your sibling relationship?
4. How committed are you to your sibling relationship?
5. How dedicated are you to your sibling relationship?
6. How devoted are you to your sibling relationship?
7. How intimate is your sibling relationship?
8. How close is your sibling relationship?
9. How connected are you to your sibling?
10. How much do you trust your sibling?
11. How much can you count on your sibling?
12. How dependable is your sibling?
13. How much do you love your sibling?
14. How much do you adore your sibling?
15. How much do you cherish your sibling?

F. Lanthier and Stocker’s (1992) Adult Sibling Relationship Questionnaire

Oftentimes, siblings engage in conflict. Please indicate below the extent to which you agree or disagree with the following statements concerning conflict in your current sibling relationship: (1 = Never; 5 = Always)

1. How much do you and this sibling argue with each other?
2. How much do you irritate this sibling?
3. How much does this sibling irritate you?
4. How competitive are you with this sibling?
5. How competitive is this sibling with you?
6. How much do you dominate this sibling?
7. How much does this sibling dominate you?
8. How often does this sibling criticize you?
9. How often do you criticize this sibling?
10. How often does this sibling do things to make you mad?
11. How often do you do things to make this sibling mad?
12. How much does this sibling feel jealous of you?
13. How much do you feel jealous of this sibling?
14. How much is this sibling bossy with you?
15. How much are you bossy with this sibling?
16. How much does this sibling disagree with you about things?
17. How much do you disagree with this sibling about things?
18. How much does this sibling put you down?
19. How much do you put this sibling down?
20. How much does this sibling try to perform better than you?
21. How much do you try to perform better than this sibling?
22. How much does this sibling act in superior ways to you?
23. How much do you act in superior ways to this sibling?

G. Cupach’s (1980) Interpersonal Conflict Tactics and Strategies Scale
Reflecting on the most recent conflict you and your sibling engaged in, please indicate below the extent to which you agree or disagree with the following statements concerning your behaviors during the conflict interaction: (1 = Strongly Disagree; 5 = Strongly Agree)

1. I tried to change the subject. (Avoidance strategies)
2. I cried.
3. I insulted my sibling.
4. I calmly discussed the issue. (Constructive strategy)
5. I pleaded with the other person.
6. I pouted.
7. I used threats.
8. I threw something. (Destructive strategy)
9. I shouted. (Negative emotional expression)
10. I compromised with my sibling. (Constructive strategy)
11. I was sarcastic.
12. I tried to postpone the issue as long as possible.
13. I hit my sibling. (Destructive strategy)
14. I discussed procedures for handling the dispute. (Constructive strategy)
15. I tricked my sibling. (Destructive strategy)
16. I admitted that I was wrong (although I thought that I was not wrong)
17. I lied to my sibling.
18. I made my sibling feel guilty.
19. I tried to embarrass my sibling. (Destructive strategy)
20. I pretended to be hurt by my sibling. (Destructive strategy)
21. I bribed my sibling. (Destructive strategy)
22. I forced my sibling to accept your position. (Destructive strategy)
23. I bargained with my sibling.
24. I ignored the issue. (Avoidance strategies)
25. I won the argument at all costs.
26. I cooperated with my sibling. (Constructive strategy)
27. I punished my sibling. (Destructive strategy)
28. I trusted my sibling. (Constructive strategy)
29. I teased my sibling.
30. I acted defensive. (Negative emotional expression)
31. I exploited my sibling. (Destructive strategy)
32. I discussed the matter openly. (Constructive strategy)
33. I was hostile.
34. I persuaded my sibling.
35. I rewarded my sibling.
36. I lost my temper. (Negative emotional expression)
37. I tried to make my sibling jealous. (Destructive strategy)
38. I flattered my sibling.
39. I established rules for arguing.
40. I avoided the conflict. (Avoidance strategies)
41. I negotiated.
42. I escalated the conflict.

H. Rubin and Marin’s (1994) Interpersonal Communication Competency Scale (ICCS) short form

Please indicate below the extent to which you agree or disagree with the following statements concerning your communication with your sibling: (1 = Never; 5 = Always)

1. My conversations are pretty one-sided. (Altercentrism) *Recode
2. My sibling can tell when I'm happy or sad. (Expressiveness)
3. My sibling truly believes that I care about him/her. (Immediacy)
4. I accomplish my communication goals. (Environmental control)
5. My communication is usually descriptive, not evaluative. (Supportiveness)
6. My conversations are characterized by smooth shifts from one topic to the next. (Interaction management)
7. When I've been wronged, I confront the person who wronged me. (Assertiveness)
8. I am comfortable in social situations. (Social relation)
9. I can put myself in others' shoes. (Empathy)
10. I allow my sibling to see who I really am. (Self-disclosure)

I. Demographics
1. Do you currently live with your sibling? (1 = Yes; 2 = No)
2. You indicated that you do not currently live with your sibling. How many miles apart do you live from your sibling? (1 = Same city; 2 = Different city, less than 100 miles; 3 = More than 200 miles; 4 = More than 500 miles; 5 = More than 1,000 miles)
3. What is the difference in years between your age and your sibling’s age?
4. Are you older or younger than your sibling? (1 = Older; 2 = Younger)
5. Which of the following best describes your genetic relatedness to your sibling? (1 = Full siblings; 2 = Half siblings; 3 = Stepsiblings; 4 = Twins; 5 = Adopted)
6. What is your biological sex? (1 = Male; 2 = Female; 3 = Other)
7. What is your sibling’s biological sex? (1 = Male; 2 = Female; 3 = Other)
8. What is your current marital status? (1 = Single, not married; 2 = Married; 3 = Divorced; 4 = Other)
9. What is your sibling’s current marital status? (1 = Single, not married; 2 = Married; 3 = Divorced; 4 = Other)
10. Do you have any children? (1 = Yes; 2 = No)
11. Does your sibling have any children? (1 = Yes; 2 = No)
12. What is your ethnicity (check all that apply): (1 = African American; 2 = Caucasian/white; 3 = Latina/Hispanic; 4 = Native American; 5 = Asian/Pacific Islander; 6 = Other)
13. What is your sibling’s ethnicity (what all that apply): (1 = African American; 2 = Caucasian/white; 3 = Latina/Hispanic; 4 = Native American; 5 = Asian/Pacific Islander; 6 = Other)
14. What is your sibling’s email address? Note: We will use this information to send an invitation to your sibling to participate in a shorter version of this questionnaire. We will not sell, distribute, or otherwise use your sibling's email address for any other purpose. Because we do not have any way to collect your name on this questionnaire, we would appreciate it if you would let your sibling know that you are the one who filled out this questionnaire and identified him/her so that he/she can answer a few questions about your sibling relationship.

J. IRB approval form
Exempt Verification  
Reg: 46.101(b)(2) – minimal risk

February 26, 2015

Student Researcher: Miss Alaina Velusek  
Faculty Sponsor/Thesis Chair: Dr. Perry Pauley  
Department: School of Communication  
vIRB Number: 1933098  
Title: Relational Maintenance as a Sign of a Balanced Family: An Analysis of Long Distance Sibling Relationships

Re: Exempt Verification

Dear Miss Velusek,

The above referenced research was reviewed and verified as exempt in accordance with SDSU’s Assurance and federal requirements pertaining to human subjects protections within the Code of Federal Regulations (45 CFR 46.101). This review applies to the conditions and procedures described in your protocol.

The determination of exemption is final and requests for continuing review (Progress Reports) are not required for this study. However, if any changes to your study are planned, you must submit a modification request and receive either IRB approval (per 45 CFR 46.110 or 46.111) or IRB verification that the modification is exempt (per 45 CFR 46.101). To submit a modification request, please follow the necessary steps below:

Modification steps:

☐ Access the protocol via the Webportal  
  (https://sunspot.sdsu.edu/pls/webapp/web_menu.login/)  
☐ Protocol main page click on “Modifications” to enter a report  
☐ Once the report has been fill out completely, click “submit”  
☐ Make sure to email the IRB (irb@mail.sdsu.edu) notifying them that a modification has been submitted.

Additionally, please notify the IRB office if your status as an SDSU-affiliate changes while conducting this research study (you are no longer an SDSU faculty member, staff member or student).

Graduate Students: This notification may be used as documentation to register in Thesis 799A.  
Attach a hard copy of this notice to your Appointment of Thesis/Project Committee form prior to submitting the completed form to Graduate and Research Affairs - Student Services Division.
Important information for ALL exempt studies:

a) If this research involves the use of existing or secondary data sources, information obtained must be recorded so that subjects cannot be identified, either directly or through identifiers linked to the subjects.

b) If information will be obtained from individual medical records, please check with the organization authorized to provide access to these records to determine whether regulations relating to the Health Insurance Portability and Accountability Act (HIPAA) pertain to your research. Likewise, if academic records are accessed, Federal Education Rights and Privacy Act (FERPA) requirements must be respected. Notify the SDSU IRB office if protocol revisions are necessary to comply with HIPAA regulations.

c) If recruitment will take place through an outside agency or organization, confirm with that institution that you have permission to conduct the study prior to initiation of any study activities. If this research involves the use of existing or secondary data sources, confirm with the data owner that you have permission to access the data.

d) Approval is contingent upon the completion of the SDSU human subjects tutorial (found at: http://www-rohan.sdsu.edu/~gra/login.php) by all members of the research team. This certification must be renewed every 2 years.

For questions related to this correspondence, please contact the IRB office ((619) 594-6622 or e-mail irb@mail.sdsu.edu). To access IRB review application materials, SDSU’s Assurance, the 45 CFR 46, the Belmont Report, and/or any other relevant policies and guidelines related to the involvement of human subjects in research, please visit the IRB web site at http://gra.sdsu.edu/research.php.