PERCEPTIONS OF SIBLING RELATIONSHIPS AMONG CHILDREN OF WOMEN EXPERIENCING DEPRESSIVE SYMPTOMATOLOGY AND CONTROL WOMEN

JACQUELINE GOODWIN

Perceptions of Sibling Relationships Among Children of Women Experiencing Depressive Symptomatology and Control Women

by

Jacqueline Goodwin

A thesis submitted to the
School of Graduate Studies
in partial fulfilment of the
requirements for the degree of
Master of Science

Department of Psychology
Memorial University of Newfoundland

December, 1995

St. John's Newfoundland

ISBN 0-612-13898-4

Abstract

The present research compared twelve children of women experiencing depressive symptomatology with twelve children of control women on their perceptions of sibling warmth/closeness and conflict as measured by the Sibling Relationship Questionnaire. Assignment to group was based on mothers' responses to the Beck Depression Inventory and the Depressive Symptomatology Inventory. The mean Beck score for the women in the target group corresponded to a moderate to severe rating of symptomatology. It was hypothesised that the children in the target group would perceive greater sibling conflict and less sibling warmth/closeness than the children in the control group. Results of two t-tests for independent samples indicated that the two groups of children did not differ significantly on their ratings of sibling warmth/closeness and conflict. However, these results are difficult to interpret because of the small sample size in the present study. A significant negative correlation was found between all children's perceptions of sibling warmth/closeness and sibling conflict. This finding contradicts past research. Correlations between the sibling warmth/closeness and conflict ratings for the target and control groups separately were of equivalent magnitude. These findings are discussed with respect to past research and future implications.

Table of Contents

List of Tables and Figures

Acknowledgements

I must first acknowledge the families who participated in this research. Each family allowed me to enter their private life for a brief time -- I appreciated their honesty and openness. I wish to thank my supervisor, Dr. C. Arlett, and the other members of my thesis committee, Dr. L. Moxley-Haegert, and Dr. M. Courage, for their important input during this project. I also wish to acknowledge the statistical contributions of Dr. J. Evans, Professor M. Grant, and Dr. A. Kozma.

The MUN School of Graduate Studies notes that a graduate thesis is "a test of intelligence, endurance and commitment". I feel it was also a test of the abilities of my family and friends to tolerate me while I was writing the "t-word"! I begin with Lori, "Clowns to the left of me, jokers to my right, here I am stuck in the middle with you...". Lou, you made the middle bearable with your humour, wit and jockey club. Thank-you. I wish to thank my parents and sisters. Although we have a few more miles between us these days, I still feel your unfailing love and support. I wish to give a big thank-you to my supportive friends in Newfoundland and abroad. The phone bills were huge, but each call was worth it. Finally, I saved one of the important acknowledgements for last. Duncan, you are quite simply the best. Thanks for throwing me back on the plane.

Introduction

Sibling relationships are dynamic alliances which influence all facets of the cognitive, emotional and social development of children (Buhrmester, 1992; Furman & Buhrmester, 1982). Siblings act as primary social influences for children; serve as buffers between sisters and/or brothers and the outside environment, including parents; meet affectional needs; and act as role models for the development of self-concept and identity (Tsukada, 1979). From early childhood to adolescence, sibling relationships involve both positive and negative emotions. Conflict, rivalry, dominance, friendliness, support and exhibited affection are commonly expressed in relative independence of one another (Abramovitch, Pepler, & Corter, 1982; Bryant & Crockenberg, 1980; Dunn, 1983, 1984, 1988; Furman & Buhrmester, 1985b; Nadelman & Begun, 1982).

A recent theme in sibling research is individual differences between sibling pairs. Consideration of these differences has involved exploration of several influential factors with respect to child sibling relationships such as child temperament; impact of life events on family relationships; influence of sibling constellation effects (e.g., gender of siblings and the age gap between them); and the quality of other family relationships (e.g., parent-

child and parent-parent; Dunn, 1992). The present study continued this research by exploring sibling experiences of children of women experiencing depressive symptomatology as compared with children of control women. Children of parents with depressive symptoms are at significant risk for various behavioural, social and emotional problems throughout their development (Beardslee, Bemporad, Keller, & Klerman, 1983). Comprehensive research has made apparent the deleterious effects of maternal depression on the mother-child dyad (Downey & Coyne, 1990). Such research now needs to be extended to include other aspects of familial interactions (Minuchin, 1985).

The following literature review provides a discussion of issues relevant to the topic of sibling relations among children of women experiencing depressive symptomatology: the theoretical framework for sibling relationships during middle childhood and adolescence; nomenclature of depression; adjustment of children of depressed parents; maternal distress and child adjustment; and child sibling relationships and maternal depressive symptomatology.

Theoretical Framework for Sibling Relationships

My perceptions of sibling research have been strongly influenced by the theoretical model of Buhrmester and Furman (1990). This model involves viewing sibling relationships in

terms of the four interwoven structural characteristics of biosocial structure, socioemotional structure, social role structure and systemic structure (Buhrmester, 1992).

Biosocial structure refers to the status of a child with regard to biologically linked constellation variables such as birth order, age, gender, and spacing between siblings. The second characteristic, socioemotional structure, is broken into two components. The first component refers to relationship interdependencies which can be either voluntary or involuntary in nature. Fulfilment of various personal needs (e.g., companionship, affection, and intimacy) usually creates the foundation for interdependence in relationships. The second component of socioemotional structure is the nature of power and authority in relationships.

Social role structure refers to the social roles that characterize the sibling relationship and define norms or rules of behaviour. Sibling relationships can involve various social roles such as friend/competitor, caregiver/ caregivee, teacher/learner, with their accompanying expectations for behaviour. The final structural characteristic, systemic structure, refers to the manner in which specific relationships are embedded within larger extended relationships or systems. This process can be seen

in sibling relationships as they function within familial and social dyads, triads or larger systems. For example, the number of siblings in a family and the nature of the parental marital relationship may affect sibling interactions.

A strength of this model is its recognition of the multitude of variables which influence interactions among siblings. These researchers emphasised the danger of discussing one aspect of sibling relationships in isolation. Specifically, Buhrmester (1992) suggested that within sibling relationships biosocial structure influences social role structure which in turn has effects on and is affected by socioemotional structure. In addition, the influence of systemic structure cannot be ignored. Child sibling relationships cannot be fully understood outside the developmental, familial, and social environment in which they are embedded.

In the following summary of sibling research, links between a number of influential variables are examined. Buhrmester and Furman's (1990) structural model provided the general organization, although the influences of biosocial constellation factors were not outlined in an individual section as comprehension of this set of variables is better served in the context of their connections with other

structural characteristics. Discussion of an egalitarian trend in sibling relations during middle childhood and adolescence is also included in this summary. As the present study focused upon the perceptions of sibling relationships held by children in middle childhood and adolescence, an overview of early childhood relationships was not included in this review.

Socioemotional need fulfilment. Through comparisons of children's views of their sibling relationships with other relationships on the Network of Relationships Inventory (NRI), Buhrmester and Furman (Buhrmester & Furman, 1987; Furman & Buhrmester, 1985a) revealed that siblings are important sources of companionship, intimacy, instrumental aid and affection during middle childhood and adolescence. Interestingly, compared to their relationships with parents, grandparents, friends and teachers, children between 11 and 13 years also identified their sibling relationships as the most conflictual (Furman & Buhrmester, 1985a). Boys reported more conflict with siblings than did girls.

In general, verbal and physical conflict between siblings is relatively common (Gelles & Straus, 1988; Olson & Roberts, 1987). Name calling, teasing, informing parents of sibling's inappropriate behaviour, making fun of the sibling, and physical force are common among siblings in

middle childhood and early adolescence (Roscoe, Goodwin, & Kennedy, 1987). Withdrawal in the form of ignoring, changing subjects, leaving an area, or cessation of talking has been reported as a common resolution technique used by adolescent siblings (Montemayer & Hanson, 1985).

Entwining of sibling need fulfilment and the biosocial qualities of child gender and age is evident in adolescents' reports of their sibling relationships. Utilizing the NRI, Clark-Lempers, Lempers and Ho (1991) assessed early, middle and late adolescents' perceptions of their relationships with significant others. Overall, females reported higher levels of admiration and intimacy with their siblings than did males. In addition, females reported more affection from and greater reliance on siblings than did males, with the gender differences increasing through the three stages of adolescence. Males reported less companionship with and nurturing toward siblings than did females in middle and late, but not early adolescence. During early adolescence, males reported slightly higher satisfaction with their sibling relationships than females, but females reported more satisfaction in the two later stages. Decreasing levels of conflict were obvious by late adolescence for both sexes.

Gender patterns of sibling pairs and age spacing between siblings have also been found to be moderately

linked to children's perceptions of sibling relationships. Relationships with same-sex siblings, especially those close in age, have been described as high in intimacy and companionship (Furman & Buhrmester, 1985a), and high in warmth and closeness (Furman & Buhrmester, 1985b) by children between 11 and 13 years. However, the same studies noted that greater levels of conflict were reported by children with siblings close in age (i.e., less than a 4 year interval) as opposed to widely spaced dyads. Opposite-sex children close in age were found to have the lowest warmth/closeness factor. Work by Bigner (1974) and Minnett, Lowe Vandell and Santrock (1983) also showed more positive behaviours between widely spaced siblings in middle childhood, while aggression and conflict were more common among closely spaced siblings.

Socioemotional constructs of power and authority. The nature of power and authority in sibling relationships is multi-determined and closely linked to biosocial constellation variables and social roles (Buhrmester, 1992). Bigner's work (1974) with second-born children (ages 5 to 13 years) highlighted the influence of biosocial characteristics on children's perceptions of power in sibling relationships. Bigner presented each child with a series of figure drawings which represented various sibling

pairs. The child was given a phrase to accompany each drawing and was asked which member of the pair would say it. These phrases were classified according to power (i.e., high or low) and function (i.e., interference or facilitation).

The results revealed that older siblings were consistently assigned high power items and younger siblings, low power items. Overall, older male siblings were generally viewed as more powerful than older female siblings. Reflecting the complex nature of sibling relationships, the second-born children consistently assigned both facilitation and high power to older siblings. However, it was noted that males tended to be viewed as more interfering with age (after 9 years), while girls were generally endorsed as using their power in a more facilitative manner. Thus, it appears that younger children recognize older children's greater social power and ability (Bigner, 1974). Similarly, Furman and Buhrmester (1985b) found that among 11 to 13-year-old children, relative status/power ratings (i.e., nurturance, dominance and admiration) were strongly related to the relative ages of the siblings. Older members of dyads were reported by children to have greater relative status and power than younger members, particularly when differences in age were great.

Interestingly, apparent prosocial behaviours of older

children may not always be perceived as such by younger siblings. Bryant and Crockenberg (1980) analyzed the sibling interactions of fourth and fifth grade females and their female siblings who were 2 to 3 years younger. Helping by older sisters was found to correlate with expressed anger by the younger children. The researchers' impressions of the videotaped interactions were that the helping behaviour offered by the elder female siblings often appeared to involve more control (e.g., "bossiness") than generosity.

Social role structure. During middle childhood, first-born children have been found to take on more dominant teacher and manager roles whereas later-born children fill less dominant student and managee roles. For example, through videotaped comparisons of 7 and 8-year-old first-born and second-born children with their siblings, Minnett et al. (1983) noticed that the first-borns were more likely to be dominant, and to praise and teach their siblings than were the second-borns. First-born children in dyads with greater age spacing between siblings (i.e., 3 to 4 years versus 1 to 2 years) were the group most likely to show dominant and teaching behaviours. Girls were more likely to teach and to praise their siblings than were boys. Support for the more dominant, teacher and manager roles of first-borns was also found by Stoneman, Brody and MacKinnon (1984)

in their study of school age children's relationships with same sex younger siblings.

Systemic structure. The nature of sibling interactions varies depending upon the structure and characteristics of the larger familial and social systems in which they are embedded. Sibling relationships are influenced by the interactions that stem from the sibling subsystem (i.e., dyads, triads, or larger groups) and the interconnected parent-parent and parent-child dyads (Cicirelli, 1980; Dunn, 1983; Minuchin, 1985). It is acknowledged that children share in the reorganization of family subsystems caused by challenges to established patterns of interactions from other family members or external events (Minuchin, 1985).

For example, the presence of a dysfunctional sibling has been noted to increase the levels of conflict within sibling alliances. This finding has been noted in families with children experiencing major depressive disorder (Puig-Antich et al., 1985a, 1985b); hyperactivity (Mash & Johnston, 1983); and mental retardation (Stoneman, Brody, Davis, & Crapps, 1988). However, more research is needed before any final conclusions can be made regarding interactive processes within such complicated sibling relationships (Dunn, 1988). Individual child temperament and "lack of fit" or differences in temperament between siblings

have been found to be related to increased sibling conflict (Brody, Stoneman, & Burke, 1987; Munn & Dunn, 1989; Stocker, Dunn, & Plomin, 1989). In addition, environmental influences not shared by siblings (e.g., physical illness and different peer groups) have also been recognized as influential variables (Rowe & Elam, 1987).

Parent-child dynamics affect the quality of sibling relations. For instance, parental inability to assume full responsibilities can result in "parentified children" who must exercise parent-like authority in their sibling relationships (Bank & Kahn, 1982; Tsukada, 1979). Parental intervention within sibling conflict is frequently posed as a variable which increases levels of sibling conflict (Brody & Stoneman, 1987; Dunn & Munn, 1986; Felson & Russo, 1988; Kendrick & Dunn, 1983; Olson & Roberts, 1987), although some of the existing studies have been criticized for methodological problems (Dunn, 1983; 1988). On the other hand, differential treatment of children by parents has been consistently linked with more frequent sibling conflict (Brody & Stoneman, 1987; Dunn, 1983, 1988; Stocker, Dunn, & Plomin, 1989).

The nature of parent-parent interactions also influences sibling interactions. Marital conflict and discord among parents has been found to increase sibling

conflict (Brody & Stoneman, 1987; Eno, 1985; Steinmetz, 1977). Following divorce, the existence of a conflictual relationship between divorced parents (Emery, 1982; McKinnon, 1989) and the presence of a stepfather (Hetherington, 1988) are also associated with problems in sibling relationships. In conclusion, sibling relationships are influenced by sibling and family status indicators as well as by actual interpersonal experiences, both apart from and within the family system (Bryant, 1982).

Egalitarian trend with age. A general trend towards more egalitarian sibling relationships during middle childhood and adolescence illustrates the typically complex relations between structural characteristics such as biosocial structure, social role structure, and socioemotional constructs of power, authority and conflict. Lowe Vandell, Minnett and Santrock (1987) noted significant decreases in teaching/helping and power/status levels among first-born children as they grew older. In addition, the second-born children's power/status level increased with age. Sibling companionship and the level of positive tone in these relationships increased with age. Despite this general increase in positivity and companionship during middle childhood, the level of conflict also increased with age. However, it was stressed that the actual level of

conflictual encounters was infrequent across all ages in this study.

Buhrmester and Furman (1990) also documented similar changes with data from their Sibling Relationship Questionnaire. With younger children no longer as dependent upon their older siblings, reductions in the amount of dominance and nurturance that older siblings tended to focus on their younger siblings were noted. These decreases are most likely due in part to diminished relative differences in developmental status as the children get older. This change in sibling roles typically seems complete by the time the second sibling is approximately 12-years-old (Buhrmester, 1992). Buhrmester suggested that this dynamic change in the sibling system eliminates a role structure which was likely responsible for some dominating and conflictual interactions.

The intensity of sibling relationships tends to subside as children grow older, possibly as a result of less time shared together (Buhrmester & Furman, 1990). Ratings on every major dimension such as power, warmth and conflict drop off with age, particularly during adolescence (Buhrmester, 1992). The decrease in warmth/closeness appears to centre around a decrease in companionship. However, emotional attachment still remains relatively strong as

levels of affection and intimate disclosure decrease little in adolescence.

Finally, Buhrmester and Furman (1990) suggested that a discrepancy in affectional tone may exist between younger and older siblings, particularly in adolescence. Younger siblings reported less conflict with older siblings as they grew older but older siblings did not share this perception. Similarly, with age, younger siblings reported greater admiration and intimacy with older siblings than older siblings reported with younger siblings. Indeed, adolescents reported greater rivalry when they had a younger sibling than when they had an older sibling (Furman & Buhrmester, 1985b). Buhrmester (1992) speculated that this asymmetry may be part of a separation and individuation process whereby older adolescents attempt to distance themselves from the family and younger children strive to be viewed as more mature by identifying with the increased independence of the older sibling.

Summary of sibling research. A number of general conclusions can be reached from the preceding review. Sibling relationships are characterized by a myriad of positive and negative emotions and behaviours. Sibships are influenced by the developmental progress of children and by the systemic familial and social relationships within which

they are embedded. The interconnection between biosocial constellation factors, social role structure and socioemotional structure in middle childhood and adolescence also cannot be ignored. The intensity of sibling relationships may subside somewhat as children move through adolescence; however, it appears that relatively strong levels of affection and intimacy are usually maintained.

Children of women experiencing depressive symptomatology will experience these common sibling processes during middle childhood and adolescence. However, we must also consider the unique systemic impact that depressive symptomatology in a parent has for children, parents and their interconnected family relationships.

Nomenclature of Depression

Criticism has been directed recently at the inaccuracy of the nomenclature used in empirical and theoretical research on depression (Coyne, 1994; Downey & Coyne, 1990; Fechner-Bates, Coyne, & Schwenk, 1994). The reasons for acknowledging this matter at this point in the present literature review are twofold. Firstly, this brief overview will prepare the reader for the organization of research in the ensuing sections. Secondly, awareness of terminology with respect to the present study will allow the reader to compare findings from this study more easily with previous

research.

Recent critiques question the use of the term "depressed" to describe individuals selected solely on the basis of elevated scores on self-report measures such as the Beck Depression Inventory (BDI; Beck, Rush, Shaw, & Emery, 1979) or the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). In a recent review paper, Coyne (1994) argued that "diagnosable depression, whether found in clinical or nonclinical populations, is conceptually and empirically distinct from what is measured by self-report questionnaires" (p. 29). Kendall, Hollon, Beck, Hammen and Ingram (1987) also maintained that the BDI was never designed to be a diagnostic screening device, rather it was designed to be a measure of syndromal depression (i.e., a group of symptoms that cluster together and may present as either a primary or secondary disorder).

The higher prevalence rates, briefer durations and differing correlates of elevated self-report scores compared with diagnosed clinical depression suggest differentiation between these phenomena (Breslau & Davis, 1986; Coyne, 1994; Fechner-Bates et al., 1994; McGonagle & Kessler, 1990). Most persons with elevated BDI scores in a nonpsychiatric sample do not have a diagnosable depression (Deardorff & Funabiki, 1985; Hammen, 1980; Oliver & Simmons, 1984) and elevated BDI

and CES-D scores can be related to psychopathology other than depression (Breslau, 1985; Coyne, 1994; Fechner-Bates et al., 1994).

It has therefore been suggested that the term "clinical depression" be used in research only when semi-structured diagnostic interviews such as the Structured Clinical Interview for DSM-III-R (SCID; Spitzer, Williams, Gibbon, & First, 1989) or the Schedule for Affective Disorders and Schizophrenia (SADS; Endicott & Spitzer, 1978) are used (Burbach & Borduin, 1986; Coyne, 1994; Fechner-Bates et al., 1994; Kendall et al., 1987; Rehm, 1988). Coyne has also advocated that elevated scores on self-report depression measures in the absence of a clinical diagnosis be referred to as "distress" as opposed to "depression", while Beck and his colleagues (Kendall et al., 1987) suggested use of the term "dysphoria".

For the purposes of the present study, the term "depression" was used to refer to research where a semi-structured interview and/or the Research Diagnostic Criteria (RDC; Spitzer, Endicott, & Robbins, 1978) were used to establish parental diagnosis. The term "distress" was used to refer to studies where parental maladjustment was identified solely through the use of a self-report depression scale. The sample in the present study was

referred to as women with "depressive symptomatology". This decision was made as members of the current sample were screened through the use of both the Beck Depression Inventory and the Depressive Symptomatology Inventory (DSI), a self-report questionnaire, which was based upon the criteria for depressive symptomatology listed in the Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R; American Psychiatric Association, 1987). The DSI was designed for the current study.

Adjustment of Children of Depressed Parents

Evidence suggests that developmental problems and socio-emotional maladjustment among children of depressed parents can become evident as early as infancy and early childhood (Cox, Puckering, Pound, & Mills, 1987; Radke-Yarrow, Cummings, Kuczynski, & Chapman, 1985; Sameroff, Seifer, & Zax, 1982; Sameroff, Seifer, Zax, & Barocas, 1987). Reports by parents, teachers and children themselves have shown higher rates of both internalizing and externalizing problems among school age children and adolescents of depressed parents when compared to children of control parents (Billings & Moos, 1983; Downey & Coyne, 1990; Hammen, Gordon, et al., 1987). These children have been found to experience earlier ages of onset and higher rates of psychopathology, particularly depression, when

compared to children of control women (Hammen, Adrian, et al., 1987; Weissman et al., 1984, 1987; Welner, Welner, McCrary, & Leonard, 1977). Children of women with depression have also been reported to have more academic and school behavioural problems than children of controls (Billings & Moos, 1983; Hammen, Gordon, et al., 1987; Weissman et al., 1987). Child maladjustment can continue for some time after improvement of the parental depression (Billings & Moos, 1985; Lee & Gotlib, 1989b; Lee & Gotlib, 1991). The following section reviews variables which are commonly identified in the literature as significant with respect to the effects of parental depression on children.

Parenting skills and socio-environmental factors. Impaired parenting associated with psychiatric disorders has been found to be predictive of and/or related to measures of child competence (Burge & Hammen, 1991; Fisher, Kokes, Harder, & Jones, 1980; Kokes, Harder, Fisher, & Strauss, 1980). Comparisons with control mother-infant dyads reveal that mothers with depression show increased irritation and intrusiveness with their infants and their infants also show less positive affect (Cohn, Campbell, Matias, & Hopkins, 1990). With their preschool children, depressed women display greater difficulties with effective communication, responsiveness to child needs, and discipline compared to

women in control groups (Cox et al., 1987; Kochanska, Kuczynsjki, Radke-Yarrow, & Darby Welsh, 1987). Depressed mothers have also been found to be less positive and task focused and more dysphoric, critical and irritable in interactions with their school-aged children than nondepressed mothers (Gordon et al., 1989; Hops et al., 1987). Parental depression appears to contribute to the development of insecure attachment between parents and children (Cummings & Davies, 1994) with increased severity of depression augmenting the likelihood of insecure attachment. It should be noted that such patterns of parenting deficits have also been found in families with other stressors such as maternal schizophrenia, family violence, divorce and poverty (Downey & Coyne, 1990; Jaffe, Wolfe, & Wilson, 1990).

Child characteristics can also affect maternal functioning in a negative cycle (Hammen, Burge, & Stansbury, 1990). Negativity and animosity between depressed parents and their children are often reciprocal (Cohn et al., 1990; Conrad & Hammen, 1989; Cox, et al., 1987; Radke-Yarrow et al., 1985). The influence of the second parent on the mother-child relationship must also be considered as adjustment of the depressed person's partner and the stability of the marital union are important factors with

respect to adjustment among children of depressed parents (Coyne, 1974; Coyne, Burchill, & Stiles, 1991).

Stressors have a negative impact on the functioning of children, principally through their disruptive influence on family functioning (Felner, Aber, Primavera, & Cauce, 1985). Billings and Moos (1983) theorized that parental depression contributes to a "negative family milieu" which has serious repercussions for the behaviour and adjustment of children. Elevated levels of marital and family conflict, decreased cohesion and expressiveness, and social isolation are common disruptive strains within families of depressed parents (Biglan et al., 1985; Billings & Moos, 1983; Coyne et al., 1987; Gotlib & Lee, 1989; Weintraub, 1987). Interrelationships between stressors such as marital discord, dysfunctional parent-child subsystem and child attributes may be more pronounced in families with depression than control samples (Cummings & Davies, 1994).

Comparable patterns of dysfunction have been found among children of depressed women and children of women with a psychiatric diagnosis other than depression (Lee & Gotlib, 1989a, 1989b; Weintraub, 1987; Weintraub, Neale, & Liebert, 1975) and women with medical illness (Hammen, Gordon et al., 1987). This suggests that nonspecific elements of parental dysfunction and associated chronic stressors may be

important determinants of the level of adjustment experienced by children (Downey & Coyne, 1990). Hammen and her colleagues (Hammen, Adrian, et al., 1987; Hammen, Gordon, et al., 1987) found that chronic strains within the family environments of psychiatrically and medically ill women (e.g., occupational, marital, financial, and family relationship difficulties) were significant contributors to the adjustment of children. Across assorted high risk studies, severity and chronicity measures of parental mental illness have been found to be better predictors of child adjustment than parental diagnostic status (Harder, Kokes, Fisher, & Strauss, 1980; Sameroff et al., 1982; Sameroff et al., 1987; Seifer, Sameroff, & Jones, 1981; Wynne, Cole, & Perkins, 1987). Thus, levels of impairment experienced by the parent (e.g., measures of severity and chronicity of psychiatric problems) and factors associated with parental psychopathology such as impaired parenting, marital/familial discord and other chronic stressors may better account for the adjustment of children than maternal diagnostic status.

Maternal Distress and Child Adjustment

As with maternal depression, various studies have concluded that maternal distress (i.e., self-reported depressed mood) can be associated with child adjustment problems during middle childhood and adolescence. For

example, Seligman et al. (1984) and Lefkowitz and Tesiny (1985) found significant correlations between mothers' self-reported depressive symptoms on the Beck Depression Inventory and the depressive symptoms of their children. With the use of partial correlations, Forehand and McCombs (1988) determined that maternal distress acted as an antecedent for adolescent functioning. Elevated maternal scores on the BDI during year one were associated with poor child functioning across a variety of parent, teacher and behavioural ratings at year two. Similarly, Schaughency and Lahey (1985) reported that mothers' scores on the BDI were a significant independent predictor of their children's externalizing behaviour problems. High-risk, longitudinal research also highlights the predictive value of self-reported maternal distress when considering child adjustment in middle childhood and adolescence. Hammen, Adrian et al. (1987) showed that mothers' current depressive symptoms as measured by the BDI predicted their children's current social and school functioning better than severity of lifetime maternal affective disorder.

Parenting skills and socio-environmental factors. Parenting styles of distressed women typically mirror those of depressed women (Downey & Coyne, 1990). For example, mothers reporting elevated scores on the BDI and CES-D have

been found to show fewer positive facial expressions and less overall vocal and tactile stimulation during interactions with their infants than mothers in control groups (Cohn, M . as, Tronick, Connell, & Lyons-Ruth, 1986; Field, 1984; Lyons-Ruth, Zoll, Connell, & Grunebaum, 1986). Strong relationships have been found between elevated maternal distress and hostile parent behaviour, including shouting and slapping, with preschool children (Panaccione & Wahler, 1986). With children in middle childhood and adolescence, elevated maternal BDI scores were found to be more predictive of mothers' critical and negative remarks toward their children, and lower levels of maternal task involvement and productivity on a mother-child communication task than were maternal history of depression and diagnostic status (Burge & Hammen, 1991; Gordon et al., 1989). Both the positivity of maternal communication and task productivity or involvement were predictive of child depressive symptoms and school behaviour problems six months later (Burge & Hammen, 1991).

As with families experiencing maternal depression, the role of additional socio-environmental stress cannot be ignored in families with maternal distress. Elevated ratings on self-report depression scales have been found to be associated with a variety of stressors. For example, in a

large community survey, distress as measured by the depression subscale of the Hopkins Symptom Checklist was found to be associated with increased stress in domains such as physical illness, financial difficulty and interpersonal conflict. In general, chronic stressors were more strongly related to self-reported symptoms than acute stressors (McGonagle & Kessler, 1990). In another large community sample, scores on the CES-D were found to be correlated with elevated life-event losses (e.g., divorce/separation or death of spouse, employment losses, death of a relative or close friend, etc.) and perceived strain (i.e., financial, marital and work-related difficulties; Aneshensel & Stone, 1982). Distress was negatively correlated with the number of close relationships and the degree of perceived support. Finally, Coyne (1994) reported that persistent elevations in maternal distress have been noted among women living in low socio-economic conditions.

Systems theory suggests that all parts of a family are interrelated such that no one part is capable of being fully understood in isolation. Transactional patterns of the family system shape the behaviour of individual family members (Epstein, Bishop, & Baldwin, 1982) and elements or individuals within the system are necessarily interdependent (Minuchin, 1985). Research has indicated that conditions in

one relationship may be associated with perceptions and behaviours in another (Brody, Stoneman, McCoy, & Forehand, 1992). With this systemic orientation in mind, an interesting issue to explore is the nature of interactions that children of women experiencing depressive symptomatology will have with close relatives other than their mother. Few studies appear to address the nature of sibling interactions among children of women with depression or depressive symptomatology. This lack of understanding serves as an impetus for the present study.

Child Sibling Relationships and Maternal Depressive Symptomatology

Weissman, Paykel and Klerman (1972) briefly mentioned increased fighting and rivalry among the children of mothers diagnosed as depressed by psychiatrist ratings. However, few details were provided. A study conducted by Dumas and Gibson (1990) provides more detail about sibling relationships of children of women experiencing distress. Interactions were examined in the families of 47 children with conduct problems. The children of women with elevated BDI scores were rated as more compliant and less aversive toward their mothers than they were towards their fathers, whereas the children of women with low BDI scores exhibited the reverse pattern. Children were also more aversive to their siblings

when their mothers were distressed than when they were not. Analysis revealed that these results were not due to differences in mothers', fathers' or siblings' behaviour between the distressed and nondistressed samples. Thus, maternal distress may foster impairment in children's relationships with other members of their family. The generality of these findings is somewhat limited because of the focus on conduct disordered children.

Brody et al. (1987) found that maternal BDI scores did not contribute a unique amount of variance to sibling behaviour rated from videotapes of sibling interactions. However, the mean score of the mothers on the BDI in this study was 4.34. As acknowledged by the authors, this score placed these women within the "not depressed" range on this measure.

To begin an exploration of sibling relationships among children of women with depressive symptomatology it is useful to consider dynamics which may play a determining role. As outlined below, the dynamics of parental unavailability and its ramifications for child sibling relationships are germane to this discussion.

Parental unavailability and the compensating siblings hypothesis. Parental emotional unavailability may result from physical distance or absence; physical and/or mental

illness; and interpersonal conflict with children (Bryant, 1992). Although parental emotional unavailability has been recognized as a significant factor in the adjustment of children of parents with psychological difficulties (Harder, Kokes, Fisher, Cole, & Perkins, 1982; Kokes et al., 1980), controversy exists regarding the effects on child sibling relationships. The compensating siblings hypothesis suggests that siblings may develop a closer relationship when they experience a lack or unavailability of parental care (Boer, Goedhart, & Treffers, 1992). Research indicates that the presence of a close sibling can moderate the effects of stressful home environments for children and adolescents (Jenkins, 1992; Kempton, Armistead, Wierson, & Forehand, 1991; Sandler, 1980) and that even young siblings are capable of comforting each other (Stewart, 1983). However, the question of whether parental unavailability actually fosters close sibling relationships is a different concern.

A few studies have suggested that aspects of parental unavailability may be related to positive sibling dynamics. Clinical case studies have shown that home environments with hardship or parental void can arouse strong feelings of supportive sibling loyalty (Bank & Kahn, 1982). Longitudinal work by Dunn and Kendrick (1982) made more specific reference to child sibling relationships in families where

maternal unavailability is related to depressive symptomatology. Forty families were studied from a point late in the mother's second pregnancy through the early childhood of the second child. When mothers were very tired or depressed following the birth of the youngest child, the two siblings had a particularly friendly relationship 14 months later. In addition, when the relationships between mothers and first-borns' were characterized with conflict, confrontation and relatively little play, the sibling relationships were generally warm and playful when the younger siblings were 14-months-old.

Bryant and Crockenberg (1980) found complex effects of maternal behaviour on sibling interactions in a laboratory study of 50 first-born daughters, from grades 4 and 5, and later-born sisters, 2 to 3 years younger. Mothers' ignoring of requests for help from their older daughters was positively correlated with prosocial involvement (i.e., comforting/sharing and helping) of older daughters with their younger siblings. In addition, if mothers ignored frequently, both older and younger children were more likely to ask their siblings for help. Bryant and Crockenberg suggested that maternal unavailability may stimulate positive interactions between siblings by simply giving children more reason and opportunity to turn to their

sibling. In addition, mothers who ignored child requests often manifested a demeanour of helplessness which may have induced the older children to engage more with their sibling.

However, Bryant and Crockenberg (1980) also found that maternal unavailability in the form of ignoring children's requests for needs was related to increased antisocial behaviour (e.g., disparagement and rule stating) by older daughters to their younger siblings. Sensitive maternal responsiveness to children's expressed needs was associated with low levels of antisocial behaviour and high levels of prosocial behaviour between the female siblings. Based upon clinical experience, Bank (1992) also suggested that frequent access to siblings in a vacuum of parental care can result in the development of sibling relationships which are too symbiotic and disturbed to allow for ultimately healthy individuation.

Complicated findings such as those above suggest that the compensating siblings hypothesis may not be an adequate explanation for the nuances of sibling dynamics. Several more recent comprehensive studies have suggested that the sibling relationships of children often reflect the nature of parent-child relationships and overall family functioning (Stocker & McHale, 1992). Volling and Belsky (1992) found

that over time, sibling conflict and aggression were related to insecure early infant-mother attachment with first-borns as measured in the Strange Situation, intrusive and controlling mothering when the oldest child was 3 years old, and conflictual relationships between the two children and the mother when the oldest child was 6 years old. Prosocial behaviour was influenced by positive parenting styles from the fathers. In their study of 200 Dutch families with two siblings between 6 and 12 years of age, Boer et al. (1992) found a clear association between both children's and observers' perceptions of positive parental care and healthy sibling relationships in middle childhood. Inversely, negative aspects of perceived parental care were correlated with sibling conflict.

In a study of same sex sibling pairs in the age range of 5 to 14 years, Brody et al. (1992) found that parents' reports of more conflictual family relationships were related to children's perceptions of increased conflict on the Sibling Relationship Questionnaire. In addition, siblings in families characterized by harmony, cohesion and equal treatment of children by fathers were found to have less conflictual relationships than children in more dysfunctional homes. Members of this research team also found that among same sex sibling pairs, ages 4 to 11 years,

direct negative and positive parenting behaviours by mothers and fathers were associated with matching dynamics in their children's sibling relationships (Brody, Stoneman, & McCoy, 1992).

In summary, several recent studies have consistently suggested that aspects of sibling relations such as prosocial and conflictual behaviour often reflect the dynamics of the parent-child relationship and the family environment at large. Thus, the bulk of the existing research appears to suggest that the compensating siblings hypothesis is not a sufficiently strong theory upon which to base the hypothesis of the present study. Boer et al. (1992) suggested that we may only see such inverse parent-child/sibling relations among more extremely dysfunctional family relationships. This interactional pattern may not be easily generalised to all families and may explain conflictual results among some of the research on this topic. Additional research examining the compensating siblings hypothesis appears necessary.

The Present Study

The goal of the present study was to determine whether children of women experiencing significant depressive symptomatology would report different levels of sibling conflict and warmth/closeness than children of control

women. It was difficult to predict the outcome of such research as no study of this nature had previously been attempted. The research reviewed clearly indicated that children of women experiencing depression or distress are at increased risk for problematic adjustment. Sibling relationships which include a child with adjustment difficulties have been noted to be more conflictual than sibling relations among controls. In addition, families with maternal depression or distress are inclined to have higher rates of familial conflict and stressors than control families. Sibling relationships tend to be comparable in nature to the dynamics exhibited in parent-child relationships and overall family dynamics. Thus, it was hypothesized that children of women experiencing depressive symptomatology would report perceptions of increased sibling conflict and decreased sibling warmth/closeness when compared to children of control women.

In the present study, twelve children of women with depressive symptomatology were compared with twelve children of control women on their perceptions of two dimensions of sibling relationships. The target children (ages 7-14 years) had at least one sibling (ages 4-17 years). Thus, this study involved one quasi-independent variable with two levels, children of women with depressive symptomatology versus

children of control women. Two factors, warmth/closeness and conflict, from the Sibling Relationship Questionnaire served as the dependent measures. Although it was impossible to control for all potential differences between the two groups, efforts to restrict the confounding influence of sibling constellation effects and single versus two parent families were made through matching. Statistical analysis involved the use of Pearson product-moment correlations and t-tests for independent samples. Power analyses were also conducted.

Method

Participants

General inclusion criteria. To be included in the study, families had to meet the following criteria: (i) two or more children between the ages of 4 and 17 years willing to participate; (ii) at least one child over 7 years of age; and (iii) siblings having lived in the same home with their mothers for the past year. Families who met these criteria were then screened for the more specific inclusion criteria of the target and control groups.

The criteria for maternal depressive symptomatology were derived from the Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R; American Psychiatric Association, 1987). The primary criterion was the presence of depressed mood for most of the day, more days than not, as indicated by subjective account. This depressed mood was required to have been present for at least 1 month. In addition, the presence, while depressed, of at least two of the following for at least 1 month was required: (1) poor appetite, (2) increase in eating, (3) difficulty in falling or staying asleep, (4) an increase in sleeping, (5) low energy or feeling tired, (6) low self-esteem, (7) feelings of worthlessness, (8) feelings of guilt, (9) poor concentration, (10) difficulty making decisions, (11)

feelings of hopelessness, and (12) loss of interest or pleasure in activities. The presence or absence of the above criteria was determined through the use of the self-report Depressive Symptomatology Inventory designed for the present study (see Appendix A). The Beck Depression Inventory was used to screen mothers for intensity of current symptomatology.

General exclusion criteria. Families in which the mothers or their partners reported past or present diagnosed psychological problems, with the exception of maternal depression among the target group, were not included in this study. Any families in which the mothers or their partners reported past or present significant substance abuse were also excluded from this study.

In order to have adequate power (e.g., .80; Cohen, 1988) to detect medium sized effects with a t-test for independent samples and a directional hypothesis, approximately 50 subjects would be required in each group. Contact with potential referral sources prior to the beginning of this study suggested that this sample was attainable.

Target group. The target group was composed of 12 families in which the mothers reported experiencing depressive symptomatology as defined above for at least 1

month and attained individual ratings of 10 or above on the BDI. These target group families were gathered from four recruitment sources (see Figure 1).

Control group. The control group was comprised of 12 families in which the mothers did not report significant depressive symptomatology as defined above. These women also attained individual ratings of less than 10 on the BDI. These control group families were also gathered from four recruitment sources (see Figure 2).

As shown in Table 1, children in the control group were selected as matches for the children in the target group with respect to the following constellation variables: age of child and sibling, sex of child and sibling, relative age of child and sibling (older/younger), years of spacing between siblings and single versus two parent families.

Measures

Beck Depression Inventory. The Beck Depression Inventory (BDI) is one of the most widely used instruments for assessing the intensity of self-report depressive symptoms in both clinical and non-clinical populations. It is a relatively short and easily administered instrument with an adequate psychometric base (Rehm, 1988). The most recent revision of the BDI was published in 1979 (Beck et al., 1979). The scale has 21 items reflecting symptoms and

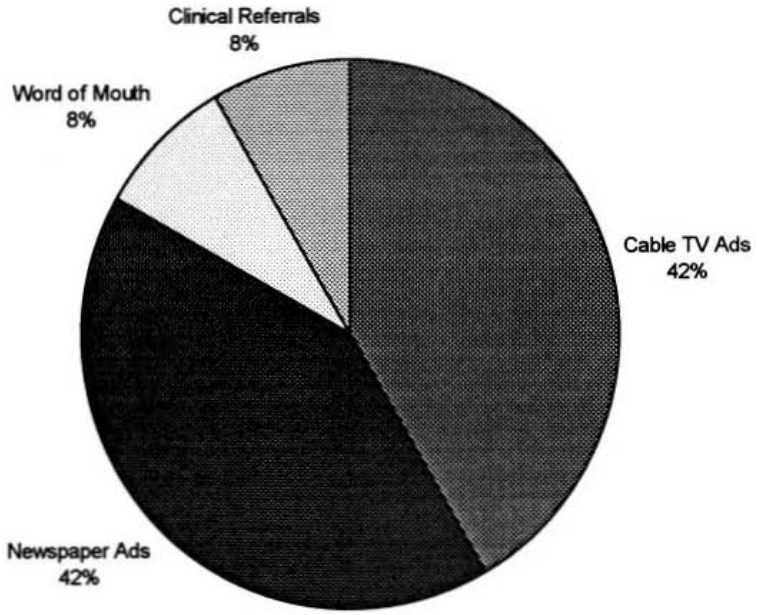

Figure 1. Recruitment sources for target families.

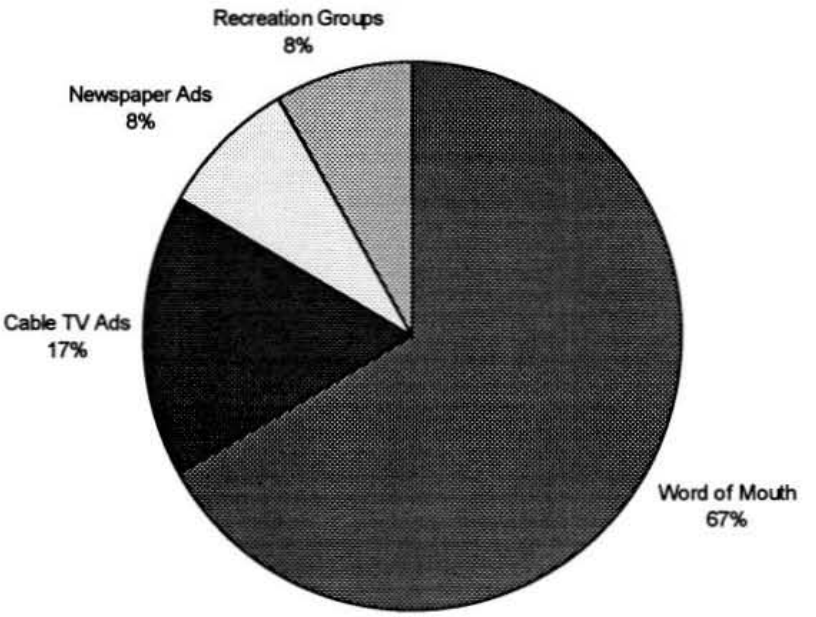

Figure 2. Recruitment sources for control group families.

Table 1

Composition of the Target and Control Group Families

Target Group	Control Group
Girl age 9 - Girl age 12 Two parent family	Girl age 8 - Girl age 11 Two parent family
Boy age 12 - Boy age 9 Two parent family	Boy age 12 - Boy age 9 Two parent family
Boy age 7 - Girl age 5 Two parent family	Boy age 7 - Girl age 5 Two parent family
Girl age 12 - Boy age 13 Single parent family	Girl age 13 - Boy age 14 Single parent family
Girl age 13 - Girl age 7 Single parent family	Girl age 12 - Girl age 6 Single parent family
Boy age 10 - Girl age 8 Two parent family	Boy age 10 - Girl age 8 Two parent family

(table continues)

Target Group	Control Group
Girl age 12 - Boy age 7 Two parent family	Girl age 14 - Boy age 9 Two parent family
Boy age 10 - Boy age 13 Single parent family	Boy age 10 - Boy age 14 Single parent family
Girl age 13 - Boy age 11 Two parent family	Girl age 12 - Boy age 11 Two parent family
Boy age 10 - Girl age 4 Two parent family	Boy age 9 - Girl age 4 Two parent family
Girl age 13 - Girl age 11 Single parent family	Girl age 13 - Girl age 11 Single parent family
Boy age 14 - Girl age 17 Two parent family	Boy age 14 - Girl age 17 Two parent family

Note. The sibling data used for each family was the Sibling Relationship Questionnaire ratings of the first listed child on the second.

attitudes which are rated from 0 to 3 in terms of intensity, yielding total scores ranging between 0 and 63. Higher scores reflect greater severity of symptoms. The following guidelines for interpreting the BDI have been suggested: <10, none or minimal depression; 10-18, mild to moderate depression; 19-29, moderate to severe depression; and 30-63, severe depression (Beck, Steer, & Garbin, 1988).

Considerable psychometric data has been accumulated on the BDI (Bech et al., 1975; Davies, Burrows, & Poynton, 1975; Williams, Barlow, & Agras, 1972). A recent meta-analysis of BDI research conducted between 1961 and June, 1986 found a mean coefficient alpha of .86 (ranged from .76-.95) across nine studies for psychiatric populations and a mean coefficient alpha of .81 (ranged from .73-.92) across 15 studies with non-psychiatric samples (Beck et al., 1988). Satisfactory mean correlation coefficients were found between the BDI and clinical ratings such as the Hamilton Psychiatric Rating Scale for Depression (HRSD), the Zung, and the MMPI-D for both psychiatric and non-psychiatric samples.

Depressive Symptomatology Inventory. The Depressive Symptomatology Inventory (DSI) is a self-report instrument developed for this study. A respondent is instructed to carefully read each of the 13 depressive symptoms and to

indicate which symptoms are currently being experienced. The depressive symptoms listed are based on DSM-III-R criteria. All symptoms listed on this inventory are also included on the Beck Depression Inventory. However, unlike the BDI, the Depression Symptomatology Inventory was designed to provide respondents with a means to record the duration of any depressive symptoms (i.e., 0-1 month; 1-6 months; 6+ months). The DSI also gathers demographic information (i.e., marital status, age, sex, occupation, education, and gross family income) and familial data regarding past treatment for psychological problems and substance abuse. No psychometric data is currently available on the DSI.

Sibling Relationship Questionnaire. The Sibling Relationship Questionnaire (SRQ) is a 48 item self-report questionnaire designed to assess children's perceptions of their sibling relationships. The most recent version of the questionnaire (W. Furman, personal communication, August 26, 1992) contains 16 three item subscales reflecting various dimensions of sibling relationships. A five-point Likert format (1 = "hardly at all"; 2 = "not too much"; 3 = "somewhat"; 4 = "very much" and 5 = "extremely much") is used for all scales except the maternal and paternal partiality scales. For these scales, the responses range from 1 = "My sibling almost always (gets treated better;

gets more attention") to 5 = "I almost always (get treated better; get more attention"). The middle item is 3 = "We get (treated about the same; about the same amount of attention"). The SRQ has been used with children of 8 years of age and above.[1]

The 16 subscales of the most recent version of the SRQ (W. Furman, personal communication, August 26, 1992) assess the following emotional/behavioral dimensions of sibling relationships: prosocial; maternal partiality; nurturance of sibling; nurturance by sibling; dominance of sibling; dominance by sibling; paternal partiality; affection; companionship; antagonism; similarity; intimacy; competition; admiration of sibling; admiration by sibling; quarrelling. Subscale scores are derived by summing over the three items composing each subscale.

A principal components analysis conducted on an earlier version of the SRQ (Furman & Buhrmester, 1985b) indicated that four extracted factors accounted for 71% of the common variance: warmth/closeness (subscale scores of intimacy, prosocial behaviour, companionship, similarity, admiration by sibling, admiration of sibling, and affection); relative status/power (subscale scores of nurturance of sibling, dominance over sibling, minus the scale scores of nurturance by sibling and dominance by sibling); conflict (subscale

scores of quarrelling, antagonism, and competition); and rivalry (subscale scores of maternal and paternal partiality). Of these, the present study will focus on the factors of warmth/closeness and conflict.

On an initial version of the SRQ (Furman & Buhrmester, 1985b), Cronbach's alpha for all subscales averaged .80 with all subscales exceeding .70, except competition (.63). The authors also reported that the test-retest reliability over a period of 10 days with a sample of 94 children was found to average .71 (subscales ranged from .58-.86). Additionally, correlations between the SRQ scale scores and the Children's Social Desirability Questionnaire (Crandall, Crandall, & Katkovsky, 1965) were found to be very low, with a mean correlation of .14 in the socially desirable direction. With a later version of the SRQ (Buhrmester & Furman, 1990), average Cronbach's alphas computed separately for children in four grade levels were .71, .79, .77, and .81. Children's perceptions of their sibling relationships on the SRQ have been found to be moderately to strongly correlated with reports by other family members (Furman, Jones, Buhrmester, & Adler, 1989).

Procedure

For the purpose of data collection, two researchers worked together to recruit and meet with families. This

process was possible as both researchers were exploring dynamics in families with mothers experiencing depressive symptomatology. The protocol for recruitment and contact with the families was the same for both researchers. It was possible for families to fill out questionnaires pertinent to both studies.

Recruitment from clinical referrals. The clinical referrals involved co-ordination with mental health workers and medical doctors at four local hospitals and various community health services and clinics. Through letters of contact (see Appendix B), phone calls, and office visits, 52 mental health workers (i.e., psychologists, psychiatrists, social workers and occupational therapists) and 94 general and family practitioners were provided with details of the study and the inclusion criteria for the target group. A "Consent for Referral" form (see Appendix C) was supplied so that professionals could obtain consent from clients to initiate referral to the researchers. Interested professionals were contacted periodically by the researchers to co-ordinate the referral process.

Upon receiving the referrals, the researchers initiated contact with the potential participants by telephone. A standard protocol was used by the researchers in the initial telephone contact with all possible participants (see

Appendix D). Four clinical referrals were received during this study. One referred family met all inclusion criteria and participated in the study. Two referrals did not meet the inclusion criteria for this study and one referred client refused participation when contacted.

Recruitment from media sources. Target and control group families were recruited through advertisements in a local newspaper, on cable television, and on poster boards, and through interviews with the local newspaper and CBC radio (see Appendix E). These media sources provided basic information about the study and directed potential participants to telephone a number which linked them with an automated answering service. Only the researchers had access to the identifying information left on the service. These messages were erased after contact was made with the potential participants.

Thirteen target families were recruited through these procedures. Ten families met the target group criteria and participated in the study. One family did not meet the inclusion criteria for this study. An additional two families met the target group criteria, but due to their sibling constellations and single parent status no matched controls could be located. A specific effort to locate matched control families for these potential target families

was made through newspaper and cable ads to no avail.

Recruitment from recreation groups and word of mouth. Recruitment for control group participants also occurred within the following recreation groups: (1) all Scouting troops in the St. John's area, (2) a St. John's chapter of the Boys and Girls club and (3) a local hockey team. Among the Scouting groups, 749 letters of contact were sent out to parents (see Appendix F). These letters were distributed to the leaders of the local scouting groups under the sponsorship of the provincial scouting headquarters. The individual leaders gave the letters to the children, collected those letters that were returned, and then passed them on to the researchers. Fourteen families returned letters with eight agreeing to participate. The Boys and Girls chapter similarly sent out letters to 50 families. No letters were returned. In addition, 12 families were approached through the coach of a local hockey team. Those families who were interested in participating gave the coach verbal permission to release their names to the researchers. Of these 12 families contacted by the researchers, 9 agreed to participate. Of the 17 participating families gathered through these recreation groups, one family provided a match with a target family and was thus used within the study.

Finally, a number of families were contacted by word of

mouth. Families who appeared to meet the general inclusion criteria were asked to participate by people who were aware of the study. Once the families gave verbal permission to release their names, the researchers were provided with the information. Telephone contact then ensued. Two target group families were recruited by word of mouth. One family participated in the present study and one was excluded from the study as it did not meet the target group criteria. Nine control families were recruited by word of mouth. Eight of these met the criteria and all eight provided a match in the present study. One family was excluded as it did not meet the control group criteria.

Contact with potential participants. For the purposes of this study, only the mothers and children in the families participated in the data collection process.

Upon receiving referral information from the above sources, a researcher telephoned the mother to establish that her family did meet the general inclusion criteria for the study. Additional details of the study were provided and the researcher responded to any questions or concerns that the mothers expressed. Those mothers with families who met the general inclusion criteria were asked if they still wished to participate in the study. If so, an appointment was scheduled at the family's convenience. All participants

were offered a choice of meeting with a researcher at the Memorial University Psychology Clinic or at their homes. If a mother's family did not fit the general inclusion criteria, then she was given an opportunity to provide the family's mailing address so that they could obtain feedback from the study, if they so desired.

Each appointment began with the researcher introducing the Family Consent Form (see Appendix G). The researcher would read through this form with all of the participating family members present. Questions from the family were encouraged throughout this process. A special effort was made to explain the concept of confidentiality to the children in an age appropriate manner. This definition included the rule that family members were not allowed to see each others' responses unless all members agreed to this. If the women and children were still willing to participate at this point, then they were asked to complete the second page of the Family Consent Form. The first page of this form was given to the family. Following completion of the consent process, the family members were given the choice of sitting together in the same area of a room or spreading more widely around the available space. The instructions for the various questionnaires were reviewed with the family members, including the stipulation that the

participants were not to discuss their answers with other family members during completion of the questionnaires. The questionnaires were given to the women and children simultaneously.

If a family contained more than one sibling combination of interest to the researcher, then all children capable of completing the questionnaire did so for each of their siblings. For example, if a family contained an 8-year-old girl and two boys, 9 and 10 years of age, then the girl would fill out two questionnaires, one for each sibling. The brothers would similarly complete a questionnaire for each of their two siblings. Decisions regarding choice of one dyad among multiple sibling combinations were reserved for later in the data analysis.

As each family member finished their questionnaire(s), the researcher checked their forms to ensure all questions were answered and then placed the forms in a manila envelope. The sibling constellation, mother's marital status, referral source and date of assessment were recorded on the envelope. When all family members had completed the questionnaires, the researcher encouraged discussion about the experience to ensure that all family members were comfortable with their participation. The majority of individuals in this study chose not to share their responses

with their families. Families were given the opportunity to provide the researcher with their mailing address if they wished to receive written feedback on the results of the study. If the mother in the family was obviously experiencing depressive symptomatology based upon her responses to the Depressive Symptomatology Inventory, Beck Depression Inventory and/or verbal self-report, then the researcher would inquire if she wished to have a list of service agencies providing treatment for depressive symptoms. This discussion was initiated away from children in order to preserve the mother's right to privacy.

Data organization. During the data collection phase, the questionnaires were scored and the manila envelopes were divided into three groups: target, control and excluded based upon the results of the mothers' questionnaires. As many more control families were gathered than target families, a process ensued to find the best match for each target family among the control group. For 3 of the 12 target families, control families were found where more than one sibling dyad could be matched. In these cases, one sibling dyad was randomly chosen through the use of a random numbers table. In the remaining nine target families, choices of sibling dyads were dictated by the availability of suitable matches among control families.

Results

Descriptive Data for Target and Control Groups

In order to confirm that the women of the target and control groups actually varied in terms of self-reported depressive symptomatology, a t-test for independent samples was conducted on the data from the Beck Depression Inventory. This t-test revealed that the women in the target group exhibited a significantly higher mean rating on the Beck Depression Inventory than did women in the control group, $t(22) = 7.44$, $p<.0001$. Thus, the women in the target group had a greater severity of self-report symptomatology as measured by the BDI than the women in the control group. The mean BDI score for the women in the target group corresponded to a moderate to severe rating of depressive symptomatology (see Table 2). Similarly, a qualitative review of the participants' responses on the Depressive Symptomatology Inventory showed that the women of the target group reported noticeably more depressive symptoms, and longer symptom duration, than the women of the control group (see Tables 3 and 4). Few of the women in the control group reported symptoms on the DSI.

In the present study, efforts were made to control the effects of a number of family constellation variables through matching. In addition, a t-test for independent

Table 2

Means and Standard Deviations of the Target and Control Groups on the Beck Depression Inventory and Gross Family Income

	Target group	Control group
	Beck Depression Inventory	
M	22.75	3.58
SD	8.71	1.98
	Gross Family Income	
M	39051.67	57659.67
SD	25532.04	34160.88

Table 3

Number of Women in Target Group Reporting Individual Symptoms and Durations on the DSI

Symptoms	0-1 months	1-6 months	6+ months
Sadness	1	3	8
Poor appetite	2	2	1
Increased eating	1	5	2
Decreased sleep	1	2	4
Increased sleep	0	2	3
Low energy/tired	1	1	9
Low self-esteem	1	1	10
Feeling worthless	0	1	7
Feeling guilty	0	1	6
Poor concentration	1	0	8
Indecisiveness	1	2	8
Feeling hopeless	0	3	7
Loss of interest/ pleasure in activities	0	2	9

Note. The rows of numbers for each symptom do not equal 12 (i.e., total number of target group women) as not every woman reported all 13 symptoms listed on the DSI.

Table 4

Number of Women in Control Group Reporting Individual Symptoms and Durations on the DSI

Symptoms	0-1 months	1-6 months	6+ months
Sadness	4	0	0
Poor appetite	0	0	0
Increased eating	0	2	0
Decreased sleep	1	0	2
Increased sleep	1	2	0
Low energy/tired	3	2	2
Low self-esteem	2	0	1
Feeling worthless	0	0	0
Feeling guilty	1	0	0
Poor concentration	0	1	1
Indecisiveness	0	0	0
Feeling hopeless	0	0	0
Loss of interest/ pleasure in activities	1	0	0

Note. The rows of numbers for each symptom do not equal 12 (i.e., total number of control group women) as few control woman reported symptoms listed on the DSI.

samples was undertaken in order to determine if family income was an influential factor with respect to children's perceptions of sibling warmth/closeness and conflict. Results of this analysis indicated that the families of the target group did not differ significantly from the control group families in terms of mean gross family income. However, as a noticeable difference in means was observed, Pearson product-moment correlations were also undertaken to further explore this relationship. The Pearson correlations revealed nonsignificant relationships between levels of gross family income and children's ratings of sibling warmth/closeness, r = .16, and conflict, r = .08, across the sample as a whole. Within the target group, no significant relationship was found between income and sibling warmth/closeness, r = .29, and conflict, r = .09. Similar results were found within the control group for warmth/closeness, r = .01, and conflict, r = .16. The means and standard deviations of the Beck Depression Inventory and gross family income for the two groups are presented in Table 2.

Relationships Between Children's Perceptions of Sibling Warmth/Closeness and Conflict

A Pearson product-moment correlation was calculated using the entire sample's ratings of warmth/closeness and

conflict from the Sibling Relationship Questionnaire. A significant inverse relationship was found between the children's ratings of sibling warmth/closeness and conflict, $r = -.49$, $p<.05$. Thus, across the entire sample, children's perceptions of high sibling warmth/closeness were associated with low sibling conflict ratings and vice versa. At an alpha level of .05 with 24 participants, the power of this test to detect the existence of a medium-sized effect ($r = .30$) was .30 (Cohen, 1988). In the present study, a medium effect size, as defined by Cohen (1992), was set for each statistical test in order to provide a conservative estimate of power.

Correlations between the sibling warmth/closeness and conflict ratings for the target and the control groups separately were of equivalent magnitude, $r = -.50$, and $r = -.48$, respectively. Thus, the degree and direction of the relationship between sibling ratings of warmth/closeness and conflict were similar for the children in each individual group. However, due to the small sample size in both groups, these correlations were nonsignificant. At an alpha level of .05 with 12 participants, the power of these tests to detect a medium-sized effect ($r = .30$) was only .16 (Cohen, 1988).

Perceptions of Sibling Warmth/Closeness and Conflict Across Groups

Using the entire sample, results of a multivariate test for homogeneity of dispersion matrices and the Kolmogorov-Smirnov goodness of fit test revealed that the assumptions of homogeneity of variance and normality were upheld for ratings of sibling warmth/closeness and conflict.

Two t-tests for independent samples were conducted to determine whether differences existed between the target and control groups' mean ratings of warmth/closeness and conflict on the Sibling Relationship Questionnaire. As seen in Table 5, the group means were in the predicted direction with the children of women with depressive symptomatology reporting greater sibling conflict and less sibling warmth/closeness than the children of the control group. However, results of the t-tests indicated that the children of the target and control groups did not differ significantly on these two ratings. Thus, the primary hypothesis of the present study was not supported. With directional hypotheses and alpha levels of .05, the power of these tests to detect medium sized effects (d = .50) was .33 (Cohen, 1988). The range and distribution of the childrens' scores on the warmth/closeness and conflict factors of the SRQ can be seen in Figures 3 and 4.

Table 5

Means and Standard Deviations of the Target and Control Groups on Their Ratings of Sibling Warmth/Closeness and Conflict

	Target group	Control group
	Warmth/Closeness Factor	
M	8.50	9.13
SD	2.42	2.25
	Conflict Factor	
M	9.56	8.86
SD	1.59	2.42

Note. Scores on both factors of Warmth/Closeness and Conflict from the Sibling Relationship Questionnaire can range from 3 to 15 points.

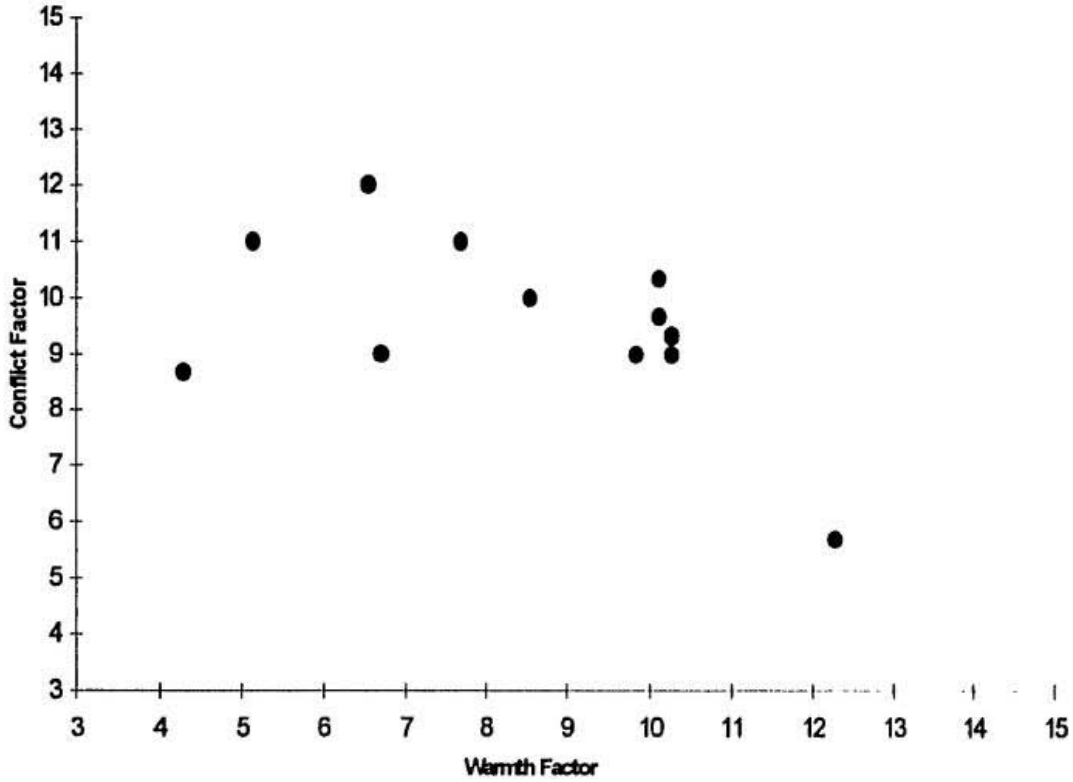

Figure 3. Dispersion of the target group's scores on the warmth/closeness and conflict factors of the SRQ.

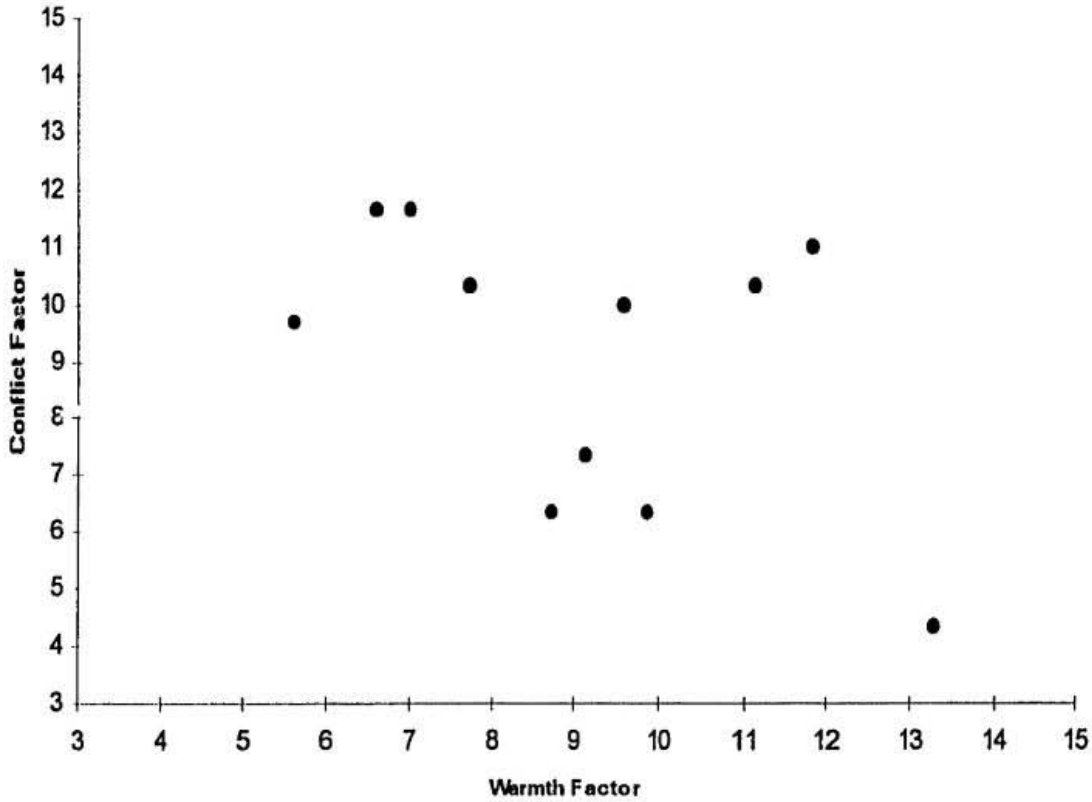

Figure 4. Dispersion of the control group's scores on the warmth/closeness and conflict factors of the SRQ.

Discussion

Cohen (1992) has suggested that .80 is the appropriate level of power for psychological research. Unfortunately, the power levels of the statistical analyses in the present study were much lower. As explained by Cohen (1988), the nonsignificant results in the present study should be viewed as "ambiguous, since failure to reject the null hypothesis cannot have much substantive meaning when, even though the phenomenon exists (to some given degree), the a priori probability of rejecting the null hypothesis was low" (p.4). Cohen suggested that the proper interpretation of such nonsignificance was to state that the present data did not warrant the conclusion that the populations means differ.

It is important to examine these results in a cautious manner due to the small sample size, and the resulting reduced probability of detecting any existing significant differences between groups with statistical analysis. Additional confounding influences which could not be adequately controlled for in the present study are also acknowledged later in this discussion. All these factors need to be considered when judging the meaningfulness of the present results.

The present tentative finding that the children of women experiencing depressive symptomatology did not report

significantly less sibling warmth/closeness or greater sibling conflict than the children of control women contradicts the primary hypothesis of this study and is not consistent with two studies related to this topic. Weissman et al. (1972) made reference to increased fighting and rivalry among the children of mothers diagnosed as depressed by psychiatrist ratings. Similarly, Dumas and Gibson (1990) reported that children of mothers who were distressed were more aversive to their siblings than children of nondistressed mothers. This finding could not be accounted for by differences in mothers' or siblings' behaviour. However, the target children within the Dumas and Gibson study were diagnosed with conduct disorder. Thus, Dumas and Gibson's findings may differ from those of the present study because of the difference in child/family typologies across the two samples.

Brody et al. (1987) reported that maternal distress did not contribute an unique amount of variance to observations of sibling behaviour. Interestingly, the outcome of the present study generally supports their negative findings. These researchers also suggested that the low severity of self-reported depressive symptoms or distress reported by their clinical group (i.e., a Beck Depression Inventory mean rating of 4.34) could be an explanation for the lack of

differences in sibling behaviours between the two groups. However, low severity of maternal distress is not a plausible reason for the nonsignificant differences between the two groups' perceptions of sibling relationships in the current study. The average BDI rating for the target group corresponded to a moderate to severe rating and that of the control group, to a no or minimal depression rating (Beck et al., 1988). The significant difference in BDI ratings indicates that the target group is comprised of individuals notably different from the control group in terms of the criterion measure of self-reported depressive symptoms or distress.

Similar perceptions of sibling warmth/closeness and conflict across the children of the target and control groups may underscore the fact that the nature of child sibling relationships in families with maternal depressive symptomatology is most probably determined by combinations of factors more complex than maternal symptomatology alone. Within the present study, attempts were made to control the confounding influences of sibling constellation factors of age and sex of child and sibling, relative age of child and sibling, years of spacing between siblings and single versus two parent families through matching of target and control participants. Statistical analysis suggested that this close

matching was not a critical factor with regard to the childrens' scores for sibling warmth closeness and conflict (see Footnote 2). Statistical analysis also revealed that gross family income was not significantly related to the children's perceptions of sibling warmth/closeness and conflict in the present study.

It is possible that the heterogeneous ages of the participating children and siblings may have prevented the emergence of findings at more specific developmental levels. Additional child variables such as individual temperament and sociability (Brody et al., 1987; Kendrick & Dunn, 1983; Munn & Dunn, 1989), and family variables such as marital conflict (Brody & Stoneman, 1987; Emery & O'Leary, 1982; Eno, 1985; Steinmetz, 1977) and differential parental treatment of children (Brody & Stoneman, 1987; Dunn, 1988) may be influential factors in the sibling relationships experienced by the children of the target and control groups.

In addition to severity of parental symptomatology, chronicity of parental dysfunction has been acknowledged as a significant influence on child adjustment. In this study, screening for symptom duration was conducted through the use of the Depressive Symptomatology Inventory. Among the target group, for 9 of the 13 symptoms, a clear majority of the

women acknowledging each symptom reported durations of six months or longer. Few of the women in the control group reported symptoms on the DSI. Thus, the trend among the women of the target group appears to be towards more lengthy symptom duration as measured by the DSI. However, as the DSI only tracks symptomatology up to six months, it is difficult to ascertain what specific effect symptom duration may play in the nonsignificant differences in perceptions of sibling relationships. For example, if maternal symptom duration of one year is required for a noticeable impact on child sibling relations and the duration of the target group's symptoms was actually closer to six months, then possible effects on child sibling relations may not be detected. Future research in this area should take into greater consideration the length of symptom duration and perhaps the number of maternal depressive episodes over time.

As very few studies exist which directly address sibling relationships among children of women experiencing depressive symptomatology, the present study provides a starting point for future sibling research in this area. Indeed, the possibility that these children may experience similar sibling relationships as their control peers, despite maternal depressive symptomatology and its accompanying negative interpersonal milieu, reveals a

potentially supportive resource for children which could be accessed and encouraged within most families. This is a particularly important issue given that social support has been found to mediate or buffer the relationship between life stress and psychological distress (Wilcox, 1981). In addition, it should be noted that the results of this study do not appear to support the compensating siblings hypothesis. However, once again, this finding needs to be viewed as tentative.

The significant negative correlation between the complete sample's ratings of sibling warmth/closeness and sibling conflict is also not consistent with findings of earlier research. Furman and Buhrmester (1985b) reported that adolescents' ratings of warmth/closeness and conflict on the Sibling Relationship Questionnaire were not significantly correlated with each other. Similarly, Stocker and McHale (1992) and Bryant and Crockenberg (1980) found that correlations between positive and negative dimensions of sibling relationships as measured by the Sibling Relationship Interview and behavioural observations, were generally low or non-significant among their pre-adolescent participants. Dunn (1988) asserted that across all developmental levels from pre-school to adolescence, dimensions of friendliness, conflict, rivalry and dominance

are relatively independent of one another.

Although past research suggests that sibling relations are characterized by relatively independent positive and negative emotions, the results of the present study indicate that this overall sample of children reported associated sibling patterns of positive and negative responding. This significant finding was detected in spite of the low power level for the statistical analysis. If a child reported perceptions of high warmth/closeness in their sibling relationship, then she/he tended to report low levels of sibling conflict. Inversely, children with conflictual sibling relationships tended to report low levels of sibling warmth/closeness.

Furman and Buhrmester (1985b) suggested that their finding of independence between adolescents' perceptions of sibling warmth/closeness and conflict may have been in part due to variation in intensity and frequency of sibling contact or to differences in children's coping styles with regard to conflict. Some siblings may fight when there is a lack of warmth/closeness in their relationship, while others may choose to avoid one another. The significant correlation in the present study may suggest that these children as a group have a consistent conflict style -- if a sibling relationship lacks warmth/closeness then there is a clear

manifestation of conflictual interactions and vice versa. The nature of this relationship appears to be the same for the children of the target and control groups as the strength and direction of the correlation between sibling warmth/closeness and conflict across both groups were essentially equivalent. Once again, it is important to stress that this finding should be viewed as preliminary in nature due to the small sample size in the present study. General acceptance of this significant finding would require replication with a larger sample size.

Anecdotal Findings

From a methodological perspective, the researcher's experiences with recruitment of participants are worthy of mention. Despite careful professional networking before data collection and an exhaustive eight to nine month search for participants across several hospital and community sites in a provincial capital city, it was extremely difficult to access referrals from clinical resources. Consistent follow-up with 52 mental health workers and 94 general and family practitioners yielded only four clinical referrals of which one was appropriate for this study. Similarly, gathering control participants proved to be equally problematic. For example, of 749 letters of contact distributed through the Scouting headquarters, 14 were returned. Only eight families

agreed to participate. Media sources and word of mouth were the most successful recruitment methods for both the target and control groups. This was unexpected especially for the target group as the researcher believed that the depressive symptomatology of this group could hamper initiation of contact.

The fact that the majority of the target families were recruited through the media could suggest that these particular women may possess traits which differentiate them from typical clinical samples. This difficulty with recruitment is a common one in psychological research as media advertisement is often a necessary part of gathering research participants. In the present study, anecdotal information from the women in the target group suggested that many participated in this study in order to contribute to the understanding of depressive symptomatology and its effects on families, and to gain information regarding mental health services. An argument could be made that these women may have been a particularly motivated group of participants with recognition of connections between family adjustment and their depressive symptoms. Thus, their experiences of depressive symptomatology and its relationship to family dynamics may differ from those of other women experiencing such symptomatology. For example,

such maternal insight could be associated with the use of parenting styles which offset the impact of maternal symptomatology on children's sibling relationships.

Future Considerations

An obvious concern with the present study is the small sample size of the target and control groups. Examination of the target and control groups' means for the factors of warmth/closeness and conflict from the Sibling Relationship Questionnaire reveals a small trend in the hypothesized direction, that is lower levels of warmth/closeness and higher levels of conflict for the target group. It would be interesting to see if a significant effect would emerge with a larger sample size. The effect of maternal symptom chronicity should be studied by tracking longer durations or including participants at varying levels of chronicity. Focus on a homogeneous age range for participating children and siblings or the inclusion of a larger number of children from middle childhood and early and late adolescence would provide information regarding sibling relationships at different developmental stages.

The present study was specifically designed to explore children's personal perceptions of their sibling relationships. It would be interesting to discern whether behavioral observations of sibling interactions and parental

reports of sibling relationships match with children's reported perceptions of their sibling relationships. Finally, focus on additional variables such as levels of marital discord may provide further insight.

As noted earlier, the present study is an initial exploration of child sibling relationships in families where mothers experience depressive symptomatology. Once again, these results need to be viewed as tentative in nature due to the small sample size and other methodological issues. It is this researcher's hope that exploration of the family system dynamics associated with maternal depressive symptomatology will continue. Results of such studies can advance our understanding of depressive symptoms and their impact for families, and contribute to the design of more effective individual, familial and community level interventions for children exposed to the risk factor of maternal depressive symptomatology.

References

Abramovitch, R., Pepler, D., & Corter, C. (1982). Patterns of sibling interaction among preschool age children. In M. E. Lamb & B. Sutton-Smith (Eds.), Sibling relationships: Their nature and significance across the lifespan (pp. 61-86). Hillsdale, NJ: Erlbaum.

American Psychiatric Association. (1987). Diagnostic and statistical manual of mental disorders (3rd ed., revised). Washington, DC: Author.

Aneshensel, C. S., & Stone, J. D. (1982). Stress and depression: A test of the buffering model of social support. Archives of General Psychiatry, 39, 1392-1396.

Bank, S. (1992). Reinterpreting sibling bonds. In F. Boer & J. Dunn (Eds.), Children's sibling relationships: Developmental and clinical issues (pp. 55-69). Hillsdale, NJ: Erlbaum.

Bank, S. P., & Kahn, M. D. (1982). The sibling bond. New York: Basic Books.

Beardslee, W. R., Bemporad, J., Keller, M. B., & Klerman, G. L. (1983). Children of parents with major affective disorder: A review. The American Journal of Psychiatry, 140, 825-832.

Bech, P., Gram, L. F., Dein, E., Jacobsen, O., Vitger, J., & Bolwig, T. G. (1975). Quantitative rating of depressive states: Correlation between clinical assessment, Beck's self-rating scale and Hamilton's objective rating scale. Acta Psychiatrica Scandinavia, 51, 161-170.

Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). Cognitive therapy of depression. New York: Guilford Press.

Beck, A. T., Steer, R. A., & Garbin, M. G. (1988). Psychometric properties of the Beck depression inventory: Twenty-five years of evaluation. Clinical Psychology Review, 8, 77-100.

Biglan, A., Hops, H., Sherman, L., Friedman, L. S., Arthur, J., & Osteen, V. (1985). Problem-solving interactions of depressed women and their husbands. Behaviour Therapy, 16, 431-451.

Bigner, J. J. (1974). Second borns' discrimination of sibling role concepts. Developmental Psychology, 4, 564-573.

Billings, A. G., & Moos, R. H. (1983). Comparisons of children of depressed and nondepressed parents: A socio-environmental perspective. Journal of Abnormal Psychology, 11, 463-486.

Billings, A. G., & Moos, R. H. (1985). Children of parents with unipolar depression: A controlled one year follow-up. Journal of Abnormal Child Psychology, 14, 149-166.

Boer, F., Goedhart, A. W., & Treffers, P. D. A. (1992). Siblings and their parents. In F. Boer & J. Dunn (Eds.), Children's sibling relationships: Developmental and clinical issues (pp. 55-69). Hillsdale, NJ: Erlbaum.

Breslau, N. (1985). Depressive symptoms, major depression, and generalized anxiety: A comparison of self-reports on CES-D and results from diagnostic interviews. Psychiatry Research, 15, 219-229.

Breslau, N., & Davis, G. C. (1986). Chronic stress and major depression. Archives of General Psychiatry, 43, 309-314.

Brody, G. H., & Stoneman, Z. (1987). Sibling conflict: Contributions of the siblings themselves, the parent-sibling relationship, and the broader family system. Journal of Children in Contemporary Society, 19, 39-53.

Brody, G. H., Stoneman, Z., & Burke, M. (1987). Family system and individual child correlates of sibling behaviour. American Journal of Orthopsychiatry, 57, 561-569.

Brody, G. H., Stoneman, Z., & McCoy, J. K. (1992). Associations of maternal and paternal direct and differential behavior with sibling relationships: Contemporaneous and longitudinal analyses. Child Development, 63, 82-92.

Brody, G. H., Stoneman, Z., McCoy, J. K., & Forehand, R. (1992). Contemporaneous and longitudinal associations of sibling conflict with family relationship assessments and family discussions about sibling problems. Child Development, 63, 391-400.

Bryant, B. K. (1982). Sibling relationships in middle childhood. In M. E. Lamb & B. Sutton-Smith (Eds.), Sibling relationships: Their nature and significance across the lifespan (pp.87-121). Hillsdale, NJ: Erlbaum.

Bryant, B. K. (1992). Sibling caretaking: Providing emotional support during middle childhood. In F. Boer & J. Dunn (Eds.), Children's sibling relationships: Developmental and clinical issues (pp. 55-69). Hillsdale, NJ: Erlbaum.

Bryant, B. K., & Crockenberg, S. B. (1980). Correlates and dimensions of prosocial behaviour: A study of female siblings with their mothers. Child Development, 51, 529-544.

Buhrmester, D. (1992). The developmental courses of sibling and peer relationships. In F. Boer & J. Dunn (Eds.), Children's sibling relationships: Developmental and clinical issues (pp. 19-40). Hillsdale, NJ: Erlbaum.

Buhrmester, D., & Furman, W. (1987). The development of companionship and intimacy. Child Development, 58, 1101-1113.

Buhrmester, D., & Furman, W. (1990). Perceptions of sibling relationships during middle childhood and adolescence. Child Development, 61, 1387-1398.

Burbach, D. J., & Borduin, C. M. (1986). Parent-child relations and the etiology of depression: A review of methods and findings. Clinical Psychology Review, 6, 133-153.

Burge, D., & Hammen, C. (1991). Maternal communication: Predictors of outcome at follow-up in a sample of children at high and low risk for depression. Journal of Abnormal Psychology, 100, 174-180.

Cicirelli, V. G. (1980). A comparison of college women's feelings toward their siblings and parents. Journal of Marriage and the Family, 20, 111-117.

Clark-Lempers, D. S., Lempers, J. D., & Ho, C. (1991). Early, middle, and late adolescents' perceptions of their relationships with significant others. Journal of Adolescent Research, 6, 296-315.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Hillsdale, NJ: Erlbaum.

Cohen, J. (1992). A power primer. Psychological Bulletin, 112, 155-159.

Cohn, J. F., Campbell, S. B., Matias, R., & Hopkins, J. 1990). Face-to-face interactions of postpartum depressed and nondepressed mother-infant pairs at 2 months. Developmental Psychology, 26, 15-23.

Cohn, J., Matias, R., Tronick, E., Connell, D., & Lyons-Ruth, K. (1986). Face-to-face interactions of depressed mothers and their infants. In E. Tronick & T. Field (Eds.), Maternal depression and infant disturbance (pp. 31-46). San Francisco: Jossey-Bass.

Conrad, M., & Hammen, C. (1989). Role of maternal depression in predictions of child maladjustment. Journal of Consulting and Clinical Psychology, 57, 663-667.

Cox, A. D., Puckering, C., Pound, A., & Mills. (1987). The impact of maternal depression in young children. Journal of Child Psychology and Psychiatry, 28, 917-928.

Coyne, J. C. (1974). Toward an interactional description of depression. Psychiatry, 39, 28-40.

Coyne, J. C. (1994). Self-reported distress: Analog or ersatz depression. Psychological Bulletin, 116, 29-45.

Coyne, J. C., Burchill, S. A., & Stiles, W. B. (1991). An interactional perspective on depression. In C. R. Synder & D. R. Forsyth (Eds.), Handbook of social and clinical psychology: The health perspective (pp.327-349). Toronto, Canada: Permagon Press.

Coyne, J. C., Kessler, R. C., Tal, M., Turnbull, J., Wortman, C. B., & Greden, J. F. (1987). Living with a depressed person. Journal of Consulting and Clinical Psychology, 55, 347-352.

Crandall, V. C., Crandall, V. J., & Katkovsky, W. A. (1965). Children's social desirability questionnaire. Journal of Consulting Psychology, 29, 27-36.

Cummings, E. M., & Davies, P. T. (1994). Maternal depression and child development. Journal of Child Psychology and Psychiatry and Allied Disciplines, 35, 73-112.

Davies, B., Burrows, G., & Poynton, C. (1975). A comparative study of four depression rating scales. Australian and New Zealand Journal of Psychiatry, 9, 21-24.

Deardorff, W. W., & Funabiki, D. (1985). A diagnostic caution in screening for depressed college students. Cognitive Therapy and Research, 9, 277-284.

Downey, G., & Coyne, J. C. (1990). Children of depressed parents: An integrative review. Psychological Bulletin, 108, 50-76.

Dumas, J. E., & Gibson, J. A. (1990). Behavioral correlates of maternal depressive symptomatology in conduct-disorder children: II. Systemic effects involving fathers and siblings. Journal of Consulting and Clinical Psychology 6, 877-881.

Dunn, J. (1983). Sibling relationships in early childhood. Child Development, 54, 787-811.

Dunn, J. (1984). The early years. In J. Bruner, M. Cole, & B. Lloyd (Eds.), Sisters and brothers: The developing child (pp.17-31). London: Fontana Paperbacks.

Dunn, J. (1988). Annotation: Sibling influences on childhood development. Journal of Child Psychology and Psychiatry and Allied Disciplines, 29, 119-127.

Dunn, J. (1992). Sisters and brothers: Current issues in developmental research. In F. Boer & J. Dunn (Eds.), Children's sibling relationships: Developmental and clinical issues (pp. 1-17). Hillsdale, NJ: Erlbaum.

Dunn, J., & Kendrick, C. (1982). Siblings and their mothers: Developing relationships within the family. In M. E. Lamb & B. Sutton-Smith (Eds.), Sibling relationships: Their nature and significance across the lifespan (pp. 39-60). Hillsdale, NJ: Erlbaum.

Dunn, J., & Munn, P. (1986). Sibling quarrels and maternal intervention: Individual differences in understanding aggression. Journal of Child Psychology and Psychiatry and Allied Disciplines, 27, 583-595.

Emery, R. E. (1982). Interparental conflict and the children of discord and divorce. Psychological Bulletin, 92, 310-330.

Emery, R. E., & O'Leary, K. D. (1982). Children's perceptions of marital discord and behaviour problems of boys and girls. Journal of Abnormal Child Psychology, 10, 11-24.

Endicott, J., & Spitzer, R.L. (1978). A diagnostic interview: The schedule for affective disorders and schizophrenia. Archives of General Psychiatry, 35, 837-844.

Eno, M. M. (1985). Sibling relationships in families of divorce. Journal of Psychotherapy and the Family, 1, 139-156.

Epstein, N. B., Bishop, D. S., & Baldwin, L. M. (1982). McMaster model of family functioning: A view of the normal family. In F. Walsh (Ed.), Normal family processes (pp. 115-141). New York: Guilford Press.

Fechner-Bates, S., Coyne, J. C., & Schwenk, T. L. (1994). The relationship of self-reported distress to depressive disorders and other psychopathology. Journal of Consulting and Clinical Psychology, 62, 550-559.

Felner, R. D., Aber, M. S., Primavera, J., & Cauce, A. M. (1985). Adaptation and vulnerability in high-risk adolescents: An examination of environmental mediators. American Journal of Community Psychology, 13, 365-379.

Felson, R. B., & Russo, N. (1988). Parental punishment and sibling aggression. Social Psychology Quarterly, 51, 11-18.

Field, T. M. (1984). Early interactions between infants and their postpartum depressed mothers. Infant Behaviour and Development, 7, 517-522.

Fisher, L., Kokes, R. F., Harder, D. W., & Jones, J. E. (1980). Child competence and psychiatric risk. VI. Summary and integration of findings. The Journal of Nervous and Mental Disease, 168, 353-355.

Forehand, R., & McCombs, A. (1988). Unravelling the antecedent-consequence conditions in maternal depression and adolescent functioning. Behaviour Research and Therapy, 26, 399-405.

Furman, W., & Buhrmester, D. (1982). The contribution of siblings and peers to the parenting process. In M. Kostelnik (Ed.), Patterns of supplemental parenting (pp. 69-100). New York: Plenum.

Furman, W., & Buhrmester, D. (1985a). Children's perceptions of the personal relationships in their social networks. Developmental Psychology, 21, 1016-1024.

Furman, W., & Buhrmester, D. (1985b). Children's perceptions of the qualities of sibling relationships. Child Development, 56, 448-461.

Furman, W., Jones, L., Buhrmester, D., & Adler, T. (1989). Children's, parents', and observers' perspectives on sibling relationships. In P. G. Zukow (Ed.), Sibling interaction across cultures: Theoretical and methodological issues (pp.165-183). New York: Springer-Verlag.

Gelles, R. J., & Straus, M. A. (1988). Intimate violence. New York: Simon and Schuster.

Gordon, D., Burge, D., Hammen, C., Adrian, C., Jaenicke, C., & Hiroto, D. (1989). Observations of interactions of depressed women with their children. American Journal of Psychiatry, 146, 50-55.

Gotlib, I. H., & Lee, C. M. (1989). The social functioning of depressed patients: A longitudinal assessment. Journal of Social and Clinical Psychology, 8, 223-237.

Hammen, C. (1980). Depression in college students: Beyond the Beck depression inventory. Journal of Consulting and Clinical Psychology, 48, 126-128.

Hammen, C., Adrian, C., Gordon, D., Burge, D., Jaenicke, C., & Hiroto, D. (1987). Children of depressed mothers: Maternal strain and symptom predictors of dysfunction. Journal of Abnormal Psychology, 96, 190-198.

Hammen, C., Burge, D., & Stansbury, K. (1990). Relationship of mother and child variables to child outcomes in a high-risk sample: A causal modeling analysis. Developmental Psychology, 26, 24-30.

Hammen, C., Gordon, D., Burge, D., Adrian, C., Jaenicke, C., & Hiroto, D. (1987). Maternal affective disorders, illness, and stress: Risk for children's psychopathology. American Journal of Psychiatry, 144, 736-741.

Harder, D. W., Kokes, R. F., Fisher, L., Cole, R. E., & Perkins, P. (1982). Parent psychopathology and child functioning among sons at risk for psychological disorder. Monographs of the Society for Research in Child Development, 47 (5, Serial No. 179).

Harder, D. W., Kokes, R. F., Fisher, L., & Strauss, J. S. (1980). Child competence and psychiatric risk. IV. Relationships of parent diagnostic classifications and parent psychopathology severity to child functioning. The Journal of Nervous and Mental Disease, 168, 343-347.

Hetherington, E.M. (1988). Parents, children and siblings: Six years after divorce. In R. A. Hinde & J. Stevenson-Hinde (Eds.), Relationships within families: Mutual influences (pp.311-331). Oxford, England: Oxford University Press.

Hops, H., Biglan, A., Sherman, L., Arthur, J., Friedman, L., & Osteen, V. (1987). Home observations of family interactions of depressed women. Journal of Consulting and Clinical Psychology, 55, 341-346.

Jaffe, P. G., Wolfe, D. A., & Wilson, S. K. (1990). Children of battered women. London: Sage.

Jenkins, J. (1992). Sibling relationships in disharmonious homes: Potential difficulties and protective effects. In F. Boer & J. Dunn (Eds.), Children's sibling relationships: Developmental and clinical issues (pp. 1-17). Hillsdale, NJ: Erlbaum.

Kempton, T., Armistead, L., Wierson, M., & Forehand, R. (1991). Presence of a sibling as a potential buffer following parental divorce: An examination of young adolescents. Journal of Clinical Child Psychology, 20, 434-438.

Kendall, P. C., Hollon, S. D., Beck, A. T., Hammen, C. L., & Ingram, R. E. (1987). Issues and recommendations regarding use of the Beck depression inventory. Cognitive Therapy and Research, 11, 289-299.

Kendrick, C., & Dunn, J. (1983). Sibling quarrels and maternal responses. Developmental Psychology, 19, 62-70.

Kochanska, G., Kuczynsjki, L., Radke-Yarrow, M., & Darby Welsh, J. (1987). Resolutions of control episodes between well and affectively ill mothers and their young children. Journal of Abnormal Child Psychology, 15, 441-456.

Kokes, R. F., Harder, D. W., Fisher, L., & Strauss, J. S. (1980). Child competence and psychiatric risk. V. Sex of patient parent and dimensions of psychopathology. The Journal of Nervous and Mental Disease, 168, 348-352.

Lee, C. M., & Gotlib, I. H. (1989a). Clinical status and emotional adjustment of children of depressed mothers. American Journal of Psychiatry, 146, 478-483.

Lee, C. M., & Gotlib, I. H. (1989b). Maternal depression and child adjustment: A longitudinal analysis. Journal of Abnormal Psychology, 98, 78-85.

Lee, C. M., & Gotlib, I. H. (1991). Adjustment of children of depressed mothers: A 10-month follow-up. Journal of Abnormal Psychology, 100, 473-477.

Lefkowitz, M. M., & Tesiny, E. P. (1985). Depression in children: Prevalence and correlates. Journal of Consulting and Clinical Psychology, 53, 647-656.

Lowe Vandell, D., Minnett, A. M., & Santrock, J. W. (1987). Age differences in sibling relationships during middle childhood. Journal of Applied Developmental Psychology, 8, 247-257.

Lyons-Ruth, K., Zoll, D., Connell, D., & Grunebaum, H. U. (1986). The depressed mother and her one-year-old infant. Environment, interaction, attachment, and infant development. In E. Tronick & T. Field (Eds.), Maternal depression and infant disturbance (pp.61-82). San Francisco: Jossey-Bass.

Mash, E. J., & Johnston, C. (1983). Sibling interactions of hyperactive and normal children and their relationship to reports of maternal stress and self-esteem. Journal of Clinical Child Psychology, 12, 91-99.

McGonagle, K. A., & Kessler, R. C. (1990). Chronic stress, acute stress, and depressive symptoms. American Journal of Community Psychology, 18, 681-706.

McKinnon, C. E. (1989). An observational investigation of sibling interactions in married and divorced families. Developmental Psychology, 25, 36-44.

Minnett, A. M., Lowe Vandell, D., & Santrock, J. W. (1983). The effects of sibling status on sibling interaction: Influence of birth order, age spacing, sex of child, and sex of sibling. Child Development, 54, 1064-1072.

Minuchin, P. (1985). Families and individual development: Provocations from the field of family therapy. Child Development, 56, 289-302.

Montemayer, R., & Hanson, E. (1985). A naturalistic view of the conflict between adolescents and their parents and their siblings. Journal of Early Adolescence, 5, 23-30.

Munn, P., & Dunn, J. (1989). Temperament and the developing relationship between siblings. International Journal of Behavioral Development, 12, 433-451.

Nadelman, L., & Begun, A. (1982). The effect of the newborn on the older sibling: Mothers' questionnaires. In M. E. Lamb & B. Sutton-Smith (Eds.), Sibling relationships: Their nature and significance across the lifespan (pp. 13-37). Hillsdale, NJ: Erlbaum.

Oliver, J. M., & Simmons, M. E. (1984). Depression as measured by the DSM-III and the Beck depression inventory in an unselected adult population. Journal of Consulting and Clinical Psychology, 52, 892-898.

Olson, R. L., & Roberts, M. W. (1987). Alternative treatments for sibling aggression. Behaviour Therapy, 18, 243-250.

Panaccione, V., & Wahler, R. (1986). Child behaviour, maternal depression, and social coercion as factors in the quality of child care. Journal of Abnormal Child Psychology, 14, 273-284.

Puig-Antich, J., Lukens, E., Davies, M., Goetz, D., Brennan-Quattrock, J., & Todak, G. (1985a). Psychosocial functioning in prepubertal major depressive disorders. I. Interpersonal relationships during the depressive episode. Archives of General Psychiatry, 42, 500-507.

Puig-Antich, J., Lukens, E., Davies, M., Goetz, D., Brennan-Quattrock, J., & Todak, G. (1985b). Psychosocial functioning in prepubertal major depressive disorders. II. Interpersonal relationships after sustained recovery from affective episode. Archives of General Psychiatry, 42, 511-517.

Radke-Yarrow, M., Cummings, E. M., Kuczynski, L., & Chapman, M. (1985). Patterns of attachment to two- and three-year-olds in normal families and families with parental depression. Child Development, 56, 884-893.

Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. Applied Psychological Measurement, 1, 385-401.

Rehm, L. P. (1988). Assessment of depression. In A. S. Bellack & M. Hersen (Eds.), Behavioral assessment: A practical handbook (pp. 313-364). New York: Pergamon Press.

Roscoe, B., Goodwin, M. P., & Kennedy, D. (1987). Sibling violence and agonistic interactions experienced by early adolescents. Journal of Family Violence, 2, 121-137.

Rowe, D. C., & Elam, P. (1987). Siblings and mental illness: Heredity vs. environment. Journal of Abnormal Psychology, 158, 115-130.

Sameroff, A. J., Seifer, R., & Zax, M. (1982). Early development of children at risk for emotional disorder. Monographs of the Society for Research in Child Development, 47 (7, Serial No. 199).

Sameroff, A., Seifer, R., Zax, M., & Barocas, R. (1987). Early indicators of developmental risk: Rochester longitudinal study. Schizophrenia Bulletin, 13, 383-394.

Sandler, I. N. (1980). Social support resources, stress, and maladjustment of poor children. American Journal of Community Psychology, 8, 41-52.

Schaughency, E. A., & Lahey, B. B. (1985). Mothers' and fathers' perceptions of child deviance: Roles of child behaviour, parental depression, and marital satisfaction. Journal of Consulting and Clinical Psychology, 53, 718-723.

Seifer, R., Sameroff, A. J., & Jones, F. (1981). Adaptive behaviour in young children of emotionally disturbed women. Journal of Applied Developmental Psychology, 1, 251-276.

Seligman, M. E. P., Peterson, C., Kaslow, N. J., Tanenbaum, R. L., Alloy, L. B., & Abramson, L. Y. (1984). Attributional style and depressive symptoms among children. Journal of Abnormal Psychology, 93, 235-238.

Spitzer, R. L., Endicott, J., & Robbins, E. (1978). Research diagnostic criteria: Rational and reliability. Archives of General Psychiatry, 35, 773-782.

Spitzer, R. L., Williams, J. B., Gibbon, M., & First, M. B. (1989). Structured Clinical Interview for DSM-III-R. New York: New York State Psychiatric Institute, Biometrics Research Department.

Steinmetz, S. K. (1977). The use of force for resolving family conflict: The training ground for abuse. The Family Coordinator, 20, 19-26.

Stewart, R. B. (1983). Sibling attachment relationships: Child-infant interactions in the strange situation. Developmental Psychology, 19, 192-199.

Stocker, C., Dunn, J., & Plomin, R. (1989). Sibling relationships: Links with child temperament, maternal behaviour, and family structure. Child Development, 60, 715-727.

Stocker, C. M., & McHale, S. M. (1992). The nature and family correlates of preadolescents' perceptions of their sibling relationships. Journal of Social and Personal Relationships, 9, 179-195.

Stoneman, Z., Brody, G. H., Davis, C. H., & Crapps, J. M. (1988). Childcare responsibilities, peer relationships, and sibling conflict: Older siblings of mentally retarded children. American Journal of Mental Retardation, 93, 174-183.

Stoneman, Z., Brody, G. H., & MacKinnon, C. (1984). Naturalistic observations of children's activities and roles while playing with their siblings and friends. Child Development, 55, 617-627.

Tsukada, G. (1979). Sibling interaction: A review of the literature. Smith College Studies on Social Work, 49, 229-247.

Volling, B. L., & Belsky, J. (1992). The contribution of mother-child and father-child relationships to the quality of sibling interaction: A longitudinal study. Child Development, 63, 1209-1222.

Weintraub, S. (1987). Risk factors in schizophrenia: The Stony Brook high-risk project. Schizophrenia Bulletin, 13, 439-450.

Weintraub, S., Neale, J. M., & Liebert, D. E. (1975). Teacher ratings of children vulnerable to psychopathology. American Journal of Orthopsychiatry, 45, 838-845.

Weissman, M. M., Gammon, G. D., John, K., Merikangas, K. R., Warner, V., Prusoff, B. A., & Sholomskas, D. (1987). Children of depressed parents: Increased psychopathology and early onset of major depression. Archives of General Psychiatry, 44, 847-853.

Weissman, M. M., Paykel, E. S., & Klerman, G. L. (1972). The depressed woman as a mother. Social Psychiatry, 7, 98-108.

Weissman, M. M., Prusoff, B. A., Gammon, G. D., Merikangas, K. R., Leckman, J. F., & Kidd, K. K. (1984). Psychopathology in the children (ages 6-18) of depressed and normal parents. Journal of the American Academy of Child Psychiatry, 23, 78-84.

Welner, Z., Welner, A., McCrary, M. D., & Leonard, M. A. (1977). Psychopathology in children of inpatients with depression: A controlled study. Journal of Nervous and Mental Disease, 164, 408-413.

Wilcox, B. L. (1981). Social support, life stress, and psychological adjustment: A test of the buffering hypothesis. American Journal of Community Psychology, 9, 371-386.

Williams, J. G., Barlow, D. H., & Agras, W. S. (1972). Behavioral measurement of severe depression. Archives of General Psychiatry, 27, 330-333.

Wynne, L. C., Cole, R. E., & Perkins, P. (1987). University of Rochester child and family study: Risk research in progress. Schizophrenia Bulletin, 13, 463-476.

Appendix A

The Depressive Symptomatology Inventory (DSI)

DSI _____

Group I.D. _____ Marital Status: _____ Age: _____

Sex: _____ Occupation: _____ Education: _____

Gross family income: $_____

Part A of this questionnaire consists of 13 statements. After reading each statement carefully, please put an "X" in the blank provided at the left of each statement that describes the way you have felt during the past month. Then, at the end of each statement you checked, please put another "X" in the column that best describes how long you have felt this way. Please read and answer the questions in Part B.

Part A:		Months		
		0-1	-6	6+
1.	____ Feelings of sadness	___	___	___
2.	____ Poor appetite	___	___	___
3.	____ An increase in eating	___	___	___
4.	____ Difficulty in falling or staying asleep	___	___	___
5.	____ An increase in sleeping	___	___	___
6.	____ Low energy or feeling tired	___	___	___
7.	____ Low self-esteem	___	___	___
8.	____ Feeling wortnless	___	___	___
9.	____ Feeling guilty	___	___	___
10.	____ Poor concentration	___	___	___
11.	____ Difficulty making decisions	___	___	___
12.	____ Feeling hopeless	___	___	___
13.	____ Loss of interest or pleasure in activities	___	___	___

Part B:

1. Have you or anyone in your immediate family ever received help for psychological problems? yes/no (please circle). If yes, please specify:

2. Have you or anyone in your immediate family ever received help for drug or alcohol abuse? yes/no (please circle). If yes, please specify:

Appendix B

The Letters of Contact for Mental Health Workers and General/Family Practitioners

RE: Request for Participation in Research

Dear Clinician:

We are Clinical Psychology graduate students who are conducting a research programme through the MUN Department of Psychology. We ask that you assist us in completing this research. The following text describes the nature and criteria of our investigation and what your participation would entail.

Recent research has highlighted the need to explore the effects of depression not only on the adjustment of the individual, but also on their family. Research has shown that depression in a parent is associated with difficulties in children's adjustment. Problems have been documented in children's social, behavioral, and emotional functioning. Although conflictual relationships and low family support often occur in families with a depressed parent, little is known about how children perceive family relationships when a parent is depressed. Therefore, we are interested in investigating whether there are differences in children's perceptions of family relationships in families in which mothers experience depression versus those that do not. **Such research will aid clinicians with the identification of treatment goals that reflect meaningful family dynamics.**

We plan to explore these views through the use of brief, anonymous questionnaires which allow mothers and children to describe how they see their family relationships. This procedure will take place during a single 75-minute interview and will be scheduled at the family's convenience. All information gathered in the study will be strictly confidential. Participants may withdraw from the study at any point they wish. Written feedback of the research findings will be provided to those participants who express interest.

If you wish to support this research, your participation will initially involve discussing this research with your clients who fit our inclusion criteria (see below). Those interested clients who wish to be contacted by the researchers will then complete the enclosed "Consent for Referral" form. This required form will be

provided by you to ensure participants understand that their name and telephone number will be forwarded to the researchers for subsequent contact.

Individual arrangements may be made for the forwarding of the completed consent forms to the researchers. For example, we can contact your office weekly to gather available referrals and necessary information (i.e., clients' name and telephone number). Once the referral forms have been gathered, the researchers will contact each interested client for a brief telephone interview and the scheduling of a research appointment.

INCLUSION CRITERIA

NOTE: Candidates must meet all of the following inclusion criteria:

A. Mothers, who are at least 18 years of age, and receiving outpatient treatment for depression. Treatment may consist of various modalities (e.g., psychotherapy, pharmacotherapy, a combination of both, etc).

B. Have one or more child(ren) in the age range of 8 to 15 years and living in the same home.

C. Depressed mood for most of the day, more days than not, as indicated either by subjective account or observation by others, for at least ONE MONTH.

D. Presence, while depressed, of at least two of the following:
   (1) poor appetite or overeating
   (2) insomnia or hypersomnia
   (3) low energy or fatigue
   (4) low self-esteem
   (5) poor concentration or difficulty making decisions
   (6) feelings of hopelessness

E. Has never had a manic episode or a chronic psychotic disorder, such as Schizophrenia or Delusional Disorder.

F. Does not have a history of significant sustained substance abuse at any time following the birth of the child(ren).

G. No history of psychotic or affective disturbance in their partner living at home.

Thank you for considering this research. We will contact you shortly to determine if you are wish to become involved in this study.

Lori McDonald

Jacqueline Goodwin

RE: Request for Participation in Research

Dear Physician:

We are Clinical Psychology researchers who are conducting a research programme through the MUN Department of Psychology. We ask that you assist us in completing this research. The following text describes the nature and criteria of our investigation and what your participation would entail.

Recent research has highlighted the need to explore the effects of depression not only on the adjustment of the individual, but also on their family. Research has shown that depression in a parent is associated with difficulties in children's adjustment. Problems have been documented in children's social, behavioral, and emotional functioning. Although conflictual relationships and low family support often occur in families with a depressed parent, little is known about how children perceive family relationships when a parent is depressed. Therefore, we are interested in investigating whether there are differences in children's and mothers' perceptions of family relationships in families in which mothers experience depression versus those that do not. We hope that our investigation will provide us with a better understanding of the family interactive patterns that may have implications for the outcome of the depressed individual. **Such research will aid clinicians with the identification of treatment goals that reflect meaningful family dynamics.**

We plan to explore these views through the use of brief, anonymous questionnaires which allow mothers and children to describe how they see their family relationships. This procedure will take place during a single 75-minute appointment and will be scheduled at the family's convenience. All information gathered in the study will be strictly confidential. Participants may withdraw from the study at any point they wish. Written feedback of the research findings will be provided to those participants who express interest.

If you wish to support this research, your participation will initially involve discussing this research with your patients who fit our inclusion criteria (see below). Those interested patients who wish to be contacted by the researchers will then complete the enclosed "Consent for Referral" form. This required form will be provided by you to ensure participants understand that their

name and telephone number will be forwarded to the researchers for subsequent contact.

Individual arrangements may be made for the forwarding of the completed consent forms to the researchers. For example, we can contact your office weekly to gather available referrals and necessary information (i.e., patients' name and telephone number). Once the referral forms have been gathered, the researchers will contact each interested client for a brief telephone interview and the scheduling of a research appointment.

INCLUSION CRITERIA

NOTE: We are seeking participants who meet the following inclusion criteria:

A. Mothers, who are at least 18 years of age, and receiving outpatient treatment for depression. Treatment may consist of various modalities (e.g., psychotherapy, pharmacotherapy, a combination of both, etc).
B. Have one or more child(ren) in the age range of 8 to 16 years and living in the same home.
C. Depressed mood for most of the day, more days than not, as indicated either by subjective account or observation by others, for at least ONE MONTH.
D. Presence, while depressed, of at least two of the following:
   (1) poor appetite or overeating
   (2) insomnia or hypersomnia
   (3) low energy or fatigue
   (4) low self-esteem
   (5) poor concentration or difficulty making decisions
   (6) feelings of hopelessness
E. Has never had a manic episode or a chronic psychotic disorder, such as Schizophrenia or Delusional Disorder.
F. Does not have a history of significant sustained substance abuse at any time following the birth of the child(ren).
G. No history of psychotic or affective disturbance in their partner living at home.

Thank you for considering this research. We will contact you shortly to determine if you are wish to become involved in this research.

Lori McDonald Jacqueline Goodwin

Appendix C

The Consent for Referral Form

CONSENT FOR REFERRAL

It has been explained to me that research is being carried out through the Department of Psychology of Memorial University of Newfoundland by two graduate students, Jacqueline Goodwin and Lori McDonald. I understand that the purpose of this research is to explore the relationships of families in which mothers have experienced depression. My family's participation in this study will involve filling out forms. I understand that if I choose not to participate in this study, it will not change the treatment I receive from the hospital.

I give permission for my therapist/physician to give my name and phone number to the researchers so that they may contact me about this study. I understand that all information gathered in this study is private/confidential. I know that the participation of my child(ren) and myself is of our own free will and my family may leave the study at any time should we choose to no longer participate.

_____ _____

(Print your name) (Signature)

_____ _____

(Signature of Therapist) (Date)

Thank you for agreeing to participate in our study about relationships within families with mothers who have experienced depression and families with mothers who have not experienced depression. We will be contacting you within the next few weeks to provide further details and schedule an appointment. In the meantime, if you have any questions or concerns you may contact us (Jacqueline Goodwin or Lori McDonald, 737-8496), our research supervisor (Dr. Christine Arlett, MUN Psychology Department, 737-7676), or the MUN Psychology Department Head (Dr. William McKim, 737-8495).

Jacqueline Goodwin

Lori McDonald

Appendix D

Initial Telephone Contact with Potential Participants

INITIAL TELEPHONE CONTACT

(1) Ask to speak to mother of family.

(2) Initial identification: **One of the researchers doing research on family relationships.**

(3) **Is this an okay time for you to talk? I am checking to see if you still wish to participate in this study...**

IF RESPONSE IS NO, TERMINATE CONTACT - IF RESPONSE IS YES -

(1) **I would like to give you a little more information about the study: We are trying to gather information about family relationships from two types of families: (1) families in which mothers are experiencing depression and (2) families where mothers are not experiencing depression. We are interested in finding out how family members see each other in these families. We plan to look at these views through the use of brief questionnaires which allow mothers and children to describe how they see their family relationships.**

(2) **Do you have a child(ren) between the ages of 0 and 15 years? How many _____ ? Ages _____ ?**

(3) If family meets inclusion criteria, ask **if they still wish to participate?** If yes, continue interview. If the

family does not meet the criteria or does not wish to participate further, then offer to mail them the results of the study and terminate contact.

(4) For those still interested in participating: **The entire procedure will take approximately one hour and will be scheduled at your family's convenience. Keep in mind that your family may withdraw from the study at any point you wish. All information gathered in the study will be strictly confidential. Do you have any questions or concerns about the study?**

(5) Set appointment time. **Offer choice of appointment campus clinic or in their homes.**

Appendix E

Samples of Media Advertisements

Sample Advertisement for Newspapers and Cable Television

TELL US YOUR VIEWS! Researchers seeking mothers and children's views of family relationships. We would like mothers with children between ages 8-16 to help. We are interested in ALL families and we are particularly interested in families where mothers are experiencing depression. Participation is fun and simply involves one meeting to fill in anonymous forms. To contact us, please leave your name and number on a confidential message machine at 726-0674.

Study to probe maternal depressio

Little known about effect on family

by DEANA STOKES SULLIVAN
The Evening Telegram

Depression is a major public health problem and one of the most common emotional disorders.

Still, little is known about the effect on families when parents have the disorder.

Lori McDonald and Jacqueline Goodwin are both clinical psychology graduate students at Memorial University. As part of their masters' thesis, they are intending to explore this area.

Goodwin said most studies have focused on negative effects, but a study she and McDonald are planning on maternal depression will look more generally at how people in a family see each other.

Their research will focus on the adjustment of the individual with depression and the effects on the family as a whole. The family will be looked at in terms of a system or unit, said Goodwin.

McDonald said the effects on the children and mother will be assessed.

Both McDonald and Goodwin are interested in child psychology, but agree there is little research in areas such as this where children's perceptions are examined, although the trend is now moving toward looking more at interpersonal relationships.

As part of their research project, McDonald and Goodwin are planning to obtain information from about 50 mothers with children aged eight to 16 years.

They are hoping to get 20 to 25 mothers participating who experience depression and are receiving treatment from a professional, as well as 20 to 25 who are not affected by depression. The information needed will be gathered in a brief interview with each participant and through a questionnaire.

McDonald said participants interested in feedback will be provided with a summary of the study results.

Goodwin said the results should be useful to clinicians. If there are effects from depression on family members, it will be important for professionals working with families to keep this in mind, she said. They might have to change their approach in some areas in view of this.

McDonald and Goodwin have spent two years researching this area. They agree the prevalence of depression is fairly common in society. "Depression is a common presenting problem in clinic situations," said Goodwin.

McDonald said a study from 1976 indicated half of all psychiatric admissions were linked with depression.

Goodwin said it is not certain what causes maternal depression. It is often accompanied by other family problems, such as marital problems and financial difficulties. However, it is difficult to determine if depression causes these problems or if it is a result of family difficulties. Sometimes it is part of a cycle, said Goodwin.

Both American and British statistics suggest that the lifetime expectancy of developing depression is about 20 per cent in women and 10 per cent in men. Depression is more prevalent among people from the lower socioeconomic group, the divorced and separated.

All information gathered for the maternal depression study will be strictly confidential and anonymous.

Interested parents may contact the researchers at 726-0474, leaving their name and telephone number on an answering machine. Those who respond will be contacted by the researchers for a brief phone interview and the scheduling of a research appointment at the family's convenience.

Participants may withdraw from the study process at any point, said Goodwin.

KEITH GOSSE/The Evening Telegram

FAMILY FALL-OUT

Little is known about children's perceptions of maternal depression or the effect it has on the family as a whole. A study involving about 50 mothers by two clinical psychology students at Memorial University will explore this.

ATTENTION INTERESTED PERSONS

We are looking for:

- mothers being treated for depression & their children
- mothers NOT experiencing depression & their children for comparison
- children aged approx. 8-16 years
- confidential questionnaires will take one hour only

CONTACT PLEASE HELP BY LEAVING MESSAGE ON ANSWERING MACHINE AT 726 0674

Appendix F

Parent Contact Letters for Recreation Groups

Dear Parent(s):

We are Clinical Psychology graduate students completing a research programme through the MUN Department of Psychology. We are asking for your participation in this research. The following paragraph describes the nature of our study and what your participation would involve.

We are interested in exploring whether there are differences in children's views of family relationships in families in which mothers experience depression versus those that do not. We hope that your family will participate so that we may gather information from families where there is no parental depression. This information will be used for comparison purposes.

We plan to gather this information through the use of brief, anonymous questionnaires which allow **mothers and children** to report how they see their family relationships. These questionnaires have both true-false and multiple-choice questions to answer. This procedure will take place during a single 75-minute meeting and will be scheduled at your family's convenience. All information gathered in the study will be strictly confidential. Your family may withdraw from the study at any point. A written report of the research findings will be provided to your family if you wish.

We feel that research exploring family relationships is very important. Your participation in our research will play a valuable role in furthering our understanding of family relationships. Please fill out and detach the form provided on the second page. This form should then be returned to your child's teacher/group leader. We will then collect your form and, if you agree to participate, we will telephone you shortly to provide further details.

Thank you for considering this research,

Jacqueline Goodwin

Lori McDonald

Please read and check #1 **OR** #2 below:

1. I wish to be contacted by the researchers so that they may provide me with more details about this study.

_____.

My **name** is

_____.

My **phone number** is

_____.

2. I do not wish to be contacted by the researchers

_____.

Appendix G

The Family Consent Form

FAMILY CONSENT FORM

This research programme is being carried out through the Department of Psychology of Memorial University of Newfoundland by two graduate students, Jacqueline Goodwin and Lori McDonald. The purpose of this research is to explore family relationships. We are interested in learning more about how mothers and children see their relationships with other family members.

I understand that this visit will be about 75 minutes and will involve filling out forms provided by the researchers. These forms will ask questions about how family members see each other and how they get along with one another. I can choose to not answer a question which I do not wish to answer. All information gathered in this study is strictly private/confidential.

I understand that for the purposes of this research, the forms will identify my family only by a code number. If I wish to do so, I can provide the researchers with my mailing address so that they can send me information about the findings of this study. I also understand that papers arising from this research will not present individual results, but only report general findings of groups of children and their families. I am aware that I may contact Jacqueline Goodwin or Lori McDonald at Memorial University Department of Psychology (737-8496), their research supervisor (Dr. Christine Arlett, 737-7676), or the Psychology Department Head (Dr. William McKim, 737-8495) to ask any questions about the study.

I understand that participation of my child(ren) and myself in this study is entirely of our own free will. If I choose not to participate in this study, it will not change the treatment I receive from the hospital. I know that my family can withdraw from the study at any time.

_____ _____

Jacqueline Goodwin Lori McDonald

I have been provided with a cover letter that describes the study and gives a list of names and phone numbers of persons I may contact if I have any questions or concerns about the study. I understand the study procedures as they have been explained to me and I give permission for my child(ren) and myself to participate in this study.

_____ _____

(Print your name) (Signature)

_____ _____

(Date) (Names of child(ren) in study)

Children's consent:

I have been told about this study and I agree to answer questions about what my family is like to me.

_____

(Print or write your name)

To be signed by investigator:

To the best of my ability I have fully explained to each of the involved family members the nature of this research study. I have invited questions and provided answers. I believe that the subjects fully understand the implications and voluntary nature of the study.

_____ _____

(Signature of investigator) (Date)

Footnotes

[1]In the present study, one pair of 7-year-old clinical and control children completed the Sibling Relationship Questionnaire. Pilot work for the present study suggested that children of this age were capable of completing this questionnaire.

[2]It was necessary to decide whether to employ analyses which treated the target and control groups as paired samples because of the close matching that was carried out between sibling pairs for the sibling constellation variables and the factor of single versus dual parent families. As outlined in the introduction, these constellation variables have been identified as influential factors with respect to sibling relationships in middle childhood and adolescence. After consultation with various statisticians, it was decided that t-tests for independent samples were the appropriate analyses. This decision was based upon the fact that nonsignificant correlational relationships were found between the target and control scores for both the sibling warmth/closeness and conflict factors, separately. Thus, it appeared that the target and control groups were independent of one another with respect to the sibling warmth/closeness and conflict factors.