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UMI
ADOLESCENT SIBLINGS' EVALUATIONS OF THE SELF
AND THEIR RELATIONSHIP

A Dissertation
Submitted to the Faculty of Graduate Studies and Research
in Partial Fulfilment of the Requirements
for the Degree of
Doctor of Philosophy
in the Department of Psychology
University of Saskatchewan
by Mary Ellen Vandergoot
Fall 1998

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UNIVERSITY OF SASKATCHEWAN

College of Graduate Studies and Research

SUMMARY OF DISSERTATION

Submitted in partial fulfilment

of the requirements for the

DEGREE OF DOCTOR OF PHILOSOPHY

by

Mary Ellen Vandergoot

Department of Psychology
University of Saskatchewan

Fall 1998

Examinining Committee:

Dr. F.N. Van Hesteren

Dr. L. McMullen

Dr. B. Chartier

Dr. D. Hay

Dr. C. K. Leong

Dean/Assoc. Dean, Dean's Designate, Chair College of Graduate Studies and Research

Chair of Advisory Committee, Department of Psychology

Department of Psychology

Department of Psychology

Department for the Education of Exceptional Children

External Examiner:

Dr. Mike Boyes
Department of Psychology
University of Calgary
Calgary, Alberta. T2N 1N4
Adolescent Siblings' Evaluation of the Self and Their Relationship

Power and intimacy motive scores of pairs of adolescent siblings from the same family were obtained utilizing a thematic apperceptive measure administered under neutral arousal conditions and coded for motivational content by trained judges. The motive scores of individual siblings were associated with the scores from several measures specific to qualities of the sibling relationship. The relationship-specific variables included other-reported dominance and nurturance, relational themes of agency and communion in interview data and autobiographical memories, and global evaluations of the positiveness of the sibling relationship. Furthermore, the association between siblings’ global self-worth and other-reported interpersonal dominance and nurturance was evaluated.

Consistent with theory, qualities of sibling relationships, whether conceived as other-reported dominance and nurturance or as relational themes of agency and communion in the interview data, predicted the positiveness of relationship quality. However, compared to relational agency and communion, other-reported interpersonal dominance and nurturance accounted for twice as much of the variance in relationship quality. Furthermore, other-reported interpersonal nurturance and perceived self-worth played key roles in explaining the correspondences between siblings’ motive dispositions and the positiveness of the relationship. Based on the preliminary evidence, some of the
direct impact of interpersonal nurturance on the positiveness of the relationship is mediated by siblings’ perceived self-worth.

The implications of the results are discussed with respect to the role of views of the self, other, and self-in-relation in understanding adolescent sibling relationships. The centrality of interpersonal nurturance and global self-worth in the present study suggested that the interdependency of views of the self and the other in sibling relationships is worthy of further study. The peripheral role of motive dispositions in propelling the qualities of the relationships sampled in the present study pointed to the need for alternate conceptual models. Those models which address how motive dispositions may combine with other individual characteristics to influence relationship qualities and which explore other motive dispositions were highlighted. Finally, the implications of the study for the generation of methodologies which preserve the integrity and organization of both the individual sibling and the sibling dyad in social context were evaluated.
DEDICATION

This dissertation is dedicated to my brother, Albert John, and my children, Matthew Johan, Erik Joseph, Simon Christopher, and Rachel Helen.

For each of us life is like a journey.
It is a journey that takes us
from youth to age,
from innocence to awareness,
from ignorance to knowledge,
from foolishness to wisdom,
from weakness to strength and often back again,
from offence to forgiveness,
from loneliness to friendship,
from pain to compassion,
from fear to faith,
from defeat to victory and from victory to defeat,
until, looking backward and ahead,
we see that victory does not lie
at some high point along the way,
but in having made the journey,
stage by stage.
- Adapted from an old Hebrew Prayer
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ABSTRACT

Power and intimacy motive scores of pairs of adolescent siblings from the same family were obtained utilizing a thematic apperceptive measure administered under neutral arousal conditions and coded for motivational content by trained judges. The motive scores of individual siblings were associated with the scores from several measures specific to qualities of the sibling relationship. The relationship-specific variables included other-reported dominance and nurturance, relational themes of agency and communion in interview data and autobiographical memories, and global evaluations of the positiveness of the sibling relationship. Furthermore, the association between individual siblings’ global self-worth scores and other-reported interpersonal dominance and nurturance was evaluated.

Consistent with theory, qualities of sibling relationships, whether conceived as other-reported dominance and nurturance or as relational themes of agency and communion in the interview data, predicted the positiveness of relationship quality. However, compared to relational agency and communion, other-reported interpersonal dominance and nurturance accounted for twice as much of the variance in relationship quality. Furthermore, other-reported interpersonal nurturance and perceived self-worth played key roles in explaining the correspondences between siblings’ motive dispositions and the positiveness of the relationship. Based on the preliminary evidence, some of the direct impact of interpersonal nurturance on the positiveness of the relationship is mediated by siblings’ perceived self-worth.
The implications of the results are discussed with respect to the role of views of
the self, other, and self-in-relation in the development of adolescent siblings and the
qualities of their sibling relationships. The centrality of interpersonal nurturance and
global self-worth in the present study suggested that the interdependency among views of
the self and the other in sibling relationships is worthy of further study. The peripheral
role of motive dispositions in propelling the qualities of the relationships sampled in the
present study pointed to the need for alternate conceptual models. Those models which
address how motive dispositions may combine with other individual characteristics to
influence relationship qualities and which explore other motive dispositions were
highlighted. Finally, the implications of the study for the generation of methodologies
which preserve the integrity and organization of both the individual sibling and the
sibling dyad in social context were evaluated.
ACKNOWLEDGEMENTS

This study would not have been possible without the support of many individuals. I wish to thank my supervisor, Linda McMullen, for her commitment to the project and for the time she devoted to the drafts of the dissertation. With respect to the writing of the dissertation, I am indebted to Linda McMullen for her ‘eagle eye’ in reading the drafts and to Brian Chartier for helping me pull the ship towards the shore in the last days of the writing. I am grateful to the other committee members, Deb Hay and Che Kan Leong, for their efforts toward the completion of this project. I wish to thank Michael Boyes from the University of Calgary for serving as the external examiner and for his helpful suggestions in refining the finished product.

The Saskatoon Public and Catholic schools were instrumental in making this study happen. It was a privilege to work with the brothers and sisters who participated in this study. I thank them for their involvement, generosity, and enthusiasm.

There are numerous other individuals who performed various tasks during the analyses of the data who have contributed to the quality of the final product. I wish to thank them all. Finally, I thank my family and friends for their support of me through all the stages of this work. In particular, I wish to thank my mother and my children.
CHAPTER 1

Introduction to the Study

The Problem

Focus of the study. The primary focus of this study is to examine the influence of personality dispositions of individual siblings on qualities of the sibling relationship and global evaluations of the relationship. This focus is schematized as follows:

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A secondary focus of this study is to examine the role of global self-worth in understanding the associations between the personality of the sibling, qualities of the sibling relationship, and the global evaluation of the sibling relationship. Again, a schematic overview orients the reader to this particular focus:

| Sibling’s Personality ⇔ Sibling Relationship Characteristics |
| ⤷ ⤷ ⤷                                                         |
| Sibling’s Self-Concept ⇔ Sibling’s Evaluation of the Relationship |

Rationale for the foci of this study. Investigators trying to identify the bases for the characteristics of sibling relationships have focused on three main areas of influence (Furman
& Brody, 1985; Furman & Lanthier, 1996; Stoneman & Brody, 1993): (1) family
constellation variables; (2) parent-child relationships; and, (3) the cognitive, social, and
personality characteristics of the children (Furman & Lanthier, 1996, p. 127). A general
model of influences is summarized here based on Furman and Lanthier (1996):

<table>
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Associations between sibship characteristics and family constellation variables have typically
been weak (for e.g., Ernst & Angst, 1983; Sutton-Smith & Rosenberg, 1970; Bowerman &
Dobash, 1974; Koch, 1960; Minnett, Vandell, & Santrock, 1983). Of note, however, is the
finding that the distribution of power in the sibling relationship has been associated with the
relative ages of the two children (Furman & Buhrmester, 1985).

In contrast to the family constellation variables in understanding sibship qualities,
there have been some notable findings for the association between parent-child relationships
and sibling relationships (Dunn, 1988; Dunn & Plomin, 1990). Warmth, positive interactions,
conflict or punitive interactions in the parent-child dyad are positively associated with the
tenor of these same types of interactions in sibling relationships (Brody, Stoneman, McCoy,
& Forehand, 1992; Bryant & Crockenberg, 1980; Stocker & McHale, 1992; Volling &
Belsky, 1992). Each sibling’s relationship with their parents has been shown to be predictive
of conflict or jealousy between the siblings (Brody, Stoneman, & Burke, 1987a; Brody et al.,
1992; Stocker, Dunn, & Plomin, 1989). Furthermore, the characteristics of the parent’s
marital relationship has also been shown to be associated with the characteristics of the sibling relationship (Brody, Stoneman, & Burke, 1987b; MacKinnon, 1989). Despite an array of studies and approaches used, most of the associations between qualities of the sibling relationship and family constellation variables or parent-child relationships have been mild to moderate in size.

Taken together, the outcome of these studies indicates that “a significant amount of the variance in sibling relationships remains to be explained by other factors” (Furman & Lanthier, 1996, p.129). As a result, investigators are beginning to look at the role of individual characteristics, such as personality, in explaining characteristics of sibling relationships. A succinct summary of the individual characteristics, sibling relationship characteristics, and concepts used to evaluate sibling relationships to date orients the reader to the broad research area of which the present study is a part:

<table>
<thead>
<tr>
<th>Individual Characteristics</th>
<th>Sibling Relationship Characteristics</th>
<th>Global Evaluation of the Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td>Warmth/Closeness</td>
<td>Positiveness</td>
</tr>
<tr>
<td>Social</td>
<td>Relative Power/Status</td>
<td>Negativeness</td>
</tr>
<tr>
<td>Personality*</td>
<td>Conflict</td>
<td>Satisfaction</td>
</tr>
<tr>
<td>Self-concept**</td>
<td>Rivalry</td>
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<tr>
<td></td>
<td>Intimacy</td>
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</tr>
<tr>
<td>** e.g., temperament, traits, motivational dispositions, styles</td>
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| * e.g., self-esteem, self-worth, competence

The need for a conceptual structure. The first problem that faces the researcher in the study of the role of personality variables in qualities of sibling relationships is determining which personality variables influence which qualities of relationships. There are many
personality variables which could potentially relate to any number of qualities of relationships.

Second, not only do researchers face the problem of "what [it is] that needs to be explained" (McAdams, 1996), but they are also confronted with a methodological difficulty: "[o]ne cannot reduce relationships to the characteristics of individuals, nor can one derive the characteristics of individuals solely from their relationships" (Furman & Lanthier, 1996, p. 138). Essentially, then, the researcher is left with a dilemma of how to coordinate two fundamentally distinct levels of analysis: the individual and dyadic levels.

Third, to add to the dilemma, much has been written about the important role of personality variables in understanding individual development but very little has been written about the role of individual variables in understanding relationships. Even less has been written about the role of individual variables in understanding qualities of sibling relationships. It is only fairly recently that differences in siblings' experiences and perceptions within the same family have been highlighted in the developmental literature (Brody, 1996; Dunn & Plomin, 1990; Hetherington, Reiss, & Plomin, 1994) and, as a consequence, researchers are also becoming interested in the role of the individual characteristics of siblings with respect to the qualities of sibling relationships.

Fourth, as a result of the lack of focus on the link between personality and sibling relationships, methods for studying this link have been slow to develop. Even if researchers want to study this link, there are few well-developed theoretical or conceptual structures in this area. This problem is compounded by the fact that personality theory and research continues to struggle with critiques of conventional personality research methods and
personality concepts. The recent re-juvenation of trait formulations, as well as the flourishing of narrative and constructivist frameworks, have contributed to a rather fragmented identity for personality psychology. When all is said, many personality researchers, especially those who are trained in the hypothetico-deductive paradigm, are compelled to re-evaluate the question: “what does it take to know a person in a scientific way?” (McAdams, 1994, 1996).

Fifth, related to the issues about methodology, clinical and theoretical notions about the role of siblings’ characteristics in the development of qualities of sibling relationships are often difficult to interpret and, as a result, fail to generate testable research hypotheses. Most of what is written about the role that individual characteristics play in sibling relationships is comprised of general notions arising from clinical experience, hermeneutic analysis and biographical or autobiographical narratives (e.g., Bank & Kahn, 1982; Greer, 1994; Sandmaier, 1994; Scarf-Merrell, 1995). Once again, while such notions are powerful, they are difficult to investigate within our standard hypothetico-deductive paradigm.

Summary of the problem. While there is growing consensus that personality variables and other individual characteristics play a role in the quality of sibling relationships, there is no established structure to guide the researcher’s investigation of these phenomena.

Purpose of the study. The purpose of the present study is to determine whether personality variables and global self-worth play a role in the qualities of adolescent sibling relationships. To accomplish this task, a conceptual structure with a well-established theoretical and empirical history will be used for this investigation.

Purpose of the literature review. There are three goals that need to be accomplished in the literature review. First, the reader needs to become acquainted with the existing (albeit
scant) literature that speaks to the links between personality variables and qualities of sibling relationships. One of the key points that the reader should come away with after reading this section is that there are few theoretical or conceptual structures for examining the link between personality and qualities of sibships, particularly with respect to adolescent sibships.

Second, a way of overcoming this potential road block for researchers is presented. I argue that because of the common conceptual issues underlying personality variables of individuals and the qualities of many different types of relationships in human life, there is a good reason to use a well-established conceptual structure for studying these same issues in sibling relationships. I will present this conceptual structure in some detail because it is complex and multifaceted. However, it revolves around a very simple psychological notion: the link between views of self, other, and self-in-relation to other. The reader's understanding of the conceptual structure is crucial for an understanding of the formulation of the research questions, the design of the study, and how the data were dealt with. The reader will discover that the structure I am referring to organizes some very basic assumptions about human social life and articulates (in the language of personality theory) our intuitive notions about the role of personality in understanding relationship qualities.

Third, in addition to orienting the reader to the literature specific to the links between personality and qualities of sibships, I felt it was important to outline the links between personality variables, particularly motive dispositions (to be defined subsequently), and qualities of non-familial relationships reported in the research. This information is designed to orient the reader to the types of associations that might be expected in the sibling data and sets the stage for the hypotheses that are posed in the present research.
Finally, this introductory chapter ends with a description of the three parts of my study. An overview of the sample, questions, hypotheses, and research are presented in brief form.

Review of the Literature With Respect to the Links Between Personality Variables and Qualities of Sibling Relationships

Qualities of Sibling Relationships: What We Know

Basically, we know very little about sibling relationships in later childhood and adolescence. In the preadolescent years, we know that siblings are often children’s most frequent companions (Crouter & McHale, 1989). Results from a large survey of high school students indicate that adolescents report that siblings are important people in their lives (Blyth et al., 1982; Blyth & Foster-Clark, 1987). We also know that children’s feelings and behaviours towards their brother or sister may show both strongly positive and strongly negative valences on a dimension of warmth and affection and hostility and conflict within the same relationship (Abramovitch et al., 1986; Dunn, 1983, 1985, 1992; Furman et al., 1989). Rivalry for parents’ affection and attention is a common theme in clinical and theoretical writings on siblings and is now supported by several research studies (Adler, 1927; Bank, 1987; Furman, 1990; Furman et al, 1989; Kahn, 1988; Stocker & McHale, 1992). We have also learned that the distribution of decision-making power in the sibship is associated (albeit inconsistently) with the age or developmental levels of siblings (Buhrmester & Furman, 1990; Furman et al, 1989) and whether the older sibling is expected to take responsibility for the care of the younger sibling (Whiting & Whiting, 1976; Winter, 1973b, 1988; Winter & Barenbaum, 1985).
A number of researchers have been interested in siblings' perceptions of their behaviour toward each other and the role of these perceptions on siblings' evaluation of the qualities of the sibship. For example, Stocker and McHale (1992) interviewed latency aged siblings using a structured format in which they were asked about their own behaviour and feelings toward their sibling. Siblings were also asked to complete a questionnaire in which they rated the frequency that certain behaviours and feelings occurred (ranging from 1 = not at all to 5 = all the time). The questionnaire was designed to assess affection, hostility, rivalry, power, and symmetry in the sibling relationship. Principal axes factor analyses indicated that three factors — affection, hostility, and rivalry — were internally consistent and showed adequate test-retest reliability one year later.

For the first-born siblings in the Stocker and McHale study (1992), affectionate behaviours and feelings accounted for 26% of the common variance in the relationship ratings. The amount of common variance accounted for by rivalry and hostility was 16% and 11% respectively. For the second-borns, rivalry accounted for 16% of the common variance in siblings' relationship ratings. Affection and hostility accounted for 13% and 10% respectively. In a related study by McHale and Gamble (1989), siblings were also asked to rate how happy they were with areas of affection, rivalry and hostility within their sibling relationship. Relationship evaluation was positively associated with reports of affection (.49 for first-born, .51 for second-born), negatively associated with reports of hostility (-.36 and -.35) and rivalry (-.30 and -.37). Correlations between the positive and negative areas of the sibling relationship and between first- and second-borns were low and non-significant. Further analyses revealed no significant relationships between family size, age spacing, and
gender, and children's ratings of affection, hostility or rivalry towards their sibling. First- and second-borns' reports of rivalry toward each other were uncorrelated (-.07), as were their reports of hostility (.00). However, ratings of affectionate behaviour were significantly related (.42, p < .05) with no variations in this association for different gender constellations (i.e., same-sex and opposite-sex constellations).

Although previous studies have shown that siblings tend to agree about dyadic features of the relationship (Furman et al., 1989), Stocker and McHale (1992) found little 'overlap between siblings' reports of their own behaviours of hostility and rivalry within the same sibship. Stocker and McHale (1992, 1995) suggest that the non-significant correlations between the sibling's ratings of their behaviour toward each other indicate that siblings have different experiences in their shared relationship, particularly with regard to negative behaviour and negative affect.

A number of related findings suggest that differences in siblings' behaviour toward each other and treatment by each other and how these differences are construed by each sibling, may be a potential basis for individual differences in developmental outcomes for individual siblings and qualities of the sibling relationship (Daniels, Dunn, Furstenberg, & Plomin, 1985; Hetherington & Camarera, 1984; Olsen & McCubben, 1983). But it may be siblings' subjective appraisal of experiences within the sibship that have greater impact on developmental trajectories than the "objective" appraisals by others (Stocker, 1995). For example, Stocker and McHale (1992) suggest that:

what is 'fooling around' in an older sibling may be seen and (responded to)
as hostility in the younger sibling. Similarly, a 'defensive reaction' to a
sibling’s aggression, though rated as hostility by an observer, may be
evaluated differently by the child who is defending him- or herself (p.189).
The weight of the evidence suggests important differences between outside observers’
perceptions and children’s own perceptions, particularly when such perceptions concern
negative and hostile dimensions of behaviour and affect (Geertz, 1984).

Potential Bases for Differences in the Qualities of Sibling Relationships: The Link Between
Personality and Relationship Qualities

At noted before, very little empirical work has focused on the link between
personality and sibling relationships. To date there are three studies which address the link
between young children’s temperament characteristics and sibling relationship qualities,
and one study examining the link between the five-factor personality traits and sibling
relationship qualities. These studies will now be reviewed.

Temperamental characteristics and sibling relationship qualities. Temperament refers
to an individual’s behavioural styles in relation to others and other aspects of the
environment (Buss & Plomin, 1986; Goldsmith et al., 1987). The reader may be wondering
why studies linking childhood temperament to the characteristics of children’s siblings
relationships are relevant to the questions posed in the present research with adolescent
siblings. Such reservations make even more sense in light of the fact that there are very few
studies in the area and the results of these studies are not particularly compelling. Despite
these points, there are two reasons why a review of studies linking temperament and sibling
relationships is important. First, temperament is often manifested early in life and is seen to
persist with varying degrees of consistency throughout a person’s life. Although the stability
of temperamental characteristics is low in infancy and the toddler period, stability has been shown to increase during the preschool and middle-childhood period (Buss & Plomin, 1975). Research employing longitudinal data (Chess & Thomas, 1989), spanning lifetimes of the research participants, has demonstrated a significant correlation coefficient of .37 between the so-named easy-difficult cluster of Chess et al. (1963) assessed at age 3 and during adulthood. Given the increasing support for the heritability of temperamental traits, temperament as an aspect of personality is likely to have an impact on the development of sibling relationships (Brody & Stoneman, 1996).

Second, the hypothesis that children's temperaments may influence sibling relationship qualities is supported by findings that children with highly active and emotionally intense or difficult temperaments are more likely to experience rivalry and conflict in their sibling relationships (Brody et al., 1987a; Stocker et al., 1989; Stoneman & Brody, 1993). Taken together, the stability of temperament and the influential role of temperament on qualities of the sibling relationship in the childhood data suggest, in a preliminary way, that qualities of sibling relationships in adolescence and adulthood may have their antecedents in childhood sibling relationship patterns that were likely propelled by the temperamental characteristics of both siblings.

Studies by Brody, Stoneman, and Burke (1987a), Munn and Dunn (1989), and Stocker, Dunn, and Plomin (1989) speak directly to the links between temperamental characteristics and sibling relationship qualities. Brody et al. (1987a) studied a group of 40 same-sex preschool sibling pairs. Maternal ratings of activity level, emotional intensity, and
persistence were compared with siblings’ prosocial behaviours while dyads were playing with their mothers and playing alone.

There were three main findings. First, temperament dimensions were related to the behaviour of siblings when playing alone with each other, but not when the mother was present. Second, particularly for the female dyads, activity level and emotional intensity of each child in the dyads were positively correlated with agonistic (i.e., combative) behaviour, whereas the persistence of each child was negatively related. Third, relative to the older sibling, the temperament of the younger sibling was more consistently related to the relationship dimensions.

Stocker et al. (1989) gathered maternal ratings of Buss and Plomin’s (1984) five temperamental dimensions and three other indices of emotionality. However, few associations were found between these dimensions and observations of siblings’ interactions in both structured and naturalistic settings.

Munn and Dunn (1989) investigated the associations between temperament and the sibling relationships of preschool children. Mothers completed the Behavioural Style Questionnaire (BSQ; Fullard, McDevitt, & Carey, 1984), a measure based on the nine temperamental dimensions from Thomas, Chess, Birch, Hertzig, & Korn (1963; i.e., high activity - low activity, predictability - unpredictability, approach - withdrawal, adaptability - non-adaptability, negative mood - positive mood, emotionally intense - emotionally mild, persistent - non-persistent, distracted - non-distracted, low threshold - high threshold). Sibling pairs were observed at two times: first, when the younger child was 24 months and, second, when this same child was 36 months. Few consistent results were obtained. Consistently
though, there was an association between 36-month-olds’ temperamental traits of negative mood, withdrawal, nonadaptability, and emotionally intense and the level of conflict observed with their older sibling.

**Five-factor traits and sibling relationship qualities.** Most personality development researchers who have focused on the personality characteristics of children have explored the temperament dimensions of Thomas et al. (1963). The five-factor trait model based on factor-analytic studies of English-language traits (Fiske, 1949; Tuples & Christal, 1961) has begun to emerge as an alternative structure for conceptualizing personality development (Goldsmith & Rieser-Danner, 1990). The five-factors or dimensions are extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience (Block, 1993; John 1990, 1991). The only study examining these personality dimensions with respect to qualities of sibling relationships is the one by Furman and Lanthier (1996). These researchers examined the role that siblings’ five-factor traits played in qualities of children’s sibling relationships. Their study included 56 triads of mothers and two school-aged children ranging in average ages from 9.43 years (younger sibling) and 11.33 (older sibling). They do not specifically report on the gender composition of the the dyads, but state that the gender compositions of the dyads were approximately balanced (Furman & Lanthier, 1996, p. 132). The children and the mothers both completed the *Children’s Personality Questionnaire* (CPQ: Porter & Cattell, 1975) and the *Sibling Relationship Questionnaire* (SRQ; Furman and Buhrmester, 1985). The SRQ is a 53-item self-report measure that assesses warmth, conflict, relative power, and competition for parental attention in the sibling dyad. The investigators derived composite factors by averaging the two children’s and the mother’s reports on the
relationship. The CPQ is a 140-item self-report measure which is modelled after the *Sixteen Personality Factor Questionnaire* (16PF; Cattell, Ebes, & Tatsuoka, 1970).

The CPQ item responses were sorted by 10 raters into one of the five-factor dimensions: extroversion, agreeableness, conscientiousness, neuroticism, and openness to experience. Subsequently, the raters assigned a rating on a 7-point Likert scale with respect to how prototypical the item was for the dimension to which it was assigned. Based on the assignment criteria, 63 of the items of the CPQ were included in the five-factor scales an assignment which had received support from a previous confirmatory factor analyses using a much larger sample (Lanthier, 1993).

Several findings from Furman and Lanthier’s study should be highlighted. The main finding was that the five personality traits were more often associated with conflict than with warmth in the sibling relationship. This finding converged with a number of other findings in the literature examining the link between temperamental traits and sibling relationships. The investigators proposed two substantive arguments for why these results were found. First, they suggested that positive aspects of the sibling relationship simply may be more difficult to assess than negative aspects (Furman & Lanthier, 1996). Second, they proposed that “positive features of the relationship may be less influenced by the characteristics of individuals and more influenced by the history of the relationship... Feelings of affection or closeness are likely to be influenced by one’s experiences or interactions with that person” (Furman & Lanthier, 1996, p. 137-138). It must be remembered that a majority of the studies linking temperamental traits and qualities of sibling relationships utilize measures of interactional characteristics of the siblings reported by others in naturalistic or structured
settings. Obviously, this methodology is partly driven by the age of the children. As a consequence, these studies are not necessarily assessing relationship-specific characteristics such as attitudes and feelings toward the other sibling or expectations for the relationship or even tap into siblings' more stable temperamental characteristics (as opposed to situation-specific characteristics). This explanation is in keeping with trait formulations of personality functioning: "A disposition does not mean that one will always behave in a particular way, just that one is inclined to or tends to behave in that way" (Furman & Lanthier, 1996, p. 129).

**Conclusions**

Based on the literature review with respect to the links between personality variables and qualities of sibling relationships, the following can be concluded. First, the research examining these links is scant and difficult to interpret given the wide range of ages of the siblings and the different personality variables and measures employed. Second, there are no antecedent studies on which to base our expectations for the links between the personality variables of individual adolescent siblings and the qualities of adolescent sibling relationships. Based on the findings for latency aged siblings, we might expect greater congruence between adolescent siblings' perceptions of the positive-nurturant aspects of the sibling relationship than between adolescent siblings' perceptions of the negative-dominant aspects of the sibling relationship (Stocker & McHale, 1992). Furthermore, again based on the child data, adolescent siblings' evaluations of the positive qualities of the sibling relationship may be influenced to a greater extent by the perception of warmth and affection in the relationship, while the negative qualities of the relationship may be influenced by the perception of hostility in the relationship (McHale & Gamble, 1989). Based on the preschool
data (Munn & Dunn, 1989), it may be conjectured that negative, intense, or "difficult" 
(Fullard et al., 1984) temperamental traits if present in either of the adolescent siblings may 
be related to greater hostility or conflict in the sibling relationship and lead to the lower 
evaluations of the quality of the sibling relationship.

Finally, given the greater ability of adolescents than children to articulate their 
perceptions of the qualities of the sibling relationship and their longer experience of being a 
sibling, it is reasonable to suggest that adolescent siblings’ evaluations of the qualities of 
their sibling relationship is likely to reflect the history of their relationship with their sibling 
rather than situation-specific characteristics of their experiences with the sibling. As a result, 
the information they provide about their sibling relationship is likely to reveal relationship-
specific characteristics (Furman & Lanthier, 1996) such as attitudes, feelings, and 
expectations with respect to the sibling. And, adolescent siblings’ long-term experience with 
their sibling (as opposed to the relatively shorter span of experience of children’s sibling 
relationships) may reflect their experience and understanding of the personality 
characteristics of the sibling. Given this last point, it may be easier to assess the positive 
features of adolescent sibling relationships than the positive features of pre-adolescent sibling 
relationships. However, at this point in the state of the research, it is difficult to know 
whether the positive or negative features of adolescent sibships are linked to characteristics 
of the individual siblings or the averaging out of experiences or interactions with the other 
sibling. The child data suggest, albeit tentatively, that the personality characteristics of 
individual siblings do not play as big a role in positive features of the sibling relationship as
they do in the negative features of the relationship (Furman & Lanthier, 1996). This proposition does not make a great deal of clinical sense and clearly awaits further testing.

Literature Review With Respect to the Conceptual Framework of the Present Research

Definition of the Personality Variable Used in The Present Study: Motive Dispositions

Research by Dan McAdams suggests that personality dispositions are the bases for the qualities of relationships (McAdams, 1984a, 1988, 1993, 1995). In McAdams’ theory, motive dispositions form an important category of relatively stable personality characteristics (McAdams, 1984a, 1988, 1993, 1995). A person’s motive dispositions are like a pulse, impelling the person to action in characteristic ways. Motive dispositions energize, direct and select human behaviour (McAdams, 1984a; McClelland, 1971, 1975). Motive dispositions are an aspect of personality that addresses the “why” of human behaviour by revealing what we “want”, our goals (McAdams, 1993, p. 69).

The term motive or motive disposition has usually been defined as a recurrent concern for a goal state based on natural (or innate) incentives. The term encompasses an aspect of personality that energizes, orients, and selects behaviour toward a particular goal state based on a recurrent concern for a particular quality of experience (McClelland, 1985).

This definition has been broadened in two ways as theorists have attempted to speak directly to the question of how motives combine with other characteristics to influence an individual’s behaviour and personality. First, the type of phenomenon used to assess motive dispositions is often incorporated into the definition. For example, Winter (1992b) defines motives “as relatively stable dispositions to strive for certain classes of goals [which are]
reflected in mental contents of *associative networks*" (p.302). Second, motive dispositions are generally conceived as having an innate aspect as well as a socialized aspect (McAdams, 1993; McClelland & Pilon, 1983; Veroff & Veroff, 1980; Winter, 1973b, 1992a). Thus, although a motive is conceptualized as an innate predisposition (i.e., an incentive system that is wired within the human organism), its expression in behaviour and/or the degree to which an individual may be aware of a motivational tendency may depend on a host of other personality and situational factors (McAdams, 1984c, 1988; Veroff & Veroff, 1980). For example, Winter (1992a) writes:

> The motive may be conscious or unconscious, depending upon values, defenses, and cognitive factors such as self-schemata or ability to monitor inner thoughts and wishes (p.302).

Several influences on the expression of motive dispositions have been proposed. These include expectancies (Atkinson & Feather, 1966; Veroff & Veroff, 1980), responsibility (Winter, 1988; Winter & Barenbaum, 1985), self-control and habits (Winter, 1973b, 1992b). McAdams' (1985a) definition reflects this predominate way of thinking about motive dispositions:

> [Motives are] constellations of ideas (cognitive clusters) which refer to desired goal states in living (experiential preferences) which come to be infused with emotion (they become affectively toned) so as to form a particular motive. The motive is a personality disposition for the individual. Thus, a given motive is a relatively stable constellation
operating in various and sundry ways in a person's daily behaviour and experience. A motive serves to energize, direct, and select behaviour and experience within the context of constraints and opportunities afforded by the environment (p.71).

Assumptions About Normal Personality Development and Personality Organization

Normal personality development and organization is conceived in the present study as the capacity for the development of interpersonal relatedness and the development of self-definition (Blatt & Blass, 1996). This conception cuts across many clinical orientations and grand theories of personality. It is also a conception that addresses the familiar juxtaposition of self and other. The major life task is to achieve a “compromise and balance between two relatively autonomous forces so that both are represented fully in one’s experience” (Blatt & Blass, 1996, p. 312). There is an interdependency between both lines of development within the individual: growth in one area is essential for growth in the other area. These two overarching and wide ranging notions in personality development are best captured by the terms agency and communion. Agency embodies the notion of the individual as separated or autonomous from others or from his or her context. Communion embodies the notion of closeness or interdependency: “the coming together of individuals and a merger with context” (McAdams, 1984a, p. 44).

The terms agency and communion can be traced directly to Bakan (1966), while the notions of agentic and communal interpersonal orientations share conceptual space with other dualist theories such as those of Angyal (1941), Rank (1936), Hogan (1982), and
Tomkins (1987). Bakan’s definition of agency and communion is the one most often cited in the literature:

I have adopted the terms “agency” and “communion” to characterize two fundamental modalities in the existence of living forms, agency for the existence of an organism as an individual, and communion for the participation of the individual in some larger organism of which the individual is a part. Agency manifests itself in self-protection, self-assertion, and self-expansion; communion manifests itself in the sense of being at one with other organisms. Agency manifests itself in the formation of separations; communion in the lack of separations (Bakan, 1966, p. 14-15).

It should be evident that agency and communion are “exceedingly broad and multidimensional tendencies in human living that might be conceived as integrative themes in lives” (McAdams, 1993, p. 12). A number of theoretical perspectives, including clinical, personality, social, and developmental psychology, support the position that agency and communion are fundamental orthogonal, and sometimes bipolar, modalities of human existence that underlie our conceptions of the self and the self-in-relation to others.

Depending on the phenomenon being described, various other labels for the two dimensions of social life include dominance/submission - friendly/hostile for interpersonal traits (Wiggins, 1979) and power - intimacy for motive dispositions (McAdams, 1985a). Regardless of the phenomenon studied and the labels given to the two dimensions, the various models share similar conceptions of the modalities of experience that underlie
human social life. An agentic orientation to relationships is often related to interpersonal dominance (i.e., tendency toward or preferences for experiences of relational impact), whereas a communal orientation to relationships is often related to interpersonal nurturance (i.e., tendency toward or preferences for experiences of relational intimacy; Gifford & O'Connor, 1987; Helgeson, 1994; Kiesler, 1983; 1992; McAdams, 1980, 1985a, 1988, 1993; Parks & Waters, 1988; Wiggins, 1979, 1982, 1991a). In motivational models (e.g., McAdams, 1985a; Winter, 1973a), power motivation refers to a consistent preference for experiences of feeling strong and having an impact on the environment. Intimacy motivation refers to a consistent preference for experiences of being close, warm and in communicative interaction with others. Power motivation and intimacy motivation are illustrated in people's social behaviour, the way they act and speak with their friends and in social groups, how they are seen and judged by others who know them, what they think about and how they feel over the course of the normal day, and how they understand their relationships with important people in their lives.

It is important to note that both the interpersonal and motivational labels for describing the relationship between self and other, relational agency (i.e., dominance and power) is mitigated by relational communion (i.e., nurturance and intimacy), resulting in a healthy balance of "self-reference" and "other reference" (Bakan, 1966, p. 10). From a clinical perspective, an extreme focus on the self may preclude the possibility of being oriented toward others. An extreme focus on others could conceivably preclude looking after one's own needs. As Wiggins notes, the ideal view of social functioning tends to be one in which individuals mitigate the excessive effects of one characteristic by the other.
"[Dominant] strivings mitigated by concern for others and [nurturant] feelings mitigated by a sense of self are the much preferred expression of these two modalities" (Wiggins, 1989).

Empirical Evidence of Power and Intimacy Motive Dispositions as the Bases for Qualities of Sibling Relationships

The Link Between Motive Dispositions and Qualities of Relationships

Motive dispositions, as defined by McAdams, explain individual differences in the way people perceive and construct their social life. These explanations are based on empirical findings that motive dispositions are associated with particular qualities of personal relationships (McAdams, 1996; McAdams & Bryant, 1987; McAdams & Vaillant, 1982). The main question guiding McAdams’ research over the last 20 years has been: “how do we play out fundamental personal needs [i.e., motives] in our most significant personal relationships?” (1988, p. 7).

Two types of relational phenomenon appear to be particularly relevant to the study of the link between motive dispositions and qualities of relationships. The first is the impact of an individual’s motive dispositions on the experience of the other person in a relationship. The second is the way in which the relationship is construed by one its members. There is evidence to suggest that power motivation and intimacy motivation are associated in theoretically predictable ways with qualities of relationships. It would be consistent with theory that power motivation show associations with both other-reported interpersonal dominance and thematic content in narratives reflecting agentic concerns. It would also be consistent with theory that intimacy show associations with both other-reported interpersonal nurturance and thematic content in narratives reflecting communal concerns. First, the
literature which documents these associations will be reviewed. Following this section, the particular processes thought to be involved in the development of these associations will be reviewed.

**Power Motivation and Dominant/Agentic Qualities of Relationships**

**Assertiveness and taking responsibility in relationships.** Individuals high in power motivation are likely to have concerns about self-assertion and self-display (Bakan, 1966). They are likely to be “doers” within relationships (McAdams, 1984a). That is, they are often perceived by others and talked about by others in terms of what they “do” in relationships. Studies by Fodor and Smith (1982), Winter (1973a), Winter and Stewart (1978) and McClelland (1975) demonstrate that individuals high in power motivation are active agents in their worlds who often assume dominant, influential and highly visible positions. On the basis of these findings, McAdams (1984a, 1988) hypothesized that persons high in power motivation would also perceive friendships as a domain for self-assertion and display. In an early investigation of 69 undergraduate students (32 men and 37 women), McAdams (1984a) asked participants to provide detailed information about their friendship history with a single best friend. Their responses to open-ended questions were content-analyzed and compared to their power and intimacy motivation scores obtained from a prior administration of the thematic apperceptive measure.

In a second study (McAdams, 1984a), a different sample of 105 undergraduates (35 men and 70 women) were asked to recall 10 friendship episodes that occurred in their lives during the previous two weeks. Friendship episodes were defined as interactions with friends lasting at least 15 to 20 minutes. For each episode the participant provided information
concerning time, place, number of people involved in the episode, major activities of the episode, contents of conversations occurring during the episode, major role he or she played in the episode, and their own emotional state at the time of the episode. Dimensions from the episodes were then correlated with power and intimacy motive scores.

In the first study, the findings suggested that helping one’s friend was an agentic theme in the friendships of the participants (McAdams, 1984a). This helping theme reflected an active, assertive or controlling role in the relationship. In the second study, McAdams developed a scoring category called agentic striving that reflected this active, assertive or controlling role such as taking charge of a situation, assuming responsibility, making a point in a debate or argument, giving advice, making plans, organizing activities, or attempting to persuade the other. Agentic individuals were found to perceive themselves to have dominant, guiding roles in which they were “doing” something. Two independent judges scored responses to the question “what was your major role in the episode?” for the presence or absence of agentic striving. McAdams found a strong positive correlation between power motivation and number of episodes reflecting the agentic striving role ($r = .4$, $p < .001$). While men scored higher on agentic striving than women ($p < .05$), a positive relationship between power motivation and agentic striving was found for both sexes. Overall, the biserial correlation between power motivation and the presence of helping themes in participants’ accounts was .35 ($p < .05$). Furthermore, participants high in power motivation and low in intimacy motivation were four times more likely to express helping themes (as defined above) in their accounts than were students low in power motivation and high in intimacy
motivation. For men, intimacy motivation was negatively associated with helping \((r = -.46, p < .02)\), although men in general were no more likely to show helping than women.

**Fear of conflict with the other and inappropriate social impact of the other.** Based on the data obtained from the two studies reported above, McAdams (1984) found fear of conflict within a friendship to be a salient theme in the concerns of individuals high in the power motive. When asked to recount some of their most disturbing fears they had about their best friend, college-age males and females high in power motivation were over three times as likely to mention a fear of conflict with the friends in terms of fights or arguments than those students high in intimacy and low in power (McAdams, 1984).

Research examining the link between power motivation and romantic love (McClelland et al., 1972; Stewart & Rubin, 1976; Winter, 1988; Winter et al., 1977) found that men high in power motivation tended to report a high incidence of problems or stresses in dating and marital relationships. These men also tended to avoid the possibility of conflict in their relationships with peers (Winter, 1973b).

In a related investigation, McAdams (1984a, 1988) asked undergraduates (study two above) to describe a specific low point in their friendship when there was a fairly serious disagreement and the friendship bond was weakest or strained: “a time when you or your friend experienced jealousy, betrayal, anger, disappointment, or misunderstanding, or any other feeling that was decidedly unpleasant” (McAdams, 1984a, p.57). Participants of both sexes who were high in power motivation were inclined to describe events in which one member of the dyad violated a norm of appropriate behaviour. That is, one member of the dyad infringed on the rights of others such as fighting, boasting, or being rude or socially
inappropriate in some way. McAdams labeled this general class of behaviour as inappropriate impact and found that, for males and females, high power motivation was significantly associated with the presence of inappropriate impact in low-point experiences ($r = .33, p < .05$). Furthermore, students high in power motivation and low in intimacy motivation were over four times as likely to report inappropriate impact as were students low in power and high in intimacy, and inappropriate impact appeared nearly twice as often in male reports of low points compared to female reports.

The friendships of high power individuals tended to “fall apart” (McAdams, 1984a) when their friends embarrassed them in front of others, thereby lowering their prestige with others. McAdams (1984a, 1988) suggested that individuals fear conflict with their friends because resolving the conflict may require them to give up some of their interpersonal control as well as the social reinforcement they receive from their friend for their personal agentic concerns.

**Emphasis on preserving the self in relationships.** Studies with college-age samples indicate that males and females with high-power motivation experience and understand friendships in terms of opportunities to take on dominant and organizational roles (Fodor & Smith, 1982; McAdams, 1984a, 1988, 1993; McAdams et al., 1984; McClelland, 1985; Veroff, 1982; Stewart, 1982; Stewart & Chester, 1982; Winter, 1973a, 1988, 1992a). For high-power motivation individuals, friendship represents an “extension of a generally agentic mode of interacting with the world in general: self and other are understood as separate... friends take advantage of various opportunities that may arise for self-display and self-expansion within the bounds of the relationship” (McAdams, 1984a, p.57).
Concern about public display is also related to level of power motivation in college-age participants. For both sexes, but especially for males, a public display of self as shown in the friend’s public transgression is perceived as thwarting agentic striving for the individual “who desires an approving audience to affirm self-display” (McAdams, 1984a). Furthermore, high-power individuals may fear conflict in friendships since in order for agentic relationships to function well, friends must, for the most part, tolerate each others’ self-expansion and self-assertion. Conflict is likely to reflect a breakdown in the mutual tolerance of agentic strivings within the relationship. Individuals high in power motivation are more likely to engage in behaviour that is designed, at some level of awareness or unconsciously, to increase their effect on others and to encourage their own prestige (McAdams, 1993; Winter, 1973, 1992a).

**Intimacy Motivation and Nurturant/Communal Qualities of Relationships**

**Emphasis on interactions of self-disclosure and listening.** Following Derlega’s assertion (Derlega, 1984) that the value an individual places on self-disclosure “may depend on a person’s system of personal preferences” (Delega & Grzelak, 1979, p. 175), McAdams examined the role of intimacy motivation as the preference for intimate disclosure in personal relationships. McAdams demonstrated that a preference for intimate disclosure was a central theme in the friendships of individuals high in intimacy motivation (McAdams, 1988). The accounts of one special friendship were coded for the presence or absence of self-disclosure on the part of one of the friends. The biserial correlation with intimacy motivation was .47 (p < .001) and highly significant among the women in the sample (r = .61). Subjects high in intimacy motivation and low in power motivation were six times more likely to
manifest a theme of self-disclosure in their accounts than were subjects low in intimacy and high in power motivation. McAdams also examined the content of types of self-disclosures in friendships (McAdams, 1982a, 1984a, 1988). Disclosure episodes elicited via the question “what in general was talked about?” were rated by two independent coders as indicating either no self-disclosure (a score of 0), disclosure of personal feelings, emotions, needs, wants, fantasies, strivings, dreams, hopes, plans for the future, fears or self-awareness (a score of 1), and particularly intimate or reflexive-relationship self-disclosure, including personal thoughts or feelings about the present interaction portrayed in the friendship or about the relationship (a score of 2). Total self-disclosure scores were obtained by summing across the 10 reported episodes. For the 105 participants, a strong positive association was found for both sexes between intimacy motivation and self-disclosure ($r = .49, p < .001$). Power motivation scores were unrelated to self-disclosure scores. McAdams noticed that high points in the friendships of college students high in intimacy motivation (McAdams, 1982a, 1984a) were described as including some kind of personal revelation divulged by one member of the dyad and listened to by the other member.

Although self-disclosure and listening are related activities in relationships, listening refers to the particular role taken by another in a situation in which self-disclosure occurs. The listener adopts a fairly passive (“being”) role (McAdams, 1982a, 1984a, 1988).

McAdams (1982) investigated whether or not self-disclosure episodes referred to the participant’s role as listener (scored 0 for absence of the word “listen” and derivatives thereof, and scored 1 for the presence of listening themes). McAdams (1982a) found a strong association for both males and females between intimacy motivation and the number of
episodes the participant reported listening \((r = .43, p < .001)\). Power motivation was unrelated to listening.

**Valuing trust in the relationship.** McAdams found that college-age participants high in intimacy motivation portrayed low points in their relationships with their best friends as instances of the friend displaying inappropriate impact. Subjects high in intimacy motivation focused on a betrayal of trust as a instance of violated relationship norms (McAdams, 1982a, 1984a, 1988). The relationship norm was a private or implicit expectation within the relationship. Some of the transgressions reported by high intimacy individuals included breaking a promise, disclosing a secret to some third person, failing to show warmth or understanding to the other, or (less frequently) showing a lack of candor (McAdams, 1984a). Those participants high in intimacy motivation and low in power motivation were four times more likely to report betrayal of trust in low-point accounts than were students high in power and low in intimacy (McAdams, 1982a, 1984a). For the total sample of 69 participants, intimacy motivation was positively associated with the betrayal of trust theme \((r = .36, p < .01)\), with the association stronger among females than males (McAdams, 1982a, 1984a).

**Preserving the relationship by balancing attributions of blame.** Attribution of blame was found to be another prominent theme in the friendship incidents reported by high intimacy individuals. Intimacy motivation was negatively associated with attribution of sole blame to the friend \((r = -.39, p < .01)\), although power motivation was unrelated to attribution of blame. In addition, participants high in intimacy motivation were more likely than those low in intimacy motivation to comment that the low-point incident was followed by a
reconciliation and growth of the relationship (McAdams, 1984a). Power motivation was unrelated to the theme of reconciliation or growth.

In contrast to the findings for high-power individuals, McAdams found that high-intimacy individuals had a recurrent fear about separation from the friend when asked to describe their worst fears experienced within the relationship (McAdams, 1984a). Male or female participants high in intimacy motivation and low in power motivation were twice as likely as those high in power motivation and low in intimacy motivation to describe a concern about separating from their friend. Fear of separation from the best friend was described by high intimacy individuals in the context of events over which the participant had little control, such as moving or growing apart, death, or injury (McAdams, 1984a, 1988).

Positive emotions associated with the relationship: liking, loving, and relief.

McAdams (1984a, 1988, 1993) also proposed that intimacy concerns within a relationship focus on the experience and quality of a relationship. Intimacy exchanges are likely characterized by openness, receptivity, harmony, concern for the other person, and a surrender of manipulative control over the other person (McAdams, 1980, 1984b, 1992b; McAdams & Powers, 1981). Patterson (1984) postulates that intimacy represents, at a basic level, an affective or evaluative reaction toward another person or toward the relationship. Liking, love and concern for, or commitment to the other person, is a central theme of intimacy concerns (McAdams, 1984b; Patterson, 1984). McAdams and Powers (1981) content coded video tapes of psychodramatic presentations by college-age students. Results revealed that protagonists scoring high in intimacy motivation structured dramatic scenarios which contained more positive affect (in the form of joy and happiness), than those
protagonists that scored low in intimacy. During the dramatic scenarios, high-intimacy protagonists also issued fewer commands to their peers, stimulated in the group more outbursts of laughter, and positioned themselves in closer physical proximity to other group members (McAdams & Powers, 1981). Another study found that high-intimacy individuals reported more positive affect, such as feeling “happy”, “carefree”, and “alert”, when engaging in social interaction, than did those individuals scoring low in intimacy motivation (McAdams & Constantian, 1983). McAdams, Jackson, and Kirshnit (1984) examined the relationship between intimacy motivation and nonverbal behaviour enacted by dyads in videotaped interviews. Those college-age participants high in intimacy motivation demonstrated higher rates of smiling, laughter, eye contact and reciprocity compared to those students scoring low in intimacy motivation (McAdams et al., 1984).

Motive Dispositions and Overall Quality, Satisfaction, or Success with Relationships

Power motivation and relationship quality. Individuals high in the power motive may develop negative self-images as a result of negative feedback. High-power individuals may have an apparent lack of success in maintaining interpersonal relationships. Their negative self-images may actually reinforce high-power individuals’ interpersonal orientation and perpetuate their personal need for power at the expense of intimacy. The main argument for this perspective comes from several indirect lines of evidence and theoretical speculation (Helgeson, 1994). Persons high in power motivation may not seek help or social support from others as they may attempt to maintain full control within their relationships or within their life circumstances (Winter, 1973a).
McAdams and Vaillant (1982) provided empirical support for the idea that individuals high in the intimacy motive may adapt to their circumstances more successfully than individuals high in the power motive. Perhaps, then, as Helgeson (1994) hypothesizes, the reason why individuals high in intimacy motive may adapt more successfully than those high in power motive has to do with the kind of feedback individuals receive from their environment. For example, individuals high in the intimacy motive may receive more positive feedback from others and evaluate themselves more positively than those individuals high in the power motive (Helgeson, 1994). Such a hypothesis leads to conjectures about the processes that maintain and encourage particular relational orientations. This line of thinking has been investigated from an interpersonal perspective (a discussion of these notions will follow) based on the circumplex model of interpersonal functioning (Goffman, 1967, Leary, 1957, Kiesler, 1983).

Summary

Helping or doing (as opposed to being) is a dominant theme in the friendship accounts of high power motivation individuals (McAdams, 1984a, 1988). While there is a lack of sex differences for power motivation (Helgeson, 1994; Stewart & Winter, 1976; Winter, 1988), there is support for the notion that power motivation is related to psychological well-being and relationship satisfaction for both sexes (McAdams, 1984a; McAdams & Vaillant, 1982) even though a number of studies (Winter & Barenbaum, 1985; Block, 1983; Blyth & Foster-Clark, 1987; Buss, 1981; Grotevant, 1978; Levanthal, 1970; Lytton & Romney, 1991; Miller, 1991; Plomin & Daniels, 1987; Scarr & Grajek, 1982; Schachter, 1985; Schachter & Stone, 1985, 1987a, 1987b; Stocker & McHale, 1992; Winter,
suggest that the socialization of males and females may reinforce particular ways of expressing their social needs. For example, males’ power motivation is positively correlated with self-preserving dominance and females’ power motivation is positively correlated with responsible nurturance (Winter, 1988). Some authors submit that power motivation is related to less stable and unsatisfying relationships in men and to more stable and satisfying relationships in women (Helgeson, 1994; McAdams & Vaillant, 1982; Winter, 1988).

Research conducted on the intimacy motive (McAdams, 1988, 1993) supports the notion that individuals who score high in intimacy motivation are oriented towards interpersonal communion in their behavior and in their experiences within relationships. They are often described by their friends as loving, sincere, and appreciative, and are less likely to be described as self-centered and dominant. They tend to promote friendliness and encourage harmony. High intimacy men and women are not reluctant to adopt the passive role of listener in friendships, and are comfortable surrendering interpersonal control.

Within the friendships of high-intimacy men and women, self-disclosure and listening are central themes. They experience a high level of joy and happiness in the presence of others. High-intimacy individuals show higher levels of laughter, smiling and eye contact, indicating positive arousal when in conversation with others. Individuals scoring high in intimacy motivation spend more time thinking about personal relationships, talking with people or writing to them, and feeling good about their interactions with others than those individuals scoring low in intimacy motivation.
Interpersonal and Cognitive Processes That May Be Responsible for the Link Between Personality Variables and Qualities of Relationships

In order to understand the hypotheses of the present study, it is important that the reader have a framework for understanding the interpersonal and cognitive processes that may be responsible for the link between personality variables and qualities of sibling relationships. There are five key processes which are theorized to be responsible for the impact of personality variables on the qualities of relationship: (1) the personalization of motive dispositions; (2) self-validation; (3) self-schemas; (4) self-evaluation; and (5) interpersonal reciprocity. In my study, these processes are hypothesized to explain the interdependency between views of self, other, and self-in-relation to other in understanding sibling relationships. After discussing these processes, I will present some conjectures about the role of motive dispositions on qualities of adolescent sibling relationships.

Motives direct personal goals for relationships. Wurf and Markus (1991) suggest that self-directed growth "guides the individual's attention, interest, and actions, and provides a coherent theme for the person's life" (p. 30). Motive dispositions become individuals' personalized social signatures. Abstract motive dispositions are given concrete form and self-relevant meaning. This process is operationalized within the working self-concept. For example, the need for affiliation and the press to find an intimate relationship becomes personalized by the individual's self-concept as to how he or she would like to be (Markus & Nurius, 1986; Markus & Cross, 1990). In this sense, personality development is "chosen" or
self-directed, as a result of the directing, selecting and energizing role of motive dispositions in the context of social life (Grotevant, 1992; McAdams, 1993; McClelland, 1985).

Self-validation. Another process by which motive dispositions influence the qualities of relationships is that of self-validation (Wurf & Markus, 1991). Self-validation offers an important conceptual link between the working self-concept and motive dispositions. Wurf and Markus (1991) hypothesize that self-validation actually provides the bridge between cognitions about the self to self-relevant and self-regulatory action. Similar to the process of personalization above, Wurf and Markus describe the self-validation process as very active: individuals “seek confirmation and avoid disconfirmation of their beliefs about their own characteristics and they may take active steps to ensure that others see them as they see themselves” (1991, p. 36).

Furthermore, people act according to their desired self-images; that is, they make life choices that support their conception of who they are and who they want to be. Thus, there exists a constant pull for the individual toward the desired and completed self-definition. The individual seeks and constructs evidence for possible selves (Wurf & Markus, 1991). The expression of a possible self occurs “when the person takes some action or makes some statement to the world suggesting that the possible self is in fact an actual self” (Wurf & Markus, 1991, p.37).

Self-schemas. A related concept in understanding the influence of motive dispositions on qualities of relationships is the notion of self-schemas. Self-schemas are integrated knowledge structures about personal experience that represent an individual’s significant involvement and concern (Wurf & Markus, 1991). Self-schemas often reflect
concerns about one’s future actions in a particular domain or with a particular person (McAdams, 1984a). While motives address the “why” of behaviour, self-schemas address the “what” of behaviour because schemas refer to what an individual characteristically “sees” (i.e., what inferences or conclusions he or she draws) when interacting with others (McAdams, 1984a).

**Self-evaluation**. Self-concept and self-worth are two aspects of a person’s self-structure that are conceptually intertwined with motive dispositions and influence the qualities of relationships. Self-concept refers to our self-appraisals, how we perceive ourselves, our subjective sense of self. Self-worth refers to the positiveness or negativeness of our more global self-evaluation. Several related lines of evidence suggest that motive dispositions are related to individual differences in self-concept and self-worth (Helgeson, 1994; Josephs, Markus & Tafarodi, 1992). This particular link makes sense in light of the theory that self-structures develop as a result of the interaction between views of self, other, and self-in-relation to other. This interaction is stated succinctly by Rosenwald and Ochberg (1992):

> The sense one has of being a *self* is partly one’s sense of who one is in relation to [an]other... Because the stories we tell of our lives invariably touch upon the lives of those who matter to us, our self-accounts must be coordinated with the accounts others give of us and of themselves...the ensemble of voices must add up to a workable whole” (p. 9).
In a similar conceptualization, Rosenberg (1979) refers to the important role of the perceived self as part of the individual’s self-concept. The perceived self is what we think others think of us. Perceived self is also a concept similar to the concept of the self in the “looking glass” theory of Cooley (1909/1964). Cooley suggests that the self represents the reflected appraisals of important others.

The construct of self-worth in the empirically validated model postulated by Harter (1988a, 1988b, 1990a), captures recent thinking about the role of self-structure in the development of social behaviour. Harter (1988b) hypothesizes that there are two determinants of self-worth. One determinant is the degree of discrepancy between how competent a person feels with respect to an area of their functioning and the importance this area holds for them. The second determinant of self-worth is the positive regard of others. Harter (1988b, 1990a, 1992b) suggests that self-worth mediates one’s general affect along a dimension of cheerful to depressed, and affect, in turn, mediates one’s motivation. Harter’s research (1990a) reveals that self-worth plays a mediational role between affect, motivation, and social behaviour. Both self-evaluation and social comparison processes are known to play a role in the way children, adolescents, and adults view themselves in relation to others (McAdams, 1993; Parks & Waters, 1988; Sroufe & Fleeson, 1986; Waterman, 1992; Buhrmester, 1990; Gordon & Gergen, 1968; Suls & Greenwald, 1983; Tesser & Campbell, 1983). The most deleterious of these types of processes is likely to be the individual’s perception of the negative regard of significant others (Bowlby, 1988; Cooley, 1906/1964; Harter, 1988b, 1992b; Steinberg, 1981).
Individuals may come to view themselves negatively if they perceive that they are unable to be the way they would like to be and/or the way they perceive others wish them to be. This perceived inability or shortcoming becomes affectively charged and leads to subjective feelings of low global self-worth. On the positive side, these processes may motivate individuals to clarify their self-evaluations and self-presentations (Wurf & Markus, 1991). This hypothetical process may explain why self-worth plays such an influential role in the personal trajectory of motive dispositions (Helgeson, 1994; McAdams & Vaillant, 1982).

Wurf and Markus (1991) maintain that conceptions of self, whether good or bad, are “dynamic” and “functional”. That is, concepts of the self, other, and self-in-relation to other “shape” behaviour in significant ways and are often the basis for self-initiated growth and change in the qualities of a person’s relationships (Markus & Nurius, 1986; McAdams, 1993; Waterman, 1992; Weiss, 1986; Wurf & Markus, 1991).

**Interpersonal reciprocity.** Interpersonal theory suggests that the purpose of interpersonal behaviour is to induce reactions from the other that confirm the self (Goffman, 1967; Leary, 1957). To orient the reader to interpersonal terminology, Kiesler’s 1982 interpersonal circle (Kiesler, 1983) is presented in Figure 1. Interpersonal theory organizes the universe of interpersonal behaviour according to a circular ordering of interpersonal actions. In this model, in which the two underlying orthogonal dimensions (dominance - submission and friendliness - hostility) and their bipolar contrasts are organized in two-factor circumplex space, 16 particular meanings of social experiences or actions are specified, representing combinations of the two bipolar dimensions. Later I will show the way in which these 16 segments are sometimes collapsed into octants.
Figure 1. The 1982 Interpersonal Circle
Interpersonal style also refers to the patterns of reciprocal relationships present among two persons’ covert and overt actions and reactions studied over some period of their transactions with each other. The length of periods studied can range from a single interaction unit to phases to episodes to sequences, all the way to the entire history of transactions between two individuals (Keisler, 1992; Kiesler & Schmidt, 1991).

Underlying the interpersonal model is the theoretical notion that “individuals tend to perceive the world in a manner that confirms or justifies their self-definitions” (Kiesler, 1996, p.61). A person’s interpersonal style, based on their profiles plotted on the circumplex, “implies beliefs about others in the world and a preferred style for satisfying needs” (Kiesler, 1996, p. 61). From this perspective, qualities of relationships involve interpersonal responses that reciprocate an individual’s views of self, other, and self-in-relation to other (Beier, 1966; Keisler, 1983, 1985): “states we experience as euphoria, contentment, anger, disgust, or anxiety result from our degree of success in producing consequences isomorphic to the interpersonal dimensions of ourselves” (Keisler, 1983, p. 7). For example, anxiety may suggest, at a certain level of awareness, that interpersonal feedback is not reciprocating the individual’s current self-definition, and may look like the following: I define myself as someone who is powerful, yet my interaction with him or her makes me feel that I am powerless (Auerbach et al., 1994; Kiesler, 1983, 1985; Kiesler & Schmidt, 1991). In this way, interpersonal theory speaks to the role of various covert aspects of interpersonal behaviour, as opposed to overt (i.e., observable) interpersonal behaviour, that influence qualities of relationships (Kiesler, 1996). Covert in this sense refers primarily to cognitive events, construals or perceptions. The term also encompasses such processes presumed to be
involved in emotions. These perceptions and interpersonal messages operate at “mostly unaware and automatic levels” on the part of the sender (Kiesler, 1996, p. 90).

In conclusion, viewed as either emotional-confirmation or as the fit of interpersonal expectations, the compatibility of two people in a dyad concerns, at a basic level, how the anxiety-to-self-esteem continuum is managed within the relationship. Several writers refer to this process as the individual’s security maintaining operations (Goldston, 1990; Sullivan, 1953), the fit of expectations (Goffman, 1959), the principle of reciprocal interpersonal relations (Leary, 1957), the theorem of reciprocal emotions (Sullivan, 1953), emotion-confirmation (Klinger, 1977a, 1977b) and more recently interbehavioural contingency (Carson, 1991), evocative interaction (Caspi & Bem, 1990), and transactional emotion process (Kiesler, 1996). Kiesler writes “two people are more compatible to the extent that they make complementary attributions that fit into a coherent image of the relationship and that confirm each other’s perception of self” (1996, p. 91).

Introduction to a Series of Conjectures About Sibling Relations

The purpose of this next section of the literature review is to pull together what we have learned from the literature review and to test out the questions of the present study in light of this information. There are three conjectures about the links between personality variables and qualities of adolescent sibling relationships that are relevant to the present inquiry: (1) conjectures about the role of motive dispositions in qualities of sibling relationships; (2) conjectures about motive dispositions, qualities of sibling relationships, and global evaluations of the sibling relationship; and, (3) conjectures about the role of global self-worth in understanding sibling relationships. Before discussing these conjectures, it may
be helpful to orient the reader as to how the sibling relationship qualities of relational agency/dominance and relational communion/nurturance might look in a hypothetical sample of adolescent siblings.

A Hypothetical Construction of the Agentic/Dominant and Communal/Nurturant Qualities of Sibling Relationships

It should be clear to the reader that the qualities of sibling relationships to which the present study refers are relational agency or dominance and relational communion or nurturance. As explained earlier, the different labels for each of the two orientations to relationships are the result of different epistemologies. Relational dominance and nurturance are based in the interpersonal model. The phenomena these labels refer to are interpersonal tendencies, often assessed by self- or other-report inventories (Gurtman, 1992b). Relational agency and communion are based in a variety of cognitive, emotional, and social approaches to understanding persons and their behaviour (McAdams, 1996). Researchers in this latter area often rely on direct personal accounts, autobiographical information, and/or stories about individual lives (Baumeister, 1994; McAdams 1982a, 1985b, 1988, 1993; Singer & Salovey, 1993; Thorne, 1995). Relational themes of agency and communion are gleaned and coded from these narrative forms of data. The orthogonality and, sometimes bipolarity, found for the interpersonal domains of dominance and nurturance, are also assumed to underlie the conceptualization of relational themes of agency and communion (McAdams et al., 1996; Thorne, 1995); however, there is still scant empirical support for this latter assertion.

To facilitate an appreciation of the qualities of relationships based on these two overlapping but different models, Table 1 was developed to orient the reader to the
Table 1

**Hypothetical dominant/agentic and nurturant/communal qualities of sibling relationships using interpersonal traits and narrative themes**

<table>
<thead>
<tr>
<th>Octant</th>
<th>Description of Interpersonal Impact</th>
<th>Theme</th>
<th>Description of Theme in Relation to Self and Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>PA</td>
<td>I experience my sister as forceful, assertive, dominant, and self-confident. She actively takes charge, makes decisions and wins arguments. When I'm with her I feel she has power over me.</td>
<td>Empowerment</td>
<td>• the sibling relationship empowers, enables, or improves me in some way</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• I gain assistance or guidance from my sibling or as a result of the sibling relationship which leads to positive action, self-control, and positive feelings about myself</td>
</tr>
<tr>
<td>BC</td>
<td>When I am with my sister I can feel her anger and irritation. She puts me down, proves me wrong, and criticizes me. When we interact, I feel she is competing with me.</td>
<td>Self Mastery</td>
<td>• because of the qualities of the relationship, I feel I can be the kind of individual I want to be</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• the sibling relationship allows me to express my self-control, knowledge, and expectations in a positive way</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• the competition I feel in the sibling relationship promotes my sense of control and self-understanding</td>
</tr>
<tr>
<td>DE</td>
<td>I experience my sister as rather cold-hearted. I don't experience much warmth, sympathy, or understanding when I am with her. I feel she wants to be free from me.</td>
<td>Status/Victory</td>
<td>• because of qualities of the sibship I can maintain a high status or position</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• the interpersonal context of the sibling relationship allows me to win in a significant, personally relevant manner (i.e., such as gaining prestige)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• I feel like an important person because of qualities of the sibling relationship</td>
</tr>
</tbody>
</table>

Table continues...
Table 1 continues.

<table>
<thead>
<tr>
<th>FG</th>
<th>I experience my sister as avoiding me and not reciprocating my offers of friendliness. I feel she does not want to take the time to be with me. When I am with her, our interactions are distant.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HI</td>
<td>When I’m with my sister she appears to be timid, fearful, and submissive. I feel she lacks confidence and self-esteem. I don’t feel she has power over me. When I am with her, our interactions with each other are unassertive and ambivalent.</td>
</tr>
<tr>
<td>JK</td>
<td>I experience my sibling in a rather neutral way. I feel I can tell her what to do, without an argument and freely admit mistakes to her.</td>
</tr>
<tr>
<td>LM</td>
<td>I experience my sister as warm, nurturant, sympathetic, and caring in our relationship. When I am with our interactions are accepting, caring, and supportive.</td>
</tr>
<tr>
<td>NO</td>
<td>I experience my sister as cheerful, outgoing, and vivacious. When I am with her our interactions are friendly, sociable, and positive.</td>
</tr>
</tbody>
</table>

| Achievement/Responsibility | • as a result of taking charge/responsibility for some aspect of the sibling relationship I feel proud, confident, and successful  
|                           | • the sibling relationship fulfills my desire to meet an implicit (or explicit) standard of responsible nurturance such as giving help, and giving support  
|                           | • because of the positive influence I have on my sibling I feel masterful and self-confident |

| Friendship/Love             | • as a result of the qualities of the sibling relationship I experience and express feelings of love, closeness, liking, joy, excitement, happiness, relief, and contentment |

| Dialogue                    | • as a result of qualities of the sibling relationship, I can engage in an emotionally positive conversation with my sibling  
|                           | • the kind of communication I engage in with my sibling is an end in itself |

| Care/Support                | • as a result of the qualities of the sibling relationship, I can express and receive the care and emotional support that I want |

| Unity/Togetherness          | • as a result of qualities of the sibling relationship, I can experience a sense of unity, harmony, togetherness, and belongingness  
|                           | • my experiences within the sibling relationship provide me with the acceptance and sense of affirmation I want from a relationship |

Note. Adapted from Wiggins (1991a), Gurtman (1991), and McAdams (1992a). The reader should note that the descriptions of interpersonal impact simultaneously include varying levels of dominance and nurturance and that, for the description of narrative themes, there are four related to agency and four related to communion.
Figure 2. Octant labels for the interpersonal circumplex from Gurtman (1991).
components of agency/dominance and communion/nurturance, using the sibling relationship in a hypothetical way. As the reader will note, for the interpersonal approach, I have couched the language of interpersonal behaviour in the perspective of the recipient of another person’s interpersonal messages. The purpose of this is to orient the reader to the notion of other-reported interpersonal impact which is conceived in the present research as a quality of relationship experience. The reader is also referred to Figure 2, which comes after Table 1, to provide a context for the types of interpersonal behaviours expected for each octant of the interpersonal circle.

For the thematic approach, I couch the language of the themes of agency and communion in terms of views or perceptions of the self and self-in-relation to other, again, reflecting how this approach was used in the present research as a quality of relationship experience.

**Conjectures About the Role of Motive Dispositions in Qualities of Sibling Relationships**

Table 2 summarizes the associations between motive dispositions and qualities of relationships. Siblings’ motive dispositions likely explain why particular interpersonal pulls (dominance ⇔ nurturance) towards the other sibling are so characteristic and why certain themes (agency ⇔ communion) are emphasized with respect to the relationship. The strength of a person’s power motivation is related to the strength of relational agency and dominance in qualities of the relationship. Similarly, the strength of a person’s intimacy motivation is related to the strength of relational communion and nurturance in qualities of the relationship.
### Table 2

**Hypothesized associations between motive dispositions and relationship qualities**

<table>
<thead>
<tr>
<th>Hypothesized association</th>
<th>Examples of explanations provided for the direction of the association</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power motive &amp; intimacy motive</td>
<td>• differential socialization of men and women; • gender-appropriate norms; • masculinity/femininity; • orthogonal counterparts of agency and communion; • independence of self-assertive (instrumental) versus interpersonal (expressive) personality traits</td>
<td>Bangart &amp; Vincent, 1987; Bem, 1974; Buss, 1981; McAdams, 1980, 1985a, 1988, 1993, 1996; Parson &amp; Bales, 1955; Stewart &amp; Chester, 1982; Wiggins, 1979, 1982, 1991a</td>
</tr>
<tr>
<td>Power motive &amp; relational agency/dominance</td>
<td>• self-focus; • helping/doing is emphasized in relationships; • friendships are the domain for self-assertion; • attempts to maintain full-control; • agency unmitigated by communion; • preference for experiences of having an impact; • emotional reactions or feelings and actions of interpersonal dominance reflect the pattern of needs that are at play in the interpersonal situation; • individual seeks influential and visible positions and wishes to maintain them;</td>
<td>Fodor &amp; Smith, 1982; Gifford &amp; O’Connor, 1987; McAdams, 1984a, 1985a; McAdams &amp; Vaillant, 1982; McAdams et al., 1984; McClelland, 1975; Veroff, 1982; Winter, 1973a, 1988; Winter &amp; Stewart, 1978</td>
</tr>
<tr>
<td>Power motive &amp; relational communion/nurture</td>
<td>• displays of responsible nurturance; • helping/supporting others; • agency mitigated by communion; • we attempt to integrate interpersonal situations in terms of affiliative and assertive behaviours;</td>
<td>Bangert et al., 1988; Hirschowitz, 1987; McAdams, 1993; McClelland, 1975; Peterson &amp; Stewart, 1993; Stewart &amp; Winter, 1976; Whiting &amp; Whiting, 1976; Winter, 1988; Winter &amp; Barenbaum, 1985</td>
</tr>
<tr>
<td>Intimacy motive &amp; relational communion/nurture</td>
<td>• preference for experiences of closeness and communicative interaction; • increased listening and self-disclosure; • positive arousal, relief, and alertness; • desire to respond to other’s needs; • self-other merging; • interpersonal attunement • emotional reactions or feelings or actions of interpersonal nurturance reflect the pattern of needs that are at play in an interpersonal situation;</td>
<td>Delega &amp; Grzelak, 1979; McAdams, 1982a, 1984a; 1988; McAdams &amp; Constantian, 1983; McAdams &amp; Losoff, 1984; McAdams &amp; Powers, 1981; Patterson, 1984</td>
</tr>
<tr>
<td>Intimacy motive &amp; relational agency/dominance</td>
<td>• values placed on behaviour in the friendly-submissive quadrant of the circle, but depends on the compatibility of dyad members;</td>
<td>McAdams &amp; Powers, 1981; McAdams, 1993, 1996; McAdams et al, 1996; Thorne, 1995</td>
</tr>
</tbody>
</table>

**Note.** + = positive; - = negative.
The relative independence between power-dominance-agency and intimacy-nurturance-communion as illustrated in Table 2 appears simple, whereas, in fact, the associations are quite complex. First, while the direction of the associations shown in Table 2 is the rule more often than not, the associations are not always significant, robust, or replicable. Second, the direction of the associations is likely to be affected by the relative strength of any one of the competing tendencies within any one individual. For example, we would expect that the associations between motive dispositions and relationship qualities would be quite different for those individuals with unmitigated power motive (high power but low intimacy) versus those individuals with mitigated power motive (high power and high intimacy). These issues create complexities in interpreting the findings. Furthermore, most studies do not report on the relative strength of the competing tendencies, making the problem of predicting associations between these various constructs difficult.

**Conjectures About Motive Dispositions, Qualities of the Sibship, and Global Evaluations of the Sibling Relationship**

Table 3 summarizes the hypothetical associations between motive dispositions, qualities of the sibship, and global evaluations of the quality of the sibling relationship. As noted previously in Table 2, motive dispositions (power ↔ intimacy) and qualities of the relationships (relational agency/interpersonal dominance ↔ relational communion/interpersonal nurturance) are related. Motive dispositions were shown to explain why particular interpersonal pulls and particular themes are emphasized with respect to a particular relationship. Now, in Table 3, motive dispositions and qualities of relationships are used to explain how an individual comes to evaluate the overall quality of a sibling
relationship. Based on Table 3, it can be seen that power and intimacy motive can influence evaluations of the relationship. Furthermore, relational agency or interpersonal dominance and relational communion or interpersonal nurturance, can also influence siblings global evaluations of the relationship. The association between relational communion or interpersonal nurturance and the global evaluation of the relationship is generally found to be positive. The communal emphases inherent in the intimacy motive are usually manifested as a “being with” focus: the self appears to merge with the other, with the focus being on the relationship between the individual and his or her interpersonal environment (McAdams, 1988, 1993). Outcomes that focus on sociability, relationship satisfaction, and social support seeking are positively related to a communal orientation (Helgeson, 1994). Because of the focus on the relationship, as opposed to a focus on the self, the association between relational intimacy - communion - nurturance and positive evaluation of the relationship is likely to be in the positive direction. The association between relational agency or interpersonal dominance and the positiveness of the global evaluation of the relationship is sometimes positive and sometimes negative, even though, theoretically one would generally expect that power -agency - dominance would have a negative association with the positiveness of the global evaluation of the relationship.

While the associations in Table 3 are presented in a unidirectional fashion, it should be pointed out that a much more complex set of associations between the variables is likely. For example, the global evaluation of the sibling relationship may be influenced, as well as influence, interpersonal behaviour and relational orientations within the sibling relationship. For instance, the stronger the sibling’s power motivation
and the stronger the expression of relational agency within the sibling relationship, the lower
the global evaluation of the quality of the sibling relationship. Or, the stronger the sibling’s
intimacy motivation and the stronger the expression of relational communion within the
sibling relationship, the higher the global evaluation of the quality of the sibling relationship.
Implied by the association presented in Table 3 is the possibility that motive dispositions
affect sibling A’s global evaluation of the relationship partly because motive dispositions
affect sibling B’s reactions evoked during interpersonal transactions with sibling A,
which, in turn, influence sibling A’s evaluation of the relationship (i.e., as a result of
confirming or disconfirming feedback).

It should be noted that most of the explanations about direction of the associations
hypothesized in Table 3 are based on the theoretical notion of self-validation (Harter, 1983,
1988b, 1992b; Wurf & Markus, 1991; Josephs et al., 1992; Kiesler, 1996). For example, the
power motive is hypothesized to direct the individual towards a “possible self” (McAdams,
1993, 1996). Self-validation of this possible self is sought and is brought about through the
process of transactional negotiations with the other sibling. These negotiations operate on
covert and overt levels of experience. From a cognitive perspective, interpersonal
transactions between siblings likely provide confirming evidence about a belief about the self
(Beck, 1976). This process is likely reciprocal and iterative over many transactions (Kiesler,
1983; Kiesler & Schmidt, 1991). For example, for the high-power motivated sibling, there is
a constant pull for self-definition within the sibship with respect to power affirming
experiences and toward agentic qualities of the sibship. Power affirming experiences might
include those in which the sibling is “momentarily transformed into someone larger, wiser,
Table 3

**Hypothetical associations between motive dispositions, qualities of relationships, and the positiveness of the global evaluation of relationships**

<table>
<thead>
<tr>
<th>Hypothesized association</th>
<th>Direction</th>
<th>Examples of explanations provided for the direction of the association</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power motive &amp; the positiveness of the global evaluation of the relationship</td>
<td>&amp;</td>
<td>displays of egoistic dominance; attempts to maintain control; less emphasis on seeking support; greater aggression and drug/alcohol use; orientation to achievement and work; avoidance of anxiety by focusing on preservation of the self; higher incidence of conflict and stresses; fear of inappropriate impact affecting prestige; require social reinforcement for power concerns;</td>
<td>McAdams &amp; Vaillant, 1982; Winter, 1988; Stewart &amp; Winter, 1976</td>
</tr>
<tr>
<td>Intimacy motive &amp; the positiveness of the global evaluation of the relationship</td>
<td>+</td>
<td>other-focus; communal orientation to relationships; surrender of control; sociability important, seeking of social support; value placed on interdependence in relationships; individuals avoid anxiety by focusing on preservation of their relationships;</td>
<td>McAdams &amp; Bryant, 1984; McAdams &amp; Vaillant, 1982; Vaillant, 1977; Vaillant &amp; McArthur, 1972</td>
</tr>
<tr>
<td>Relational agency or interpersonal dominance &amp; the positiveness of the global evaluation of the relationship</td>
<td>&amp; or -</td>
<td>dominance may include hostility; perception of dyadic compatibility may influence how the dominance is perceived; depends on status of members of the dyad or social situation; may depend on socialization experiences such as the instillment of responsible nurturance</td>
<td>Auerbach et al., 1994; Beier, 1966; Duke &amp; Nowicki, 1982; Kiesler, 1982, 1983; Kiesler &amp; Goldston, 1988</td>
</tr>
<tr>
<td>Relational communion or interpersonal nurturance &amp; the positiveness of the global evaluation of the relationship</td>
<td></td>
<td>the same as those for intimacy motive noted above</td>
<td></td>
</tr>
</tbody>
</table>

**Note.** + = positive; - = negative.
better, smarter, more influential, more esteemed, or more active” as a result of the sibling relationship (McAdams, 1985a, p.152; see also Table 1).

Intimacy motivation affects sibling A’s relationship evaluations partly because intimacy motivation affects sibling B’s covert reactions evoked during interpersonal transactions with sibling A, which, in turn, influence sibling A’s relationship evaluations. Hypothetical high-intimacy sibling A may seek an affective attachment with sibling B that is indicative of a more passive, communal emphasis. The communal emphasis in the relationship affects sibling A’s appraisal of his or her relationship with sibling B partly because sibling A’s intimacy motivation affects sibling B’s covert reactions, which likely shape the interpersonal behaviours of both members of the dyad. When these behaviours are mutually confirming, the evaluation of the relationship will tend to be positive.

**Conjectures About the Role of Global Self-Worth in Sibling Relationships**

Conjectures about the role of self-worth in sibling relationships are tenuous, particularly since there are multiple determinants of global self-worth and multiple contexts in which self-worth develops. Nonetheless, from theoretical and empirical perspectives (see Table 4), self-worth may influence and be influenced by the qualities of the relationships with significant others.

Based on a number of sources shown in Table 4 it is evident that global self-worth may be positively associated with relational agency or interpersonal dominance and with relational communion or interpersonal nurturance. Part of the difficulty with depicting the relevant associations and the explanations in Table 4 are the different concepts and measures of global self-worth as well as the different measures of agency - communion and dominance
- nurturance. The positive associations between relational agency or interpersonal dominance and global self-worth is consistent with the theory that agentic orientations to relationships include such “doings” as self-protection, self-assertion, self-expansion, self-control, and self-direction (McAdams, 1984a, 1985a, 1988; Winter, 1992a). Theoretically, it is the confirmation of the “good me” interpersonal behaviours (Sullivan, 1953) that relate to positive self-appraisals. For example, highly agentic siblings probably possess self-definitional stances which place a “core value” (Kiesler, 1996, p. 55) on interacting with others in ways which maximize experiences of feeling strong and having an impact on others (such as self-expanding actions or responsible caring). It follows that for the highly agentic sibling an affective attachment with the other sibling that is oriented more or less towards interpersonal dominance will reinforce the “good me” personifications, which, in turn, influence the highly agentic sibling to appraise the self as the “me” that is indeed “good” (i.e., the way he or she wants to be or to be seen by others). The highly communal sibling likely does not place a core value on having experiences of feeling strong or having an impact on the sibling: his or her agentic concerns are not central within the relationship. To maintain a subjective appraisal of the self as “good”, the highly communal sibling likely strives to evoke a submissive impact message in transacting with the other sibling.

As indicated in Table 4, the associations between relational agency or interpersonal dominance and global self-worth is sometimes positive and sometimes negative. This conveys the finding that while positive individuation may occur as a result of an agentic orientation to relationships, others may react negatively to interpersonal dominance. For
### Hypothetical associations between relationship qualities and global self-worth

<table>
<thead>
<tr>
<th>Hypothesized association</th>
<th>Direction</th>
<th>Examples of explanations provided for the direction of the association</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relational agency or interpersonal dominance &amp; global self-worth</td>
<td>+ or -</td>
<td>- positive individuation and dominance may be central to self-concept;</td>
<td>Basoff &amp; Glass, 1982; Carson, 1969, 1971; Goffman, 1967; Helgeson, 1994; Kiesler, 1983, 1996; Leary, 1957; Miller, 1986; Moskowitz &amp; Cote, 1995; Markus &amp; Cross, 1990; Markus &amp; Nurius, 1988; Markus &amp; Wurf, 1991; Stoppard &amp; Paiseley, 1987; Swann &amp; Hill, 1982; Josephs et al., 1992</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- affirmation of the self through social interaction;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- feedback about level of interpersonal dominance may be self-disconfirming and others may react negatively;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- the self is seen as inconsistent with the good me personification as dominant;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- agentic orientations to relationships reduces stress and personal distress due to preservation of the self;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- assertiveness and/or or risk taking leads to personal efficacy and sense of personal control;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- evaluating the self positively is derived from fulfilling gender-appropriate goals;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- interpersonal stance is not threatening to others and therefore yields positive feedback;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- person experiences approval;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- evaluating the self positively is derived from fulfilling gender-appropriate goals</td>
<td></td>
</tr>
</tbody>
</table>

**Note.** + = positive; - = negative.
example, an assertive interpersonal stance may be assessed by the individual as conflicting with gender-appropriate goals.

What is missing in Table 4 is the association between global evaluation of relationship quality and global self-worth. Most of the sources in Table 4 do not speak directly to this association. However, it is likely that global self-worth and global evaluation of relationship quality interact in some way. For example, if the relational context satisfies a sibling’s relational orientation plus if the particular dominant and nurturant interpersonal pulls are confirming to the interactant, the individual may report better self-perceived relationship quality and, possibly, more positive self-worth because of the self-affirming qualities of the relationship.

Description of the Present Research

Review of the Theoretical Framework

In this study, personality development is viewed as evolving from a complex dialectic transaction between two fundamental developmental processes: the growing capacity for human relatedness and the growing capacity for self-definition (Bakan, 1966; Noam & Fischer, 1996). The development of the growing capacity for human relatedness can be studied by investigating how dispositional qualities of the individual are related to communal qualities of their relationships. The development of the growing capacity for self-definition can be studied by investigating how dispositional qualities of the individual are related to agentic qualities of their relationships. The developmental trajectories of both of these processes are interdependent within the context of relationships (McAdams, 1993).
The literature review confirmed the view that through relationships "[p]eople actually participate in each other's minds and their working models take part in relationships with others...working models are patterns of living and participating with others" (Noam & Fischer, 1996, p. xi). The thrust of a recent theme in the developmental literature is that concepts such as "internal working model" require more shape and definition as researchable constructs so that we can begin to unfold the processes of personality development (Furman & Lanthier, 1996; Noam & Fischer, 1996). Such concepts need to reflect more of the "natural connections between people's constructions of relationships and the real exchanges they experience with the important people in their lives" (Noam & Fischer, 1996, p.xiv).

Certainly the broad notions of agency and communion, in tandem with the notions of power - intimacy and dominance - nurturance, are conceptions of human social life that reflect important, constructions of the way in which personality and qualities of relationships are construed. The weight of the evidence supports the view that relational agency, power, dominance, and relational communion, intimacy, nurturance, and are more than just "cold analytic entities, but play a central role in people's day-to-day lives" (Noam & Fischer, 1996, p. xiii).

It was also evident from the literature review that the conceptual structure stemming from the broad notions of agency and communion speaks directly to the issues and concerns of adolescents. Several writers now challenge Erikson's (1968, 1980) focus on individuation processes in identity formation at the expense of attachment processes in adolescent development (Apter, 1990; Bangart & Vincent, 1987; Bar-Yam Hassan & Bar-Yam, 1987; Franz & White, 1985; Josselson, 1980, 1987, 1988). In recent developmental analyses of
social motives in adolescence (and across the lifespan), individuation concerns which reflect
relational agency and attachment concerns which reflect relational communion are prevalent
and salient thematic lines for males and females. Both relational agency and relational
communion operate for the individual within different relational contexts and within
different sets of priorities and values depending on the developmental stage and socio-
cultural milieu of the individual (Blatt & Blass, 1996).

In conclusion, there is now considerable consensus that issues of psychological
attachment (i.e., developmental lines of relatedness) and issues of psychological
individuation (i.e., developmental lines of self-definition) are life tasks that involve a tension
between communion and agency (Bakan, 1966; Blatt & Schichman, 1983) as well as a
growing coordination between the two lines development (Josselson, 1980, 1987). This
developmental process is clearly associated with qualities of relationships (Blatt & Blass,
1996). This process begins to emerge in adolescence because of the increased capacity of the
adolescent to coordinate mutuality and reciprocity in relationships (i.e., communion,
intimacy, nurturance) and the increased capacity to express individuality (i.e., agency, power,
dominance).

Overview of the Study

Power and intimacy motive scores of pairs of adolescent siblings from the same
family were obtained utilizing a thematic apperceptive measure administered under neutral
arousal conditions and coded for motivational content by trained judges. The association
between these motive scores and several sibling relationship variables formed the hub of the
inquiry. The primary components of the study may be summarized as follows:
These components were investigated using identical data sets obtained from two same-sex adolescent siblings from the same family.

The present study was organized into three interrelated parts:

Part 1: Motive profiles, other-reported interpersonal impact, and evaluation of the sibling relationship. Since not all siblings high in power are likely to be low in intimacy motivation, and vice-versa, siblings with different motivational profiles based on the relative strength of each motive are likely to present quite differently on measures of interpersonal functioning (Helgeson, 1994; Wiggins, 1985, 1991a). In this part of the study I examined the associations between three variables: (1) the relative strength of each sibling’s motive dispositions (power and intimacy motivation); (2) the interpersonal impact reported by the other sibling (dominance and nurturance); and (3) the global evaluation of the quality of the sibling relationship (on a scale from very poor to excellent).

Covert aspects of interpersonal behaviour (i.e., the impact on the other member of the sibling dyad) are operationalized as other-reported interpersonal style using an interpersonal inventory. This approach is built on the notion that the purpose of interpersonal behaviour is to induce reactions from others that confirm the self (Goffman, 1967; Kiesler, 1996; Leary, 1967).

The reciprocal perspectives of each sibling provided an assessment of the processes that mediate self-reported relationship evaluations, allowing for a rich and,
potentially, ecologically valid, assessment of the *microenvironments* experienced by siblings from the same family. How the relationship was evaluated (i.e., positively or negatively on a scale from 1 to 10) allowed me to consider to what extent the sibling relationship satisfies the sibling’s motive dispositions and validates the sibling’s preferred self-definitions (Wurf & Markus, 1991; McAdams, 1993).

Siblings with *unmitigated* power motive (i.e., high power, low intimacy) were proposed to be interpersonally more dominant and interpersonally less nurturant, as reported by their sibling, than siblings with *mitigated* power motive (i.e., high power, high intimacy). Furthermore, siblings with *unmitigated* intimacy motive (i.e., high intimacy, low power) were proposed to be interpersonally less dominant and interpersonally more nurturant, as reported by their sibling, than siblings with *unmitigated* power motive (i.e., high power, low intimacy).

A further aim of this part of the study was to explore the predictive utility of interpersonal dominance and nurturance in accounting for the variance in relationship quality.

**Part 2: Motive dispositions, relational themes in the interview data, and relationship quality.** In this part of the study, the focus was on the connection between siblings’ motive dispositions and their relational themes of agency and communion revealed in the interview data. Furthermore, the connection between siblings’ relational themes in the interview data and their global evaluations of the positiveness of the sibling relationship was examined. The *expression* of relational agency or relational communion is not directly observed in the sibship but rather is inferred from the thematic content in the interview data. Based on the
empirical evidence, the strength of a person’s power motivation is related to the strength of relational agency in narrative content and the strength of a person’s intimacy motivation is related to the strength of relational communion in narrative content. The stronger the person’s power motivation and the stronger the expression of relational agency within a relationship, the lower the subjective evaluation of the positiveness of the relationship. The stronger the person’s intimacy motivation and the stronger the expression of relational communion within the relationship, the higher the subjective evaluation of the positiveness of the relationship. A sibling’s power motivation is hypothesized to encourage relational agency and to mitigate relational intimacy within the sibship. A sibling’s intimacy motivation is hypothesized to encourage relational communion and to mitigate relational agency in the sibship.

Helgeson, 1994; Josephs et al., 1992; Kiesler, 1992; Markus & Cross, 1990; McAdams, 1984a, 1988, 1993; McAdams & Bryant, 1987; McAdams & Constantian, 1983; McAdams & Losoff, 1984; McAdams & Vaillant, 1982; Parks & Waters, 1988; Stewart & Winter, 1974; Vaillant & McArthur, 1972; Veroff & Veroff, 1980; Weiss, 1986; Wiggins, 1982, 1991; Winter, 1973b, 1988, 1992a; Winter & Barenbaum, 1985; Wurf & Markus, 1991). Four structural equation models were designed to assess the mechanisms by which the six variables depicted above (power motive, intimacy motive, interpersonal dominance, interpersonal nurturance, global self-worth, and global evaluation of the positiveness of the relationship) are related. The four models were planned in parallel to each other. Each model was conceived to assess particular hypotheses about the data. That is, each model was conceptualized on the basis of a believable story about the data based on plausible hypotheses grounded in my knowledge of the literature. Structural equation modeling allowed the posing of several mediational hypotheses (Baron & Kenny, 1986; Hoyle & Smith, 1994) in the form of how or why does x affect y? (or, can the affect of x on y be attributed to z? Hoyle & Smith, 1994) within the same model. The associations hypothesized in this part of the study are presented in schematic form:
Table 5 summarizes the mediational and indirect hypotheses of the different model and provides the simplified path models. It should be noted that the left side of Table 5 summarizes only the mediational and indirect hypotheses of the four models. On the left side of Table 5 the complete simplified path models (including the direct effects) are depicted.

The best fitting model with respect to the current set of data was explored as part of this investigation. The reliability of the fit of the models was examined by dividing the data into two data sets. Further details with regard to the analyses of each of the models is provided in Chapter 5 and Appendix N.

Model 1. Model 1 hypothesized the unique role of power motivation on global self-worth and the unique role of intimacy motivation on global evaluation of the quality of the relationship. That is, power motivation was hypothesized to affect global self-worth directly, whereas, intimacy motivation was hypothesized to affect global relationship evaluations directly (Helgeson, 1994). While Model 1 hypothesized that power motivation has a direct impact on global self-worth, at least some of the impact of power motivation on global self-worth was hypothesized to be mediated by interpersonal dominance. Furthermore, Model 1 hypothesized that intimacy motivation likely has a direct impact on relationship evaluation, but, at least some of the impact of intimacy motivation on relationship evaluation was mediated by interpersonal nurturance.

Distinctions Between Model 1 and the Other Models. Unlike Model 1, Models 2 to 4 attempt to address the mediating or indirect effects of power and intimacy on global self-worth and relationship evaluations through their action on dominance and nurturance. Another important distinction between Model 1 and the other three models is the place of
Table 5. Mediational and indirect mechanisms emphasized in the path models

<table>
<thead>
<tr>
<th>Hypothetical/Mechanisms</th>
<th>Description</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWER → GLOBAL SELF-WORTH</td>
<td>Some of the direct impact of the power motive on global self-worth is mediated by dominance.</td>
<td>1</td>
</tr>
<tr>
<td>Dominance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTIMACY → RELATIONSHIP QUALITY</td>
<td>Some of the direct impact of the intimacy motive on relationship quality is mediated by nurturance.</td>
<td>1</td>
</tr>
<tr>
<td>NURTURANCE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POWER → NURTURANCE</td>
<td>Some of the direct impact of the power motive on nurturance is mediated by dominance.</td>
<td>2, 3</td>
</tr>
<tr>
<td>Dominance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOMINANCE → GLOBAL SELF-WORTH</td>
<td>Some of the direct impact of dominance on global self-worth is mediated by nurturance.</td>
<td>2</td>
</tr>
<tr>
<td>NURTURANCE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOMINANCE → RELATIONSHIP QUALITY</td>
<td>Some of the direct impact of dominance on relationship quality is mediated by global self-worth.</td>
<td>2</td>
</tr>
<tr>
<td>GLOBAL SELF-WORTH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NURTURANCE → RELATIONSHIP QUALITY</td>
<td>Some of the direct impact of nurturance on relationship quality is mediated by global self-worth.</td>
<td>2</td>
</tr>
<tr>
<td>GLOBAL SELF-WORTH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTIMACY → DOMINANCE</td>
<td>Intimacy motive affects nurturance indirectly via its affect on dominance.</td>
<td>3, 4</td>
</tr>
<tr>
<td>NURTURANCE</td>
<td></td>
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</tr>
<tr>
<td>POWER → DOMINANCE</td>
<td>Power motive affects global self-worth indirectly via its affect on dominance.</td>
<td>3, 4</td>
</tr>
<tr>
<td>GLOBAL SELF-WORTH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOMINANCE → GLOBAL SELF-WORTH</td>
<td>Dominance affects relationship quality indirectly via its affect on global self-worth.</td>
<td>3, 4</td>
</tr>
<tr>
<td>RELATIONSHIP QUALITY</td>
<td></td>
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</tr>
<tr>
<td>INTIMACY → GLOBAL SELF-WORTH</td>
<td>Intimacy motive affects relationship quality indirectly via its affect on global self-worth.</td>
<td>3, 4</td>
</tr>
<tr>
<td>RELATIONSHIP QUALITY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POWER → NURTURANCE</td>
<td>Power motive affects relationship quality indirectly via its affect on nurturance.</td>
<td>4</td>
</tr>
<tr>
<td>RELATIONSHIP QUALITY</td>
<td></td>
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</tbody>
</table>

Path Models

Path Model 1

- X1 Power → Y1 Dominance → Y3 Self-Worth
- X2 Intimacy → Y2 Nurturance → Y4 Quality

Path Model 2

- X1 Power → Y1 Dominance → Y3 Self-Worth → Y4 Quality
- X2 Intimacy → Y2 Nurturance → Y4 Quality

Path Model 3

- X1 Power → Y1 Dominance → Y3 Self-Worth → Y4 Quality
- X2 Intimacy → Y2 Nurturance → Y4 Quality

Path Model 4

- X1 Power → Y1 Dominance → Y3 Self-Worth → Y4 Quality
- X2 Intimacy → Y2 Nurturance → Y4 Quality
global self-worth in the models. In Model 1 global self-worth was hypothesized to be an outcome only. As noted, the thrust of Model 1 was the mediational role of interpersonal impact between motives and global self-worth. In Models 2, 3, and 4, global self-worth was hypothesized to act, in various ways, as a “cause” (i.e., independent variable) and an effect (i.e., dependent variable) within the same model.

Model 2. Model 2 hypothesized the direct effect of power motivation as well as intimacy motivation on interpersonal dominance (path X1Y1 and path X2Y1). While power motivation affects interpersonal dominance directly (path X1Y1), at least some of the impact of power motivation on interpersonal dominance is hypothesized to be mediated by interpersonal nurturance (Y2): i.e., power motivation affects interpersonal dominance partly because power motivation affects the covert engagements of interpersonal nurturance experienced by the other sibling, which, in turn, influence the covert experience of interpersonal dominance by the other sibling.

Model 2 also hypothesized the direct effect of interpersonal dominance on relationship quality (path Y1Y4); however, at least some of the impact of interpersonal dominance on relationship quality was hypothesized to be mediated by global self-worth (Y3): interpersonal dominance affects relationship quality partly because interpersonal dominance affects the individual’s global self-worth, which, in turn, influence relationship evaluations.

Simultaneous to the other hypotheses of Model 2, interpersonal dominance was hypothesized to have a direct effect on self-evaluation (path Y1Y3); however, the effect of interpersonal dominance on global self-worth can partly be attributed to the mediating
effect of interpersonal nurturance (Y2). Furthermore, the direct effect of interpersonal nurturance on relationship quality (path Y2Y4) can partly be attributed to the mediating impact of global self-worth (Y3): interpersonal nurturance affects relationship quality partly because interpersonal nurturance affects global self-worth, which, in turn, influences relationship quality.

**Model 3.** Model 3 hypothesized the direct effects of power motivation on interpersonal dominance (path X1Y1) and interpersonal nurturance (path X1Y2). While this model hypothesized the direct effect of power motivation on interpersonal nurturance, at least some of the effects of power motivation on interpersonal nurturance (path X1Y2) are hypothesized to be mediated by interpersonal dominance (Y1). This model also proposed that intimacy motivation affects nurturance indirectly as a result of its affect on dominance (pX2Y1 and pY1Y2). Power motivation affects global self-worth indirectly via its effect on dominance (pX1Y1 and pY1Y3). In addition, interpersonal dominance affects relationship quality indirectly via its affect on global self-worth (pY1Y3 and pY3Y4). Similarly, intimacy motivation affects relationship evaluation indirectly via its affect on global self-worth (pX2Y3 and pY3Y4).

**Model 4.** Model 4 hypothesized the same indirect mechanisms as those proposed for Model 3. In addition to these hypotheses, Model 4 also hypothesized that power motivation affects relationship quality indirectly via its affect on nurturance (pX1Y2 and pY2Y4).

The rest of the effects in Model 4 were proposed to be direct. Intimacy motivation was hypothesized to have a direct effect on global self-worth (path X2Y3). Interpersonal
dominance was also hypothesized to have a direct effect on global self-worth (path Y1Y3) and global self-worth was hypothesized to have a direct effect on relationship quality (path Y3Y4). Finally, interpersonal nurturance was hypothesized to have a direct effect on relationship quality (path Y2Y4).

Comments on the Design of the Study

This study employs a non-experimental, cross-sectional design. It incorporates cross-method measures (i.e., apperceptive measures, self-report inventories, and interview data). The data were analyzed using correlational and multiple regression analyses. In addition, the fit of the data to four structural models was assessed by dividing the data into two groups of equal numbers of sisters and brothers. Over 85% of the sample represented the oldest sibling dyad (first two born) in the family. The participants were divided into two samples, with younger siblings being designated Sample A and the older siblings being designated Sample B.

It should be noted that inordinate effort was put into standardizing the research protocol, obtaining all the data (i.e., there were no missing data), ensuring the participants' confidentiality and well-being during the gathering of information, and repeated checking of the accuracy of data entry, coding and statistical analyses. The sample is largely self-selected within the limits of some basic exclusionary criteria (see “Chapter 2: General Method”). Obviously only those adolescents interested in the project participated, and parental permission was required. A deliberate attempt was made to obtained equal samples of males and females.
The sample of adolescent siblings is in no way considered to be representative of adolescent siblings in general. Necessarily, all conclusions must be tentative and restricted to this particular set of data. Despite these cautions, I believe this study represents a theoretically and clinically compelling inquiry into a group of Canadian adolescents frozen at a particular time and place in their history as siblings.
CHAPTER 2

Method

Sample

A sample of 20 female sibling pairs (40 sisters) and 20 male sibling pairs (40 brothers) was solicited by permission of local School Board officials and through advertisement in a mid-western Canadian city.

All siblings, except for two, attended school. The majority of younger siblings were in grades 8 to 10, and the majority of older siblings in grades 10 to 11. All siblings lived at home with their parents. A majority of the sample (85%) were from two-children, intact families. The remaining sample were from three- to five-child intact and single-parent families. One sibling pair was from an intact family of 7 children. Over 85% of the sample represented the oldest sibling dyad (first two born) in the family. Two female pairs were twins and one male pair were twins. The younger sibling of the female pairs was designated as sibling A of the dyad in all the analyses. For the two pairs of female twins, one member of the dyad was arbitrarily assigned to the sibling A group for all analyses. The older sibling of the female pairs was designated as sibling B of the dyad. The two female twins not yet assigned were designated as part of the sibling B group in all analyses. The same procedure was followed for the male pairs, with the younger siblings designated as sibling A and the older ones sibling B. The male pair of twins were assigned A or B arbitrarily, but consistently, in all the analyses.

Average ages of female siblings A and female siblings B were 177.35 months (14 years 7 months) and 198.85 months (16 years 5 months), respectively. For male siblings
A and male siblings B, average ages were 180.4 months (15 years) and 205.9 months (17 years 2 months), respectively.

**Obtaining Participants and Consent**

The following procedure was followed in obtaining volunteers. This procedure was approved by the University Advisory Committee on Ethics in Human Experimentation, Behavioural Science (June, 1994) and adhered to the ethical standards outlined by the American Psychological Association (1992). The letters and forms that were used to obtain volunteers and consent are reproduced in Appendix A in the order of the protocol as it was carried out. Sibling pairs were identified by the vice-principal of the high school based on school enrollment lists without revealing the identification of the family. Families, and eventually adolescent volunteers, were approached using the following protocol:

- **Step 1:** Parent Consent Form to Solicit Adolescent
- **Step 2:** Adolescent Volunteer Forms
- **Step 3:** Parent Consent to Participate
- **Step 4:** Phone Contact with Adolescent
- **Step 5:** Adolescent Informed Consent

Of the 65 families contacted, six parents chose not to allow their adolescent siblings to participate in the study. Of 59 adolescent pairs that received parental consent to participate in the study, 15 pairs did not volunteer for the study (Step 2) and four pairs that did volunteer decided not to participate after they were contacted by phone (Step 4). When 20 male and 20 female pairs were obtained for the study, the search for participants was terminated.
Description of Measures Used in the Present Study

Power and intimacy Motivation. Because of the sensitivity of thematic apperception to situational factors, the story measure came first in the data collection (Smith et al., 1992). In all cases, the stories were administered by me using standard instructions and a standard format suitable for the adolescent sample under study (McAdams, 1988, 1992b, 1993; see Appendix B). As much as possible, no instruction or situational factor was introduced which might alter mood or motivation or arouse evaluation apprehension, defenses, desire to please the administrator, and so forth. As much as possible, the task was presented as relatively informal with a five-minute time limit with an allowance of one minute over or under the limit. See Appendix B for the instructions used for this task and the writing booklet used to obtain written stories. The writing booklet provided an outline for each story, if the student chose to use it, to aid in spontaneous writing. This method for presenting the stories has been used before in research studies with thematic apperceptive measures (McAdams, 1988; Smith et al., 1992).

All participants were administered the six pictures of the thematic apperceptive measure in the order recommended by McAdams (1992c): (1) couple on bench, (2) architect at desk, (3) ship captain, (4) trapeze artists, (5) two women in a lab, and, (6) man and woman with horses and dog. These pictures are considered appropriate in the assessment of intimacy and power motivation in both men and women (McAdams, 1980, 1982b, 1988, 1993). Instructions were standardized. The instructions were presented to each participant and read aloud with the participant to ensure the task was understood.
Participants provided handwritten responses in a test booklet that was designed for this purpose (see Appendix B).

The concept of thematic apperceptive Measure of motives: roots and psychometric issues. The motive measures used in this study have their roots in the original thematic apperceptive measures conceptualized by Murray (1938). McClelland and Atkinson (1948) developed a systematic and objective content analysis system for Murray’s thematic apperceptive measure which could be used for research. McClelland and Atkinson’s early work focused almost exclusively on the achievement motive (Atkinson, 1958, McClelland & Atkinson, 1948, McClelland et al, 1953). The scoring system developed by McClelland and his associates (McClelland et al, 1953) existed primarily as a measure of a transient motivational state, that is, an artificially heightened concern for achievement or doing well. Arousal was heightened by administering varied instructions before the story writing tasks designed to produce either a relaxed, relatively neutral atmosphere (i.e., neutral arousal condition) or an aroused concerned for performing or doing well (i.e., the achievement arousal condition). It was hypothesized that in the arousal condition a subject’s immediate concern for the motive was heightened. In the neutral condition, achievement concerns were considered to be at a baseline level and thus it was used as the control condition.

While McClelland and Atkinson (1948) elicited a particular motivational state and observed the transference of the motive into the stories aroused subjects wrote in their early work, their later research examined the usefulness of TAT-derived motives as indices of relatively stable motivational dispositions (McClelland, 1984). Construct validity of the
achievement motive was explored by documenting individual differences in the motive and
behavioural correlates. For these studies, the thematic apperceptive measure was
administered to subjects under the neutral conditions. Subjects scoring high on the
achievement motive were compared with those scoring low on some other variable predicted
to be theoretically associated with achievement motivation. Over time, a body of evidence
supported the achievement motive as a relatively stable personality disposition (Atkinson,

Criticisms of the construct validity of thematic apperceptive scoring systems
continues unabated over the last 40 years (see for example, the early reviews of Entwistle,
1972 and Klinger, 1966, and more recently, Smith et al., 1992). These criticisms focus
primarily on the psychometric limitations of the scoring systems. TAT-derived motivational
constructs have been charged with unreliability in tandem with a lack of construct validity.
The main charge has been that the construct validity of the measure as yielding a stable
personality disposition is compromised by the finding that a person’s score may vary from
one testing to the next. Several writers have argued that low test-retest reliability coefficients
are partially due to the fact that on re-test the test is no longer phenomenologically the same
test (Smith et al., 1992).

McAdams (1988) suggests that subjects who remember the pictures to which they
wrote stories in a previous TAT session will most likely write different stories the second
time around, apparently not wishing to repeat themselves. Studies by Winter and Stewart
(1971) and Lundy (1980 reported in McAdams, 1988) revealed that when subjects were told
that they may, if they wish, write stories similar or identical to the one they wrote in the previous session, test-retest coefficients rose to psychometrically acceptable levels (as high as \( r = .70 \) for some studies; Atkinson, 1982, 1992; McClelland 1981, 1984; Winter & Stewart, 1978). Nonetheless, McAdams writes: "the TAT is more subject to the vagaries of random, extraneous effects (e.g., mood, level of fatigue) than are highly structured questionnaires in which subjects choose given responses rather than generating their own" (1988, p. 102).

McClelland (1980, 1981, 1984), Atkinson (1981, 1982) and Smith et al. (1992) have examined psychometric issues from a number of perspectives and have offered recommendations for researchers using thematic apperceptive measures. Smith et al. (1992) recommend that at least six stories be solicited. Pictures should be selected to be representative of common situations in which the motives are aroused. Picture content should elicit thoughts representative of the motives measured, but the content should be ambiguous as well as have stimulus pull (Feld & Smith, 1958; Haber & Alpert, 1958).

Following a review of the literature, Smith et al. (1992) concluded that pictures should include content that is reasonably motive-relevant to the general population. This follows Atkinson’s (1958) assertion that pictures should have the quality of universality about them so as to arouse the same kinds of expectancies in most individuals. McClelland et al. (1953) note that pictures should also encourage future-oriented, goal-anticipatory thought, rather than simply recollections of past events. Neutral arousal conditions which tap characteristic levels of motive arousal should produce the greatest differentiation among persons, resulting in a distribution of scores (Epstein, 1966; Haber & Alpert, 1958; Singer, 1981, Smith et al., 1992). Haber and Alpert’s (1958) finding of a negative correlation
between ambiguity of picture cues and cue strength or pull suggests that pictures are likely best selected on the basis of cue strength (McAdams, 1988, 1993). For studies of more than one motive, pictures are ordered so as to intersperse those with the strongest pull for different motives. Veroff (1961) and Winter (1988) recommend the selection of pictures in which one kind of motive is strongly suggested, but at least one other kind of motive is weakly suggested. Alternatively, when two motives are studied, the picture cues should suggest several different motives while having a moderately strong pull for the two primary motives under study. This latter approach has been followed by McAdams (1992a, 1992b). He has used the same six picture cues in his research of the last 20 years to study power and intimacy motives.

Atkinson’s (1981, 1982, 1992) theory of the dynamics of action supports McAdams’ (1988) selection of picture cues. Atkinson proposes that when two motives are solicited on the basis of the same picture cue the researcher is really measuring the relative strength of the two motives. As a result, the picture cues should be more ambiguous than if the researcher wished to study only one motive. In Atkinson’s view, expressing imagery reflective of a particular motive reduces the strength of that particular motivational tendency (Atkinson, 1992). The reduction of that motivational tendency following expression of a particular motive will eventually permit the expression of a competing tendency. Atkinson’s theory may also explain why traditional psychometric indices of test-retest reliability cannot be logically applied to open-ended assessment devices such as thematic apperceptive measures (McAdams, 1988; Smith et al, 1992).
McAdams’ (1988) program of research which involves deriving and validating the thematic coding system for intimacy motivation began, in the 1980’s, as an attempt to revise the measure of the need for affiliation originally developed by Atkinson, Veroff and their colleagues in the 1950s (Atkinson et al, 1954). Despite efforts to provide construct validation for the coding system for the affiliation motive, including early studies conducted by McAdams, the results were disappointing (Boyatzis, 1973; McAdams, 1979). From a definitional perspective, the scoring system for the affiliation motive focused on the instrumental, goal-directed striving “to establish, maintain, and restore friendly relations with others, which suggested more a fear of rejection than a positive hope for warmth and closeness, an avoidance rather than an approach motive” (McAdams, 1988, p.102). Such a conceptualization was grounded in the drive-reduction model of human motivation (McAdams, 1984b, 1985a, 1988). McAdams envisioned affiliation motivation to reflect the more positive and less instrumental aspects of interpersonal relations based on the theories of Maslow (1968), Buber (1970), Sullivan (1953) and Bakan (1966), aligned with such concepts as B-love, the I-Thou encounter, need for personal intimacy, and communion, respectively (McAdams, 1988).

In the process of deriving and cross-validating this revised conceptualization of the affiliation motive, McAdams discovered that a qualitatively and quantitatively different motive emerged which he called the **intimacy motive**: the new construct is focused on a preference for a particular quality of interpersonal interaction rather than a general striving to have or maintain relationships regardless of their quality (1988, p. 103).
Correlations between the intimacy and affiliation motives were still found to be positive and moderate (.25 to .55; McAdams, 1982b). However, there were differences in the way in which the two motives related to other measures of behaviour and experience. When the two motives were compared in the prediction of the same things, such as the prediction of warm and communicative behaviour in an interpersonal setting, intimacy motive was a stronger predictor. In addition, in those cases where the two motives had different correlates, the intimacy motive appeared to connect more closely to interpersonal behaviour indicative of a more passive, communal emphasis, whereas the affiliation motive was associated with a more assertive and active approach to relationships (McAdams, 1982a, 1982b; McAdams & Powers, 1981). The affiliation motive seemed to emphasize doing (i.e., striving to have a relationship) while the intimacy motive seemed to emphasize being (i.e., communing with the other; McAdams, 1982b, 1988).

Repeated cross-validation of the intimacy motive scoring system used the procedure of arousal, cross-validation and construct validation described above for the achievement motive (McAdams 1980, 1982b, 1984a, 1984b; McClelland, 1984). The research program surrounding the intimacy motive resulted in the *Intimacy Motivation Scoring System* (McAdams, 1984b, 1992b, 1992c).

The development of the *Power Motivation Scoring System* (Winter, 1973a, 1992a, 1992b) also followed the arousal, cross-validation, and construct validation paradigm used by McClelland and Atkinson over a 25-year period (Steele, 1977; Stewart & Winter, 1976; Uleman, 1966, 1972; Veroff, 1957; Winter, 1973a, 1973b, 1992a, 1993b). Veroff (1957) developed the first content analysis measure of the power motive which is now considered to
measure a fear of weakness (Veroff, 1982; Veroff & Veroff, 1972). Uleman (1972) developed another coding system for the power motive which was later reconceptualized as the influence motive. Winter (1973a) revised Veroff’s original scoring system incorporating the ideas from both Veroff’s work with the fear of weakness and Uleman’s influence motive. Winter’s power motive reflects an approach motive rather than an avoidance motive, similar to the reconceptualization that occurred in McAdams’ work with respect to the affiliation and intimacy motives. Winter’s power motive is defined more precisely as the hope of power motive. The revised power motive (1973a, 1992b) is conceptualized as direct and legitimate interpersonal power (McClelland & Boyatzis, 1982; McClelland, 1985; Steele, 1977; Watson, 1969; Winter, 1973a, 1992b; Winter & Stewart, 1978). To get power, power-motivated individuals tend to make themselves visible (i.e., by acquiring and using prestige) and take risks that draw other people’s attention (i.e., self-display; McClelland & Teague, 1975; McClelland & Watson, 1973). Power-motivated individuals were also found to build alliances with lower status individuals (Winter, 1992b). In groups, power-motivated individuals were “adept at defining the situation, encouraging others to participate and influencing others” (Winter, 1992b, p. 308). Discriminant validity for the revised power motive measure has been demonstrated as it is relatively unrelated to achievement, affiliation, or intimacy motivation (Winter, 1973a, 1992b).

**Scoring systems for the power and intimacy motives.** All 480 handwritten stories were typed before they were coded for power and intimacy motivation. Two graduate students (1 male, 1 female) were trained to use the Intimacy Motivation Scoring System (McAdams, 1984b, 1992c) and two different graduate students (2 females) were trained
to use the *Power Motivation Scoring System* (Winter, 1973a, 1992b). All judges were blind to the original hypotheses of the study. Stories were presented so that judges were blind to the sex, age, sibling relationship scores, and global self-worth scores. Stories were presented in a random order (using the random number table) to all judges. All judges coded stories in the same order. Coding was done independently and supervised by me during initial training. For each coding system, one judge coded all 480 stories, while the other judge coded 16.6% of the data (80 stories). A minimum of 15% of the data was considered adequate for calculating interrater reliability. Only one score, that of the judge who coded all the stories, was used in the analyses. Thus, all 480 stories were coded twice in the same order, once for intimacy motivation and once for power motivation by different coders. The same 80 stories (in the same order) were scored by the second judges, once, by one judge, for power motivation and, once, by another judge, for intimacy motivation.

Both intimacy and power motivation scoring systems have built in reliability checks during training. Each judge spent 15 to 20 hours learning the scoring system and scoring practice stories available in the manual. Both manuals contain seven sets of practice stories and expert scoring for these stories. The power motivation scoring system also contains a self-test on the content of the manual.

For both scoring systems, judges must first determine whether or not there is evidence that the story contains any concern with power or intimacy. For intimacy motivation, the task of the judge is first to determine the presence (+1) or absence (0) of prime tests 1 and 2 (labelled as +A and Dlg) in the story. The prime test 1 defines
whether the relationship produces positive affect (+A). The prime test 2 defines whether the story manifests exchange of information between or among the characters in the story or dialogue (Dlg). The story may be judged as having passed both prime tests or just one.

For power motivation, the first task is to detect power imagery as present or absent using three criteria. The power concern does not have to be the only theme or even the major theme of the story in order to be scored. Power imagery is inferred from the story if (a) someone shows power concern through actions that in themselves express power, (b) someone does something that arouses strong positive or negative emotions in others, or (c) someone is described as having a concern for reputation or position. Only one criterion needs to be met for the story to contain power imagery. The judge must choose only one of the power imagery subcategories per story.

If the story is judged to have failed prime tests 1 and 2 in the case of intimacy motivation or is judged to have no power imagery in the case of power motivation, then all scoring of that story is terminated and the story receives a score of 0. If the story is judged to contain intimacy or power motivation, then the judge proceeds through the remaining 8 subcategories for intimacy motivation and the remaining 10 categories for power motivation.

The remaining categories of the scoring system are also judged using a present/absent scoring criterion. A summary of the criteria used to make judgements regarding the subcategories is presented in Appendix C.

For those stories judged as having the presence of the motive being scored, a total score reflects the initial tests and presence of subcategories. For intimacy motivation, a
story can yield a maximum score of 11 and minimum of 0. For power motivation, a story can yield a maximum score of 10 and minimum of 0.

**Impact Message Inventory.** As noted in the introduction to the study, the measure used to assess adolescent siblings’ interpersonal style as reported by the other sibling in the dyad was the *Impact Message Inventory* (IMI), an interpersonal circle inventory (Kiesler, 1985; Kiesler & Schmidt, 1991).

The 56-item octant scale (7 items for each of the eight scales) version of the *Impact Message Inventory* (Form II A; Kiesler & Schmidt, 1991) used in the present study is the revised version of the original 90-item *Impact Message Inventory* (Kiesler, 1987; Lorr & McNair, 1965). **Appendix D** presents the item content of the IMI octant scale version with original IMI scale names (Lorr & McNair, 1965) in parentheses.

Most instruments that measure interpersonal behaviour focus on what interactants do to one another rather than on the reactions individuals experience as a result of another’s behaviour (Kiesler, 1985; Wiggins, 1982). The IMI differs from such self-report instruments as the *Sibling Relationship Inventory* (Stocker & McHale, 1992) and the *Sibling Inventory of Differential Experience* (Daniels & Plomin, 1985). For example, the latter inventory asks adolescent siblings questions such as “in general, who has been more bossy toward the other over the years?” or “who has shown more understanding for the other?” rated by the sibling on a 5-point Likert-type scale. In contrast, the IMI asks sibling A to decide how accurately the items describe the emotional and behavioural impact of sibling B with questions such as “when I am with this person, he makes me feel bossed around” (not at all, somewhat, moderately so, or very much so), or “when I
am with this person, he makes me feel that I shouldn’t hesitate to call on him” (not at all, somewhat, moderately so, or very much so). The IMI does not ask respondents to record sensory impressions that describe the attributes of the sibling’s actions. Rather, the respondent is asked to described his or her inner reactions and engagements when interacting with the sibling.

From an interpretive perspective, those who fill out the IMI are not “raters” in the strict sense of the term, nor are their responses on the IMI strictly perceptions of overt behaviour (Kiesler, 1987). The correct transactional terminology is as follows. The sibling filling out the IMI is the “respondent”. The other sibling in the dyad is the “target” or “encoder” (i.e., the one doing the impacting or sending the interpersonal messages). The findings are “reports” of interpersonal style or “impacts”. Each member of the sibling dyad was administered the inventory separately. In consultation with Kiesler (personal communication, 1994), the instructions for the IMI were slightly modified to be clearer and more accessible to the average grade 8 to 12 student. These modified instructions are presented in Appendix E.

IMI responses were summed and averaged for each of the octant scales using the 56 (out of 90) items of the IMI:Form IIA (Kiesler & Schmidt, 1991). The octant scales (dominant, hostile-dominant, hostile, hostile-submissive, submissive, friendly-submissive, friendly, friendly-dominant) of the IMI:Form IIA are distributed within the Euclidean space of the interpersonal circumplex as depicted in Figure 1 (Chapter 1). Factor analytic studies reported in the manual (Kiesler & Schmidt, 1991) indicate adequate internal consistency with Cronbach alphas ranging between .62 and .91.
Principal components analyses and further varimax rotation confirm the underlying common dimensions of dominance and nurturance. Preliminary studies of concurrent validity for the octant version also support the factor structure of the IMI (Kiesler & Schmidt, 1991; Wiggins, Trapnell & Phillips, 1988).

**Global Self-Worth.** Harter (1988a, 1988b) conceptualizes global self-worth as a "gestalt-like evaluation about the self" (1988a, p. 4) which is possible by the time of adolescence. The assumption underlying this conceptualization is that a person's perception of global self-worth can be tapped directly rather than inferring global self-worth from the sum or average of responses to many specific questions about abilities or characteristics. In addition, global self-worth is not conceived as a measure of general competence. In Harter's view (1986b, 1987a, 1988a, 1988b), there is evidence for two determinants of global self-worth that need to be taken into account in a measurement model. First, there is evidence that the perceived regard of others directly impacts on global self-regard (Harter, 1988b). In fact, the positive regard of others was found to be a strong predictor of adolescents' global self-worth. In addition, Harter found that perceived competence or adequacy in domains rated as important to the adolescent was also strongly predictive of self-worth (Harter, 1988b). Clearly, one of the advantages of assessing global self-worth separately from other domains of specific perceptions of competence is that one can examine the relationship between global self-worth and the domain specific preceptions of competence (Harter, 1988a, 1988b).

The 45-item questionnaire "What I am like" and the 16-item questionnaire "How important are each of these things to you?" (see Appendix F) of the *Self-Perception*
Profile for Adolescents (Harter, 1988) taps specific judgements of competence or adequacy in eight separate domains (see Appendix G) as well as the adolescent’s global perception of self-worth (see Appendix H). Both questionnaires making up the Self-Perception Profile for Adolescents are upward extensions of the Perceived Competence Scale of Children (Harter, 1982). Each subscale yields a separate score. Five items make up the global self-worth scale (see Appendix H). Each item of the global self-worth scale requires the adolescent to make a binary choice between alternatives that reflect low perceived adequacy and high perceived adequacy. Adolescents rate their choice as either “really true” or “sort of true” for them. Low perceived adequacy is scored as 1 (really true for me) or 2 (sort of true for me) while high perceived adequacy is scored 4 (really true for me) or 3 (sort of true for me). As can be seen, an advantage of this measure is that the format provides structured alternatives for the adolescents. The adolescent is first asked to decide which kind of teenager is most like him or her, and then asked whether this is only sort of true or really true for him or her. Harter (1988a) notes: “The effectiveness of this question format lies in the implication that half of the teenagers in the world (or in one’s reference group) view themselves in one way, whereas the other half view themselves in the opposite manner. That is, this type of question legitimizes either choice” (p.5). Harter’s (1988b) empirical findings support the view that this format encourages adolescents to provide relatively accurate self-perceptions rather than socially desirable responses.

Relational themes in the interview data. Interview questions (see Appendix I) were designed to provide a broad and rich sample of talk about the sibling relationship.
Interview questions were based on Hart (1988), Josselson (1980, 1987), Stocker & McHale (1992), and McAdams (1988a, 1993). They were chosen to reflect nine areas considered important in understanding sibling relationships and in investigating views of self, other, and self-in-relation to other. These general areas were: self description; description of the sibling; description of the self with the sibling; best and worst experiences with the sibling; the self as perceived by the other; an evaluation of the self (strengths and weaknesses) in relation to the sibling; identification with the sibling or others in the family; views of the future (future selves) with the sibling; and, global evaluation of the positiveness of the sibling relationship.

Interviews followed a standard and structured protocol, and were tape recorded. All 80 were conducted by me. The questions of the interview that were the focus of the study were questions 4, 5, 11, and 12: What are you like when you are with your brother/sister? (question 4); Describe the relationship you have with your brother/sister. (question 5); What was your relationship with your brother/sister like when you were growing up? (question 11); Describe one of the memories, positive or negative, that you have of you and your brother/sister (question 12). These focal questions were embedded within a context of related questions to encourage the adolescent to think about and explain various aspects of the sibling relationship.

Previous studies using the motivational approach to studying relationships (McAdams, 1985a, 1988, 1993) have typically focused on older adolescents, young adults, and middle-aged adults, although one study examined the friendships of grades 4 and 6 children (McAdams & Losoff, 1984). The present study extends these efforts by
bridging the gap between pre-adolescents and older adolescents. McAdams' approach has never, to the present writer's knowledge, been used in the study of family or sibship relationships. As a result, there was no direct antecedent for the method used in the present study. Based on the empirical base established by McAdams, the method for analysing the interviews in the present study was developed on the basis of findings for the age group just younger and just older than participants in the present study. Based on a review of the literature and the strength of the findings reported in the literature with particular coding schemes, a four-step approach was developed for dealing with the interview data.

Another graduate student and I listened independently to the audiotaped interviews as a whole to determine the face validity of the communal and agentic coding categories developed by McAdams (1992a) in the adolescents' narratives about the sibling relationship. Our general assessment of the presence of generic thematic clusters both within and across the interviews was carried out using questions 4, 5, and 11 as the focus of the inquiry. These questions elicited views of the self, other, and self-in-relation to other.

As noted before, following the work of Bakan (1966), McAdams (1993) and others (McAdams et al., 1996), agency and communion can be viewed as two generic thematic clusters in life narratives, which likely express important preferences, desires, needs, strivings, and life goals (McAdams, 1992a, 1993, 1995a, 1997). The basic premise is that there are individual differences in individuals' stories about themselves and about themselves in relation to others which can be measured through the thematic
content analyses of interviews. It must be noted, however, that McAdams (1988, 1992a, 1993, 1995a) has found that agency and communion can most reliably be coded when verbal or written accounts describe particularly significant autobiographical events or nuclear episodes, peak experiences, and turning points in people’s lives. Life experiences, stories or memories must be “especially positive or especially meaningful with respect to the subject’s sense of his or her own development as a person” (McAdams, 1992a). Attempts to apply the coding system to other accounts or memories have been largely unsuccessful, especially when the narrative content provided by participants seems quite banal or vague (McAdams, 1988, 1992a, 1993). McAdams (1992a) also found that negative or low-point experiences did not typically yield agentic or communal motifs.

McAdams’ coding system for agentic and communal themes in narratives has undergone three revisions and the most recent revision (1992a) was used as the bases for coding the interview data in the present study. This coding system provides definitions of each coding category and gives examples of phrases or sentences from participants’ responses that can guide coding decisions. The first run through the interviews allowed us to collect phrases which exemplified the generic themes proposed by McAdams but were, of course, specific to the talk which described aspects of the self-in-relation to the sibling. Examples of these exemplary phrases are presented in Appendix J along with the coding categories used in the present study.

**Coding of agency and communion in relational themes in the interview data.**

Based on the collection of exemplary phrases (see Appendix J) we determined
the face validity of the coding categories based in McAdams' (1992a) scoring system. We also determined that the sibship focus of the narratives presented some minor, but unique, variations on the thematic clusters previously identified by McAdams' (1992a).

At least four out of the eight coding categories for the thematic clusters in McAdams' 1992 coding system required some minor adjustments to account for the focus of the present study on sibling relationships. The Self-mastery and Achievement-Responsibility themes of agency and the Love-Friendship and Unity-Togetherness themes of communion were felt to need slight refocusing so that the judgements of the two coders could proceed more reliably.

Self-mastery emphasizes themes of strengthening the self in terms of becoming a stronger, wiser and more powerful agent (McAdams, 1992a). Strengthening the self can occur as a result of insight into personal identity such as *After the death of his son, the man changes his entire philosophy of life* (McAdams, 1992a, p.5). Alternatively, Self-mastery can occur through taking control or charge of one’s life such as *A divorce frees up a woman to take charge of her life* or *A young White woman defies her family’s objections and marries a Black man* (McAdams, 1992a, p. 5). In the present study, Self-mastery was refocused to refer to themes of de-identification, competition and expectations for the self within the sibling relationship that specifically related to ways of enhancing self-definition and personal control. In order to be coded for Self-mastery, de-identification, competition, and expectations for the self must be related to positive feelings about the self since by definition such themes fundamentally reflect and
reinforce a desired personal identity such as (a) *The more I am with him the more I want to be the opposite of him*, (b) *I have to stay ahead—wanting to be better, coming out on top*, or, (c) *Not for attention, but wanting to get more separate.*

The focus of the Achievement-Responsibility theme as defined by McAdams (1992a) is on responsible power rather than egoistic dominance, a distinction that is supported by Winter (1988) and related to research findings from studies of children from six different cultures (Whiting & Whiting, 1976). Winter (1988) suggests that findings from the six cultures study reinforce the notion that there are two forms of the expression of power in sibling relationships. Egoistic dominance is manifested in physical and verbal aggression, rough play and attention-seeking, whereas responsible nurturance is manifested in giving help and support, prosocial dominance and physical contact (Winter, 1988). Fairly consistently, across cultures, Whiting and Whiting (1976) demonstrated that eldest and middle children tended to score more towards responsible nurturance than youngest and only children. Youngest and only children tended to score more towards egoistic dominance. Winter and Barenbaum (1985) found that among men and woman, having younger siblings predicted responsible nurturance in college years.

In the present study, the exclusion of themes of egoistic dominance (as opposed to themes of prosocial dominance) would clarify the theme of Achievement-Responsibility by excluding negative, impulsive and often profligate behaviours described by siblings. It was evident from listening to the interviews as a whole that these profligate or impulsive behaviours were not necessarily related to enhancement of the self since most adolescents reported feeling “bad”, “guilty”, “unhappy” or “disgusted” by such displays
as the following: (a) controlling him with names, I'm on top, (b) the whole power thing, you know, like 'get me a glass of orange juice and if you don't then I'm going to come there and I'm going to make you get me a glass of orange juice', (c) I try to make him angry. I try to do rude things to make him angry, (d) my moods, dominance you can feel, (e) I'm really aggressive—I can get really vicious sometimes, (f) she gives me the third degree—she gives it to me worse than my parents ever have, and (g) I just kind of kick him aside. (h) we just beat each other up. (i) throwing knives at each other. Furthermore, a common theme that emerged in the sibling narratives was siblings' wishes to have a positive rather than negative influence on the sibling such as (a) I want to have a positive impact on my sister, and (b) I feel guilty about past injustices, try to make it up to him, want to stand behind him, (c) being the older brother, I have some purpose, and (d) she wants to be like me, but this is also uncomfortable—don't want her to pick up things I do—make an effort to be serious. These observations about the interview data suggested that the exclusion of themes of egoistic dominance (as defined above) might ensure that the Achievement-Responsibility category was in keeping with the category designed by McAdams (1992a).

The Love-Friendship theme of communion from McAdams' coding system also required some fine tuning. This theme was defined as love and friendship among peers or equals and is specifically not defined as nurturance and caring as experienced in family relationships (McAdams, 1992a). The Love-Friendship theme was re-named Positive Emotions in the present study and refocused slightly to emphasize the experience of positive emotions such as liking, laughing, happiness, letting go and relief as a result of
the sibling relationship exemplified by the following transcriptions: (a) *we really like to have fun together*, (b) *we're happy when there is just the two of us—when we're just by ourselves*, (c) *open, like outgoing, sort of calm and excited*, (d) *a playful relationship*, (e) *we share a lot of secrets with each other, we laugh with each other, we do almost everything together*, (f) *fun to go out and rub it in people's faces and see their reactions to us—we'll go totally loud and everything, like we don't care*, and (g) *comfortable, low stress*, and (h) *we're like psycho-like freaks—very relaxed*.

Finally, the theme of Unity-Togetherness needed clarification. Unity-Togetherness captures the idea of being at one or in harmony with a group of people, a community or humankind. However, a common manifestation of this theme is the expression of strong positive emotions, such as when a community of friends or family is present at an important transitional event such as a graduation or wedding (McAdams, 1992a). In addition, McAdams points out that examples of being accepted, cherished, or affirmed by family could qualify for Unity-Togetherness. For the purpose of the present study, Unity-Togetherness was refocused slightly to emphasize the expression of harmony, synchrony, togetherness or solidarity with the other sibling and experiences or expressions of allegiance or loyalty to the sibling. The following transcriptions appeared to reflect the theme of Unity-Togetherness: (a) *we have the same frame of mind—can guess what we are thinking*, (b) *we can complete each other's sentences—we think alike*, (c) *on the same wavelength*, and (d) *a big bond—a story of bonding*.

Table 6 summarizes the coding scheme used in the content analysis of responses to question 4 (What are you like when you are with your brother/sister?) and question 5
Table 6

Summary of the relational themes of agency and communion

<table>
<thead>
<tr>
<th>RELATIONAL THEMES OF AGENCY</th>
<th>RELATIONAL THEMES OF COMMUNION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self Mastery (SM):</strong> The sibling strives successfully to master, control or better the self, through forceful and effective positive action, thought or experience with respect to the sibling. This may be manifested as insight into his/her identity in relation to the sibling, such as awareness of striving to de-identity and individuate from the sibling, expressions of increased wisdom, self-control and self-expectations with respect to actual conduct, and/or an enhanced sense of control or self-understanding.</td>
<td><strong>Positive Emotions (PE; modified Friendship/Love theme):</strong> The sibling produces positive affect manifested in experiences and expressions of love, closeness, liking, joy, excitement, happiness, relief, comfort, letting go and/or contentment.</td>
</tr>
<tr>
<td><strong>Status/Victory (SV):</strong> The sibling strives successfully to attain or maintain a high status or position; seeks to be praised or granted recognition within the siblingship and acts in order to become prestigious or to be considered centrally important within the siblingship. There is an interpersonal and implicitly competitive context in which the sibling wins in some significant, personally relevant manner.</td>
<td><strong>Dialogue (DG):</strong> The sibling experiences a reciprocal and noninstrumental form of communication or dialogue with the other sibling—an emotionally positive conversation which is viewed as an end in itself rather than a means to an instrumental end.</td>
</tr>
<tr>
<td><strong>Achievement/Responsibility (AR):</strong> The sibling feels proud, confident, masterful or successful in taking on a major responsibility for the other sibling or for some aspect of the sibling relationship and assumes roles that require him or her to be in charge. Rather than winning, this category requires that the sibling strive to do things or assume responsibilities in such a way as to meet an implicit or explicit standard of responsible nurturance such as giving help, giving support, and prosocial dominance.</td>
<td><strong>Care/Support (CS; support replaces help):</strong> The sibling cares for the other sibling or the sibling expresses support as a major experience within the siblingship. The sibling provides care, assistance, nurturance, aid, and support for the physical, material, social or emotional welfare or well-being of the sibling. Being the object of the nurturance or being cared for does not qualify. However, special acts of caring or kindness by the other sibling could score for CS because such acts suggest that the sibling views the world as a caring place as a result of the siblingship.</td>
</tr>
<tr>
<td><strong>Empowerment (EM):</strong> The sibling is empowered, ennobled, enabled, or made better through his or her association with the other sibling or as a result of experiences within the siblingship. The sibling is the recipient of critical assistance or guidance from the sibling or as a result of the siblingship.</td>
<td><strong>Unity/Togetherness (UT):</strong> The sibling experiences a sense of unity, harmony, synchrony, togetherness, belongingness, and allegiance with the other sibling. Experiences of being accepted, cherished, or affirmed by the sibling qualify as UT.</td>
</tr>
</tbody>
</table>

Note. Adapted from McAdams (1992a)
(Describe the relationship you have with your brother/sister.). As noted previously, Appendix J presents a more detailed overview of the coding scheme for agency and communion with exemplary phrases transcribed from the interview data.

To review, questions 4 and 5 were the segment of the interview data that was subjected to the content analysis. Each interview was conceived to contain one such segment. Each segment on audiotape was scored independently by two coders for the presence (score +1) and absence (score 0) of the eight different themes, four under the heading of agency and four under the heading of communion as noted above.

Each of the eight themes was scored using the present/absent system following McAdams (1992a). A theme was scored only once per segment of tape. Theme scores were summed across agency and across communion categories to provide a summary score for agency and communion, respectively. The highest possible score for agency or communion for a given segment could be “4” and the lowest score could be “0”. The correlation coefficients calculated by kappa were used to determine interscorer reliability for each of the summary scores (agency and communion).

At this point it should be clear to the reader that the coding system based on McAdams (1992a) is a very conservative scheme. McAdams (1992a) cautions the following:

The scorer should not give a point (+1) for a given theme in the episode unless there is clear and explicit proof of the theme’s existence in the episode. The scorer should be careful not to
read anything into the literal description of the account...Following a conservative scoring strategy for the narrowly defined themes will result in a preponderance of "0" scores for themes within stories. Indeed the modal score for total agency or total communion (summed across the respective four categories) per episode is "0". A score of "2" (indicating the presence of two of the four themes for either agency or communion, respectively) is considered very high for a particular episode (1992a, p.3).

In those cases where the coder vacillated between two scores, the lower score was used in the analyses in keeping with the spirit of the conservative coding system as reiterated by McAdams (1992a): "When in doubt, give the theme a score of 0" (p.3).

**Coding of autobiographical memories in the interview data.** Adolescents' responses to question 12 of the interview (Describe one of the memories, positive or negative, that you have of you and your brother/sister) were content analyzed by two independent coders. The coders judged the presence or absence of relational themes of agency and the presence or absence of relational themes of communion. For the presence of relational themes of agency, judgements were based on the presence of at least one out of four agentic themes in the modified coding scheme for agency presented above (see Appendix J). For the presence of relational communion, judgements were based on the presence of at least one out of the four communal themes. One judge coded all of the data. Another judge coded 15% of the data.
Interrater reliability for 15% of the data was calculated by kappa. The scores of the judge who coded all of the data were used in the analyses.

**Global evaluation of relationship quality.** At the conclusion of the structured interview conducted with each sibling separately, siblings were asked to respond to the question: “On a scale of 1 to 10, with 1 meaning very poor and 10 meaning excellent, rate how well you get along with your sibling”. They were also asked to explain their rating. These global relationship ratings were used as a measure of the perceived positiveness of the sibling relationship in the analyses. This aspect of the data set was considered complementary to the other self-report measures used in the study (Campbell & Fiske, 1959). The inclusion of measures which minimally constrain participants’ responses has been urged in order to give a more comprehensive, varied and phenomenological representation of research participants’ experiences, attitudes and opinions. Potentially, the inclusion of such an element in this research study would also balance or control the problem of leniency or acquiescent responses when closed-ended questionnaires or structured interview are administered alone, enhancing reliability and validity of the research.

A sample of the explanations of the relationship evaluations provided by individual siblings were extrapolated from siblings’ interviews and are presented alongside the ratings in Appendix K.
CHAPTER 3

Role of Siblings’ Motive Dispositions on Interpersonal Qualities of the Sibling Relationship and the Association with Global Evaluations of Relationship Quality

Introduction

This chapter reports on the associations between TAT-derived measures of power and intimacy motive dispositions (McAdams, 1992c; Winter, 1992b), other-reported interpersonal dominance and nurturance based on an interpersonal circle inventory (Kiesler & Schmidt, 1991), and a global evaluation of the positiveness of the sibling relationship obtained from interview data.

Proposals

Correspondences between motive dispositions and interpersonal qualities of the sibling relationship. First it was determined if there was a correspondence between a siblings’ motive dispositions and the interpersonal impact experienced by the other sibling. Consistent with theory, it was expected that siblings’ power motivation would be related to the dominant interpersonal engagements experienced by the other sibling and that siblings’ intimacy motivation would be related to the nurturant interpersonal engagements experienced by the other sibling. The specific proposal was:

Hypothesis 1. There will be a positive and significant correlation between power motivation and interpersonal dominance and a positive and significant correlation between intimacy motivation and interpersonal nurturance.
Correspondences between motivational profiles and interpersonal qualities of the sibling relationship. Theoretically, the relative strength of both motives in a sibling’s motivational profile should be related to other-reported interpersonal impact. That is, the relative balance of power and intimacy motive dispositions is likely reflected in a sibling’s transactions with his/her sibling and revealed in a sibling’s report of the interpersonal pulls he/she experiences when interacting with the sibling. To assess this theorized correspondence, group differences in mean levels of interpersonal dominance and nurturance by motivational profiles was examined. Siblings were categorized into one of four groups based on their motivational profiles (how these profiles were obtained will be outlined on page 99). There were two planned comparisons. One comparison was between the high power, low intimacy group (unmitigated power) and the high power, high intimacy group (mitigated power). The other comparison was between the high power, low intimacy group (unmitigated power) and the high intimacy, low power group (unmitigated intimacy). For the first comparison, the proposal was stated as follows:

**Hypothesis 2.** There will be a significant difference between the mean levels of interpersonal dominance and nurturance for the group of siblings categorized as having unmitigated power motivation (i.e., high power, low intimacy) and the group of siblings categorized as having mitigated power motivation (i.e., high power, high intimacy). The mitigated power group will indicate significantly more nurturance and significantly less dominance than the unmitigated power group.

For the second comparison, the proposal was stated as follows:
Hypothesis 3. There will be a significant difference between the mean levels of interpersonal dominance and nurturance for the group of siblings categorized as having unmitigated intimacy motive (high intimacy, low power) and those with unmitigated power motive (high power, low intimacy). The unmitigated intimacy group will indicate significantly more nurturance and significantly less dominance than the unmitigated power group.

Correspondences between motivational profiles, interpersonal qualities of the sibling relationship, and global evaluation of the sibling relationship. It is also consistent with theory to conjecture that how the sibling relationship comes to be evaluated by each sibling is related to how well the interpersonal qualities of the sibling relationship affirm the individual sibling's motive dispositions (power ⇔ intimacy) and desired self-presentational concerns (dominance ⇔ nurturance). There should be an association between motive dispositions, interpersonal qualities of the sibling relationship, and global evaluations of relationship quality because of the theoretical mechanism of self-validation (Kiesler, 1983, 1985, 1996; Marcus & Wurf, 1987; McAdams, 1993). This proposal was stated as follows:

Hypothesis 4. There will be a positive and significant correlation between interpersonal dominance and global evaluations of relationship quality for those siblings categorized as unmitigated power motive (high power, low intimacy) and a positive and significant correlation between interpersonal nurturance and global evaluation of relationship quality for those siblings categorized as unmitigated intimacy motive (high intimacy, low power).
Finally, it was determined if other-reported interpersonal dominance and nurturance accounted for a significant amount of the variance in relationship quality. This proposal is summarized as follows:

**Hypothesis 5.** Other-reported interpersonal dominance and nurturance will account for a significant amount of the variance in global evaluations of the relationship.

**Overview of Design, Measures, and Analyses**

**Sample.** The total sample of adolescents was divided into two samples of 40 siblings. Sample A represented those adolescents designated sibling A of the dyad and Sample B were those adolescents designated sibling B of the dyad. Within each sample of 40 siblings, none of the siblings were from the same family.

**Axis scores for dominance and nurturance.** Mean IMI octant scale scores for sample A males and females (sibling A of the dyad) and sample B males and females (sibling B of the dyad) were first standardized within the entire sample (n=80) before they were converted to axis scores using the following formula (as recommended by D. Kiesler, personal communication, July 1996):

\[
\text{DOMINANCE} = D - S + .707 (\text{HD} + \text{FD}) - .707 (\text{HS} + \text{FS})
\]

\[
\text{NURTURE} = F - H + .707 (\text{FD} + \text{FS}) - .707 (\text{HD} + \text{HS})
\]

**Power and intimacy motivation.** TAT-derived total power and intimacy motivation scores were obtained using the standard method described in the Chapter 2.

**Motivational Profiles.** Consistent with McAdams’ approach (1985a), total motive scores were converted to z scores. Power motivation scores were further converted so
that power motivation scores had a mean of 50 and standard deviation of 10. The same was done for intimacy motivation scores. Following McAdams (1985a), those individuals with intimacy motive scores equal to or greater than 50 were classified as high intimacy, whereas those scoring below 50 were classified as low intimacy. For power motivation, the distribution was split at a standard score of 49 rather than 50 because for the power motive there were 10 rather than 11 categories (McAdams, 1985a). Individuals whose power motive scores were equal to or greater than 49 were classified as high power, and those below 49, as low power.

The sample could further be categorized in terms of the relative strength of both motives for the same person. Those siblings with a power score greater than or equal to 49 and an intimacy score equal to or greater than 50 were characterized as High Power-High Intimacy (HP-HI). Those siblings with a power score greater than or equal to 49 and an intimacy score less than 50 were characterized as High Power-Low Intimacy (HP-LI). Alternatively siblings could be characterized as Low Intimacy-Low Power (LI-LP: in this case, their intimacy motivation was less than 50 and their power motivation score was less than 49). Or, they could be characterized as Low Power-High Intimacy (LP-HI: their power motivation score was less than 49 and their intimacy motivation score was greater than or equal to 50).

**Global evaluation of relationship quality.** The global evaluation of relationship quality was obtained from siblings’ responses to question 20 of the interview. A rating between 1 and 10 was obtained from each sibling.
Reliability. Interrater reliability of judges’ ratings for power motivation and intimacy motivation were calculated by kappa for category scores and total scores. Readability statistics were calculated for all 480 written stories using the readability statistics function of Microsoft Word. The purpose in analyzing readability statistics for the stories was to ascertain whether or not significant differences in the comprehensibility of the stories or the richness of the text might influence judges’ ratings of the stories to the extent that the results might reflect these characteristics rather than the thematic content of the stories. Another related purpose was to determine if, in fact, the sample of adolescents, based on their written work, were fairly homogeneous with respect to command of the English language (i.e., the sample had been screened informally to exclude siblings who had been identified with English as a second language, reading, writing, or spelling disabilities, or below average academic functioning; all the students were assumed to be at an average to above average standing in their respective grade placements based on the vice-principals’ nominations).

T-tests. To assess mean differences in dominance, nurturance and interpersonal impact, Levene’s test for the equality of variances and t-tests for the equality of means for samples of siblings categorized according to type of motivational profile were carried out.

Correlations. Correlational analyses was used to assess the strength of the associations between interpersonal dominance and nurturance and global evaluation of relationship quality for groups of siblings categorized according to type of motivational profile.
Regression. A standard bivariate multiple regression, using the direct entry method, was run in order to determine the associations between interpersonal impact and relationship quality. In this analysis, relationship quality was the dependent variable and other-reported interpersonal dominance and nurturance the independent variables.

Results

Inter-rater reliability of power and intimacy motive scores. Category agreement (i.e., percentage agreement; Streiner, 1995; Winter, 1992b) was the first way that the judges checked their agreement with the expert scoring for the prime tests of intimacy in the intimacy scoring system and the presence of power imagery in the power scoring system. The following standard formula was used (McAdams, 1984b; Winter 1973a):

\[
\frac{2 \times \text{(number of agreements between expert and judge)}}{\text{(number judged by expert as present)} + \text{(number by judge as present)}} \times 100
\]

Only when judges had reached above 85% agreement with the expert could they proceed to score the adolescents’ stories. Category agreement for the prime tests of intimacy and power imagery ranged from .86 to 1.0 (perfect agreement) for the last two practice sets completed by the judges. In both cases, the judges’ scoring skills were consistent with the expert model of the scoring systems. These results are presented in Appendix L.

Although the category agreement formula could be used for the remaining subcategories of the scoring systems, it will give meaningful information only when the particular category appears relatively often within the stories (McAdams, 1984b). Percentage agreement does not provide an index of the amount of agreement over and above chance (Streiner, 1995). A suitable method for assessing inter-rater reliability is by measuring \textit{kappa},
a chance-corrected per cent agreement (Bartko & Carpenter, 1976; Streiner, 1995). Kappa is calculated using the following standard formula (Bartko & Carpenter, 1976):  

\[
kappa = \frac{[\text{proportion of sum of agreements (positive and negative)}] - [\text{sum of chance number of agreements}]}{1 - [\text{sum of chance agreements}]}
\]

Kappa falls between -1 and +1. If kappa is 1, then there is perfect agreement between the two raters. A kappa of zero means the agreement between the two raters is no better than chance. A negative kappa reflects agreement between the raters as poorer than chance. The reliability of the judges’ ratings for intimacy motivation and power motivation calculated by kappa was .94 and .92, respectively. Judges’ ratings were much better than chance, suggesting excellent reliability of the judges’ ratings used to assess power and intimacy motivation. However, it was evident from reviewing the judges’ ratings that agreement on the absence of particular categories was greater relative to the presence of particular categories. This finding was consistent with other research employing the power and intimacy motive systems (McAdams, 1984b, 1988; McAdams et al., 1996).

Readability characteristics and homogeneity of the sample of thematic apperceptive stories. The analyses with respect to the readability and homogeneity of the TAT-stories is presented in Appendix M. The results of these analyses established that the TAT-stories were generally readable and homogeneous with respect to grade levels. There were no substantial sex differences in readability or grade levels. The correlations between motive scores and readability statistics were generally non-significant with one exception: there was a positive and significant association between power motivation scores and average word count (i.e., males with higher power motivation scores tended to write longer stories).
Means and standard deviations. The means and standard deviations of IMI dominance and nurturance octant scores for the two samples appear as Table 7. The means and standard deviations of IMI dominance and nurturance axis scores and total power and intimacy scores for Samples A and B appear as Table 8. Means and standard deviations of IMI axis scores for the four types of motivational profiles and global evaluation of the positiveness of the sibling relationship (across sex) are presented in Table 9. There are several interesting findings in Table 9. The mean interpersonal dominance scores of the high power/low intimacy group (sample A) and the high power/high intimacy group (sample B) stand out as somewhat lower (-1.62 and -1.45, respectively) than the mean dominance scores of the other groups. On the other hand, the mean nurturance scores for the high intimacy/low power group (sample A) and the high power/high intimacy group (sample B) are about four times higher (2.38 and 2.13, respectively) than the nurturance scores for the other groups. In contrast, the mean nurturance score for the low power/low intimacy group (sample A) is four to eight times lower than the mean of interpersonal nurturance other groups.

The mean relationship quality scores for the different groups appear fairly similar (in a range from 6.87 to 7.94), however, the mean for the both the low power/low intimacy (sample A) and the high intimacy/low power (sample B) groups were both the lowest (below 7) and show somewhat more variability around the mean than do mean scores from the other groups.

Motivational profiles. The motivational profiles are presented in Table 10. As shown, 22 adolescents (27.5%), were categorized as high power-low intimacy (i.e.,
Table 7

Means and standard deviations of IMI octant scores (*Impact message inventory: form IIA, Kiesler & Schmidt, 1991*).

<table>
<thead>
<tr>
<th></th>
<th>Sample A (n=40)</th>
<th>Sample B (n=40)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dominance</td>
<td>2.02 (.57)</td>
<td>1.87 (.45)</td>
</tr>
<tr>
<td>Hostile-Dominance</td>
<td>1.85 (.68)</td>
<td>1.80 (.64)</td>
</tr>
<tr>
<td>Hostile</td>
<td>1.86 (.73)</td>
<td>1.79 (.62)</td>
</tr>
<tr>
<td>Hostile-Submissive</td>
<td>1.46 (.39)</td>
<td>1.66 (.54)</td>
</tr>
<tr>
<td>Submissive</td>
<td>1.69 (.42)</td>
<td>2.12 (.49)</td>
</tr>
<tr>
<td>Friendly-Submissive</td>
<td>2.26 (.58)</td>
<td>2.24 (.59)</td>
</tr>
<tr>
<td>Friendly</td>
<td>2.57 (.70)</td>
<td>2.53 (.73)</td>
</tr>
<tr>
<td>Friendly-Dominant</td>
<td>2.56 (.47)</td>
<td>2.55 (.47)</td>
</tr>
</tbody>
</table>

*Note.* Standard deviations appear in brackets.
Table 8

Descriptive statistics of axis scores for interpersonal dominance and nurturance, total power and intimacy motive scores, and relationship quality

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DOMINANCE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample A</td>
<td>0.73</td>
<td>1.94</td>
<td>-3.02 to 5.79</td>
</tr>
<tr>
<td>Sample B</td>
<td>-0.75</td>
<td>2.26</td>
<td>-7.64 to 3.40</td>
</tr>
<tr>
<td><strong>NURTURANCE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample A</td>
<td>0.10</td>
<td>3.74</td>
<td>-9.34 to 5.97</td>
</tr>
<tr>
<td>Sample B</td>
<td>-0.12</td>
<td>3.75</td>
<td>-8.90 to 7.44</td>
</tr>
<tr>
<td><strong>POWER</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample A</td>
<td>10.35</td>
<td>5.12</td>
<td>2.00 to 22.00</td>
</tr>
<tr>
<td>Sample B</td>
<td>8.93</td>
<td>4.56</td>
<td>0.00 to 19.00</td>
</tr>
<tr>
<td><strong>INTIMACY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample A</td>
<td>6.48</td>
<td>4.15</td>
<td>0.00 to 15.00</td>
</tr>
<tr>
<td>Sample B</td>
<td>8.50</td>
<td>4.21</td>
<td>0.00 to 18.00</td>
</tr>
<tr>
<td><strong>QUALITY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample A</td>
<td>7.32</td>
<td>1.53</td>
<td>2.50 to 10.00</td>
</tr>
<tr>
<td>Sample B</td>
<td>7.33</td>
<td>1.57</td>
<td>2.00 to 10.00</td>
</tr>
</tbody>
</table>

**Note:** Axis score for dominance and nurturance calculated from octant scores using the formulae [D-S + .707 (HD + FD) - .707 (HS + FS)] and [F-H + .707 (FD + FS) - .707 (HD + FS)], respectively; total power motivation and total intimacy motivation score for six thematic apperceptive stories. Quality scores are from question 20 of the interview.
Table 9

Means and standard deviations of IMI axis scores for dominance and nurturance and relationship quality presented by motivational profile

<table>
<thead>
<tr>
<th></th>
<th>Sample A Males and Females (n = 40)</th>
<th>Sample B Males and Females (n= 40)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High power/low intimacy</td>
<td>High power/high intimacy</td>
</tr>
<tr>
<td></td>
<td>n = 12</td>
<td>n = 9</td>
</tr>
<tr>
<td>Dominance</td>
<td>-1.62 (2.05)</td>
<td>0.34 (1.51)</td>
</tr>
<tr>
<td>Nurturance</td>
<td>-0.42 (3.15)</td>
<td>2.38 (3.35)</td>
</tr>
<tr>
<td>Quality</td>
<td>7.25 (1.41)</td>
<td>7.61 (1.78)</td>
</tr>
</tbody>
</table>

Note: Standard deviations appear in brackets.
Table 10

Distribution of High Power-Low Intimacy, Low Power-High Intimacy, High Power-High Intimacy and Low Power-Low Intimacy categories

<table>
<thead>
<tr>
<th>Female Dyad</th>
<th>High Power/ Low Intimacy</th>
<th>Low Power/ High Intimacy</th>
<th>High Power/ High Intimacy</th>
<th>Low Power/ Low Intimacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>67.17:37.17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1B</td>
<td></td>
<td>46.64:51.20</td>
<td>50.74:53.54</td>
<td></td>
</tr>
<tr>
<td>2A</td>
<td>54.85:46.52</td>
<td>36.43:55.87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2B</td>
<td></td>
<td>58.96:39.51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3A</td>
<td>54.85:44.19</td>
<td>42.58:58.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3B</td>
<td></td>
<td>58.96:55.87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4A</td>
<td>58.96:39.51</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4B</td>
<td></td>
<td>38.43:41.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5A</td>
<td>68.69:53.54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6A</td>
<td>54.85:41.85</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6B</td>
<td></td>
<td>48.69:62.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7A</td>
<td>67.17:46.52</td>
<td>30.21:58.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7B</td>
<td></td>
<td>50.74:53.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8A</td>
<td>54.85:46.52</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8B</td>
<td></td>
<td>54.85:55.87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9A</td>
<td>36.37:67.56</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9B</td>
<td></td>
<td>58.96:62.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10A</td>
<td>75.38:32.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10B</td>
<td>36.37:58.21</td>
<td></td>
<td></td>
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<tr>
<td>11A</td>
<td>42.53:62.88</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11B</td>
<td></td>
<td>52.80:51.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12A</td>
<td>61.01:44.19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12B</td>
<td></td>
<td>58.96:67.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13A</td>
<td>52.80:37.17</td>
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<td></td>
</tr>
<tr>
<td>13B</td>
<td></td>
<td>46.64:37.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14A</td>
<td>48.69:55.87</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14B</td>
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<td>48.69:65.22</td>
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<tr>
<td>15A</td>
<td>52.80:55.87</td>
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<td></td>
</tr>
<tr>
<td>15B</td>
<td></td>
<td>63.06:60.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16A</td>
<td>54.85:48.86</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16B</td>
<td></td>
<td>36.37:53.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17A</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>17B</td>
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<tr>
<td>18A</td>
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<td>18B</td>
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<tr>
<td>19A</td>
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<tr>
<td>20B</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Note. Sibling A and sibling B of each dyad are presented sequentially. Dyads 1 to 20 are female. Dyads 21 to 40 are male. HP: LI = high power (≥ 49), low intimacy (<50); LP: HI = low power (<49), high intimacy (≥50); HP: HI = high power (≥49), high intimacy (≥50); LP: LI = low power (<49), low intimacy (<50)

Table continues...
<table>
<thead>
<tr>
<th>Male</th>
<th>Low Power/High Intimacy</th>
<th>Low Power/Low Intimacy</th>
<th>High Power/High Intimacy</th>
<th>High Power/Low Intimacy</th>
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</thead>
<tbody>
<tr>
<td>21A</td>
<td>67.17:46.52</td>
<td></td>
<td>48.69:48.86</td>
<td></td>
</tr>
<tr>
<td>21B</td>
<td>69.22:39.51</td>
<td></td>
<td>44.59:55.87</td>
<td></td>
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<tr>
<td>22A</td>
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<td></td>
<td>46.64:55.87</td>
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<tr>
<td>22B</td>
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<td>50.74:55.87</td>
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</tr>
<tr>
<td>23A</td>
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<td>40.48:53.54</td>
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<td>23B</td>
<td></td>
<td></td>
<td>40.48:67.66</td>
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</tr>
<tr>
<td>24A</td>
<td>54.85:46.52</td>
<td></td>
<td>48.69:48.86</td>
<td></td>
</tr>
<tr>
<td>24B</td>
<td>61.01:34.84</td>
<td></td>
<td>63.06:55.87</td>
<td></td>
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<td>58.96:41.85</td>
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<td>27A</td>
<td></td>
<td></td>
<td>34.32:55.87</td>
<td></td>
</tr>
<tr>
<td>27B</td>
<td></td>
<td></td>
<td>52.80:32.50</td>
<td></td>
</tr>
<tr>
<td>28A</td>
<td></td>
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<td>40.48:53.54</td>
<td></td>
</tr>
<tr>
<td>28B</td>
<td></td>
<td></td>
<td>34.32:72.23</td>
<td></td>
</tr>
<tr>
<td>29A</td>
<td>61.01:44.19</td>
<td></td>
<td>54.85:53.54</td>
<td></td>
</tr>
<tr>
<td>29B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30A</td>
<td>56.90:41.85</td>
<td></td>
<td>48.69:46.52</td>
<td></td>
</tr>
<tr>
<td>30B</td>
<td></td>
<td></td>
<td>46.64:61.85</td>
<td></td>
</tr>
</tbody>
</table>

| Total No. | 22 (27.5%) | 22 (27.5%) | 18 (22.5%) | 18 (22.5%) |

Note:Sibling A and sibling B of each dyad are presented sequentially. Dyads 1 to 20 are female. Dyads 21 to 40 are male. HP: LI = high power (≥49), low intimacy (<50); LP: HI = low power (<49), high intimacy (≥50); HP: HI = high power (≥49), high intimacy (≥50); LP: LI = low power (<49), low intimacy (<50)
unmitigated power) and the same proportion of the sample as low power-high intimacy (i.e., unmitigated intimacy). Twenty-two percent (n = 18) of the sample were categorized as high power-high intimacy (i.e., mitigated power and intimacy), and the same proportion again as low power-low intimacy (i.e., unmitigated power and intimacy).

Results

Hypothesis 1: motives and interpersonal impact. For sample A, there was a significant positive association between interpersonal nurturance and intimacy motivation (r = .336, p < .05). However, the association was not significant for sample B (r = .231, p < .15). For both samples, power motivation and dominance were unrelated.

These results appear in Table 11.

Hypotheses 2, 3, and 4: motivational profiles, interpersonal impact, and global evaluation of relationship quality. Results of the t-tests revealed no mean differences in dominance and nurturance scores by type of motive profile (Hypotheses 2 & 3). These results appear in Table 12.

With respect to the correlational analyses (Hypothesis 4), the following results were found (see Tables 13 to 16). Due to the very small sample sizes, these analyses should be interpreted with extreme caution. Sample A siblings categorized as high power/low intimacy (unmitigated power), indicated strong and positive correlations between their relationship ratings and other-reported interpersonal nurturance (r = .85, p < .001). For those sample B siblings also categorized as high power/low intimacy, a similar result was found: relationship quality was significantly related to other-reported interpersonal nurturance (r = .79, p < .006).
Table 11

Significance of Pearson product-moment correlations for Sample A and B siblings for the association between motive dispositions and interpersonal impact

<table>
<thead>
<tr>
<th></th>
<th>Dominance</th>
<th>Nurturance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>0.23 (-0.04)</td>
<td>-0.03 (0.08)</td>
</tr>
<tr>
<td>Intimacy</td>
<td>-0.14 (-0.02)</td>
<td>0.34* (0.23)</td>
</tr>
</tbody>
</table>

Note. Correlation coefficients for Sample B appear in brackets

* p < .05
Table 12  
Significance of the t-values for the mean differences in interpersonal dominance and nurturance by type of motivational profile for Sample A and B

<table>
<thead>
<tr>
<th></th>
<th>Profile 1</th>
<th>Profile 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Profile 2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dominance</td>
<td>1.65 (-0.61)</td>
<td>-0.27 (-2.61)*</td>
</tr>
<tr>
<td>Nurturance</td>
<td>-1.94 (0.14)</td>
<td>1.03 (1.54)</td>
</tr>
<tr>
<td><strong>Profile 3</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dominance</td>
<td>1.42 (0.45)</td>
<td></td>
</tr>
<tr>
<td>Nurturance</td>
<td>-1.05 (-1.71)</td>
<td></td>
</tr>
<tr>
<td><strong>Profile 4</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dominance</td>
<td>1.48 (-0.01)</td>
<td>0.41 (-0.59)</td>
</tr>
<tr>
<td>Nurturance</td>
<td>1.12 (-0.17)</td>
<td>1.89 (1.77)</td>
</tr>
</tbody>
</table>

**Note.** Profile 1 (n = 12) = Unmitigated power (high power/low intimacy); Profile 2 (n = 9) = Unmitigated intimacy (high intimacy/low power); Profile 3 (n = 10) = Mitigated power (high power/high intimacy); Profile 4 (n = 9) = low power/low intimacy; the t-values for Sample B appear in brackets

**p < .01 (two-tailed)**
Table 13

Significance of Pearson product-moment correlations for Sample A and B siblings categorized as high power/low intimacy based on their motive profile.

<table>
<thead>
<tr>
<th></th>
<th>Dominance</th>
<th>Nurturance</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dominance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurturance</td>
<td>-0.51 (-0.04)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality</td>
<td>-0.031 (-0.21)</td>
<td>0.85** (0.79*)</td>
<td></td>
</tr>
</tbody>
</table>

Note. Results for Sample B appear in brackets

* $p < .01$

** $p < .001$
### Table 14

**Significance of Pearson product-moment correlations for Samples A and B for those siblings categorized as low power/high intimacy based on their motive profiles**

<table>
<thead>
<tr>
<th></th>
<th>Dominance</th>
<th>Nurturance</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dominance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurturance</td>
<td>-0.13 (-0.52)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality</td>
<td>0.17 (-0.43)</td>
<td>0.77* (0.92**)</td>
<td></td>
</tr>
</tbody>
</table>

**Note.** Results for Sample B appear in brackets.

* $p < .01$

** $p < .001$
Table 15
Significance of Pearson product-moment correlations for Samples A and B for those siblings categorized as *high power/ high intimacy* based on their motive profiles

<table>
<thead>
<tr>
<th></th>
<th>Dominance</th>
<th>Nurturance</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dominance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurturance</td>
<td></td>
<td>-0.46 (-0.16)</td>
<td></td>
</tr>
<tr>
<td>Quality</td>
<td>-0.25 (0.19)</td>
<td>0.53 (0.08)</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Results for Sample B appear in brackets.
Table 16

Significance of Pearson product-moment correlations for Samples A and B for those siblings categorized as *low power/low intimacy* based on their motive profiles

<table>
<thead>
<tr>
<th></th>
<th>Dominance</th>
<th>Nurturance</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dominance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurturance</td>
<td>-0.47</td>
<td>(0.43)</td>
<td></td>
</tr>
<tr>
<td>Quality</td>
<td>-0.48</td>
<td>(0.09)</td>
<td>0.80*</td>
</tr>
</tbody>
</table>

*Note.* Results for Sample B appear in brackets.

* $p < .01$
Similarly, for those sample A and B siblings categorized as high intimacy/low power (unmitigated intimacy), relationship ratings were strongly and positively correlated with other-reported interpersonal nurturance \( (r = .77 \text{ and } .91, \text{ respectively}) \). However, for those siblings in sample A and B categorized as mitigated power (high power and high intimacy), there was a non-significant association between relationship quality and interpersonal nurturance. Unexpectedly (i.e., this association not proposed in Hypothesis 4), those siblings in sample A categorized as low power and low intimacy, there was a significant association between relationship quality and interpersonal nurturance \( (r = .79, t < .01) \), although for sample B siblings categorized the same way, there was no association between relationship quality and interpersonal nurturance. For all four profiles, relationship quality and interpersonal dominance were unrelated.

**Hypothesis 5: prediction of siblings’ global evaluation of relationship quality.** For sample A (see Table 17), interpersonal dominance and interpersonal nurturance contributed significantly to the prediction of relationship quality: \( R^2 = .75, F (2,37) = 24.29, p < .0001 \). Together, nurturance and dominance accounted for 54% of the variance (adjusted for sample size) in relationship quality. With respect to the relative importance of the predictor variables when combined with each other, it was revealed that interpersonal nurturance was more important in the prediction of relationship quality \( (t = 6.59, p < .0001) \) than dominance. Interpersonal dominance added appreciably little \( (t = .30, p < .76) \) to the prediction of relationship quality relative to interpersonal nurturance.
For Sample B (see Table 18), interpersonal dominance and interpersonal nurturance also contributed significantly to the prediction of relationship quality: $R = .73$, $F(2, 37) = 22.05, p < .001$. In total, interpersonal dominance and interpersonal nurturance accounted for 51% of the variance (adjusted for sample size) in relationship quality. Analyses of the individual regression weights revealed that interpersonal nurturance, relative to interpersonal dominance, added appreciably ($t = 6.37, p < .001$) to the power of the predictor variables, while interpersonal dominance (relative to interpersonal nurturance) added little ($t = -1.27, p < .24$).

Conclusions

There was partial support for Hypothesis 1. For Sample A only, there was a positive and significant correlation between intimacy motivation and other-reported interpersonal nurturance. For both samples, power motivation and other-reported interpersonal dominance were unrelated. There was no support for Hypothesis 2: there were no significant differences between the mean levels of interpersonal dominance and nurturance for the unmitigated power (high power, low intimacy) and mitigated power (high power, high intimacy) groups. There was also no support for Hypothesis 3: there were no significant differences between the mean levels of interpersonal dominance and nurturance for the unmitigated intimacy (high intimacy, low power) and the unmitigated power (high power, low intimacy) groups. There was partial support for Hypothesis 4: for the unmitigated intimacy group (high intimacy, low power) in both sample A and B, interpersonal nurturance and global
Table 17

Standard bivariate regression analyses for *relationship quality* regressed on interpersonal *nurturance* and *dominance*: Sample A

**Dependent variable:** Relationship quality

**Independent variables:** Nurturance & dominance

### Analysis of Variance

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<th>Mean square</th>
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<th>p</th>
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<tr>
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### Parameter Estimates

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<th>Beta</th>
<th>Sign. T</th>
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* significant
Table 18

Standard bivariate regression analyses for *relationship quality* regressed on interpersonal *nurture* and *dominance*: Sample B

**Dependent variable:** Relationship quality

**Independent variables:** Nurturance & dominance

<table>
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<tr>
<td>R-square</td>
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<td>Adj. R-square</td>
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<td>Standard error</td>
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</table>

<table>
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<tbody>
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</tr>
<tr>
<td>Dominance</td>
</tr>
<tr>
<td>Constant</td>
</tr>
</tbody>
</table>

* significant
evaluation of relationship quality were significantly related. Unexpectedly, the unmitigated power group (both samples) also indicated a significant association between interpersonal nurturance and global evaluation of relationship quality. Another unexpected finding was a significant association between interpersonal nurturance and global evaluation of the quality of the relationship for the low power, low intimacy group from Sample A (no such association was found for the low power, low intimacy group from Sample B). For all four profiles, interpersonal dominance and global evaluation of relationship quality were unrelated.

Hypothesis 5 received strong support for both samples: other-reported interpersonal impact accounted for over 50% of the variance in global evaluations of relationship quality. The best predictor of relationship quality was other-reported interpersonal nurturance.
CHAPTER 4

Role of Siblings’ Motive Dispositions in Relational Themes of Agency and Communion in the Interviews and the Association with Relationship Quality

Introduction

This chapter reports on the associations between TAT-derived measures of power and intimacy motives (McAdams, 1992c; Winter, 1992b), relational themes of agency and communion in the interview data (McAdams, 1992a), and global evaluation of relationship quality.

Proposals

Correspondences between motive dispositions and relational themes of agency and communion. First it was determined if there was a correspondence between siblings’ motive dispositions and the relational themes of agency and communion in the interview data. Consistent with theory, it was expected that siblings’ power motivation would be positively related to relational themes of agency in interviews exploring views of the self, sibling, and self-in-relation to sibling. It was also expected that siblings’ intimacy motivation would be positively related to relational themes of communion in this same interview data. The specific proposal was:

Hypothesis 6. There will be a positive and significant correlation between power motivation and themes of relational agency in the interview data and a positive and significant correlation between intimacy motivation and themes of relational communion in the interview data.
Prediction of siblings' relational themes of agency and communion in the interview data from siblings' motive dispositions. Theoretically, siblings' motive dispositions should predict relational themes of agency and communion in narratives about the qualities of their sibling relationship. This purpose of this part of the study was to determine whether relational themes of agency and communion could be predicted from the power and intimacy motives. The proposal was:

**Hypothesis 7.** Power motivation accounts for a significant amount of the variance in themes of relational agency in the interview data and intimacy motivation accounts for a significant amount of the variance in themes of relational communion in the interview data.

Correspondences between siblings' motive dispositions, relational themes of agency and communion in autobiographical memories. Similar to the previous two proposals, this part of the study examined correspondences between motive dispositions and relational themes in the interview data but focused on a different aspect of the interview. In this case, siblings' spontaneous autobiographical memories about the sibship were targeted. The proposal was:

**Hypothesis 8.** There will be a positive and significant correlation between intimacy motivation and themes of relational communion in autobiographical memories and a positive and significant correlation between power motivation and themes of relational agency in autobiographical memories.
Prediction of relational themes of agency and communion in siblings' autobiographical memories from siblings' motive dispositions. In this part of the study it was determined whether relational themes of agency and communion in autobiographical memories were predicted from siblings' power and intimacy motives. The proposal was stated as follows:

**Hypothesis 9.** Siblings' power motivation accounts for a significant amount of the variance in themes of relational agency in siblings' autobiographical memories and siblings' intimacy motivation accounts for a significant amount of the variance in themes of relational communion in siblings' autobiographical memories.

Prediction of global evaluation of the sibling relationship from relational themes of agency and communion in the interview data and relational themes of agency and communion in autobiographical memories. In this part of the study the predictive utility of relational themes in the two types of data was assessed. Consistent with theory, both types of data should yield relational themes which predict global evaluation of the quality of the relationship. Two proposals were formulated. The first proposal was:

**Hypothesis 10.** Relational themes of agency and communion in the interview data should account for a significant amount of the variance in relationship quality.

The second proposal was:

**Hypothesis 11.** Relational themes of agency and communion in autobiographical memories should account for a significant amount of the variance in relationship quality.
Overview of Design, Measures, and Analyses

Sample. The sample of siblings was divided by sex and by group (sample A and B), yielding four groups of 20 siblings each.

Measures. Total raw power motive scores were obtained from content coding the thematic apperceptive stories (Power Motivation Scoring System, Winter, 1973a, 1992b) and total raw intimacy motive scores were obtained from the content coding of the same thematic apperceptive stories (Intimacy Motivation Scoring System, McAdams, 1984b, 1992c). Total scores for relational agency and relational communion in the interview data were based on content coding of questions 4, 5, and 11 of the interview using a modified coding system (based on McAdams, 1992a) for the categories of relational agency (Self Mastery, Status-Victory, Achievement-Responsibility, Empowerment) and relational communion (Positive Emotions, Dialogue, Care-Support, Unity-Togetherness). The same coding procedure was used to obtain the total scores for relational agency in spontaneous autobiographical memories, although this time the content of question 12 of the interview was coded. Finally, the global evaluation of relationship quality was based on adolescents’ response to question 20 of the interview.

Adjusted alpha level. It was determined to adjust the alpha level to a more conservative level to account for the number of planned comparisons (Pedhazur, 1982). Where applicable, the alpha level of .05 was divided by the number of planned comparisons.

Reliability. Inter-rater reliability of judges’ ratings for power motivation, intimacy motivation, relational agency, and relational communion, were calculated by kappa for category scores and total scores.
Correlational analyses. To address the questions related to the associations between motives, relational themes, and relationship quality, correlational analyses were carried out to determine if the correlation coefficients were in the direction hypothesized. Pearson \( r \) correlations were computed between the total scores for motive dispositions (power and intimacy motivation), the total scores for the relational themes of agency and communion in the interview data, the total scores for the relational themes of agency and communion in autobiographical memories, and the score for relationship quality.

Regression Analyses. Subsequent to the correlational analyses, several regression analyses were carried out to determine:

1. the degree of variance in relational agency and communion in the interview data accounted for by intimacy and power motivation and which motive was more important in the prediction of relational agency and communion;

2. the degree of variance in relational agency and communion in autobiographical memories accounted for by intimacy and power motivation and which motive was more important in the prediction of relational agency and communion in the memories;

3. the degree of variance in relationship quality accounted for by the relational themes of agency and communion in the interview data and which themes were most important in the prediction of the global evaluation of relationship quality;

4. the degree of variance in relationship quality accounted for by the relational themes of agency and communion in autobiographical memories and which themes were most important in the prediction of relationship quality.
Results

Inter-rater reliability of agency and communion scores. The reliability of the judges' ratings for relational themes of agency and communion, calculated by kappa, ranged from .66 (moderate) to .86 (moderately high). For relational themes in the interview data, inter-rater reliability between the two judges was .73 for agency and .66 for communion. For the content dealing with autobiographical memories, the inter-rater reliability was .86 for agency and .74 for communion. Similar to the findings obtained for the inter-rater reliability of power and intimacy (see Chapter 3), inter-rater reliability for themes of agency and communion was based heavily on the agreement of the absence of thematic categories and was, again, expected (McAdams, 1992a) and consistent with previous research findings (McAdams, 1984b, 1985a, 1993; McAdams & Losoff, 1984; McAdams et al., 1996; Winter, 1973a, 1992b).

Ranges, means, and standard deviations of the measures. The ranges, means, and standard deviations for total power and intimacy motive scores for the four samples appear in Table 19. The ranges, means, and standard deviations for category scores for themes of agency and communion in the interview data and autobiographical memories appear in Tables 20 and 21, respectively. Finally the ranges, means, and standard deviations for total agency and communion in the interview data, total agency and communion in autobiographical memories, and global evaluation of relationship quality, are presented in Table 22.

On inspection of the table data for the relational themes of agency in the interview data (Table 20), Self-Mastery is the most prominent relational theme across all four groups
except sample A females. For sample A females, the Achievement/Responsibility theme is
the more prominent theme. Sample B males have the highest mean Self-Mastery score
relative to the other groups. The means for Status-Victory theme across the groups are low to
moderate (.15 to .30). For the sample A females, Empowerment was a weak but present
theme (.05), while all the other groups indicated an absence of Empowerment themes.

Within the communal categories (Table 20), mean Positive Emotions theme scores
ranged from .10 (sample B males) to .40 (sample B females), mean Dialogue theme scores
ranged from .15 (sample B males) to .50 (sample A females), mean Care-Support theme
scores ranged from .05 (sample B females and sample A males) to .15 (sample B males), and
mean Unity-Togetherness scores ranged from .05 (sample B females and sample A males) to
.20 (sample A females). Both samples of females and sample A males had relatively higher
Positive Emotions and Dialogue theme scores in comparison to their scores on the Care-
Support and Unity-Togetherness themes.

Table 21 presents the descriptive data for the relational themes of agency and
communion in autobiographical memories for the four samples. For all four samples, Self-
Mastery and Achievement-Responsibility theme scores tend to be higher than the scores for
Status-Victory and Empowerment themes. Sample B males indicated an absence of
Empowerment themes, while the other three groups indicated low scores for this theme.

In terms of the themes of relational communion in siblings’ autobiographical
memories, sample A females means range from .10 (Care-Support) to .50 (Unity-
Togetherness). For sample B females, means range from .05 (Care-Support and Unity-
Togetherness) to .45 (Dialogue). Compared to sample A females, sample B females
Table 19

Means and standard deviations of raw power and intimacy motive scores

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<th>Sample B</th>
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<td></td>
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<td>Females</td>
<td>Males</td>
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<td>9.20 (4.58)</td>
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<td>Intimacy</td>
<td>7.60 (4.47)</td>
<td>5.35 (3.57)</td>
<td>9.40 (3.56)</td>
<td>7.60 (4.69)</td>
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</table>

*Note: Standard deviations appear in brackets; n = 20 in each group*
Table 20

Means and standard deviations for relational themes of *agency* and *communion* in the interview data

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<tr>
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<th>Mean</th>
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<td><strong>Sample B (20 females)</strong></td>
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<td><strong>Sample A (20 males)</strong></td>
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<tr>
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<td>.050</td>
<td>.224</td>
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Table 21

Means and standard deviations for themes of agency and communion in siblings' *autobiographical memories*

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<td>.400</td>
<td>.503</td>
<td>.650</td>
<td>.489</td>
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Table 22

Ranges, means, and standard deviations of total scores for themes of agency and communion in the interview data and global evaluation of relationship quality

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<th>M</th>
<th>SD</th>
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<tr>
<td>Total Agency</td>
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<td>0 to 2</td>
<td>0.80</td>
<td>0.61</td>
<td>1 to 2</td>
<td>0.80</td>
<td>0.76</td>
<td>0 to 2</td>
<td>1.00</td>
<td>0.79</td>
</tr>
<tr>
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<td>1.05</td>
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<td>0 to 3</td>
<td>0.95</td>
<td>0.68</td>
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<td>0.70</td>
<td>0.73</td>
<td>0 to 2</td>
<td>0.95</td>
<td>0.68</td>
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<tr>
<td>Autobiographical memories</td>
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<td>1.15</td>
<td>0.93</td>
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<td>1.16</td>
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<td>0.78</td>
<td>0 to 3</td>
<td>1.30</td>
<td>0.86</td>
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<td>Relationship Quality</td>
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<td>7.05</td>
<td>1.74</td>
<td>2-10</td>
<td>6.96</td>
<td>1.84</td>
<td>5-10</td>
<td>7.59</td>
<td>1.27</td>
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<td>7.69</td>
<td>1.19</td>
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</table>
obtained higher Dialogue theme scores. For sample B males, means for the themes of relational communion range from .10 (Dialogue) to .65 (Unity-Togetherness). For sample A females, sample A males, and sample B males, Unity-Togetherness is the most prominent theme in their autobiographical memories, whereas for sample B females Dialogue was the most prominent theme. Positive emotions was also a prominent theme for both samples of males and females.

Results

Hypothesis 6: correspondences between siblings’ motive dispositions and relational themes in the interview data. For the four planned comparisons for each sample, an alpha level of .01 was required for significance. The results of these analyses are presented in Table 23. For sample A females, there was a negative trend for the association between power motivation and relational themes of communion (r = -.44, p < .04). For this same sample, power motivation was unrelated to themes of agency and intimacy motivation was unrelated to themes of agency or communion.

For sample B females and both samples of males, power and intimacy motives were unrelated to themes of agency and communion.

Hypothesis 7: prediction of relational themes of agency and communion in the interview data from siblings’ motives of power and intimacy. Contrary to expectations, siblings’ power and intimacy motives did not predict relational themes of agency and communion in the interview data for any of the samples.
Hypothesis 8: correspondences between sibling’s motive dispositions and relational themes of agency and communion in siblings’ autobiographical memories. Once again, for this set of correlational analyses, an alpha level of .01 was required for significance. The results of these analyses are presented in Tables 24. For sample A females, power motivation was unrelated to either agency or communion in autobiographical memories. There was a negative trend for the association between intimacy motivation and relational communion in autobiographical memories ($r = -.51, p < .02$).

For sample B females, motives and relational themes in autobiographical memories were unrelated. For sample A and B males, intimacy motivation was unrelated to relational agency and communion in autobiographical memories and power motivation was unrelated to agency in autobiographical memories. However, for sample A males, there was a negative trend for the association between power motivation and communal themes ($r = -.47, p < .04$) and, for sample B males, there was a statistically significant negative association between power motivation and relational themes of communion in autobiographical memory ($r = -.55, p < .01$).

Hypothesis 9: prediction of relational themes of agency and communion in siblings’ autobiographical memories from siblings’ motive dispositions. Power and intimacy motives did not predict relational themes in siblings’ autobiographical memories for any of the samples.
Table 23

Significance of Pearson product-moment correlation coefficients for motive dispositions and themes of agency and communion in the interview data for sample A and B

<table>
<thead>
<tr>
<th></th>
<th>Agency</th>
<th>Communion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>0.002 (0.36)</td>
<td>0.16 (0.50)*</td>
</tr>
<tr>
<td>Females</td>
<td>-0.21 (0.25)</td>
<td>-0.44* (0.12)</td>
</tr>
<tr>
<td>Intimacy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>-0.14 (-0.34)</td>
<td>-0.08 (-0.006)</td>
</tr>
<tr>
<td>Females</td>
<td>-0.32 (-0.24)</td>
<td>0.10 (0.28)</td>
</tr>
</tbody>
</table>

Note. Sample B appears in brackets

* p < .04
Hypothesis 10: relational themes of agency and communion in the interview data and siblings' global evaluation of relationship quality. For the correlational analyses, an alpha level of .02 was set (3 planned comparisons). The results of these analyses are presented in Table 25. For sample A females, there was a negative trend for the association between relational themes of agency in the interview data and relationship quality ($r = -.46, \ p < .04$) and a positive trend for the association between the communal themes in the interview data and relationship quality ($r = .39, \ p < .08$).

For sample B males, there was a strong negative trend for the association between relational themes of agency in the interview data and relationship quality ($r = -.49, \ p < .03$) and a strong positive trend for the association between relational themes of communion in the interview data and relationship quality ($r = .50, \ p < .03$). For sample B females and sample A males, themes of relational agency and communion in the interview data were unrelated to relationship quality.

The results of the regression analyses for the prediction of relationship quality are presented in Tables 26 (females) and 27 (males). For sample A females, relational agency and relational communion in the interview data contributed significantly to the prediction of relationship quality: $R = .55, F (2, 17) = 3.80, \ p = .04$. In total, relational agency and relational communion accounted for approximately 22% (adjusted for sample size) of the
Table 24

Significance of Pearson product-moment correlation coefficients for motive dispositions and themes of agency and communion in autobiographical memories for Sample A and B

<table>
<thead>
<tr>
<th></th>
<th>Agency</th>
<th>Communion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>-0.13 (-0.008)</td>
<td>-0.47* (-0.55)**</td>
</tr>
<tr>
<td>Females</td>
<td>-0.19 (0.02)</td>
<td>-0.29* (-0.10)</td>
</tr>
<tr>
<td>Intimacy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>-0.19 (0.005)</td>
<td>0.29 (0.25)</td>
</tr>
<tr>
<td>Females</td>
<td>0.06 (-0.30)</td>
<td>-0.51* (-0.23)</td>
</tr>
</tbody>
</table>

Note. Sample B appears in brackets

*p < .05; **p < .01
Table 25

Significance of Pearson product-moment correlation coefficients for the association between themes of agency and communion in the interview data and relationship quality for Sample A and B

<table>
<thead>
<tr>
<th></th>
<th>Global Evaluation of Relationship Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agency</strong></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>-0.13 (-0.49)*</td>
</tr>
<tr>
<td>Females</td>
<td>-0.46* (-0.22)</td>
</tr>
<tr>
<td><strong>Communion</strong></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>0.01 (0.50)*</td>
</tr>
<tr>
<td>Females</td>
<td>0.39 (0.35)</td>
</tr>
</tbody>
</table>

Note. The correlations for Sample B appear in brackets.
Table 26

Standard bivariate regression analyses for *relationship quality* regressed on *agency* and *communion* in the interview data: Sample A and Sample B Females

**Dependent variable**: Relationship quality  
**Independent variables**: Agency & communion (interview data)  

**Sample A Females**:

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of squares</th>
<th>Mean square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>2</td>
<td>17.93</td>
<td>8.96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>17</td>
<td>40.01</td>
<td>2.35</td>
<td>3.80</td>
<td>.04*</td>
</tr>
<tr>
<td>Multiple R</td>
<td>0.55</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-square</td>
<td>0.31</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj. R-square</td>
<td>0.23</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard error</td>
<td>1.53</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Parameter Estimates**

<table>
<thead>
<tr>
<th>Predictors</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>Sign. T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communion</td>
<td>0.58</td>
<td>0.38</td>
<td>0.31</td>
<td>.14</td>
</tr>
<tr>
<td>Agency</td>
<td>-1.01</td>
<td>0.52</td>
<td>-0.39</td>
<td>.07</td>
</tr>
<tr>
<td>Constant</td>
<td>6.99</td>
<td>0.63</td>
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</table>

**Sample B Females**:

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of squares</th>
<th>Mean square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>2</td>
<td>8.98</td>
<td>4.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>17</td>
<td>55.47</td>
<td>3.26</td>
<td>1.37</td>
<td>.28</td>
</tr>
<tr>
<td>Multiple R</td>
<td>0.37</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-square</td>
<td>0.14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj. R-square</td>
<td>0.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard error</td>
<td>1.80</td>
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**Parameter Estimates**

<table>
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<tr>
<th>Predictors</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>Sign. T</th>
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</thead>
<tbody>
<tr>
<td>Communion</td>
<td>0.85</td>
<td>0.63</td>
<td>0.32</td>
<td>.19</td>
</tr>
<tr>
<td>Agency</td>
<td>-0.38</td>
<td>0.70</td>
<td>-0.12</td>
<td>.59</td>
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<tr>
<td>Constant</td>
<td>6.46</td>
<td>1.007</td>
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</tbody>
</table>

*significant
Table 27

Standard bivariate regression analyses for relationship quality regressed on agency and communion in the interview data: Sample A and Sample B Males

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of squares</th>
<th>Mean square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>2</td>
<td>0.49</td>
<td>0.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>17</td>
<td>30.08</td>
<td>1.76</td>
<td>0.14</td>
<td>.87</td>
</tr>
<tr>
<td>Multiple R</td>
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<td></td>
</tr>
<tr>
<td>R-square</td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Adj. R-square</td>
<td>-0.09</td>
<td></td>
<td></td>
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<tr>
<td>Standard error</td>
<td>1.33</td>
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</tbody>
</table>

Analysis of Variance

<table>
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<tr>
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<th>SE B</th>
<th>Beta</th>
<th>Sign. T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communion</td>
<td>0.19</td>
<td>0.42</td>
<td>0.01</td>
<td>.96</td>
</tr>
<tr>
<td>Agency</td>
<td>-0.21</td>
<td>0.39</td>
<td>-0.13</td>
<td>.60</td>
</tr>
<tr>
<td>Constant</td>
<td>7.74</td>
<td>0.53</td>
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</table>

Sample B Males:

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of squares</th>
<th>Mean square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>2</td>
<td>8.07</td>
<td>4.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>17</td>
<td>18.98</td>
<td>1.12</td>
<td>3.62</td>
<td>.04*</td>
</tr>
<tr>
<td>Multiple R</td>
<td>0.55</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-square</td>
<td>0.30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj. R-square</td>
<td>0.22</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard error</td>
<td>1.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Analysis of Variance

<table>
<thead>
<tr>
<th>Predictors</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>Sign. T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communion</td>
<td>0.52</td>
<td>0.48</td>
<td>0.30</td>
<td>.29</td>
</tr>
<tr>
<td>Agency</td>
<td>-0.45</td>
<td>0.41</td>
<td>-0.29</td>
<td>.29</td>
</tr>
<tr>
<td>Constant</td>
<td>7.63</td>
<td>0.83</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*significant
variance in relationship quality for sample A females.

To evaluate the relative importance of the predictor variables when combined with each other, the significance of the individual regression weights was determined. It was found that neither relational agency nor relational communion, relative to each other, added appreciably to the predictive power of the predictor variables.

For sample B males, themes of relational agency and relational communion in the interview data also contributed significantly to the prediction of relationship quality ($R = .54$, $F(2,17) = 3.61, p = .04$). In total, relational agency and relational communion accounted for 21% of the variance in relationship quality. However, neither relational agency nor relational communion, relative to each other, added appreciably to the predictive power of the predictor variables.

**Hypothesis 11: Prediction of siblings’ global evaluation of relationship quality from relational themes of agency and communion in siblings’ autobiographical memories.** Themes of relational agency and communion in autobiographical memories did not predict relationship quality for any of the samples. The correlations are presented in Table 28.

**Conclusions**

Overall, there was little consistent support for any of the hypotheses. Siblings’ motive dispositions were unrelated to relational themes of agency and communion in the interview data and in autobiographical memories (Hypotheses 6 and 8). Unexpectedly, however, there was a negative trend for the association between power motivation and relational
### Table 28

**Significance of Pearson product-moment correlation coefficients for the association between themes of agency and communion in autobiographical memories and relationship quality for Sample A and B**

<table>
<thead>
<tr>
<th></th>
<th>Global Evaluation of Relationship Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agency</strong></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>-0.08 (-0.29)</td>
</tr>
<tr>
<td>Females</td>
<td>-0.32 (-0.12)</td>
</tr>
<tr>
<td><strong>Communion</strong></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>0.17 (0.31)</td>
</tr>
<tr>
<td>Females</td>
<td>-0.23 (-0.40)</td>
</tr>
</tbody>
</table>

**Note.** The correlations for Sample B appear in brackets.
communion in the interview data for sample A females. A negative trend for the association between power motivation and relational communion in autobiographical memories for sample A males and sample B females was also found. Furthermore, there was a significant negative association between power motivation and relational themes of communion in autobiographical memories for sample B males. Power and intimacy motivation do not appear to be important variables in predicting relational agency or relational communion in the interview data and autobiographical memories (Hypotheses 7 and 9).

Consistent with expectations, there was partial support for Hypothesis 10 as a result of the finding that over 20% of the variance in siblings' global evaluation of relationship quality was accounted for by relational agency and communion in the interview data for sample A females and sample B males. For both samples, neither agency or communion could be differentiated in terms of their relative contribution to the predictive equation.

Contrary to expectations, there was no support for Hypotheses 11: relational agency and communion in autobiographical memories are not important variables in predicting relationship quality.
NOTE TO USERS

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UMI
CHAPTER 5

Role of Perceived Quality of the Sibling Relationship and Global Self-Worth in the Correspondences Between Siblings’ Motive Dispositions and Interpersonal Qualities:

Four Path Analytic Models

Introduction

This chapter reports on the findings of four path analyses which explore the structural relationships between six hypothetical constructs: power motivation, intimacy motivation, interpersonal nurturance, interpersonal dominance, global self-worth, and global evaluation of relationship quality (Baron & Kenny, 1986; Cook & Campbell, 1979; Hoyle & Smith, 1994; Hayduk, 1987; Joreskog & Sorbom, 1989; Pedhazur, 1982; Tabachnick & Fiddell, 1989). The purpose of the investigation was to assess the fit of four structural models to the sibling data.

Assumptions of the relationships hypothesized in the models. As noted in the literature review, both relational control (i.e., power and dominance) and relational affiliation (i.e., intimacy and nurturance) are linked to how we see ourselves (i.e., our global self-worth) and how we see our relationships (i.e., our global evaluation of the quality of the relationship). Furthermore, our motive dispositions and the kind of interpersonal qualities of our relationships has an influence on views of the self, other, and self-in-relation to other. On the basis of these ideas, six assumptions provided the foundation of the four models that were tested in this part of the study.

The first assumption is that siblings’ motive dispositions influence their interpersonal functioning with their sibling. The second assumption is that the interpersonal messages
siblings send to their sibling are dependent on the interpersonal feedback they receive from their sibling. Third, the qualities of siblings' interpersonal behaviour mediates the direct effects of motive dispositions on how the self and the relationship comes to be evaluated. If the sibling relationship satisfies a sibling's motive dispositions plus if the particular dominant and nurturant interpersonal pulls are repetitively satisfying to the sibling, the sibling will report better perceived relationship quality. Fourth, the sibling may report positive global self-worth because of the self-affirming qualities of the sibling relationship. In addition, the fifth assumption is that perceived self-worth might be influenced, as well as influence, many aspects of interpersonal functioning within the sibling relationship. Finally, the sixth assumption is that perceived positiveness of the sibling relationship may be influenced, as well as influence, interpersonal qualities of the relationship and perceived self-worth.

The assumptions underlying the four path models can be summarized schematically as a feedback mechanism. In the illustration below, the two-way arrows signify interdependency or, alternatively, reciprocity or interaction between the assumed relationships:

```
  Siblings' motive dispositions
  ↓
Interpersonal functioning with sibling
  ↓
  Interpersonal feedback
  ↓
  Global evaluation of the self
  ↓
  Global evaluation of the quality sibling relationship
```

**Introduction to the four models.** Based on the literature review (see Tables 2, 3, and 4 in Chapter 1, pages 47, 51, and 54, respectively), each model was conceived to
assess particular mediational hypotheses (see Table 5 Chapter 1, page 63). The four models are consistent with recent theories that different outcomes are related to power and intimacy motivation. In general, psychological well-being, such as perceived self-worth, is related to power motivation, and relationship satisfaction, such as the perceived positiveness of the relationship, is related to intimacy motivation (Harter, 1983, 1988b, 1992b, 1996; Helgeson, 1994; Marcus & Cross, 1990; Marcus & Wurf, 1987; McAdams, 1993; McAdams & Bryant, 1986; McAdams et al., 1996; Josephs et al., 1992; Kiesler, 1983, 1996). Figure 3 illustrates in simplified form the four models tested in this part of the study. The specifications for these path analyses are presented in greater detail in Appendix N.

Model 1 hypothesizes the unique (or direct) role of power motivation on self-evaluation and the unique role of intimacy motivation on relationship evaluations (Helgeson, 1994; McAdams & Powers, 1981). That is, power motivation is hypothesized to affect self-concept directly (Basoff & Glass, 1982; Cantor et al., 1986; Helgeson, 1994; Markus & Cross, 1990; McAdams, 1984a, 1984c, 1985a, 1988, 1989, 1991; Stoppard & Paisely, 1987; Whitley, 1983, 1984; Winter, 1992a; Winter & Stewart, 1978), whereas, intimacy motivation is hypothesized to affect relationship evaluations directly (Helgeson, 1994; McAdams, 1985a; McAdams & Powers, 1981; McAdams & Vaillant, 1982). Unlike Model 1, Models 2 to 4 attempt to address the mediating role of power and intimacy motives on perceived self-worth and perceived positiveness of the sibling relationship through their influence on interpersonal dominance and nurturance. The most critical distinction between Model 1 and the other three models is the place of global self-worth
Figure 3. Simplified path models 1 to 4.
in the models. In Model 1 global self-worth is hypothesized to be an outcome only. In Models 2, 3, and 4, global self-worth is hypothesized to act, in various ways, as a “cause” (i.e., independent variable) and an effect (i.e., dependent variable) within the same model.

Overview of Design and Analyses

Sample. The sample of 80 adolescents was divided into two samples, A and B, of 40 adolescents. Sample A and sample B had an equal number of males (n = 20) and females (n = 20). To reiterate, within each sample of 40 adolescents (Sample A and B, males and females), none of the adolescents were from the same family.

Measures

Power and Intimacy Motivation. TAT-derived total power and intimacy motivation scores were obtained using the standard method.

Axis Scores for Dominance and Nurturance. Mean IMI octant scale scores for sample A males and females (sibling A of the dyad) and sample B males and females (sibling B of the dyad) were first standardized within the entire sample (n=80) before they were converted to axis scores using the following formula (as recommended by D. Kiesler, personal communication, July 1996):

\[
\text{DOMINANCE} = D - S + .707 (HD + FD) - .707 (HS + FS)
\]

\[
\text{NURTURANCE} = F - H + .707 (FD + FS) - .707 (HD + HS)
\]

Relationship Quality. The relationship quality measure was obtained from siblings' response to question 20 of the interview. A rating between 1 and 10 was obtained from each sibling.
Global Self-Worth. Global self-worth scores from the *Self-Perception Profile for Adolescents* (Harter, 1988) ranged from 1 to 5.

Path analyses using LISREL. The models adopted for the path analyses in this study appear in Appendix N with notes explaining the parameter specifications and input matrices for the LISREL analyses based on Joreskog and Sorbom (1989) and Hayduk (1987). The output of the LISREL solution (SPSS, 1990) provides unstandardized regression coefficients, standard errors for the regression coefficients and t-tests (the unstandardized regression coefficient divided by standard error) for each matrix. The statistical significance of a parameter is determined with the table of t distributions. A t statistic greater than 1.96 is needed for significance at p < .05 and 2.56 for significance at p < .01 (two-tailed; Tabachnick & Fiddell, 1989). LISREL also provides a completely standardized solution where the regression coefficients, variances and covariances are completely standardized with the latent variables having a mean of 0 and standard deviation of 1 and the observed variables having a mean of 0 and standard deviation of 1 (Tabachnick & Fiddell, 1989). The standardized solution allows for comparison across samples.

Reliability and proportion of variance. The squared multiple correlations (SMCs) of the LISREL output for each observed variable separately provide a measure of the strength of the linear relationship of the variables and can be used as an index of the reliability of the measurement portion of a model (Joreskog & Sorbom, 1989). To calculate SMCs, the measured variable is the dependent variable and the factor is the independent variable: "Each SMC is interpreted as the reliability of the measured
variable in the analysis and as the proportion of variance that is accounted for by the factor.” (Tabachnick & Fidell, 1989, p. 764).

Assessment of fit. The goodness-of-fit indices (GFI and GFI adjusted for sample size) available for the LISREL solution must be interpreted carefully: “it can happen that the overall fit of the model is very good but with one or more relationships in the model very poorly determined, as judged by the squared multiple correlations, or vice versa. Furthermore, if any of the overall measures indicate that the model does not fit the data well, it does not tell what is wrong with the model or which part of the model is wrong” (Joreskog & Sorbom, 1989, p.45).

Several additional indices are used for assessing the fit of a model to the data. The total coefficient of determination for the structural equations is a measure of the joint strength of the relationships in a model (Joreskog & Sorbom, 1989). The root mean square residual (RMSR) is a measure of the average of the fitted residuals. The RMSR should be low for well-fitted models because it reflects the amount of error in the system.

In addition, the matrix of fitted residuals is computed into standardized residuals by the LISREL program and is used as an assessment of model fit. Standardized residuals are the “fitted residuals divided by its asymptotic standard error” (Joreskog & Sorbom, 1989, p. 33). Standardized residuals on the horizontal axis are plotted against normal quartiles (Q-plot) and the slope of the fit can be interpreted as a good, moderate or poor and can provide an effective summary of the fit as evaluated by all the standardized residuals (Joreskog & Sorbom, 1989). The decision to accept or reject the model is based on the
significance of chi square for the model (i.e., a significant chi square results in a decision
to reject the model, Hayduk, 1987).

**Means, standard deviations, and ranges.** Means, standard deviations, and ranges
for the total sample of 80 adolescents for the indicators of the hypothetical (i.e., latent)
constructs of the structural models are presented in Table 29. Table 30 presents the
descriptive statistics for Sample A (n = 40) and Sample B (n = 40) for the indicators used
in the structural models. Data screening indicated that all variables were normally
distributed, with means and standard deviations within the expected range.

**Fixed error terms.** Hayduk (1987) recommends the use of fixed error terms for
the measurement of the latent variable. Based on previous research findings, a researcher
may set the amount of error expected in the measure. The estimated error (e.g., .01, .05,
etc) is multiplied by the variance of the measure (Hayduk, 1987). Error terms were
calculated for the six measures used in the LISREL analysis and provided the fixed error
terms for measurement error associated with each Y-variable (theta epsilon) and with
each X-variable (theta delta) in the models. The fixed error terms used in the LISREL
analyses appear as Table 31.

**Correlation and covariance matrices.** In the present study, six parameters with
relatively normal distributions were calculated for the two independent samples of 40
subjects. Sample size is on the low side (Tabachnick & Fiddell, 1989). Table 32 and
Table 33 present the correlations and significance of the Pearson product-moment
coefficients for the six variables for sample A and sample B, respectively. Table 34
Table 29

Descriptive statistics for the measures for the total sample of 80 adolescents

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOMINANCE</td>
<td>-0.01</td>
<td>2.22</td>
<td>-7.64 to 5.79</td>
</tr>
<tr>
<td>NURTURANCE</td>
<td>-0.01</td>
<td>3.72</td>
<td>-9.34 to 7.44</td>
</tr>
<tr>
<td>POWER</td>
<td>9.64</td>
<td>4.87</td>
<td>0.00 to 22.00</td>
</tr>
<tr>
<td>INTIMACY</td>
<td>7.49</td>
<td>4.27</td>
<td>0.00 to 18.00</td>
</tr>
<tr>
<td>WORTH</td>
<td>3.17</td>
<td>0.67</td>
<td>1.20 to 4.00</td>
</tr>
<tr>
<td>QUALITY</td>
<td>7.32</td>
<td>1.54</td>
<td>2.00 to 10.00</td>
</tr>
</tbody>
</table>

Note. Dominance: Axis score for Dominance calculated from Impact message inventory (Kiesler & Schmidt, 1991) octant scores [D-S + .707 (HD + FD) - .707 (HS + FS)]; Nurturance: Axis score for Nurturance calculated from the Impact message inventory (Kiesler & Schmidt, 1991) octant scores [F-H + .707 (FD + FS) - .707 (HD + FS)]; Power: Total power motivation (Winter 1973, 1992) score for six thematic apperceptive stories; Intimacy: Total intimacy motivation (McAdams 1984, 1992) score for six thematic apperceptive stories; Worth: Global self-worth subscale score (mean of items 9,18, 27, 36, and 45) of Self-Perception Profile for Adolescents (Harter, 1988); Quality: Relationship rating (1 to 10) from question 20 of structured interview: "on a scale from 1 to 10, with 1 meaning very poor and 10 meaning excellent, rate how well you get along with your brother/sister".
Table 30

Descriptive statistics for the primary variables for Samples A and B

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sample A</th>
<th>Sample B</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOMINANCE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample A</td>
<td>0.73</td>
<td></td>
<td>1.94</td>
<td></td>
<td>-3.02 to 5.79</td>
</tr>
<tr>
<td>Sample B</td>
<td>-0.75</td>
<td></td>
<td>2.26</td>
<td></td>
<td>-7.64 to 3.40</td>
</tr>
<tr>
<td>NURTURANCE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample A</td>
<td>.10</td>
<td></td>
<td>3.74</td>
<td></td>
<td>-9.34 to 5.97</td>
</tr>
<tr>
<td>Sample B</td>
<td>-0.12</td>
<td></td>
<td>3.75</td>
<td></td>
<td>-8.90 to 7.44</td>
</tr>
<tr>
<td>POWER</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample A</td>
<td>10.35</td>
<td></td>
<td>5.12</td>
<td></td>
<td>2.00 to 22.00</td>
</tr>
<tr>
<td>Sample B</td>
<td>8.93</td>
<td></td>
<td>4.56</td>
<td></td>
<td>0.00 to 19.00</td>
</tr>
<tr>
<td>INTIMACY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample A</td>
<td>6.48</td>
<td></td>
<td>4.15</td>
<td></td>
<td>0.00 to 15.00</td>
</tr>
<tr>
<td>Sample B</td>
<td>8.50</td>
<td></td>
<td>4.21</td>
<td></td>
<td>0.00 to 18.00</td>
</tr>
<tr>
<td>WORTH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample A</td>
<td>3.14</td>
<td></td>
<td>.74</td>
<td></td>
<td>1.20 to 4.00</td>
</tr>
<tr>
<td>Sample B</td>
<td>3.22</td>
<td></td>
<td>.60</td>
<td></td>
<td>2.00 to 4.00</td>
</tr>
<tr>
<td>QUALITY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample A</td>
<td>7.32</td>
<td></td>
<td>1.53</td>
<td></td>
<td>2.50 to 10.00</td>
</tr>
<tr>
<td>Sample B</td>
<td>7.33</td>
<td></td>
<td>1.58</td>
<td></td>
<td>2.00 to 10.00</td>
</tr>
</tbody>
</table>
**Table 31**

**Fixed terms indicating expected error in measures of the latent variables**

<table>
<thead>
<tr>
<th>Latent Variable</th>
<th>Expected Error</th>
<th>Variance</th>
<th>Error Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURTURANCE</td>
<td>.05</td>
<td>13.86</td>
<td>0.693</td>
</tr>
<tr>
<td>DOMINANCE</td>
<td>.05</td>
<td>4.92</td>
<td>0.246</td>
</tr>
<tr>
<td>INTIMACY</td>
<td>.10</td>
<td>18.75</td>
<td>1.874</td>
</tr>
<tr>
<td>POWER</td>
<td>.10</td>
<td>23.69</td>
<td>2.369</td>
</tr>
<tr>
<td>WORTH</td>
<td>.05</td>
<td>0.45</td>
<td>0.023</td>
</tr>
<tr>
<td>QUALITY</td>
<td>.05</td>
<td>2.38</td>
<td>0.119</td>
</tr>
</tbody>
</table>

*Note.* Fixed error terms were calculated using the following formula: expected error multiplied by the variance of the measure (Hayduk, 1987). Variance was calculated for the total sample (n=80). Nurturance = IMI: Form IIA axis score for nurturance; Dominance = IMI: Form IIA axis score for dominance; Intimacy = Total intimacy score for 6 stories; Power = Total power score for 6 stories; Worth = SPPA global self-worth subscale score; Relation = Relationship rating from question 20 of structured interview.
presents the covariance matrices for Sample A and Sample B used in the LISREL analyses.

For sample A, there is a significant negative association between interpersonal dominance and interpersonal nurturance \((r = -.367, p < .05)\), a finding which is not evident for sample B. For sample A, there is a significant positive association between interpersonal nurturance and intimacy motivation \((r = .336, p = .034)\), while for sample B this association is not significant \((r = .231, p < .15)\). For both samples, there is a significant positive association between interpersonal nurturance and global self-worth \((r = .470, p < .01\) and \(r = .495, p < .01\), for sample A and sample B, respectively) and significant positive associations between interpersonal nurturance and relationship quality \((r = .752, p < .001\) and \(r = .725, p < .001\), for sample A and sample B, respectively). There is also a significant positive association between global self-worth and relationship quality for both samples \((r = .476, p < .01\) and \(r = .388, p < .01\), for sample A and sample B, respectively).

Results

Goodness-of-fit indices for both samples for the four models appear in Table 35. The amount of variance accounted for by each variable treated as the dependent variable, with all the others held as independent, is presented in Table 36.

Model 1. Goodness-of-fit indices for Model 1 for both samples are moderate. The fit of the Model 1 to the data is relatively better for Sample B than Sample A. For sample A, Model 1, the TCD is low, indicating that only 25.2 % of the variance in the structural relationship is accounted for by the joint relationships hypothesized in Model 1. An even
Table 32

Statistical significance (two-tailed) of Pearson correlation coefficients computed between measures for **Sample A**

<table>
<thead>
<tr>
<th></th>
<th>DOMINANCE</th>
<th>NURTURANCE</th>
<th>POWER</th>
<th>INTIMACY</th>
<th>WORTH</th>
<th>QUALITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOMINANCE</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NURTURANCE</td>
<td>-.367*</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POWER</td>
<td>.236</td>
<td>-.032</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTIMACY</td>
<td>-.149</td>
<td>.336*</td>
<td>-.176</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WORTH</td>
<td>-.145</td>
<td>.470*</td>
<td>.104</td>
<td>.288</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>QUALITY</td>
<td>-.245</td>
<td>.752**</td>
<td>-.124</td>
<td>.140</td>
<td>.476*</td>
<td>1.0</td>
</tr>
</tbody>
</table>

*p < .01, **p < .001
Table 33

Statistical significance (two-tailed) of Pearson correlation coefficients computed between measures for Sample B

<table>
<thead>
<tr>
<th></th>
<th>DOMINANCE</th>
<th>NURTUREANCE</th>
<th>POWER</th>
<th>INTIMACY</th>
<th>WORTH</th>
<th>QUALITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOMINANCE</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NURTUREANCE</td>
<td>-0.106</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POWER</td>
<td>-0.037</td>
<td>0.085</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTIMACY</td>
<td>-0.026</td>
<td>0.231</td>
<td>-0.353</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WORTH</td>
<td>-0.029</td>
<td>0.495**</td>
<td>-0.044</td>
<td>0.251</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>QUALITY</td>
<td>-0.207</td>
<td>0.725**</td>
<td>-0.044</td>
<td>0.041</td>
<td>0.388*</td>
<td>1.0</td>
</tr>
</tbody>
</table>

* p < .01, ** p < .001
Table 34

Covariance matrix analysed in the LISREL analysis for samples A and B

<table>
<thead>
<tr>
<th></th>
<th>DOMINANCE</th>
<th>NURTUREANCE</th>
<th>WORTH</th>
<th>QUALITY</th>
<th>POWER</th>
<th>INTIMACY</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOMINANCE</td>
<td>3.75 (5.11)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NURTUREANCE</td>
<td>-2.66 (-0.90)</td>
<td>13.99 (14.06)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WORTH</td>
<td>-2.42 (-0.04)</td>
<td>1.34 (1.15)</td>
<td>0.56 (0.36)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QUALITY</td>
<td>-0.73 (-0.74)</td>
<td>4.31 (4.28)</td>
<td>0.55 (0.36)</td>
<td>2.34 (2.48)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POWER</td>
<td>2.35 (-0.38)</td>
<td>-0.61 (1.45)</td>
<td>0.35 (-0.22)</td>
<td>-0.97 (0.32)</td>
<td>26.23 (20.78)</td>
<td></td>
</tr>
<tr>
<td>INTIMACY</td>
<td>-1.20 (-0.25)</td>
<td>5.22 (3.65)</td>
<td>0.89 (0.63)</td>
<td>0.89 (0.27)</td>
<td>-3.76 (-6.78)</td>
<td>17.23 (17.44)</td>
</tr>
</tbody>
</table>

Note. The ordering of the matrix presented in this table does not reflect the matrix of all 4 models although the covariances are exactly the same. n = 40 in each sample. The covariances for Sample B appear in brackets beside those for Sample A.
lower result is found for Sample B. Both of these results reflect a large amount of error in the structural equations for this model indicated by the high RMSR for both samples.

For sample A, the standardized residuals range from -2.21 to 3.02. Residuals above the absolute value of 2.58 are considered abnormal deviates (Joreskog & Sorbom, 1989). The Q-plot for Model 1 for both samples represents a moderate fit of the data to the model. For sample A and B, all of these SMCs are high, indicating a good measurement model. In both samples, relationship quality accounts for over 60% of the variance in the linear relationships between the variables. Interpersonal dominance and global self-worth accounted for a negligible amount of the variance in the joint relationships hypothesized in Model 1.

**Model 2.** The GFLs adjusted for sample size are moderately high for both samples. The RMSR for the fit of Model 1 to the data of sample A is moderately low, while for sample B, it is moderately high. In fitting the model to the data of sample B, the average fitted residuals are higher than when the same model is fitted with the data from sample A. For sample A, the standardized residuals range from -1.34 to 1.42. There are no non-normal deviate residuals. The Q-plot for Model 2 for sample A indicates a moderately good fit of the data to the model. For sample B, the standardized residuals range from -1.32 and 1.25. All residuals are within the normal range. The Q-plot for sample B for Model 2 also indicates a moderately good fit.

For both samples, the TCD is low for Model 2. The fit of the data to the model for sample A accounts for more of the variance (23%) in the structural relationships than
Table 35

**Goodness-of-fit of the model to the data for Models 1 to 4 for Samples A and B**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sample</th>
<th>GFI</th>
<th>AGFI</th>
<th>RMSR</th>
<th>TCD</th>
<th>Chi Sq</th>
<th>df</th>
<th>p-value</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>.870</td>
<td>.659</td>
<td>.745</td>
<td>.252</td>
<td>20.95</td>
<td>8</td>
<td>.007</td>
<td>Reject</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>.889</td>
<td>.708</td>
<td>.759</td>
<td>.113</td>
<td>16.23</td>
<td>8</td>
<td>.039</td>
<td>Reject</td>
</tr>
<tr>
<td>2</td>
<td>A</td>
<td>.961</td>
<td>.794</td>
<td>.304</td>
<td>.227</td>
<td>5.07</td>
<td>4</td>
<td>.280</td>
<td>Accept</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>.971</td>
<td>.848</td>
<td>.553</td>
<td>.092</td>
<td>3.65</td>
<td>4</td>
<td>.455</td>
<td>Accept</td>
</tr>
<tr>
<td>3</td>
<td>A</td>
<td>.923</td>
<td>.768</td>
<td>.534</td>
<td>.239</td>
<td>10.28</td>
<td>7</td>
<td>.173</td>
<td>Accept</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>.957</td>
<td>.872</td>
<td>.612</td>
<td>.093</td>
<td>5.53</td>
<td>7</td>
<td>.595</td>
<td>Accept</td>
</tr>
<tr>
<td>4</td>
<td>A</td>
<td>.895</td>
<td>.725</td>
<td>.873</td>
<td>.133</td>
<td>15.80</td>
<td>8</td>
<td>.045</td>
<td>Reject</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>.949</td>
<td>.866</td>
<td>.768</td>
<td>.019</td>
<td>6.71</td>
<td>8</td>
<td>.568</td>
<td>Accept</td>
</tr>
</tbody>
</table>

**Note.** Goodness-of-fit indices for the whole model include: GFI = Goodness-of-fit index; AGFI = Adjusted goodness-of-fit index; RMSR = Root mean square residual; TCD = Total coefficient of determination; and Chi square (Joreskog & Sorbom, 1989); Sample A: n = 40 (20 female, 20 male), mean age = 14 years, 7 months; Sample B: n = 40 (20 female, 20 male), mean age = 16 years, 5 months.
Table 36

The amount of variance accounted for by each variable treated as the dependent variable with all the others held as independent.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sample</th>
<th>DOMINANCE</th>
<th>NURTURANCE</th>
<th>WORTH</th>
<th>QUALITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>A</td>
<td>6.70</td>
<td>13.30</td>
<td>5.10</td>
<td>64.90</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>0.01</td>
<td>5.90</td>
<td>0.05</td>
<td>60.40</td>
</tr>
<tr>
<td>Model 2</td>
<td>A</td>
<td>10.70</td>
<td>37.00</td>
<td>12.20</td>
<td>64.00</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>0.03</td>
<td>29.30</td>
<td>8.10</td>
<td>59.80</td>
</tr>
<tr>
<td>Model 3</td>
<td>A</td>
<td>11.30</td>
<td>30.30</td>
<td>12.30</td>
<td>63.00</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>0.03</td>
<td>28.60</td>
<td>8.10</td>
<td>58.10</td>
</tr>
<tr>
<td>Model 4</td>
<td>A</td>
<td>6.60</td>
<td>26.00</td>
<td>0.07</td>
<td>62.60</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>0.01</td>
<td>26.90</td>
<td>0.03</td>
<td>58.50</td>
</tr>
</tbody>
</table>
for Sample B (9.2%). In both samples, relationship quality accounts for over 59% of the variance and interpersonal nurturance accounts for over 29% of the variance in the joint linear relationships between the variables. For both samples, interpersonal dominance and global self-worth accounted for a negligible amount of the variance in the joint relationships hypothesized in Model 2.

**Model 3.** For sample A, the adjusted GFI is moderate, while for sample B it is moderately high. The RMSRs for both samples are moderately high. The standardized residuals for the fit of Model 3 to the data of sample A range from -1.97 to 1.79, all within the normative range. Inspection of the Q-plot for this fit indicates a moderately good fit of the model to the data. For sample B, the standardized residuals range from -1.33 to 1.67, also with no non-normal deviates. The Q-plot also indicates a moderately good fit of the model to the data.

For both samples, the TCD is low. However, the fit of the data to the model for sample A accounts for more of the variance (24%) in the structural relationships than for Sample B (9.2%). In both samples, relationship quality accounts for over 58% of the variance and interpersonal nurturance accounts for over 28% of the variance in the joint linear relationships between the variables. For both samples, interpersonal dominance and global self-worth accounted for a negligible amount of the variance in the joint relationships hypothesized in Model 3.

**Model 4.** The adjusted goodness-of-fit index for the fit of Model 4 to the sample A data is moderate, whereas, for the sample B data it is moderately high. RMSRs for both samples are high. The TCDs for the structural equations are low.
The standardized residuals for the fit of Model 4 to the data of sample A range from -2.37 to 2.08; none are non-normal residuals. The Q-plot of these residuals indicates a moderately poor fit of the model to the data. The standardized residuals are slightly lower for sample A, ranging from -1.13 to 1.81. The Q-plot of these residuals indicates a moderate fit, slightly better than the fit of the model for the Sample A data.

For both samples, relationship quality accounts for over 58% of the variance in the joint relationships hypothesized in Model 4. Nurturance accounts for about 26% of the variance for both samples. Dominance and global self-worth account for a negligible amount of the variance.

The Best Model for the Data. The goodness-of-fit indices (GFI and adjusted GFI) are used for comparing the fit of models for different data and the fit of different models for the same data (see Table 35). The root mean squared residuals (RMSRs) are best used to compare the fit of two different models for the same data (also in Table 35).

For the data from both samples, the goodness-of-fit indices are highest for Model 2. In addition, the fit of Model 2 for the data yields a moderately low RMSR, indicating that good fit is accompanied by a relatively small amount of average error. For sample A, 22% of the variance in the structural relationships is accounted for by the joint strength of the relationships hypothesized in Model 2, whereas for sample B, the variance accounted for is only 9%.

Comparison of the variables in Model 2. Total effect is the sum of an independent variable's direct and indirect effect on a dependent variable. Effect coefficients may be compared with each other only when they impress on the same endogenous variable
(Pedhazur, 1982). For Model 2, the total effect of global self-worth on interpersonal nurturance is greater than the total effect of intimacy motivation on interpersonal nurturance and power motivation on interpersonal nurturance. Furthermore, the total effect of global self-worth on relationship quality is greater than the total effect of interpersonal nurturance on relationship quality, power motivation on relationship quality, and intimacy motivation on relationship quality. Finally, the total effect of intimacy motivation on global self-worth is only slightly greater than the total effect of power motivation on global self-worth. These comparisons of the total effects hold for both samples.

**Comparison of path coefficients in Model 2.** The paths for samples A and B for Model 2 may be compared relative to each other using unstandardized betas. For sample A, the path from global self-worth to interpersonal nurturance stands out as the strongest path relative to the others. The strength of this same path is almost twice as great than it is for sample B.

The significance of the standardized path coefficients for sample A and sample B was examined next. T-values define the ratio between the parameter estimate and its standard error and thus provide an indication of the precision of each parameter estimate (Pedhazur, 1982). For sample A, Model 2 yields four significant paths: the path from intimacy motivation to global self-worth, the path from interpersonal nurturance to global self-worth, the path from interpersonal dominance to self-worth, and the path from global self-worth to relationship quality. For sample B, Model 2 yields two significant paths, the path from interpersonal dominance to global self-worth and the path from
interpersonal nurturance to relationship quality. The standardized path coefficients for Model 2 for both samples are illustrated in Figure 4.

Conclusions

Model 2 represents the best fit of the model to the data for both samples. Table 37 summarizes the mediational hypotheses emphasized in Model 2 and the resulting description of the findings. The results indicate that there is a direct effect of power motivation as well as intimacy motivation on other-reported interpersonal dominance (these direct effects are not summarized in Table 37, but can be seen in Figure 4). However, power motivation affects interpersonal dominance partly because power motivation affects other-reported interpersonal nurturance, which, in turn, influences other-reported interpersonal dominance. Furthermore, while there is a direct effect of interpersonal dominance on relationship quality, interpersonal dominance affects relationship quality partly because interpersonal dominance affects perceived self-worth (i.e., global self-worth), which, in turn, influences perceived positiveness of the relationship (i.e., relationship quality).

Interpersonal dominance also has a direct effect on global self-worth; however, this effect is partly attributed to the mediating effect of interpersonal nurturance. Furthermore, interpersonal nurturance affects relationship quality partly because interpersonal nurturance affects global self-worth, which, in turn, influences relationship quality.
Figure 4. Path Model 2 with standardized path coefficients and fitted residuals (in brackets) for samples A and B. X1 = power motivation; X2 = intimacy motivation; Y1 = interpersonal dominance; Y2 = interpersonal nurturance; Y3 = global self-worth; Y4 = relationship quality.
*p < .05, **p < .01
Table 37

**Description of the mediational mechanisms emphasized in Model 2 based on the results of the path analysis**

<table>
<thead>
<tr>
<th>Hypothetical Mechanisms of Model 2</th>
<th>Description based on the findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWER ➔ NURTURANCE</td>
<td>Some of the direct impact of power motive on nurturance is mediated by dominance.</td>
</tr>
<tr>
<td></td>
<td>Some of the direct impact of dominance on global self-worth is mediated by nurturance.</td>
</tr>
<tr>
<td>DOMINANCE ➔ GLOBAL SELF-WORTH</td>
<td>Some of the direct impact of dominance on relationship quality is mediated by global self-worth.</td>
</tr>
<tr>
<td></td>
<td>Some of the direct impact of nurturance on relationship quality is mediated by global self-worth.</td>
</tr>
</tbody>
</table>
As shown in Figure 4, Model 2 specifies that global self-worth, intimacy motivation, and power motivation impinge on interpersonal nurturance. As a result, the relative total effect of the three variables on interpersonal nurturance can be evaluated. Based on the results, global self-worth was deemed to have the greatest total effect on interpersonal nurturance relative to both intimacy and power motivation. Furthermore, Model 2 specifies that global self-worth, interpersonal nurturance, power motivation, and intimacy motivation impinge on relationship quality. Global self-worth was again indicated to have the greatest total effect on relationship quality relative to the other two variables. Finally, both intimacy and power motivation were hypothesized to impinge on global self-worth. It was found that the total effect of intimacy motivation on global self-worth was only slightly greater than the total effect of power motivation on global self-worth.

Based on unstandardized path coefficients, the path from interpersonal nurturance to global self-worth stood out as the strongest path relative to all others for the sample A and B data. However, the strength of this path was almost twice as great for the sample A data than it was for the sample B data.

For sample A, the most important paths in Model 2 were from intimacy motivation to global self-worth, from global self-worth to interpersonal nurturance, from interpersonal nurturance to dominance, and from interpersonal nurturance to relationship quality. For both samples, the paths from global self-worth to interpersonal nurturance and from interpersonal nurturance to relationship quality were important.
CHAPTER 6

Discussion

The reader will recall that following my literature review, I concluded that personality variables and other individual characteristics of siblings play a key role in the quality of sibling relationships. Most of the research to date had been parent centric (Bank, Patterson, & Reid, 1996, p. 201), particularly research focusing on developmental psychopathology, and there was no established structure to guide the researcher in the investigation of these important phenomena. In response to this problem I set out to determine whether a well-established conceptual structure that was based on theories about normal personality and social development could be applied to the study of these phenomena.

In this dissertation I explored the association between the motive scores of individual siblings and scores obtained from several measures specific to qualities of the sibling relationship. The relationship-specific variables included other-reported dominance and nurturance, relational themes of agency and communion in interview data and autobiographical memories, and perceived positiveness of the sibling relationship. Secondarily, the association between siblings’ perceived self-worth and other-reported interpersonal dominance and nurturance was evaluated.

As the reader will recall, there were three questions this study attempted to address:

1. Do motive dispositions and qualities of the relationship correspond?
2. Do qualities of the relationship and perceived positiveness of the relationship correspond?

3. Do qualities of the relationship and/or perceived positiveness of the relationship correspond with perceived self-worth?

With respect to the first question, the answer was found to be ‘no’: there was no correspondence between motive dispositions and qualities of the relationship. Questions 2 and 3 were answered in the affirmative: there was a correspondence between qualities of the relationship and both perceived positiveness of the relationship and perceived self-worth and there was also a correspondence between the perceived positiveness of the relationship and perceived self-worth.

Overall the whole conceptual model hypothesized at the outset of the present study was not supported by the data. This model was schematized in the introduction to the study as follows:

<table>
<thead>
<tr>
<th>Sibling’s Personality</th>
<th>Sibling’s Evaluation of the Relationship</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Sibling Relationship Characteristics</td>
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<td></td>
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</tbody>
</table>

Later in this chapter I will discuss the kind of model the data of the present study could support. I also suggest some revisions to theory that would lead to different models for conceptualizing the questions of the present study.
In this chapter several tasks need to be accomplished. First, I will summarize the high points of the present research. Then I will discuss how the present research broadens our knowledge base about the psychology of siblings and offers a window into the psychological functioning of adolescents. Subsequently, I address some general issues that the results raise and several particular issues with respect to the psychometric and methodological aspects of the study. Next, I discuss how this study points the researcher in several possible directions for future research. Finally, I attempt to stand back from the present study and offer some concluding remarks about my impressions of the present research.

Summary of the Main Findings

As promised, I will first review the major findings of the study in the next three sections. Following these sections, I will discuss the relevance of these in the context of previous research.

Motive dispositions and qualities of sibling relationships. The parts of the study which examined the association between motive dispositions and qualities of sibling relationships were disappointing, particularly given the labour intensive method for obtaining TAT-derived motive scores (see Method section, pages 77 to 79) and the fact that motive dispositions formed the hub of the conceptual model. Contrary to expectations, the associations between siblings’ motive dispositions and qualities of the sibling relationship were neither robust nor in the direction hypothesized. Only sample A siblings (the younger sibling of the pair except for the three twin pairs) indicated a
positive and significant association between their intimacy motivation and other-reported interpersonal nurturance.

The fact that there was very little support for the association between power motivation and qualities of the sibling relationship, does not converge with previous findings of non-familial relationships. Previous studies with non-familial relationships have more often than not found a positive association between power motivation and relational themes of agency and interpersonal dominance (McAdams, 1985a, 1993; McAdams et al., 1996). In the present study, power motivation was unrelated to relational themes of agency in both the interview data and autobiographical memories. However, power motivation was negatively related to relational themes of communion in the interview data for the Sample A females. Also, power motivation was negatively related to the relational themes of communion in autobiographical memories for sample A females and both samples of males. At the very least, then, these negative trends suggest that as power motivation increases, the content of siblings’ interviews and autobiographical memories are less likely to reflect themes of relational communion.

Qualities and positiveness of the relationship. Consistent with theory, qualities of sibling relationships, whether conceived as other-reported interpersonal nurturance and dominance or as relational themes of agency and communion in the interview data, predicted perceived positiveness of the relationship. Both variables explained a significant proportion of the variance in siblings’ evaluation of relationship quality, but other-reported interpersonal dominance and nurturance, accounted for almost twice as
much of the variance than did relational themes of agency and communion in the
interview data. The results indicated that covert aspects of the sibling relationship,
conveyed through the interpersonal transactions perceived by each member of the dyad,
are good predictors of the positiveness of the sibling relationship.

**Qualities, positiveness of the relationship, and self-worth.** Also consistent with
theory, and rather more consistently than expected, siblings’ interpersonal nurturance and
perceived self-worth played a key role in explaining the relationships between siblings’
motive dispositions, interpersonal qualities of the sibling relationship, and global
evaluations of the sibling relationships. There were two main findings from the path
analysis that pointed to the pre-eminence of both interpersonal nurturance and self-worth
in making sense of the sibling data sets.

First, in the best fitting model to the data for both samples (Model 2, see page
166), other-reported interpersonal nurturance was found to have the greatest total effect
on self-worth, relative to both TAT-derived intimacy motivation and power motivation.
The strength of this path was almost twice as great for the sample A data than it was for
the sample B data. The reader may recall that in Model 2 both power and intimacy
motives were hypothesized to impinge on self-worth. But it was only for the sample A
data that the path from intimacy motivation to global self-worth was significant in the
model. However, even in this case (that is, for sample A) the path from intimacy to self-
worth was still not as important as the path from interpersonal nurturance to self-worth.
The second important finding from the path analysis was that self-worth had the greatest total effect on perceived positiveness of the relationship, relative to both other-reported interpersonal nurturance and TAT-derived intimacy and power motivation.

Putting all of the findings together, the following can be tentatively stated about the role of nurturance and self-worth in making sense of the sibling data. First, interpersonal nurturance (as reported by the recipient of these interpersonal impacts) played an influential role in siblings’ perceived positiveness of the relationship:

\[ \text{interpersonal nurturance} \rightarrow \text{relationship quality} \]

Second, interpersonal nurturance played an influential role in siblings’ self-worth:

\[ \text{interpersonal nurturance} \rightarrow \text{global self-worth} \]

Third, siblings’ self-worth played an influential role in siblings’ perceptions of the positiveness of the relationship:

\[ \text{global self-worth} \rightarrow \text{global evaluation of relationship quality} \]

Taken together these results provide empirical support for at least one of the mediational hypotheses of Model 2 (see Table 30, page 167):

\[ \text{Nurturance} \rightarrow \text{Relationship Quality} \rightarrow \text{Global Self-worth} \]

This mediational hypothesis proposes that some of the direct impact of interpersonal nurturance on siblings’ perception of the positiveness of the sibling relationship is
mediated by siblings’ perceived self-worth. These results suggest, albeit tentatively, that self-worth and nurturance play important roles in qualities of sibling relationships. Similar to conceptions by Harter (1990a), self-worth likely plays a mediational role between motivation and social behaviour. It is fair to conjecture that both self-evaluation, social comparison processes, and interpersonal feedback play a role in how siblings’ view themselves in relation to their sibling. Although this proposition makes intuitive as well as theoretical sense, it awaits further testing in the context of sibling relationships.

Relevance of the Findings

In this section, I discuss how the present study broadens our knowledge base about the psychological functioning of adolescents in the context of their sibling relationships. Although the meaning of the results of the present study can only be understood in the context of the limitations of the present study (to be discussed shortly), the results do, however, highlight at least two main findings which converge with previous investigations of sibling relationships.

The results of the present study provide some converging evidence for a correspondence between qualities of the sibling relationship (whether conceived as other-reported interpersonal behaviour or relational themes in interview data) and perceived positiveness of the relationship. The results also provide preliminary support for a developmental continuity (albeit founded on cross-sectional data) in aspects of the sibling relationship from childhood to later adolescence.
Convergent evidence for the role of nurturance. The convergence of the findings with previous research comes mainly from a study by Stocker and McHale (1992). These researchers found that affectionate behaviours and feelings accounted for 26% of the common variance in the relationship ratings for first borns, whereas for second borns affection accounted for 13% of the variance. A positive association was found between siblings’ relationship evaluation and their reports of affection. A negative association was found between siblings’ relationship evaluation and their reports of hostility. In the present research, the samples were not defined with respect to the early and later born distinction; however, except for 6 siblings, sample A siblings were the younger born and sample B siblings were the older born. There was one pair of male twins, and two pairs of female twins. As noted these pairs were arbitrarily, but consistently, assigned to samples A or B, in all the analyses. Since age difference per se were not one of the questions under study here, the inclusion of the twin pairs did not appear problematic (in fact, rerunning of all the analyses without the 3 pairs did not change the findings in any meaningful way).

Speaking now directly to the issue of converging evidence, the present study found that for both sample A siblings (generally the younger born in the dyad) as well as sample B siblings, over 50% of the variance in global evaluations of the relationship quality were explained by interpersonal nurturance and dominance. However, the best predictor of relationship quality was interpersonal nurturance. This finding suggests that interpersonal nurturance in the sibling relationship both in childhood and adolescence is
an important determinant of relationship quality. Although a rather obvious notion and expected finding, my study provides empirical support for this notion.

**Evidence for the interdependency of views of the self and self-in-relation.** The findings with respect to the important role of general self-worth in other-reported interpersonal nurturance and in global evaluation of the sibling relationship converge with previous findings in the child literature which suggest that siblings' behaviour toward one another may be associated with children's social and emotional development (Dunn et al., 1990; Plomin & Daniels, 1985, 1987; Slomokowski et al., 1990; Stocker & McHale, 1992). My study extends support for this general assertion for a sample of adolescent siblings. This finding adds weight to the notion that the “developmental processes involved in understanding oneself and in understanding others appear to be intricately interwoven” (Harter, 1990a, p. 25). Theoretical perspectives have emphasized the centrality of feedback from social interactions (Damon & Killen, 1982; Harter, 1990c) and social experiences (Cooley, 1902/1964; Mead, 1934) in the development of self-perception. Some of the adolescents in the present study appeared conscious of this process: “everything we are [as brothers] is a shadow or reflection of the past...[but now] I want him to be more the mirror image of me”. Another adolescent also appeared to be describing this process when she responded to the question ‘How do you think having a sister like ... has influenced your life?’

Well, I probably wouldn’t have somebody I would look up to, you know to kind of branch out from. You can’t actually branch off your
parents because they are, you know, a different generation. So I look at
her and look at myself and look at everybody else and then see what
I want to be like.

The important development in adolescent self-perception is the growing capacity to view
the behaviour of others as an interaction between personal characteristics and situational
factors (Harter, 1990a; Livesley & Bromley, 1973; see also Shantz, 1983). Furthermore,
by about the age of 13, adolescents begin to emphasize dispositional factors in explaining
the causes of others' behaviour toward them and their own behaviour toward others
(Harter, 1990a). As Harter articulates, the adolescent’s growing “focus on dispositional
factors helps to support the position that adolescents are developing an understanding of
how personal characteristics relate to each other and what causative effect these
characteristics have on future behaviour” (Harter, 1990a, p. 29). This position appears to
be acknowledged unwittingly by the younger sibling in a male dyad:

I was always blamed for things, I [not my brother] was the scapegoat.

Eventually I would even convince myself I did it even if I hadn’t.

Then I’d pride myself on the calmness [in taking the punishment].

Another male sibling, this time the older one in the pair, reported an awareness of how
his traits and moods have influenced his brother and his recent greater ability to manage
his influence on the relationship:

my brother is moralistic, but he doesn’t have strong traits. I’m more

intense than he is—things matter to me—he is a little weak—he sides
with people. My moods—dominance you can feel—you control other people. Everyone knows how I feel. I’m looked at as the bad one—he’s the good one. I’m self-centered—he is in another world. But now I feel guilty about past injustices. I try to make it up to him. I want to stand behind him. Sometimes I can understand how we think—but we are still a mystery to each other.”

His younger brother described himself as having “a more sensitive nature, generous” nature than his brother. In relation to his brother he reported: “I was always the lackey—I usually give in”. To explain what he meant, he recounted a typical scenario:

We would make up plays together. He would be the producer, director, star, and playwright—he would let me have some small thing like ‘tape made by ...’ [he] has put complexes in my mind—I usually give in to his power.

Such disclosures by adolescents suggest their growing capacity for reflection on the self-in-relation and an awareness of consequences of these processes for the self (Harter, 1992b).

Motives in the Study of Sibling Relationships

In this section I address some questions and make some observations with respect to the data in the present study. This section is offered as a prelude to my discussion on directions for future research and the conclusions I draw from the study as a whole.
The motivational approach revisited. At this juncture, I think it is important to stand back and examine the nature of the influences between motive dispositions and qualities of relationships with reference to normal personality development. Perhaps, from this perspective, the rather disappointing results with respect to the role of motive dispositions can be better understood. As noted in the literature review, theoretical notions about the association between motive dispositions and qualities of relationships appear fairly straightforward. However, studying these phenomena is anything but straightforward. The findings have raised some substantive questions regarding the motivational approach.

First, it is apparent that most evidence for the association between motive dispositions and qualities of relationships have often come from the extreme ends of the continuum for both variables. Reliable associations between these variables are typically (although not exclusively) based on outcome phenomena of an extremely intense nature, such as peak or nadir life experiences, and/or based on studies conducted with individuals who are typically fairly high in either motive disposition. As a result there is increased probability of demonstrating an effect by choosing extreme cases. The predictions that arise out of theory based on these findings do not necessarily help us determine what to expect for the average person. For instance, our knowledge to date does not provide us with an understanding of the mitigating role of power on intimacy or the mitigating role of intimacy on power, or what to expect when power and intimacy are unmitigated (i.e., when both are coded high or when both are coded low in the same
individual). Clearly there is a need for greater clarification in this area before we proceed with further studies.

Secondly, how does one deal with the theoretical notion that a balance of motive tendencies and relational orientations is optimal? Should hypotheses be adjusted to a more conservative level to reflect the balancing out of motivational tendencies? Alternatively, how could the researcher address the mitigation issue (i.e., how power mitigates intimacy, and so on) from a measurement perspective? The newer conceptualizations of normal personality development and organization (covered in the literature review) point to an important issue about the conceptions of the orthogonality or even bipolarity of such personality characteristics as motive dispositions, personality traits such as nurturance and dominance, and relational orientations such as agency and communion. To reiterate this perspective, the person’s major life task is to achieve a “compromise and balance between two relatively autonomous forces so that both are represented fully in one’s experience” (Blatt & Blass, 1996, p. 312). There is, then, an inherent tension in the development of personality within the context of relationships (Josselson, 1988; Kroger, 1989). How to capture this tension (particularly within the hypothetico-deductive paradigm) is the challenge facing researchers in this area.

Motives other than power and intimacy may be propelling sibling relationships. It is apparent that researchers need not foreclose on motivational approaches to studying sibling relationships. Despite the rather disappointing findings in the present research, there is still good reason to believe that motives are important personality variables
propelling interpersonal behaviour. In the section following this one, I suggest that perhaps this study did not use the relevant motives. To buttress the notion that it is premature to give up on the motivational approach, it may be helpful to review the theory underlying motive dispositions.

The theory behind most conceptions of motive dispositions is similar to that for the power and intimacy motive although the goals of other motives are obviously quite different (see Smith, 1992, for the various types of motive dispositions most often studied). To illustrate the utility of the motivational approach with different types of motives, it is instructive to review the theoretical sequence underlying the concept of motivation dispositions. In this sequence, it is the person that is the agent who initiates the movement of the self toward a particular goal state. Almost always there is some type of block or obstacle to the attainment of this goal. The obstacle may be located in the world or in a perceived personal deficiency. Often someone in the person’s life is seen as helping the individual attain his or her goal. For the person trying to reach a particular goal state, there are positive feelings and emotions associated with the anticipation that the goal will be achieved and positive feelings and emotions associated with the person providing the nurturance and support. Finally, there are positive feelings and emotions in actually achieving the goal. Hypothetically, if qualities or aspects of the sibling relationship are seen as an obstacle (or contributing to a perceived obstacle) to meeting a particularly strong goal state of one of the siblings, negative affect may be associated with the sibling relationship. Furthermore, self-concept may not be enhanced because of
the frustration and lack of goal attainment. However, if the sibling relationship is seen as
a source of nurturant aid to the attainment of a particular goal, the relationship may be
viewed positively, with the attendant enhancement of self-concept. A simplification of
this sequence is illustrated as follows:

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<table>
<thead>
<tr>
<th>Self</th>
<th>←</th>
<th>Goal*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obstacle (internal/external)</td>
<td>←</td>
<td>&lt;-</td>
</tr>
<tr>
<td>* the goal could be related to the self, the other, or the self-in-relation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurturant aid (support/affirmation)</td>
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<td></td>
</tr>
</tbody>
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The message this review of the processes underlying the motive sequence should convey
is that any number of motive dispositions may be relevant to understanding what propels
siblings toward particular goals in their relationships with their siblings or how their
relationship with their sibling may be instrumental in achieving goals for the self.

Although speculative at this point, there are at least two motive dispositions other
than power and intimacy that could potentially relate to qualities of sibling relationships.
The achievement motive (McClelland & Koestner, 1992; McClelland, Atkinson, Clark,
& Lowell, 1992) appears to be a good candidate, particularly given the self-reported
arousal of this motive tendency, noted in descriptive methodology or clinical anecdotes,
as an aspect of many sibling relationships. Achievement motivation is defined as a
concern with “doing things better, with surpassing standards of excellence” (McClelland,
1985, p. 190). A prominent view of how achievement motivation develops suggests that
it springs from early socialization experiences centering on the pleasure gained from mastering a challenging task (McClelland & Koestner, 1992). The adolescents in the present research also made unsolicited comments on the role of achievement concerns as a key aspect of the sibling relationship. For example the younger male sibling of the dyad described a achievement orientation to the sibling relationship: “I’d never admit being weaker, at least not to him”. His older sibling also stated a similar view of the self-in-relation.

I have to stay ahead [of him]—wanting to be better—coming out on top—don’t ever want to give each other the advantage—I would always come out on top—always a lot of competition in terms of achievement, not for attention, but wanting to get more separated.

It is interesting to note that this sibling attempts to connect the need for achievement in the sibling relationship as way in which individuation from the younger sibling is accomplished.

The second motive that may be of interest to future researchers is that of responsibility (Winter, 1992c). The measure for responsibility “grew out of repeated efforts to distinguish ‘good’ expressions of the power motive, such as organized social power and leadership, from ‘bad’ expression such drinking, drug use, and aggression—collectively termed profligate expansive impulsivity” (Winter, 1992c, p. 501; see also McClelland & Boyatzis, 1982; Winter, 1973b, 1988). As noted previously, the notion of responsible power, which is similar to the notion of the responsibility motive, has the
potential to clarify the moderation of one motive tendency by another motive tendency in the same person (such as, how intimacy through its effect on responsibility may moderate power).

Evidence for the notion of responsible power is based on the findings that having a younger sibling (for college students) or having children (for adults) moderates the effect of the power motivation. As a result of these socialization experiences (Whiting & Edwards, 1973; Whiting & Whiting, 1975), the power motive is channelled into a more responsible expression of power such as leadership (Winter, 1988, 1992c; as opposed to a profligate expression of power).

Winter and Barenbaum (1985) developed a measure of responsibility which measured the results of socialization experiences that promoted responsibility. Given the evidence that siblings can be shapers of aggressive behaviour (Bank, Patterson, & Reid, 1996; Patterson, 1986) and that recent risk-amelioration models of sibling relationships (Brody & Stoneman, 1996) propose that children with “difficult temperaments place their sibling relationship at risk for conflict and rivalry” (Brody & Stoneman, 1996, p. 236), it would appear that the interaction of motive dispositions and socialization experiences needs to be studied in tandem over time (Bank, Patterson, & Reid, 1996). The notion of channelling children’s power motivation into the “responsible” direction is an often cited concern of parents (Boer & Dunn, 1992; Dunn & Kendrick, 1982). Studies revealing the anatomy of this phenomenon will likely help us understand how both
qualities of sibships and other socialization experiences in the family promote positive psychosocial adjustment.

Motives may be relationship specific and thus not necessarily consistent. An issue that is difficult to grapple with in the study of one particular relational context is that of the consistency of the expression of a particular motivational tendency across a number of relationships (Gergen, 1968, 1972; Harter, 1997; Jones, 1973). Consistency could mean consistency within and/or consistency between relationships (Jones & Pittman, 1982). There continues to be much debate about whether aspects of personality or other individual characteristics are or should be consistent (Hart, 1988; McClelland, 1981).

Consistency in the present study is only inferred with reference to the thematic coherence of motives and views of self, other, and self-in-relation in one particular relationship at one particular time (i.e., cross-sectional). In theory, however, motive dispositions are conceived to reveal consistent preferences that should be evident across a number of relationships, particularly if motives are to be considered aspects of personality (King, 1995). The consistency of the expression of motive dispositions across different relationship was not the focus of the present study, but clearly is worthy of further study.

Role of the family. What is so complicated, and yet so compelling, about the sibling dyad is the number of connections and influences between individual siblings and other family members (Hinde & Stevenson-Hinde, 1988; Youniss & Smollar, 1985). The finding that nurturance, perceived positiveness of the relationship, and positive self-worth
were related certainly underscores the notion that "all good things are correlated" (McHale & Crouter, 1996, p. 175). It is interesting to note that other researchers using the same global self-worth measure as the one in the present study have found congruences between adolescent siblings' perceived self-worth and positive aspects of other family relationships. For example, Plomin, Manke, and Pike (1996) examined the associations between sibling differences in perceived self-competence and sibling differences in major composites of parenting (i.e., positive, negative, and control strategies). Siblings' differences in their perceptions of their parents' positive and negative aspects of parenting were related to differences in their perceptions of self-worth. Within the sibling pairs, the sibling with higher perceived worth also perceived more positive and less negative parenting. Furthermore, sibling differences in perceived self-worth were also related to sibling differences in temperament as rated by parents (Plomin, Manke, & Pike, 1996). That is, the sibling with higher perceived self-worth were rated more positively by both mothers and fathers. These findings underscore the importance of examining other family influences on sibling self-worth.

Although the sibling data set in the present study artificially detached siblings from their family context, the interview data were replete with references, often unsolicited, to the important role of the family in understanding qualities of the sibling relationship. For example, one sibling disclosed her emotional struggle to make sense of her relationship with her sister:

It's like you can't just stop it. Cause there is so much anger that I have—
probably she has too. But I don’t know how much anger she has. All I
know is how much I have. I’ve got more than enough. I’m going through
a stage and she’s going through a stage. Like we are at two different
stages or whatever you want to call them. And we’re just not bonding
together as much as we used to. I come to school some days just sick to my
stomach because me and my sister and my mom and my dad fight.

This younger sibling’s general self-worth was poor as evident from her general self-worth
score. She was disappointed with herself, she really did not like the way that she was
leading her life, and even wished she was someone else. It is evident that her relationship
with her sister cannot be understood without reference to her family context (Brighton-
Cleghorn, 1987; Jenkins, 1992; Lewis, 1988).

Other responses in the interview data suggest, in a preliminary way, that family issues
and other life events may be linked to turning points and changes in the qualities of the
sibling relationship. For example, one female sibling (the older in the pair) described a vague
sense of feeling good about being the powerful yet supportive sister she always wished to be.
Incidentally, this adolescent’s motivational profile categorized her as high power/low
intimacy. Her sister, however, was categorized as low power/high intimacy. This was the
older sister’s response to the request for a peak (best experience) with her sibling:

The story that comes to mind was when my parents were fighting really
badly and we went to my sister’s room, at the end of the hall so we were
as far away as we could be from the chaos. I don’t know if she was scared
or not but we were kind of used to it. I think she really needed to be protected or something like that. Someone to tell her it’s okay and stuff and I did and it felt weird to me because I had never done that before. I think it felt weird for her but it was good.

It appears that the turning points in the sibling relationship are catalysed by particularly intense life events. These self-defining events may bring to the fore dispositional qualities of the individual siblings and lead to the validation of a desired self as well as a re-definition of the sibling relationship (Jenkins, Smith, & Graham, 1989; Markus & Ruvolo, 1989).

**Transitions and turning points.** Developmental changes were perceived by the adolescents in my study to have an important influence on qualities of the sibling relationship. For example, when siblings in the present study were asked the question “Was there ever a turning point in your relationship?”, a majority of the responses indicated that the transition of the older sibling into high school and then again the transition of the younger sibling into high school were pivotal points at which the relationship changed for better or worse. However, in addition to these major transitions which often led to turning points in the relationship, many siblings disclosed that changes in the older or younger sibling’s status or responsibilities could have a powerful effect on the everyday functioning of sibling pairs. A majority of the younger siblings in the study mentioned how the older sibling getting his or her driving licence changed the tenor of the sibling relationship in some significant way. For example, the younger sibling of a female dyad sees the issue of her sister’s driving as one of relational control which tips the balance in the relationship: “Sometimes I feel that her
driving is kind of her power now and she kind of just takes off and that bugs me”. These revelations point to the importance of life changes which on the face of it appear rather mundane or inconsequential (at least to researchers), but which can represent significant interpersonal issues for sibling relationships.

Other qualitative impressions from the data. Often our adherence to conceptual structures and the hypothetico-deductive model narrows our focus to only what we want to see. It is apparent that alternative explanations for the phenomena under study can be revealed unwittingly during the process of conducting a research study. There is some risk of losing this information. Thus, as an attempt to preserve some of the qualitative impressions from the present study Table 38 was developed. These observations suggest that multiple themes and issues may be relevant for the study of adolescent sibling relationships.

Psychometric and Methodological Issues

At this point in the discussion, it is important to examine several psychometric and methodological issues that this study raises. First, I examine properties of the measures for motives, relational themes, and global evaluation of relationship quality and consider how the use of these measures in studies might be enhanced. Second, issues with respect to the reliability and validity of the present research are discussed.

TAT-derived power and intimacy motives. There are several points that need to be made with regard to the TAT-derived power and intimacy motivation. Although the measure always came first in the testing protocol, the effect of extraneous cognitive or
Table 38
Additional qualitative impressions based on unsolicited content in the interviews

- Concern with autonomy in one sibling may be mismatched with desire for intimacy in the other sibling
- Disequilibrium in the relationship is often followed by quick equilibrium (flexibility and tolerance for conflict)
- Disclosure, particularly for male siblings, often signals vulnerability
- Development of competition into individuation
- Qualities of the relationship are prone to extremes
- Sibling relationship often exists on the level of perceptions and sensations: vigilance and sensitivity to the other without overt communication
- Changing nature of the sibling relationship over time: peaks and falls
- Awareness that separation is not always at the cost of intimacy
- Desire for intimacy is often coupled with a fear of rejection
- Male siblings appear less concerned about sharing feelings as a criterion for closeness than female siblings
- Sibling relationship seems to satisfy needs unfulfilled in other relationships
- Sibling relationships are strongly shaped and evaluated in reference to other relationships
- Sibling relationship is a buffer, an outlet for emotions and source of support
- Sibling relationship is a resource (such as information, clothes, friends)
social variables on the TAT stories could not be controlled in this study. Participants were assumed to be administered the TAT measure under neutral arousal conditions, but there was no real way that this was controlled in the present study. Furthermore, all participants were aware that the study was about sibling relationships and this may have influenced their cognitive set to respond in more socially desirable ways (as a way, for example, to manage impressions). It is also possible, however, that emotions aroused with respect to the sibling relationship could influence the arousal of particular motive tendencies in the story writing task. For example, those siblings who were generally satisfied with their sibship and associated emotions such as joy, liking, relief, with their sibships, might be more aroused for the pulls for the intimacy motive in the picture stimuli. Those siblings who were dissatisfied with their sibship and associated such emotions as hostile anger, disappointment, and dislike with their sibships might be more aroused for the pulls for the power motive in the picture stimuli.

On the other hand, it could also be argued that psychological defenses might play a role and produce a reverse effect on motive arousal. For example, hostile emotions associated with the sibship could produce anxiety for the individual leading to a deliberate attempt to avoid such feelings by denying power-related concerns.

Internal consistency of relational agency and communion. There are also some unanswered questions about the internal consistency of the measure for relational themes of agency and communion in the present study. For example, the aggregation of scores across the content domains may have muddied some of the differences in relational
orientations revealed by the sibling's narratives, although from a reliability perspective, aggregation appeared a logical way to deal with the data and was consistent with previous research. However, there is some evidence which now suggests that the two thematic domains of agency and communion may not be distinct and internally consistent. McAdams et al. (1996) report that the eight themes (four for agency and four for communion) appear to be relatively independent of each other in their study of young adults. As a result of these findings, the total scores for agency and communion could be de-aggregated, and the categories studied separately as qualities of relationships. McAdams et al. (1996) suggest that it "may be more appropriate to see agency as revealing itself differentially in each of four very different themes, much as the attachment researchers have argued that different attachment behaviours (typically uncorrelated with each other) reveal alternative manifestations of a coherent attachment system" (1995, p. 359).

While it does appear that the TAT-derived measures of power and intimacy were reliably obtained in the present study, the content coding of the themes of agency and communion in the interview data proceeded somewhat less reliably in terms of the agreement between coders on the presence and absence of thematic categories. As noted in Chapter 3, the inter-rater reliability was based primarily on the agreement of the absence of coding categories, a finding that was completely consistent with previous research. The only moderate agreement of the two judges plus the fact that the majority of scores tended to be 0 because of the conservative nature of the judging criteria calls
into question the validity of the measure. It is evident that the coding system for agency and communion needs to be standardized and should include practice sets against an expert model (similar to the scoring systems for power and intimacy motivation). Further studies will need to determine construct validity of the agency and communion measure.

**Measure of the positiveness of the relationship.** Several points need to be made about siblings' global evaluation of the sibling relationship in this study. It is important to note that the evaluation of relationship quality was based on only one question at the end of the research protocol. The meanings that siblings attributed to their ratings was an aspect of the relationship quality measure that was not really explored in the present study. In hindsight, while question 20 provided optimal control to the research participant and may have deterred acquiescent responding (Campbell & Fiske, 1959), how the sibling interpreted the question could not really be determined. For example, the notion of “how well do you get along with your sibling” could be interpreted from the perspective of “how satisfied are you with the sibling relationship” or “compared to other sibling relationships you know, how well do you get along with your sibling”. I think the relationship quality measure could have been sharpened (e.g., how do you see your relationship in the larger scheme of other sibling relationships) as a way of reducing the range of multiple meanings that might be attributed to any question on relationship quality.
Reliability and generalizability of the results. As a result of the relatively small
sample of siblings studied here, as well as the correlational nature of the data analyses,
we must be wary of generalizing from these findings until they are replicated in other
studies. At this juncture a point also needs to be made with respect to the path analyses.
While path analysis appeared particularly well-suited to the present research study, it needs
to be remembered that it is, in fact, the simplest form of structural equation modelling that is
able to test a relatively simple model in which each latent variable or factor is directly
measured by a measured variable or indicator. There are some obvious limitations of the path
analytic technique with non-experimental data, including the non-recursive nature of the
mechanisms I hypothesized (i.e., assumptions of causality), the simplicity of suggesting
constructs can be measured adequately by one indicator or measure (i.e., questions about
validity), and the small sample size (i.e., questions about reliability and generalizability).
Ideally, future studies examining the link between siblings' individual characteristics and
characteristics of the sibling relationship, the constructs of personality, self-concept, and
qualities of the sibling relationship should be indicated by several measures using fuller
models and larger samples.

There is another point that should be stated with respect to the data analyses used in
the present study. The group differences and variable-centered approach in this study actually
leaves the individual important only insofar as he or she “provides the measures for the
variables” (Magnusson, 1988, p. 20). Thus, we are really no closer to knowing the siblings in
the study as unique persons or how their unique social and familial contexts may have influenced their individual characteristics and their sibling relationships.

The generalizability of the present results to half-, step-, or adoptive sibling relationships or cross-sexed siblings must be questioned. For instance, full siblings (for a number of biological and contextual reasons) may feel more of a commitment to the sibling relationship "regardless of any disagreements or rivalries than do siblings of other types" (Cicerelli, 1996, p. 48). As a result the findings from the present studied may be biased by this value. The issue of values is an important one that future research should address. Related to this issue are cultural, sex-role, and gender differences in values with respect to sibling relationships. The present research did not control for these influences, and thus there is no way to determine how or whether they played a role in the data.

**Beyond Simple Congruence Models: Future Directions**

Despite the cautions just reviewed, the results do highlight a number of directions for future research.

**From decontextualization back to contextualization.** The extraction of sibling pairs from their social context in this study raises some issues and directions for future research. How friendships, other family relationships, and extrafamilial relationships are linked to differences in qualities of sibling relationships clearly merits further study (Hart, 1988; ). We are still ignorant with respect to the connections between other family relationships and the sibling relationship. We also have very little sense of how the sibling relationship fits in with other important relationships in the adolescents' life.
**Developmental trajectories.** Several developmental issues were not investigated in this study. Specifically, future studies need to address the issues of transitions and turning points in adolescent siblings' lives. As Dunn (1996) notes, very little is still known about the normative changes and transitions (such as each sibling's transition into adolescence and movement into high school) that influence the qualities of sibling relationships. Most research still addresses broad developmental trends disconnected from life transitions or changes. Questions regarding the patterns of individual differences in relationships over time are begging to be addressed. In the present research, as noted above, impressions gained from the interview data indicated some face validity for pursuing such inquiries.

**The need for longitudinal data.** Developmental issues, as well as life events, are intertwined with the development of personality and other individual characteristics of siblings and the qualities of sibling relationships. Given some of the drawbacks of studying the history of sibling relationships retrospectively, there is a clear need to follow the trajectory of sibling relationships over time. The importance of pursuing these questions with longitudinal research is clear. First, how the continuities and discontinuities are perceived by each sibling appears to be an important area of investigation in understanding the adolescent sibling relationship. Second, future studies might address the role of motive dispositions and relational orientations in adult relationships with various significant others, including siblings. Third, aspects of personality such as temperament, traits, and motive dispositions, could be studied with respect to the meanings that adults attribute to
their sibling relationships and how aspects of the developmental trajectory of both siblings may have contributed to the individual outcomes, construals about the sibling relationship, and the qualities of adult sibling relationships.

Fifth, given the central notions of identification and de-identification in the clinical literature with respect to children’s sibling relationships (Schachter, 1982; Schachter & Stone, 1987; Schachter, Gilutz, Shorte, & Adler, 1978), the role of individual characteristics of siblings and qualities of sibling relationships on the development of personal identity in adolescence and adulthood warrants further study. With respect to this fifth issue, it must be remembered that McAdams’ motivational approach is essentially a theory of the development of personal identity and not a theory of personality development per se (McAdams, 1993). The theoretical notions underlying McAdams’ approach point to both the influence of motives on qualities of relationships and on the construction of personal identity. The motivational approach may well have the capacity to explore how adult siblings make sense of their sibling experiences and how the sibling relationship may have contributed to aspects of personal identity.

Finally, in terms of longitudinal research it would be useful to follow-up on the siblings in the present study. Soon the younger siblings that took part in my study will be late adolescents and the older siblings will be young adults. It appears reasonable to hypothesize that motive scores obtained at time 1 may be better predictors of qualities of the sibship in time 2 than the qualities of the sibship in time 1. This conjecture is buttressed by Cicerelli’s (1996) conjecture that while the influence of the family context
on qualities of sibling relationships subsides in adulthood, the influence of individual characteristics may be more central:

Early in life, the reciprocal interaction between siblings changes the characteristics of children themselves, which in turn influence their interactions, and so on. But eventually, after many years of interacting and communicating, characteristics of the siblings solidify and evoke stereotypic responses from one another (Cicerelli, 1996, p. 58).

Thus, what appears to be more important to understanding sibling relationships in late adolescents and adulthood are the sibling's subjective experience and intrapsychic functioning rather than context *per se* (Bank & Kahn, 1982; Dunn & Kendrick, 1982; Stewart, 1983; Hetherington & Camerera, 1984). Although there is little research regarding the reminiscence of sibling experiences, the application of the McAdams' motivational model suggests that salient, emotionally charged peak and nadir experiences involving the sibling could be related to motive dispositions (McAdams et al, 1996; McAdams, 1985b; McAdams, 1984c).

In keeping with the suggestion for more focus on adult sibling relationships, there is some preliminary research which suggests that the affective attachment between adult siblings might be classified into subtypes. For example, Gold (1989) has identified five types of relationships: Intimate (i.e., high levels of devotion and disclosure), congenial (i.e., close and affectionate sibling relationship, but emphasis is on marital and parent-
child relationships), loyal (i.e., siblings base their relationships of adherence to cultural norms), apathetic (i.e., mutual disinterest, but not rivalrous), hostile (i.e., strong negative feelings toward each other and considerable negative involvement with the relationship). Two studies of adult siblings (Gold, 1989; Scott, 1990) have found that 78 to 95% of sibling fall into the first three types, while the remaining fall in the apathetic or hostile types. These typological approaches to characterizing adult sibling relationships may provide a conceptual anchor for the researcher interested in studying the retrospective or longitudinal antecedents to qualitatively different types of adult sibships.

**Role of life events.** Similar to some of my earlier impressions about the impact of life events on sibships, Dunn (1996) provided some similar impressions from her longitudinal study. She reported that mothers’ interview data contained unsolicited information about siblings’ support of each other during life events of negative impact. Her study also provided empirical support for various changes over time (from ages 5 to 13 years old) in the relative friendliness or hostility between siblings which were associated with the impact of life events. She reported: “In the face of life events with negative impact, for example, the sibling drew closer to one another and showed support” (Dunn, 1996, p. 42). Particularly intense and self-defining sibling experiences and their impact on psychosocial adjustment often described in the clinical (Lamb & Sutton-Smith, 1982; Kahn, 1988) and biographical/hermeneutic literature (Dunn & Plomin, 1990; Greer, 1992; Sandmaeir, 1994; Scarf-Merrell, 1995) has begun to receive some promising empirical support (Hetherington & Camarera, 1984; Jenkins, 1992), but clearly warrants further study.
Need for research methodology. Clearly we need to continue to develop a research methodology for studying the contribution that each sibling makes to the sibling relationship. The challenge is to find a method which preserves the organization and integrity of the experiences and characteristics of the individual sibling as well as those of the dyad (McHale & Crouter, 1996). For example, Kenny and LaVoie (1984) have proposed a social relations model. This is a method of observation and round robin analyses that can estimate actor effects such as traits and partner effects such as the extent to which one’s behaviour is elicited by the other person in the dyad. Using this method the researcher can also estimate the degree to which overt behaviours observed in a dyad are reciprocated.

In my own research, I am attempting to explore the utility of interpersonal theory and interpersonal methods of measurement for exploring the relationship-specific characteristics of the sibling dyad. Interpersonal theory predicts that one interactant pulls (or bids) the other interactant into behaving in a complementary fashion on both nurturant and dominant axes of the interpersonal circle (Auerbach et al., 1994; Kiesler, 1983, 1985; Goldston, 1984; Gurtman et al, 1995). The degree of match or fit of a sibling’s interpersonal style with the interpersonal style of the other sibling may provide an indication of the way in which the balance of dominant and nurturant interpersonal strivings within the sibling relationship is recurrently enacted (Kiesler & Schmidt, 1991). Depicting the interpersonal match of siblings from the same family may help us capture the interpersonal microenvironments experienced from the perspectives of both siblings.
and help us explain the sameness and difference of sibling's construals about the self and other.

Although the present results with respect to the role of self-worth raise many more questions than answers, they provide a glimpse of the exciting possibilities for charting the developmental course of familial influence using sibling data. For example, why are some siblings growing up in the same family so different in terms of their perceived competence? Research is needed to describe, predict, and explain these individual differences (Plomin, DeFries, & Fulker, 1988). We do know that these sources of differences tend to be nonshared which means “they are not shared by children growing up in the same family” (Plomin et al., 1996, p. 85). One way to study this phenomenon is to identify specific nonshared environmental factors by examining differential experiences of siblings related to differences in their perceived self-competence. There are now several methods for analyzing sibling data sets which could, from a number of perspectives, get at these substantive developmental questions (for a review of several analytic approaches, see Plomin et al., 1996).

Conclusions

Quite clearly the limitations outlined above need to be addressed before embarking on further studies. Limitations aside, however, the findings generated from this study should convey at least two main messages to the reader. First, the inclusion of siblings in research with adolescents makes it possible to address important and novel questions concerning the etiology of individual characteristics and relationship-specific characteristics. Given the particular lack of studies addressing the individual and relationship-specific
contributions to views of the self and the other in the context of adolescent sibling relationships, this study charts some new territory in the exploration of the role of sibling relationships in the development of the self. Second, understanding the role of personality variables and other individual characteristics in qualities of sibling relationships is critical for the development of clinical notions about the influence of sibling relationships on the person, particularly given the pre- eminent position of family relationships in the development of the self. However, the context of these phenomena within a wider, ecologically and culturally valid framework, is clearly necessary.

At this point, let me stand back from the particular findings of the present study and revisit the questions that instigated the inquiry. The reader will remember that the questions were:

1. Do motive dispositions and qualities of the relationship correspond?
2. Do qualities of the relationship and perceived positiveness of the relationship correspond?
3. Do qualities of the relationship and/or perceived positiveness of the relationship correspond with perceived self-worth?

Questions 1 and 3 attempted to addressed the issue of the “why” of sibling functioning (i.e., why do siblings behave the way they do?). On the other hand, Question 2 attempted to addressed the issues of “what” is sibling functioning or “how” do siblings typically function (i.e., what shape do sibling relationships commonly take?). The intent of these questions and the thrust of my actual findings behoves me now to explore what in fact have we learned from this study and how these questions might now be revised in light of the findings.
Let me suggest three main conclusions based on this study. First, based on this study's focus on the motives of individual siblings we are no closer to knowing why the siblings in this study function the way they do in their sibling relationships. In other words, siblings' motive dispositions did not help us explain the qualities of their sibling relationships. Based on the data, new questions emerge. These questions focus on why siblings function the way they do in sibling relationships, how siblings' motives combine with other individual characteristics in explaining their functioning as siblings, and how siblings' motives relate to their functioning in other important relationships.

Second, we do have a better sense of how the siblings in this study typically perceive each other and how they generally construe their relationship. In particular, the utility of the covert aspects of the sibling relationship (as conveyed through the interpersonal transactions perceived by each member of the dyad) in predicting perceived positiveness of the relationship as a whole should be a guidepost for future researchers. Future questions should focus on how the interpersonal match or fit of the siblings may be linked to features of the sibling relationship and how the match may be related to other family processes. One of the roadblocks to studying these phenomena finding a methodology that captures the complexity of the dyadic level of analysis. As a starting point, questions might focus on the phenomenology (e.g., using qualitative and descriptive methodologies) of the issues related to fit as well as on existing frameworks (e.g., interpersonal theory) for mapping dyadic features of the relationship.
Third, the role of self-worth has the potential to address both the "why" and "what" aspects of the sibling relationship, although in the present study the findings with respect to self-worth raise more questions than answers. We clearly need to figure out why and how this construct is connected to sibling relationships both within and beyond the family. Although initially the hypotheses with respect to perceived self-worth were subsidiary to the main thrust of the study, it is now clear that the role of self-worth in future studies with adolescent siblings needs to be more central.
REFERENCES


Appendix A

Materials related to Sampling Procedure and Research Protocol

a. Parent Consent Form to Solicit Adolescent

b. Adolescent Volunteer Forms

c. Parent Consent to Participate

d. Adolescent Informed Consent
Parent/Guardian Permission to Contact Teenage Sons or Daughters

about Participating in a Research Project

Study Title: Adolescents’ Self-in-relation-to-sibling Identity

Investigators: Mary Ellen Parkinson, M.Ed., Graduate Student, Department of Psychology, University of Saskatchewan; Dr. Linda McMullen, Ph.D., Department of Psychology, University of Saskatchewan

Dear Parent or Guardian:

By permission of the Saskatoon Catholic School Board and Saskatoon Public School Board, we are asking high school students to participate in a study about sisters’ and brothers’ view of their relationship with each other. The purpose of the study is to investigate how a teenager’s identity as a brother or sister has an influence on the kind of person he or she is. As a result, we would like to involve pairs of sisters or brothers from the same family, so we can learn about both sides of the relationship. However, we won’t need to meet with them together. Neither of them will know what the other has written or said unless they share this information with each other. Various measures will be used to investigate how brothers and sisters view each other and how they view themselves. We are interested in the way in which teenage brothers and sisters talk about their relationship and the kinds of responses they endorse on questionnaires that are designed to examine personal relationships. There are no right or wrong answers in any of these tasks because they have to do with how your sons or daughters see things not how we, the researchers, see them. This research is part of Mary Parkinson’s Ph.D. program in the Department of Psychology, University of Saskatchewan.
What is involved? Teenagers who agree to participate will be asked to spend a total of 100 minutes completing two questionnaires, a brief story writing task, and a structured interview. So far, teenagers report that they find the tasks we give them easy and enjoyable. All tasks will be completed during times that do not interfere with students’ class schedules. That is, times will be arranged with them before school, after school, free periods during the day, evenings or weekends. Students will be asked where they would like to meet from at least four choices: Rusty MacDonald Library (a room in the library has been reserved for this purpose), the Psychology Department (up the hallway from Place Riel Theatre at the University of Saskatchewan), their home, or their high school. If desired, transportation arrangements can be made. Other alternatives can be arranged in consultation with students and parents. Refreshments will be available for them during their participation.

Potential Benefits. One possible benefit of the study is that the tasks may encourage teenagers to think about their relationships, in general, and their sibling relationship, in particular. This study also may encourage participants to think about how this relationship influences their view of themselves. A more global benefit of this study is the broadening of our awareness about sibling relationships so that caregivers and professionals can be more aware of this important family relationship.

Participation is voluntary. Your son’s or daughter’s participation in this study is completely voluntary. There will be no penalty if he or she does not wish to participate. If a decision is made to participate, he or she may withdraw at any time during the study
and refuse to answer any of the questions. This project has been approved by the
University Advisory Committee on Ethics at the University of Saskatchewan.

**Information is confidential.** All information will be held as confidential as is
legally possible. Only the researchers and their assistants will see the information your
teenagers provide. Once the information has been collected, your teenager’s name will be
removed and replaced with a code so that he or she can no longer be connected to any
specific answers. However, a confidential file will be held so that your sons or daughters
can be sent written feedback once the study is completed.

**Questions?** If you have any questions, please feel free to call Mary Parkinson (at
work or at home). I can arrange for you to see the task materials in advance if you wish.

**Obtaining volunteers for the study.** We will soon be contacting teenage boys who
have a brother and teenage girls who have a sister by letter. The names of these pairs of
brothers and sisters have been confidentially made available to us by permission of the
Board of Education and the high school. We assure you the names will not be released to
anyone else. Before teenager sisters and brothers are contacted, we must be sure that
parents wish us to give their sons or daughters information about participating in the
study. In other words, we do not wish to be in a situation where teenagers wish to
participate but parents are not in favour of this. As a result we would like you to
complete the following form **ONLY** if you do **NOT** wish us to contact your sons or
daughters and ask them if they would be interested in participating. If we do not hear from
you within a week we will assume that we may provide your sons or daughters with
information about the study and ask them if they would be interested in volunteering. As an alternative to sending this form, you may also phone me at home or at work.

Obtaining consent from parents. Once your sons or daughters volunteer to participate in the study, we must still get your consent for them to do so. We will send a separate letter home with your son or daughter once they have indicated they are interested in participating.

Sincerely,

Mary Ellen Parkinson, M.Ed.

[Supervisor: Dr. L. McMullen]
Parent/Guardian Permission for Sons and Daughters
to be Contacted About Participating in a Research Project

Study Title: Adolescents’ Self-in-relation-to-sibling Identity

Investigators: Mary Ellen Parkinson, M.Ed., Graduate Student, Department of Psychology, University of Saskatchewan; Dr. Linda McMullen, Ph.D., Department of Psychology, University of Saskatchewan

Teenage Sons’/Daughters’ Names:

Address:

Phone:

Please check:

___ I have read and understand the permission letter. I give permission for my teenage sons/daughters to be sent information about participating in this study.

___ I would like more information before giving permission. Call me at ____________.

___ I do not want my teenage sons/daughters to be sent information about participating in this study.

Parent’s Signature:

Date:

Please return to Mary Parkinson as soon as possible in the self-addressed postage-paid envelope or return to the high school office. Thanks.
Volunteer Form for the Study of Teenage Brothers and Sisters

Study Title: Adolescents' Self-in-relation-to-sibling Identity

Investigators: Mary Ellen Parkinson, M.Ed., Graduate Student, Department of Psychology, University of Saskatchewan; Linda McMullen, Ph.D., Department of Psychology, University of Saskatchewan

Dear __________:

We are asking high school students to participate in a study about brothers’ [sisters'] view of their relationship with each other. This research is part of Mary Parkinson’s Ph.D. program in the Department of Psychology, University of Saskatchewan. The purpose of the study is to investigate how teenagers’ identity as a brother [sister] has an influence on who they feel they are as a person. As a result, we would like to involve pairs of brothers [sisters], from the same family, so we can learn about both sides of the relationship. However, we won’t need to meet with you together. Neither of you will know what the other has written or said unless you, yourself, share this information with your brother [sister]. Your parents or guardians will be informed of your participation in the study and they will be asked to consent to your participation; however, they will NOT be informed of what you wrote or said. All of the feedback you or anyone else receives will not identify you or your brother [sister] in any way. All information will be coded so that you cannot be identified on the materials. We will, however, keep a record of your name and address in a confidential file so that we can reach you to give you written feedback about the results of the study as a whole.
WHAT IS INVOLVED? Teenagers who agree to participate will be asked to spend a total of 100 minutes completing some pencil-and-paper tasks and an interview. So far, teenagers report they find the tasks easy and enjoyable. There are no right or wrong answers in any of these tasks because they have to do with how you see things, not how we see them. All tasks will be completed during times that do not interfere with your class schedules; that is, times will be arranged with you before school, after school, free times during the day, evenings, weekends and holidays. Refreshments (juice, pop, and snacks) will be available for you during your participation.

Please complete the following volunteer form and return to Mary Parkinson in the enclosed postage-paid envelope as soon as possible. If you wish, you can let me know by phone instead of completing the form. I can be reached most days and evenings. If you cannot reach me please call my work number and leave a message.

In a week or so, I will follow this letter with a phone call to you to make sure you have received the information and to ask you whether you have considered participating.

Sincerely,

Mary Ellen Parkinson, M.Ed.
Volunteer form for the Study of Teenage Sisters and Brothers

(1) My name is

My grade is

(2) I volunteer to participate in this study _____ (yes or no)

(3) I need more information before volunteering for this study

_____ (yes or no)

(4) I would prefer to meet with the investigator at the following times (before school, free periods, after school, evenings, weekends, or [for e.g., Christmas] holidays

(5) I prefer the following location (check 1 or more):

High school_

Psychology Department __

Home___

Other___

(6) Phone number _______________

Please return this form to Mary Parkinson in the enclosed post-paid envelope. If you have any questions please do not hesitate to call me at home or at work. Thanks.
Parent/Guardian Consent for Son or Daughter to Participate

Study Title: Adolescents’ Self-in-relation-to-sibling Identity

Investigators Names: Mary Ellen Parkinson, M.Ed., Graduate Student, Department of Psychology, University of Saskatchewan; Dr. Linda McMullen, Ph.D., Department of Psychology, University of Saskatchewan

Dear Parent or Guardian,

By permission of the Board of Education and the high school, we are asking high school students to participate in a study about sisters’ and brothers’ view of their relationship with each other. The purpose of the study is to investigate how teenagers’ identity as a brother or sister has an influence on who they feel they are as a person. As a result, we would like to involve pairs of sisters or brothers from the same family. Various measures (see below) will be used to investigate how brothers and sisters view each other and how they view themselves. We are interested in the way in which teenage brothers and sisters talk about their relationship and the kinds of responses they endorse on questionnaires that are designed to examine personal relationships. This research is part of Mary Parkinson’s Ph.D. program in the Department of Psychology, University of Saskatchewan.

What is involved? Teenagers who agree to participate will be asked to spend a total of about 100 minutes completing two questionnaires, a story writing task, and a structured interview. One of the questionnaires they will be given asks teenagers about
what their brother or sister is like to be with, and the other asks them how they feel about themselves as a person in a number of areas considered important to teenagers. The story writing task requires each teenager to write a short made-up story to each of six pictures. All of the pictures involve some kind of interaction between individuals (e.g., discussing something, walking together, athletic activity) and are designed to elicit stories about human relationships. The structured interview will involve asking teenagers directly about their relationship with their brother or sister. The questions will focus on similarities and differences between the sisters and brothers from each others’ point of view as well as some evaluation of the relationship. These interviews will be tape recorded.

**Potential Benefits and Concerns.** One possible benefit of the study is that the tasks may encourage teenagers to think about their relationships, in general, and their sibling relationship, in particular. This study also may encourage participants to think about how this relationship influences their view of themselves. A more global benefit of this study is the broadening of our awareness about sibling relationships so that caregivers and professionals can be more aware of this important family relationship.

**Participation is voluntary.** Your son’s or daughter’s participation in this study is completely voluntary. There will be no penalty if he or she does not wish to participate. If a decision is made to participate, he or she may withdraw at any time during the study and refuse to answer any of the questions. This project has been approved by the University Advisory Committee on Ethics at the University of Saskatchewan.
Information is confidential. All information will be held as confidential as is legally possible. Only the researchers and their assistants will see the questionnaires, stories, and transcribed interviews. Once the information has been collected, your teenager’s name will be removed and replaced with a code so that he or she can no longer be connected to any specific answers. However, a confidential file will be held so that your sons or daughters can be reached for feedback once the study is completed. In addition to debriefing at school following the completion of data collection, your sons or daughters will be given written feedback about the results of the study. You will also receive this information by mail.

Questions? We would appreciate it if you would return the form attached to this page whether or not you agree to your teenagers’ participation. Whatever you decide, we would like to have this form returned to us so that we know that this information has reached you. Please keep this letter for your records.

If you decide to grant permission for your teenagers to participate, we would like you to complete the parent/guardian Consent for Daughter or Son to Participate attached to this letter. Once again, we want to assure you that all the information you provide will be kept confidential. Subsequent to the arrival of the material at our office, your name(s) will be removed and replaced by a code for reference purposes. The information on the parent questionnaire simply helps us report on the characteristics of the group we are studying, as a whole, when delivering our results. You and your family will never be individually identified in any way.
When we receive your consent form back with approval, we will contact your teenagers to arrange an appointment with them. Before beginning any tasks we will obtain consent from them for participating in the study and for audiotaping their interviews.

If you have any questions, please feel free to call Ms. Mary Parkinson. I can arrange for you to see the task materials in advance if you wish.

Thanks for your time and attention today. We appreciate your consideration.

Sincerely,

Mary Ellen Parkinson, M.Ed., Graduate Student
Department of Psychology
[Supervisor: Dr. Linda McMullen, Ph.D.]
Parent/Guardian Consent for Son or Daughter to Participate

Study Title: Adolescents' Self-in-relation-to-sibling Identity

Investigators' Names: Mary Ellen Parkinson, M.Ed., Graduate Student, Department of Psychology, University of Saskatchewan; Dr. Linda McMullen, Ph.D., Department of Psychology, University of Saskatchewan

Teenagers' Names: __________________________
__________________________

*Please check the appropriate spaces:

___ I have read and understand the permission letter. I give consent for my teenagers to participate in this study.

___ I would like more information before giving consent for my teenagers to participate in this study. Call me at _________________________.

___ I do not want my teenagers to participate in this study.

Parent's Signature ____________________________.

Date ____________________________.

Please return to Mary Parkinson in the self-addressed postage-paid envelope.

Thanks.
CONSENT FORM

Study Title: Adolescents' Self-in-relation-to-sibling Identity

Investigators: Mary Ellen Parkinson, M.Ed., Graduate Student, Department of Psychology, University of Saskatchewan; Linda McMullen, Ph.D., Department of Psychology, University of Saskatchewan

I am being asked to participate in a study about sisters' and brothers' views of their relationship with each other. The purpose of the study is to find out whether brothers' and sisters' views about their relationship are related to how they see themselves as individuals.

I understand that my brother or sister will also be asked to participate in the study and that each of us will be administered the pencil-and-paper and interview questions individually. Neither of us will know what the other has written or said during the tasks unless we share this information with each other. Our parents will be informed of our participation in the study and they will be asked to consent to our participation, however, they will not be informed of what we wrote or said. All the feedback I or anyone else receives will never identify me or my brother or sister. All information will be coded so that I cannot be identified on the materials. I understand that the investigator will keep a record of my name and address in a confidential file so that I can be reached to be given feedback about the results of the study.

I have been informed that I will be asked to complete the tasks at one sitting; however, I understand that, if more convenient, two sittings may also be arranged.
(particularly for before school and lunch hour preferences). I have been informed that it will take about 100 minutes to complete the tasks. I understand that I can stop part way through the tasks if I want to. I understand that I will not be penalized in any way if I decide not to participate at any point in the study.

This project has been explained to me and I have been allowed to ask questions about it. I have read this form, understand the project, and agree to participate.

Student ______________  Date ______________

Investigator ______________  Date ______________

I agree to allow the interview to be tape recorded.

Student ______________  Date ______________

Investigator ______________  Date ______________
Appendix B

*Thematic Apperceptive Measure* used to assess

*Power Motivation* and *Intimacy Motivation*:

Instructions and Test Booklet
TELLING STORIES BOOKLET

INSTRUCTIONS: You are going to see a series of pictures, and I would like you to tell stories about the people shown in the pictures. The story should say a little bit about what is going on in the picture now, what led up to this situation, and what may happen in the future. The story should also say something about what the characters are thinking and feeling.

There are no right or wrong stories for the pictures you will see, so you may feel free to write whatever story is suggested to you when you look at a picture. Spelling, punctuation, and grammar are not at all important. What is important is to write out as fully and as quickly as possible the story that comes into your mind as you imagine what is going on in each picture.

Notice that there is one page for writing each story. If you need more space for writing any story, use the reverse side of the paper.

When I ask you to begin, turn the page and look at Picture 1 for 15-20 seconds.

Then turn the page again and write your story.

The following questions will be spaced out on the page following the picture to help you write a complete story—a story with a beginning, middle and end. These questions have also been spaced out on your answer sheet to guide you.

1. **WHAT IS HAPPENING? WHO ARE THE PEOPLE?**

2. **WHAT HAPPENED BEFORE?**

   see over...
3. **WHAT ARE THE PEOPLE THINKING ABOUT AND FEELING?**

**WHAT DO THEY WANT?**

4. **WHAT WILL HAPPEN? HOW WILL THE STORY END?**

Remember, you will have about *five* minutes for each story. Write down your first impressions as quickly as you can. I will tell you when it’s time to go on to the next picture.

Are you ready? If you have any questions, please feel free to ask me now.
STORY #1

WHAT IS HAPPENING? WHO ARE THE PEOPLE?

WHAT HAPPENED BEFORE?

WHAT ARE THE PEOPLE THINKING ABOUT AND FEELING? WHAT DO THEY WANT?

WHAT WILL HAPPEN? HOW WILL THE STORY END?
Appendix C

Summary of the Power and Intimacy Motivation Scoring Systems

(McAdams, 1984b, 1992c; Winter, 1973a, 1992b)
Intimacy Motivation Scoring System:

A brief summary of scoring criteria

**Prime test 1: relationship produces positive affect (+A)**

Relationship is defined as any meeting or encounter between or among two or more human characters in the story in which there is an interaction. Relationship and interpersonal encounter are interchangeable.

Story must manifest explicit evidence that the relationship precipitates, facilitates, or is decidedly connected with a positive affective experience on the part of at least one of the characters in the story judged according to six categories of phenomena that qualify as positive affect:

1. feelings of love, warmth, closeness, affection, caring, trust, or tenderness toward another or other characters in the story

2. Feelings of friendship, liking, camaraderie, brotherhood, fellowship

3. Feelings of happiness, joy, enjoyment, good cheer, excitement, exuberance, glee while engaged in an interpersonal encounter

4. Feelings of peace, contentment, serenity, satisfaction experienced by at least one character in the story while engaged in an interpersonal encounter

5. Tender behaviors that generally denote positive affect in interpersonal contexts

6. Characters’ feelings of mourning or sadness are associated with the separation from or loss of another person(s). That is, the interpersonal is associated with positive affect if its loss or suspension brings about sadness such as “missing” someone.
**Prime test 2: Dialogue (Dlg)**

A particular kind of verbal or nonverbal exchange of information between or among characters in the story:

1. Reciprocal and noninstrumental communication
   1a. reference to conversation or sharing ideas;
   1b. not specifically engaged in for an outside purpose;
   1c. not problems in reciprocity or agreement.

2. Discussion of an interpersonal relationship

An instrumental dialogue in which the purpose is to consider and work through a particular aspect of the characters' relationship with each other.

3. Communication for the purpose of helping another.

An instrumental dialogue in which the purpose lies in one person's attempt to help another, especially when the other is in trouble, feels bad, or has suffered a setback of some kind.

**Category 3: Psychological growth and coping (Psy)**

A relationship is demonstrably instrumental in facilitating, promoting, or affording psychological growth, self-fulfillment, adjustment, coping with problems, self-esteem, self-knowledge, and the like.

**Category 4: Commitment or concern (CC)**

Character in the story feels a sense of commitment to or concern for another that is not rooted in guilt or reluctance and begrudging duty. Commitment includes feelings of loyalty to and responsibility for another. Concern indicates a felt responsibility for another’s welfare, usually leading to some kind of helping or humanitarian behavior.

**Category 5: Time-Space (TS)**
Two or more characters in the story are engaged in a relationship that transcends the usual limitations of time and/or space. Any explicit reference made to the enduring quality of a relationship over an extended period of time or in the face of physical separation. Includes overt themes of timelessness and so forth in the context of interpersonal relationships.

**Category 6: Union (U)**

Explicit reference to the physical or figurative coming together of people who have at one time or another been apart. The emphasis is on unity, reunion, togetherness, oneness, etc. Includes the coming together of people who are generally not found together by virtue of their dissimilarity.

**Category 7: Harmony (H)**

Characters are in harmony with one another. They are on the same wavelength, their actions in synchrony, they find something in common, they share similar views, and so on.

**Category 8: Surrender (SR)**

A character finds that interpersonal relations are subject to control that is in some way beyond him or her. He or she surrenders to this outside force or does not struggle against the outside control. The character goes with the flow of interpersonal events within an interpersonal relationship.

**Category 9: Escape to Intimacy (Esc)**

Characters in the story actively or mentally escape from a particular situation or state to another situation or state that affords the experiencing of happiness, peace, liberation, fulfillment, meaning, and the like. Characters escape together or by themselves.

**Category 10: Connection with the Outside World (COW)**

Relates to any or all aspects of the nonhuman world that exist outside the human body such as aspects of nature, the cosmos, animal, man-made environments such as streets and
skyscrapers, the weather, so on. The story must manifest explicit evidence of a connection between one of the characters and the outside world:

a. a direct interaction with the outside world in which that world exerts a demonstrable effect upon the character’s behavior, thought, or feelings;

b. a metaphorical parallel with the outside world in which the character or a relationship between or among characters is seen by the writer as mirroring or being analogous to the outside world.
Power Motivation Scoring System:

A brief summary of scoring criteria

Power imagery (Pow Im)

A person in the story is concerned about establishing, maintaining, or restoring their power (impact, control or influence) over another person, group of persons, or the world at large.

One of the following criteria must be met.

Someone shows power concern through actions that in themselves express power such as:

a. strong, forceful actions that affect others, where it is clear that the action does not express mutuality or love;

b. giving help, assistance, advice, or support if it has not been solicited by the other person;

c. trying to control other persons through regulating their behavior or the conditions of their lives or through seeking information that would affect another’s life or actions;

d. trying to influence, persuade, convince, bribe, make a point, or argue with another, so long as the concern is not to reach agreement or to avoid misunderstanding or disagreement;

e. trying to impress some other person or the world at large.

Someone does something that arouses strong positive or negative emotions in others:

The person’s power is shown by the emotional reaction of others: they feel pleasure, delight, awe, gratitude, respect, intense enjoyment, and the like. The action that arouses the feelings must be intentional.

Someone is described as having a concern for reputation or position
Concern is expressed about what someone else or the world at large will think of his or her power. The person may be concerned about being seen as superior, strong, or of high status or be concerned about avoiding a reputation for weakness, inferiority, or low status.

**Prestige for the actor (Pa+, Pa-)**

Concern about the power goal is described in what that increases (Pa+) or lowers (Pa-) their prestige. Titles, adjectives of status, reputation, fame, or skill or an alliance with some prestigious person are all aspects of prestige. Mention of the legal system or if the setting of the story is described as exotic are scored as prestige. Prestige can be scored if a lower-status person is trying to exert power against a higher-status person. Both Pa+ and Pa- can be scored in one story, but only once each.

**Stated need for power (N)**

There is an explicit statement that some character wants to attain a power goal to establish, maintain, or restore impact, control, or influence. Usually this involves expressions such as “she wants to” or “he felt a need to”. The goal may be broad and general or more specific. Need should be scored only when the thing that is desired is related to the power goal and is not inferred from instrumental activity.

**Instrumental activity (I)**

Overt or mental activity such as planning that indicates that characters are actually doing something about attaining a power goal. An actual statement of activity within the story, independent of both the original description of the situation and the final outcome of the story. Any action that is intended to lead to a power goal can be scored, even if the action is only a minor step toward the power goal.
Block in the world (Bw)

There is an explicit obstacle or disruption to the attempt to reach a power goal. It is not scored if the person merely fails to reach the power goal.

Goal anticipation (Ga+, Ga-)

When some character in the story is thinking about the power goal (i.e., impact, control, or influence) or is anticipating the goal, or wondering whether he or she will attain it such as “thinking about” or “wondering about”. Goal anticipations are positive if the character is having positive anticipation; they are negative if the character has negative or doubtful anticipations.

Goal states (G+, G-)

Affective or feeling states associated with attaining or not attaining the power goals are scored positive or negative, depending on the type of affect present in the character having the power goal. Negative affect associated with not having power or positive affect about having power may be scored.

Effect (Eff)

There is some distinct response by someone to the power attempts or actions of a character in the story. They have to be described as resulting from the power-related action such as:

a. strong positive or negative emotions in one person as a result of the action of another;

b. an overt counterattack, counterinfluence, escape, or similar counterreaction by one person to another’s attack

c. some indication that the power action has produced a major, striking effect.
Appendix D

Item Content of the *Impact Message Inventory*

Octant Scale Version: Form IIA (Kiesler & Schmidt, 1991)
Item Content of the Impact Message Inventory (Form IIA), Octant Scale Version (Kiesler & Schmidt, 1991) with Original Scale Names in Parentheses (Kiesler, 1987; Lorr & McNair, 1967)

1. DOMINANT

1. feel bossed around (DOM)

30. feel taken charge of (EXH)

31. that I want to tell him to give someone else a chance to make a decision (DOM)

61. appears that he wants to be the center of attention (DOM)

66. appears that he wants me to put him on a pedestal (COM)

76. appears that he thinks he’s always in control of things (DOM)

81. appears that he weighs situations in terms of what he can get (COM)

2. HOSTILE-DOMINANT

17. feel uneasy (MIS)

26. feel annoyed (HOS)

41. that I want to stay away from him (HOS)

51. that I should tell him he’s often quite inconsiderate (COM)

56. that I want to get away from him (HOS)

71. appears that he thinks it’s every man for himself (HOS)

86. appears that he’s carrying a grudge (HOS)
3. **HOSTILE**

2. feel distant from him (MIS)

7. feel like an intruder (DET)

12. feel forced to shoulder all the responsibility (INH)

37. that I’m going to intrude (DET)

62. appears that he doesn’t want to get involved with me (MIS)

67. appears that he’d rather be alone (DET)

82. appears that he’d rather be left alone (DET)

4. **HOSTILE-SUBMISSIVE**

53. that I should tell him not to be so nervous around me (SUC)

57. that I should do something to put him at ease (INH)

63. appears that he is most comfortable withdrawing into the background (SUB)

68. appears that he thinks he can’t do anything for himself (SUC)

72. appears that he thinks he will be ridiculed if he asserts himself (INH)

78. appears that he thinks he is inadequate (SUB)

87. appears that he’s nervous around me (INH)
Item Content of the IMI continued.

5. **SUBMISSIVE**
   - feel in charge (SUC)
   - feel dominant (SUC)
   - that I want him to disagree with me sometimes (DEF)
   - that I should tell him to stand up for himself (SUC)
   - that I want to point out his good qualities to him (ABA)
   - appears that he thinks I have most of the answers (DEF)
   - appears that he sees me as superior (SUC)

6. **FRIENDLY-SUBMISSIVE**
   - feel important (DEF)
   - that I could tell him anything and he would agree (ABA)
   - that I could ask him to do anything (AGR)
   - appears that his time is mine if I need it (AGR)
   - appears that he would accept whatever I said (ABA)
   - appears that whatever I did would be okay with him (ABA)
   - appears that he trusts me (NUR)

7. **FRIENDLY**
   - feel appreciated by him (AGR)
10. feel part of the group when he’s around (SOC)
14. feel complimented (NUR)
24. feel welcome with him (AGR)
25. feel as important to him as others in the group (SOC)
35. that I could lean on him for support (AFF)
39. that I can ask him to carry his share of the load (AGR)

8. **FRIENDLY-DOMINANT**

5. feel entertained (AFF)
15. feel as if he’s the class clown (EXH)
40. that I could relax and he’d take charge (SOC)
75. appears that he wants to be the charming one (EXH)
80. appears that he enjoys being with people (AFF)
85. appears that he wants to be with others (SOC)
90. appears that he thinks other people find him interesting, amusing,
    fascinating and witty (EXH)

*Note:* DOM (*Dominant*: person tends to lead direct, influence and control others); COM (*Competitive*: person tends to seek and compete for recognition and status); HOS (*Hostile*: person tends to criticize, ridicule, punish or aggress against); MIS (*Mistrustful*: person tends to doubt or suspect the attitudes, feelings and intentions of others, exclusive from other); INH (*Inhibited*: person tends to withdraw from attention and be shy with others); SUB (*Submissive*: person tends to be passive, docile and appease others); SUC (*Succorance-Seeking*: person tends to accept blame, belittle oneself and apologize to others); DEF (*Deferent*: person tends to support and serve a person who is superior or a leader); AGR (*Agreeable*: person tends to be cooperative, helpful, considerate and equilibrarian with others); NUR (*Nurturant*: person tends to actively support, be sympathetic towards and give helpful advice to others); AFF (*Affiliative*: person tends to show liking, warmth, and friendship to others); SOC (*Sociable*: person tends to be gregarious and join groups); EXH (*Exhibitionistic*: person tends to seek attention, notice and approval from others).
Appendix E

*Impact Message Inventory* (Kiesler & Schmidt, 1991):

Instructions and Test Booklet
NOTE TO USERS

Copyrighted materials in this document have not been filmed at the request of the author. They are available for consultation in the author's university library.

Appendix E
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UMI
Appendix F

*Self-Perception Profile for Adolescents* (Harter, 1988):

Instructions and Test Booklet
INSTRUCTIONS for the Self-Perception Profile for Adolescents

WE HAVE SOME SENTENCES HERE AND, AS YOU CAN SEE FROM THE TOP OF YOUR SHEET WHERE IT SAYS "WHAT I AM LIKE", WE ARE INTERESTED IN WHAT EACH OF YOU IS LIKE, WHAT KIND OF A PERSON YOU ARE LIKE. THIS IS A SURVEY, NOT A TEST. THERE ARE NO RIGHT AND WRONG ANSWERS. SINCE TEENAGERS ARE VERY DIFFERENT FROM ONE ANOTHER, EACH OF YOU WILL BE PUTTING DOWN SOMETHING DIFFERENT.

THIS IS HOW THE QUESTIONS WORK. EACH QUESTION TALKS ABOUT TWO KINDS OF TEENAGERS. THE POINT OF THE QUESTIONS IS TO GET YOU THINKING ABOUT WHICH TEENAGERS ARE MOST LIKE YOU. HERE ARE THE STEPS TO ANSWERING THE QUESTIONS:

1. **FIRST** DECIDE WHETHER YOU ARE MORE LIKE TEENAGERS ON THE LEFT SIDE OR WHETHER YOU ARE MORE LIKE THE TEENAGERS ON THE RIGHT SIDE. DON'T MARK ANYTHING YET, BUT FIRST DECIDE WHICH KIND OF TEENAGERS IS MOST LIKE YOU, AND GO TO THAT SIDE OF THE SENTENCE.

2. NOW, THE **SECOND** THING I WANT YOU TO THINK ABOUT, NOW THAT YOU HAVE DECIDED WHICH KIND OF TEENAGERS ARE MOST LIKE YOU, IS TO DECIDE WHETHER THAT IS ONLY SORT OF TRUE FOR YOU, OR REALLY TRUE FOR YOU. THEN PUT AN X IN THE BOX BESIDE THE ONE THAT IS RIGHT FOR YOU. SORT OF TRUE -OR- REALLY TRUE.

3. **REMEMBER**, FOR EACH SENTENCE YOU ONLY CHECK ONE BOX. SOMETIMES IT WILL BE ON ONE SIDE OF THE PAGE, ANOTHER TIME IT WILL BE ON THE OTHER SIDE OF THE PAGE, BUT YOU CAN ONLY CHECK ONE BOX FOR EACH SENTENCE. ALWAYS CHOOSE THE SIDE OF THE SENTENCE THAT TELLS WHAT YOU ARE MOST LIKE.

4. WHEN YOU ARE SURE YOU UNDERSTAND THAT DIRECTIONS BEGIN THE SURVEY. IF YOU HAVE ANY QUESTIONS NOW OR LATER PLEASE DO NOT HESITATE TO ASK ME.
## What I Am Like

### SAMPLE SENTENCE

<table>
<thead>
<tr>
<th>Really True for Me</th>
<th>Sort of True for Me</th>
<th>Sort of True for Me</th>
<th>Really True for Me</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td></td>
<td>Some teenagers like to go to movies in their spare time</td>
<td>BUT Other teenagers would rather go to sports events.</td>
</tr>
</tbody>
</table>

1. Some teenagers feel that they are just as smart as others their age | BUT Other teenagers aren't so sure and wonder if they are as smart. |

2. Some teenagers find it hard to make friends | BUT For other teenagers it's pretty easy. |

3. Some teenagers do very well at all kinds of sports | BUT Other teenagers don't feel that they are very good when it comes to sports. |

4. Some teenagers are not happy with the way they look | BUT Other teenagers are happy with the way they look. |

5. Some teenagers feel that they are ready to do well at a part-time job | BUT Other teenagers feel that they are not quite ready to handle a part-time job. |

6. Some teenagers feel that if they are romantically interested in someone, that person will like them back | BUT Other teenagers worry that when they like someone romantically, that person won't like them back. |

7. Some teenagers usually do the right thing | BUT Other teenagers often don't do what they know is right. |

8. Some teenagers are able to make really close friends | BUT Other teenagers find it hard to make really close friends. |

9. Some teenagers are often disappointed with themselves | BUT Other teenagers are pretty pleased with themselves. |

10. Some teenagers are pretty slow in finishing their school work | BUT Other teenagers can do their school work more quickly. |

11. Some teenagers have a lot of friends | BUT Other teenagers don't have very many friends. |

12. Some teenagers think they could do well at just about any new athletic activity | BUT Other teenagers are afraid they might not do well at a new athletic activity. |
<table>
<thead>
<tr>
<th>Really True for Me</th>
<th>Sort of True for Me</th>
<th>Some teenagers wish their body was different</th>
<th>BUT</th>
<th>Other teenagers like their body the way it is.</th>
<th>Sort of True for Me</th>
<th>Really True for Me</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Some teenagers feel that they don't have enough skills to do well at a job</td>
<td>BUT</td>
<td>Other teenagers feel that they do have enough skills to do a job well.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some teenagers are not dating the people they are really attracted to</td>
<td>BUT</td>
<td>Other teenagers are dating those people they are attracted to.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some teenagers often get in trouble for the things they do</td>
<td>BUT</td>
<td>Other teenagers usually don't do things that get them in trouble</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some teenagers do have a close friend they can share secrets with</td>
<td>BUT</td>
<td>Other teenagers do not have a really close friend they can share secrets with</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some teenagers don't like the way they are leading their life</td>
<td>BUT</td>
<td>Other teenagers do like the way they are leading their life.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some teenagers do very well at their classwork</td>
<td>BUT</td>
<td>Other teenagers don't do very well at their classwork.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some teenagers are very hard to like</td>
<td>BUT</td>
<td>Other teenagers are really easy to like.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some teenagers feel that they are better than others their age at sports</td>
<td>BUT</td>
<td>Other teenagers don't feel they can play as well.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some teenagers wish their physical appearance was different</td>
<td>BUT</td>
<td>Other teenagers like their physical appearance the way it is.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some teenagers feel they are old enough to get and keep a paying job</td>
<td>BUT</td>
<td>Other teenagers do not feel they are old enough, yet, to really handle a job well.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some teenagers feel that people their age will be romantically attracted to them</td>
<td>BUT</td>
<td>Other teenagers worry about whether people their age will be attracted to them.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some teenagers feel really good about the way they act</td>
<td>BUT</td>
<td>Other teenagers don't feel that good about the way they often act</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some teenagers wish they had a really close friend to share things with</td>
<td>BUT</td>
<td>Other teenagers do have a close friend to share things with.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some teenagers are happy with themselves most of the time</td>
<td>BUT</td>
<td>Other teenagers are often not happy with themselves.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some teenagers have trouble figuring out the answers in school</td>
<td>BUT</td>
<td>Other teenagers almost always can figure out the answers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>Really True for Me</td>
<td>Sort of True for Me</td>
<td>BUT</td>
<td>Other teenagers are</td>
<td>Really True for Me</td>
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<td>Other teenagers are not very popular.</td>
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<td>30.</td>
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<td>Other teenagers are good at new games right away.</td>
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<td>31.</td>
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<td>Other teenagers think that they are not very good looking.</td>
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<td>32.</td>
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<td>Other teenagers feel that they are doing really well at work they do for pay.</td>
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<td>33.</td>
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<td>Other teenagers wonder about how fun and interesting they are on a date.</td>
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<td>34.</td>
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<td>Other teenagers hardly ever do things they know they shouldn't do.</td>
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<td>35.</td>
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<td>Other teenagers are able to make close friends they can really trust.</td>
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<td>36.</td>
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<td>Other teenagers often wish they were someone else.</td>
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<td>37.</td>
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<td></td>
<td>Other teenagers question whether they are intelligent.</td>
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<td>38.</td>
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<td></td>
<td>Other teenagers wished that more people their age accepted them.</td>
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<td>39.</td>
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<td>Other teenagers feel that they are very athletic.</td>
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<td>40.</td>
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<td></td>
<td>Other teenagers wish they looked different.</td>
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<td>41.</td>
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<td></td>
<td>Other teenagers wonder if they are really doing as good a job at work as they should be doing.</td>
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<td>42.</td>
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<td>Other teenagers do go out with the people they really want to date.</td>
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<td>43.</td>
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<td>Other teenagers often don't act the way they are supposed to.</td>
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<td>44.</td>
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<td></td>
<td>Other teenagers do have a close friend that they can share personal thoughts and feelings with.</td>
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<td>45.</td>
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<td></td>
<td></td>
<td>Other teenagers wish they were different.</td>
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<td></td>
<td>Really True for Me</td>
<td>Sort of True for Me</td>
<td>BUT</td>
<td>Other teenagers don’t think it is important to be intelligent</td>
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<td>1.</td>
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<td>BUT</td>
<td>Other teenagers don’t think it is important to be intelligent</td>
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<td>2.</td>
<td>☐</td>
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<td>BUT</td>
<td>Other teenagers think that having a lot of friends is important</td>
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<td>3.</td>
<td>☐</td>
<td>☐</td>
<td>BUT</td>
<td>Other teenagers don’t care much about being good at sports</td>
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<td>4.</td>
<td>☐</td>
<td>☐</td>
<td>BUT</td>
<td>Other teenagers think that their physical appearance is important</td>
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<td>5.</td>
<td>☐</td>
<td>☐</td>
<td>BUT</td>
<td>Other teenagers feel its important that they do well on a paying job</td>
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<td>6.</td>
<td>☐</td>
<td>☐</td>
<td>BUT</td>
<td>Other teenagers don’t really care that much whether someone they are interested in</td>
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<td>7.</td>
<td>☐</td>
<td>☐</td>
<td>BUT</td>
<td>Other teenagers think that doing the right thing is important</td>
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<td>8.</td>
<td>☐</td>
<td>☐</td>
<td>BUT</td>
<td>Other teenagers don’t think making close friends is all that important</td>
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<td>9.</td>
<td>☐</td>
<td>☐</td>
<td>BUT</td>
<td>Other teenagers think that doing well in school is really that important</td>
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<td>10.</td>
<td>☐</td>
<td>☐</td>
<td>BUT</td>
<td>Other teenagers don’t care that much about whether they are popular</td>
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<td>11.</td>
<td>☐</td>
<td>☐</td>
<td>BUT</td>
<td>Other teenagers think that being athletic is important</td>
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<td>12.</td>
<td>☐</td>
<td>☐</td>
<td>BUT</td>
<td>Other teenagers don’t care that much about how they look</td>
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<td>13.</td>
<td>☐</td>
<td>☐</td>
<td>BUT</td>
<td>Other teenagers don’t think that doing their best on a job is all that important</td>
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<td>14.</td>
<td>☐</td>
<td>☐</td>
<td>BUT</td>
<td>Other teenagers think its important to be dating someone they are interested in</td>
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<td>15.</td>
<td>☐</td>
<td>☐</td>
<td>BUT</td>
<td>Other teenagers don’t care that much whether they are acting the way they are supposed to</td>
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<td>16.</td>
<td>☐</td>
<td>☐</td>
<td>BUT</td>
<td>Other teenagers think its important to have a really close friend you can trust</td>
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Appendix G

Descriptive Content of the Domains

of the Self-Perception Profile for Adolescents (Harter, 1988a)
Descriptive Content of the domains of the Self-Perception Profile for Adolescents (Harter, 1988a)

1. **Scholastic Competence.** This subscale taps the adolescent’s perception of his/her competence or ability within the realm of scholastic performance, e.g., how well one feels one is doing at classwork and/or how smart or intelligent one feels one is.

2. **Social Acceptance.** This subscale taps the degree to which the adolescent is accepted by peers, feels popular, has a lot of friends, and feels that he/she is easy to like.

3. **Athletic Competence.** This subscale taps the adolescent’s perceptions of his/her athletic ability and competence at sports, e.g., feelings that one is good at sports and athletic activities.

4. **Physical Appearance.** This subscale taps the degree to which the adolescent is happy with the way he/she looks, likes one’s body, and feels that he/she is good-looking.

5. **Job Competence.** This subscale taps the extent to which the adolescent feels that he/she has job skills, is ready to do well at part-time jobs, and feels that he/she is doing well at the jobs he/she has.

6. **Romantic Appeal.** This subscale taps teenager’s perceptions that he/she is romantically attractive to those in whom he/she is interested, are dating the people he/she would like to be dating, and feel that he/she is fun and interesting on a date.

7. **Behavioral Conduct.** This subscale taps the degree to which one likes the way one behaves, does the right thing, acts the way one is supposed to, and avoids getting into trouble.

8. **Close Friendship.** This subscale taps one’s ability to make close friends he/she can share personal thoughts and secrets with.

9. **Global Self-Worth.** These items tap the extent to which the adolescent likes oneself as a person, is happy the way one is leading one’s life, and is generally happy with the way one is. Thus, it constitutes a global judgement of one’s worth as a person, rather than domain-specific competence or adequacy.
Appendix H

Global Self-Worth Scale items from the “What I am like” questionnaire

of the Self-Perception Profile for Adolescents (Harter, 1988a)
Items from the "What I am like" questionnaire making up the Global Self-Worth Scale of the *Self-Perception Profile for Adolescents* (Harter, 1988).

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Keyed</th>
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</thead>
<tbody>
<tr>
<td>9</td>
<td>Some teenagers are often disappointed with themselves BUT other teenagers are pretty pleased with themselves.</td>
<td>-</td>
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<tr>
<td>18</td>
<td>Some teenagers don’t like the way they are leading their life BUT other teenagers do like the way they are leading their life.</td>
<td>-</td>
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<tr>
<td>27</td>
<td>Some teenagers are happy with themselves most of the time BUT other teenagers are often not happy with themselves.</td>
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<tr>
<td>36</td>
<td>Some teenagers like the kind of person they are BUT other teenagers often wish they were someone else.</td>
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<td>45</td>
<td>Some teenagers are very happy being the way they are BUT other teenagers wish they were different.</td>
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*Note.* Items keyed negatively (-) present the less competent or less adequate self-description first.
Appendix I

Format for the Structured Interview
INTERVIEW QUESTIONS FOR SISTERS [BROTHERS]

1. TELL ME ABOUT YOURSELF/DESCRIBE YOURSELF.

2. HOW WOULD YOU DESCRIBE YOUR SISTER [BROTHER]?

3. HOW DO YOU THINK YOUR SISTER [BROTHER] WOULD DESCRIBE YOU IF SHE [HE] WERE HERE?

4. WHAT ARE YOU LIKE WHEN YOU ARE WITH YOUR SISTER [BROTHER]?

5. DESCRIBE THE RELATIONSHIP YOU HAVE WITH YOUR SISTER [BROTHER].

6. WAS THERE EVER A TURNING POINT IN YOUR RELATIONSHIP?

7. WHO ARE YOU MOST LIKE IN YOUR FAMILY?

8. WHO IS YOUR SISTER [BROTHER] MOST LIKE?

9. IN WHAT WAYS ARE YOU WEAKER THAN YOUR SISTER [BROTHER]?

10. IN WHAT WAYS ARE YOU STRONGER THAN YOUR SISTER [BROTHER]?

11. WHAT WAS YOUR RELATIONSHIP WITH YOUR SISTER [BROTHER] LIKE WHEN YOU WERE GROWING UP?

12. DESCRIBE ONE OF THE MEMORIES (POSITIVE OR NEGATIVE) THAT YOU HAVE OF YOU AND YOUR SISTER [BROTHER] WHEN YOU WERE YOUNGER.

13. DESCRIBE ONE OF THE BEST EXPERIENCES YOU HAVE HAD WITH YOUR SISTER [BROTHER] OVER THE LAST YEAR OR SO. WHY WAS IT THE BEST?
14. Describe one of the worst experiences. Why was it the worst?

15. Looking back over the years, describe a low point in your relationship with your sister [brother]. Why was it low?

16. Describe a high point. Why was it high?

17. Imagine you can look into the future: what will your relationship with your sister [brother] be like in the future?

18. How would you like your relationship to be?

19. How do you think having a sister [brother] like _______ has influenced your life?

20. On a scale of 1 to 10, with 1 meaning very poor and 10 meaning excellent, rate how well you get along with your sister [brother]. Explain your rating.
Appendix J

Samples of Relational Themes of Agency and Communion Transcribed from Audiotaped Interviews
RELATIONAL THEMES OF AGENCY

**EMPOWERMENT (EM):** The sibling is empowered, ennobled, enabled, or made better through his or her association with the other sibling or as a result of experiences within the sibship. The sibling is the recipient of critical assistance or guidance from the sibling or as a result of the sibship.

*Examples:*
- at other times I'll bug him because he's just been bugging my mother and she's not very authoritative so I kind of take on that thing
- look up to him...helps me understand things
- he's taken it upon himself to bug my sister so I've taken it upon myself to bug him
- he sets the options
- like to keep the superman image with him; he admires me; I'd like to keep it that way
- I usually do take the role of the leader...if we go out and do something then I'll say 'Okay let's do this' and we'll, you know, do it
- he gives me a sense of options
- first I tell him what I want to do and I try and do things the way I want to do it and he sort of says "don't do it this way"—do it his way, or he'll get mad
- he's stronger than I am and so he likes to think that, I don't know, that gives him a bit more control
- most of the time she's the cue, like I'm more the quiet one
- we challenge each other
- he tames me
- he has taught me to face up to my fears

**SELF MASTERY (SM):** The sibling strives successfully to master, control or better the self through forceful and effective positive action, thought or experience with respect to the sibship. This may be manifested as insight into his/her identity in relation to the sibling, such as awareness of striving to de-identify and individuate from the sibling, expressions of increased wisdom, self-control and self-expectations with respect to actual conduct, and/or an enhanced sense of control or self-understanding. In order to be coded for SM, de-identification, competition, and expectations for the self must be related to positive feel about the self since by definition such themes fundamentally reflect and reinforce a desired personal identity.

*Examples:*
- I work at adjusting...not balanced in the relationship. I share a bit more, he keeps things inside.
- He is more simple I try to compensate for his seriousness
- I trust her with secrets and stuff if I feel that she'll tell me things, but sometimes I feel that she's not sharing with me as much as I share with her, so I don't tell her
things... so I feel a little bit cautious for what things I tell her because I don’t want her
to know everything about me and know nothing about her
• although I can understand how we think, we are still a mystery to each other
• the more I am with him the more I want to be the opposite of him
• not for attention but wanting to get more separate
• there are things that draw us apart, like what’s bugging me you know, I could kind of
explain it to him, but I wouldn’t expect him to understand, just because we’re different in
that way
• I don’t like to be dependent, I have strived to be independent...he gets in my way
• want to be there and want him to stand alone
• pride myself on the [my] calmness
• we went our separate ways
• now we are not sharing a room, we are more separated-we are more equal
• give each other space...lead our own lives in public
• clutching onto me: I don’t want to hang around with grade 9’s...want distance
don’t share secrets, never did; don’t talk about personal life, don’t want to know too
much: not letting on to him or the family there’s so much difference between us
• I don’t want him around all the time.I try to get away from him as much as possible
• want some gratitude, more openly, for what I know and do...some more recognition and
credit
• we still give each other our space, we relate much better when we’re in
separate rooms...put us in a room together and it’s like World War III
• when we’re at school, if I came up to her she’ll say ”go away” or something
• if I ask her to go someplace, she won’t
• sometimes I feel that her driving is kind of her power now, and she just kind of
takes off...and that kind of bugs me that she doesn’t care when I need a ride too
• we fight about space; she doesn’t like it when I’m in the room...the fights burst out
too close sometimes
• sometimes we tell each other to back off
• we are opposites
• there is a wall
• we wanted more separation
• we try to be different
• I’m independent, self-sufficient...need time without him, but feel bad about it
• want less help-distance and freedom...want more respect for my rights and
privacy—I don’t need help
• I’m more disciplined, know what is right and wrong
• the more I am with him the more I want to be the opposite of him
• I played soccer, he played soccer, if I did track, he did track. But now, we’re starting to
separate a little bit more so we don’t have to feel like we compete with each other
anymore
STATUS/VICTORY (SV): The sibling strives successfully to attain or maintain a high status or position, seeks to be praised or granted recognition within the sibship and acts in order to become prestigious or to be considered centrally important within the sibship. There is an interpersonal and implicitly competitive context in which the sibling wins in some significant, personally relevant manner.

Examples:

- when I put him down he comes to believe it
- I try to be better than him in my school work
- he has put complexes in my mind
- I’d never admit being weaker than him, at least not to him
- we cut each other down, just for fun we try to outdo each other; compete for anything
- she gives me the 3rd degree...she gives it to me worse than my parents ever have
- I like things neat and tidy, but he pushes against that
- I’m trying harder than him, don’t give up easily...I try to be good at several things
- talk to her and to be with her is sort of like walking on eggshells
- I try to pick a fight sometimes, just to see how she’ll react to it
- when he does things that I don’t want him to do I try and get him not to do it
- we fight more, complain more when we’re with each other than we do individually with someone else or we’re just in a total war
- he’s on top
- we criticize each other
- the fighting has pushed us apart
- if one of our parents is ticked off and they holler and stuff, we’ll sort of vent it at each other
- every once in a while we’ll get along and we’ll talk like we’re friends, but we don’t really tell each other things because we don’t really trust each other
- we don’t share anything, we don’t want to give each other the advantage over the other
- I have to stay ahead—wanting to be better, coming out on top
- if I’m with my friends I’ll be pushing him around a lot
- he keeps me on my toes
- wish he wouldn’t screw up so much, makes a bad impression
- I don’t have to prove I’m right...don’t want to give each other the advantage...don’t know why
- I make him angry, I try do rude things to make him angry
- he had the upperhand...I was compared to him
- I fell down by the wayside, felt like he was the more important one in the family
- I have to stay ahead...wanting to be better, coming out on top
- when we have a conversation we try and sound smarter than the other
- I’m jealous of him and he’s jealous of me
- my friends all think he’s a geek, so, if they see me with him...I’ll say hi to him but I won’t stop to talk to him or anything, just kind of walk by
- I kind of feel like I do have to do stuff to impress him sometimes, so that he will
look up to me
• he’s more pushy than I am...I can drive, he can’t, therefore I have quite a lot more power
  basically we respect each other in public...I wouldn’t compromise his position
• sometimes she’ll be really busy and I’ll just feel like she’s not paying much attention to me
• I guess I’m always the one that has to be right
• because she’s older she gets the first decision...she’s kind of lucky in that way...
  it’s kind of annoying that way...she gets her way most of the time
• when he’s with his friends it’s sort of like he tolerates me...that’s when I get quieter
• he tries to be the spotlight...being the older brother, I have some purpose

ACHIEVEMENT/RESPONSIBILITY (AR): The sibling feels proud, confident, masterful or successful in taking on a major responsibility for the other sibling or for some aspect of the sibling relationship and assumes roles that require them to be in charge. Rather than winning, this category requires that the sibling strive to do things or assume responsibilities in such a way as to meet an implicit or explicit standard of responsible nurturance such as giving help, giving support, and prosocial dominance.

The exclusion of themes of egoistic dominance clarifies the theme of AR to exclude negative, impulsive and often profligate behaviors commonly seen in sibships (e.g., we just beat each other up; throwing knives at each other; scratching each other; we hit and slap each other) which are not related to enhancement of the self since most adolescents reported feeling “bad”, “guilty”, “unhappy” or “digusted” by such displays as the following: (a) controlling him with names, (b) it’s the whole power thing, you know, like ‘get me a glass of orange juice and if you don’t then I’m going to come there and I’m going to make you get me a glass of orange juice’, (c) I try to make him angry. I try to do rude things to make him angry, (d) my moods, dominance you can feel, (e) I’m really aggressive—I can get really vicious sometimes, (f) she gives me the third degree—she give it to me worse that my parent ever have, and (g) I just kind of kick him aside.

The AR theme reflects the sibling’s wish to have a positive rather than negative influence on the other sibling such as (a) I want to have a positive impact on my sister, and (b) I feel guilty about past injustices, try to make it up to him, want him to stand behind me—want him to be the mirror image, (c) being the older brother, I have some purpose, and (d) she wants to be like me, but this is also uncomfortable—don’t want her to pick up things I do—make an effort to be serious.

Examples:
• you’re trying to be there for her
• I like seeing him competent, do well I’m the good one.
• I’m the responsible one...I suck up to my parents I guess he’s not very responsible, more laid back...I think it makes me dominate more. I have to take charge.
• I feel guilty about past injustices, try to make it up to him, want him to stand behind me...want him to be the mirror image
• I just kind of order him around, but he doesn’t really listen to me
I want to have a positive impact on him protect him-a barrier to being open with him
she wants to be like me, but also uncomfortable-don’t want her to pick up things I do...make an effort to be serious
try to live up to looking after him
there was a lot of competition, not so much for attention but for achieving certain things
like my Dad, tell him what to do
find myself pushing him sometimes
I expect more of him than others-more insightful points
I’m competent in physical ways as opposed to achievement...we have different goals
want to be a role model
we want to be alike; do the same things
I try to be assertive but not aggressive [with him]
sometimes he has less opportunity to set his own standard; I set the standard, he follows
I feel sort of scared, I don’t know how far to take it, I don’t know what I can say and if she’s going to get mad if I say this or that
want him to take assistance from me always wanted to be like me
a lot of competition in terms of achievement, not for attention but wanting to get more separated...still in competition

RELATIONAL THEMES OF COMMUNION

**POSITIVE EMOTIONS (PE; modified Friendship/Love theme):** The sibship produces positive affect manifested in experiences and expressions of love, closeness, liking, joy, excitement, happiness, relief, comfort, letting go and/or contentment. (a) *we really like to have fun together,* (b) *we're happy when there is just the two of us*-when we're just by ourselves, (c) *open, like outgoing, sort of calm and excited,* (d) *a playful relationship,* (e) *we share a lot of secrets with each other, we laugh with each other, we do almost everything together,* (f) *fun to go out and rub it in people's faces and see their reactions to us*-we'll go totally loud and everything, like we don't care, and (g) *comfortable, low stress,* and (h) *we're like psycho-like freaks*-very relaxed.

Examples:

- with your friend...you kind of let go a bit, you kind of be yourself; with your brother you’re still sort of that way but to a lesser extent
- comfortable, low stress
- we’re a lot like good friends
- always the same, it [the relationship] just goes, we let it go
- usually we have a good time
- he’s just like another friend
- when we’re alone we can talk and laugh at each other openly without taking offense to it
- good friends, not really brothers
- occasionally we’ll get along really good
• it’s like just being with a friend
• we always make up somehow...we let each other cool off and then it’s fine
• he respects my privacy
• we’re psycho-like freaks...very relaxed
• I don’t have to impress him or anything like that...I’m myself
• try to think of the relationships that you see on t.v. (always arguing)—make that the exact opposite...it’s more...warmer
• we have fun, we do a lot of stuff...we talk and stuff
• we really like to have fun together...I’d say we’re just happy
• I treat her as a friend, I talk a lot when I’m with her... I act nice towards her, with respect...we’re close and like good friends
• we’re happy together when there’s just the two of us...when we’re just by ourselves
• a playful relationship
• we share a lot of secrets with each other...we laugh with each other, we do almost everything together
• we’re both in really good moods most of the time
• open...like outgoing, sort of...calm, excited
• it’s kinda fun to go out and rub it in people’s faces and see their reactions to us...we’ll go totally loud and everything, like we don’t care
• we are pleased with each other...support each other’s activities...made us feel good
• I’ll always feel comfortable with her; I won’t feel afraid if what I say doesn’t make sense

**DIALOGUE (DG):** The sibling experiences a reciprocal and noninstrumental form of communication or dialogue with the other sibling—an emotionally positive conversation which is viewed as an end in itself rather than a means to an instrumental end.

**Examples:**
• me and my brother ... kind of share stuff, like, more between each other than with good friends
• we can trust each other
• I’ll just tell him the truth and he’ll accept it at face value
• we can understand each other
• she listens to me when I have something to say and I give her the same respect: I listen to whatever she has to say
• I can talk to him
• I talk to him on more of a deep level than anybody
• we share the same interests
• you can confide in your brother and you can tell him things that you wouldn’t tell even your best friend
• we’re familiar...talking to each other, making jokes and stuff
• kind of like what I’m like when I with my friends—it’s sort of open and generally good
• I trust her really well...I tell her my problems
• I’m open with my sister; I tell her exactly how I feel
• I confide in her more, like my feelings
• even though we are sisters, we are really good friends
• I can say whatever I’m thinking when I’m with my brother
• if we start talking about things we just go on as if we were friends

**CARE/SUPPORT (CS):** The sibling cares for the other sibling or the sibling expresses support as a major experience within the sibship. The sibling provides care, assistance, nurturance, aid, and support for the physical, material, social or emotional welfare or wellbeing of the sibling. Being the object of the nurturance or being cared for does not qualify. However, special acts of caring or kindness by the other sibling could score for CS because such acts suggest that the sibling views the world as a caring place as a result of the sibship.

**Examples:**
• I took him out driving
• we’re pretty close...I guess you could say we’re best friends
• I want to be a friend to her
• like being on the same team
• I’ll push him sometimes to keep going in what he’s doing
• like a second mom to me...I’m like a child to her...closer to her than friends...feel safe
• I was always trying to keep him out of trouble; he’s the bad one. I worried about him; an understood agreement
• helps me make good decisions
• spurts of worry about him
• helps me not get so bothered about things
• I think it’s a two-way relationship for both of us; I do things for him, he does things for me, and it works best that way
• we look out for each other
• sometimes I tend to be like my Dad and tell him ‘when this happens, do this’ or just give him advice
• I feel like I’m an older brother...I have to protect him and do stuff for him in that sense
• she always sort of depends on me for some of the answers
• I want to look after her—worry about her
• care for him—couldn’t imagine being without him
• sometimes I help her with her homework
• I’m really protective of her...if anything’s wrong I just want to watch out for her...she’s my little sister; she’s so quiet, she needs help all the time
• just tell him he’s sloughing off
• quite a few times he’ll ask me questions
• we talk—just when we’re in trouble
• we expect the same things from each other, like, when he gets sick I do things for him which I’d expect him to do for me if I was, like, sick
• stick up for each other
• both give advice...now she can give advice and I can take it
• corrected me when I was wrong
• he relied on me for things...I give him support
• a reality check...he helps me unwind

UNITY/TOGETHERNESS (UT): The sibling experiences a sense of unity, harmony, synchrony, togetherness, belongingness, and allegiance with the other sibling. Experiences of being accepted, cherished, or affirmed by the sibling qualify as UT. (a) we have the same frame of mind—can guess what we are thinking, (b) we can complete each others’ sentences—we think alike, (c) on the same wavelength, and (d) a big bond—a story of bonding.

Examples:
• I’m pretty relaxed [in the relationship], I don’t have to worry about being a certain way
• we’re fairly close, we talk about a lot of things
• we do a lot of things with each other
• we’re crazy together
• we’re pretty much on the same wavelength
• we’re really the same
• we think very very similarly...we complete each other’s sentences a fair bit
• we’re a lot alike in a lot of ways
• we know each other really well
• I tell her anything, there really are no boundaries...you don’t have to worry about impressing her-whether or not she’s always going to be there...she does like you as a person and she does like you for the way you are, not the way you have to be
• when I’m with my sister I’m, like, totally, totally myself...and I just act the way I am
• like being on the same team
• there are days when we really click...we generally click
• I don’t have to do anything special...I can be seen in my pyjamas or with messy hair or whatever
• a big bond...a story of bonding
• we have the same frame of mind; can guess what we are thinking
• we can complete each others sentences; think alike
• often on the same wavelength, same level, pushes himself like I do; people can see we are brothers
Appendix K

Definitions of Relationship Evaluations
Definitions of relationship evaluations provided by siblings for the response to question 20 of the individual structured interview: “On a scale of 1 to 10, with 1 meaning very poor and 10 meaning excellent, rate how well you get along with your brother/sister? Explain your rating”

2. 0  Sometimes good, mostly bad times

2. 5  We get along once a week; pretty low

4. 0  Just not bonding together, we’re both going through different stages

5. 0  Medium, sometimes okay, sometimes can’t do anything
She gets on my nerves, other times good and we get along
Not high, might be higher if we went to a different high school
Sometimes great, sometimes not good at all

5. 5  Right now, because of all the fighting, can’t communicate, not much trust
Just average, not great, not bad

6. 0  It really depends on the situation: okay when in the house; friends influence us
We get along; sometimes he’ll stick up for me; if I pick on him then we’ll argue
Average to a little above average sometimes

6. 3  Basically we get along

6. 5  Because compared to other families, nobody steps on each other
Don’t exactly fight, little bit better than the middle
Not too bad, not mortal enemies; we’re friends
Good days, bad days
Sometimes we get along; we argue, fight a lot, but a little better than average
Don’t really have bad things happen; average
Times when we don’t get along, when we are on opposite ends of the stick; say how we feel, we can understand each other
Better than most sisters

6. 8  Not the best; okay
Because we don’t get along perfectly, quite well, a lot of trust between us
Not bad relationship, not best friends

7. 0  We fight, not really good; friends, not mean to each other all the time
We don’t get along really great, not that good
Usually, we don’t fight, but we are competitive
A little better than average
Somedays good, somedays okay; a little better than average

7.5 Approximately 75% of the time we get along
We don’t argue a lot, we can tolerate each other
Good and bad points; we do get along; she feels jealous of me; pretty good
Sometimes we get along better than other days
Usually get along
Because of the way I get along: talk to her and fighting also
Better than average, but not twins; never big fights, no one is afraid of the other
We have fights, are pretty close
Calls me down, but we get along
Ups and downs of any relationship; can’t always be perfect; can’t always be bad
Hasn’t been bad, but not great

7.8 Not the best relationship; do have differences, but they don’t pull us apart;
there is something that is keeping us apart; better than average

8.0 Not average, better than average; just don’t talk to him as much as my friends;
But mutual agreement, don’t want to be friends
We don’t really argue; better than average
Because we argue very little, we can talk to each other openly; we understand each
other, laugh and joke; a little
Better than average
We get along pretty good, we complement each other
We get along, we argue, have differences, nothing is wrong
Usually get along; off day we don’t get along; quite a bit better than average
Compared to a lot of other friends, I get along better than most, better than average
Lots of times when I can confide in her; we get along really well

8.5 We get along quite well, occasional arguments
Usually don’t fight; arguments don’t last
Want to keep it like that: at a bit of a distance

8.9 Once in a while not too good, we ventilate

9.0 Pretty close, same interests, talk about everything
We’ve been getting along; strong relationship lately

9.5 We can’t get any closer than we are
Good friends, going on for quite awhile

10.0 Get along great; couldn’t be better
Everything is perfect, we never fight
Best it could be
So great, it is unbelievable
Appendix L

Category Agreement of Judges with the Expert Model During Training with the *Power* and *Intimacy Motivation Scoring Systems* (McAdams, 1984b, 1992b; Winter, 1973a, 1992b)
Category agreement* of judges (1-4) with expert model during training of the *Intimacy Motivation Scoring System* and *Power Motivation Scoring System* for Practice Sets B to G

<table>
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<tr>
<th>Practice Set</th>
<th>Prime Test 1 (+A)</th>
<th>Prime Test 2 (Dlg)</th>
<th>Power Imagery</th>
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<td>Judge 1</td>
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<tr>
<td>Set G</td>
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<td>.92</td>
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*Note:* Prime Test 1 (+A): relationship produces positive affect
Prime Test 2 (Dlg): instrumental verbal + nonverbal exchange of information

* Category Agreement (Winter, 1973, 1992) = \( \frac{2 \, \text{(number of agreements between expert and judge)}}{\text{(number judged by expert as present)} + \text{(number judged by judge as present)}} \times 100 \)
Appendix M

Readability Characteristics and Homogeneity of the Sample of Thematic Apperceptive Stories
Descriptive Results

Using the readability function of Microsoft Word, mean word and sentence counts, reading ease, and grade level were obtained for all the written stories. Mean word count (averaged over the six thematic apperceptive stories) for sample A females and sample B females was 107 words (SD = 31.63) and 117 words (SD = 40.16), respectively. For sample A males and sample B males, mean word count was 87 words (SD = 28.29) and 94 words (SD = 25.95), respectively. For sample A and B females there was a positive trend, but non-significant association, between power and intimacy scores and average word count. For Sample A males there was a negative trend, but non-significant association, between power motivation and average word count. For sample B males, there was a positive and significant correlation between power motivation scores and average word count, indicating that males with higher power scores tended to write longer stories.

Descriptive statistics for the Flesch Reading Ease scores, the Bormuth grade levels, and the Coleman-Liau Grade levels, obtained on the basis of the written stories, are presented in the table at the end of this appendix (see page ). Mean Flesch Reading Ease scores have a possible range of 0 to 100 and average readability is indexed by a score of 60 to 70. Based on the Flesch Reading Ease scores, the mean readability of the sample of stories obtained from the adolescents falls above this average range. For sibling A and sibling B females the mean readability scores for the written stories were 80.27 and 79.53, respectively. Mean readability scores for sibling A and sibling B male written stories were comparable to the females scores: 80.56 and 79.33, respectively.
Thus, mean readability scores for both samples ranged from average to above average, suggesting that an above average number of people reading the stories would likely find them comprehensible.

Approximate grade levels of the written stories were ascertained using the Coleman-Liau and Bormuth grade levels. Grade levels were obtained for each of the six stories written by the adolescent and then averaged across the six stories. Using the average of the Coleman-Liau and Bormuth grade levels, grade levels of the written stories ranged from 4.5 to 9.3 for sample A females, 4.5 to 10.9 for sample B females, 4.8 to 9.3 for sample A males, and 5.5 to 9.2 for sample B males. Coleman-Liau grade levels indicated the mean grade levels for females and males fell at about the 6.5 grade level. Mean Bormuth grade levels for both sexes fell at about the 8.5 level. In other words, there was a discrepancy of two grades between the two indices used to assess grade level, despite the fact that both indices use word length in characters and sentence length in words to determine grade levels. This discrepancy likely reflects different normative sampling in designing the grade level measures, which may or may not adequately reflect grade levels in the Canadian sample. The lower-than-grade-placement results for the written stories also makes sense with respect to the demand characteristics of the story writing task. It must be remembered that adolescents in the present study were encouraged to write spontaneously, and they were informed that grammar, punctuation and spelling were not being evaluated in the story writing task. In addition, adolescents were required to write quickly, conveying their spontaneous impressions and ideas.
Results of the Analyses

Using Levene's test for the equality of variances and a t-test for the equality of means for independent samples of males and females, the differences between the variances and the means for the Bormuth grade levels, the Coleman-Liau grade levels, and the Flesch Reading Ease scores, were not significant. The significance of the correlation coefficients calculated between total power and intimacy motivation scores and readability statistics for the total sample of adolescents was assessed. None of the correlations were statistically significant.
Means and standard deviations of reading levels and readability of thematic apperceptive stories averaged over the six stories

<table>
<thead>
<tr>
<th></th>
<th>Sample A (20 females)</th>
<th>Sample B (20 females)</th>
<th>Sample A (20 males)</th>
<th>Sample B (20 males)</th>
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<td>SD</td>
<td>Mean</td>
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<td>Mean age = 14.35 yrs</td>
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<td>Mean age = 16.10 yrs</td>
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Appendix N

Path Models 1 to 4: Specifications for Path Analysis Using LISREL 7
Hypothesized Model 1 and specification for path analysis using LISREL 7 (Joreskog & Sorbom, 1989)

**Path Model 1**

```
X1  Power  Y1  Self-Worth
     \
X2  Intimacy  Y2  Nurturance
                  
Y3  =  Global self-worth score (WORTH)
Y4  =  Relationship rating score (QUALITY)
```

**Specification for path analysis**

1. Scales measuring etas:
   - \( Y_1 \) = Axis score for Dominance (DOMINANCE)
   - \( Y_2 \) = Axis score for NURTURANCE (NURTURANCE)
   - \( Y_3 \) = Global self-worth score (WORTH)
   - \( Y_4 \) = Relationship rating score (QUALITY)

2. Scales measuring Ketas:
   - \( X_1 \) = Total power score (POWER)
   - \( X_2 \) = Total intimacy score (INTIMACY)

3. Fixed error terms associated in measurement of \( y \):
   - \( TE_1 = .246 \) (DOMINANCE)
   - \( TE_2 = .693 \) (NURTURANCE)
   - \( TE_3 = .023 \) (WORTH)
   - \( TE_4 = .119 \) (QUALITY)

4. Fixed error terms associated with measurement of \( x \):
   - \( TD_1 = 2.369 \) (POWER)
   - \( TD_2 = 1.875 \) (INTIMACY)

5. Beta Matrix

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<th>WORTH</th>
<th>QUALITY</th>
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Hypothesized **Model 2** and specification for path analysis using LISREL 7 (Joreskog & Sorbom, 1989)

**Path Model 2**

```
  X1  
  ↓   
  Y1  
  ↓   
  Y2  
  ↓   
  Y3  
  ↓   
  Y4
```

**X1** = Power  
**X2** = Intimacy  
**Y1** = Dominance  
**Y2** = Nurturance  
**Y3** = Self-Worth  
**Y4** = Quality

**Specification for path analysis**

1. **Scales measuring etas:**
   - \( Y_1 = \) Global self-worth score (WORTH)
   - \( Y_2 = \) Axis score for Dominance (DOMINANCE)
   - \( Y_3 = \) Axis score for NURTURANCE (NURTURANCE)
   - \( Y_4 = \) Relationship evaluation score (QUALITY)

2. **Scales measuring Ksfs:**
   - \( X_1 = \) Total power score (POWER)
   - \( X_2 = \) Total intimacy score (INTIMACY)

3. Fixed error terms associated in measurement of **y**:
   - \( T_{E1} = .023 \) (WORTH)
   - \( T_{E2} = .246 \) (DOMINANCE)
   - \( T_{E3} = .693 \) (NURTURANCE)
   - \( T_{E4} = .119 \) (QUALITY)

4. Fixed error terms associated with measurement of **x**:
   - \( T_{D1} = 2.369 \) (POWER)
   - \( T_{D2} = 1.875 \) (INTIMACY)

5. **Beta Matrix**

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Hypothesized Model 3 and specification for path analysis using LISREL 7 (Joreskog & Sorbom, 1989)

Path Model 3

X1 Power → Y1 Dominance
X2 Intimacy → Y2 Nurture → Y3 Self-Worth → Y4 Quality

Specification for path analysis
1. Scales measuring etas:
   Y1 = Global self-worth score (WORTH)
   Y2 = Axis score for Dominance (DOMINANCE)
   Y3 = Axis score for Nurture (NURTURANCE)
   Y4 = Relationship evaluation score (QUALITY)

2. Scales measuring Ksis:
   X1 = Total power score (POWER)
   X2 = Total intimacy score (INTIMACY)

3. Fixed error terms associated in measurement of y:
   TE1 = .023 (WORTH)
   TE2 = .246 (DOMINANCE)
   TE3 = .693 (NURTURANCE)
   TE4 = .119 (QUALITY)

4. Fixed error terms associated with measurement of x:
   TD1 = 2.367 (POWER)
   TD2 = 1.875 (INTIMACY)

5. Beta Matrix

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Hypothesized Model 4 and specification for path analysis using LISREL 7 (Joreskog & Sorbom, 1989)

Path Model 4

![Diagram of path model]

**Specification of path analysis**

1. Scales measuring $\text{Y}$:
   - $Y_1$ = Global self-worth score ($\text{WORTH}$)
   - $Y_2$ = Axis score for Dominance ($\text{DOMINANCE}$)
   - $Y_3$ = Axis score for NURTURE ($\text{NURTURANCE}$)
   - $Y_4$ = Relationship evaluation score ($\text{QUALITY}$)

2. Scales measuring $\text{X}$:
   - $X_1$ = Total power score ($\text{POWER}$)
   - $X_2$ = Total intimacy score ($\text{INTIMACY}$)

3. Fixed error terms associated in measurement of $\gamma$:
   - $TE_1 = .023$ ($\text{WORTH}$)
   - $TE_2 = .246$ ($\text{DOMINANCE}$)
   - $TE_3 = .693$ ($\text{NURTURANCE}$)
   - $TE_4 = .119$ ($\text{QUALITY}$)

4. Fixed error terms associated with measurement of $\xi$:
   - $TD_1 = 2.369$ ($\text{POWER}$)
   - $TD_2 = 1.875$ ($\text{INTIMACY}$)

5. Beta Matrix

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<td>$p_{X1Y2}$</td>
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<tr>
<td>NUR</td>
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<td>$p_{X2Y3}$</td>
</tr>
<tr>
<td>QUALITY</td>
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