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AN ANALYSIS OF THE EFFECTS OF GENDER AND AGE ON THE SIBLING SOCIAL SUPPORT NETWORKS OF CHILDREN

By

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ABSTRACT

AN ANALYSIS OF THE EFFECTS OF GENDER AND AGE ON THE SIBLING SOCIAL SUPPORT NETWORKS OF CHILDREN

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Studies of social support have begun to outline its benefits in mediating stress, and for alleviating physical and mental dysfunctions. Investigations of childrens' support networks have followed only slowly. Past research indicates that the family is the primary source of support predictive of health. Despite this important function of family life, investigations of sibling support have been negligible. This investigation speaks to these deficits by providing an analysis of sibling support networks. One hundred and forty-six children, of varying race and SES, ages seven through twenty-one, participated in the study. Self-report measures indicated that the reception of different types of support varied with sibling age and sex differences. This effect was clearest when comparing the amount of support received from older versus younger siblings. Relationship issues such as rivalry, ambivalence, and admiration are cited as a possible explanation for these effects.

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INTRODUCTION

Over the last ten years, a large volume of research has been focused on the evaluation of the effects of stress on psychological and physiological health. While numerous studies have shown a consistent relationship between these constructs, the strength of the relationship has been disappointingly small (Kessler, Price, & Wortman, 1985). Investigators have since looked for possible moderators of this relationship and social support has emerged as a strong variable.

Social support has been implicated in the amelioration of psychological and physiological health difficulties. It has been suggested that it functions in a dual role: indirectly as a stress-buffer (thereby decreasing the incidence of health problems) and directly through the coping process by reducing the severity of stressors and disease (Cohen & Syme, 1985). It is not clear how social support brings about these health-inducing effects.

The research literature on social support has barely moved from fundamental mapping of the parameters of the construct. However, current research suggests that evaluation (both quantitatively and qualitatively) of characteristics of the receiver, the provider, the type of support, the type of stressor/health problem, and their

interactions are mandatory in order to understand social support's impact on stress, coping, and health (Cohen & Syme, 1985).

The great majority of research on social support has evaluated its quantitative aspects. This follows from speculation that the availability of support, network size and network density influence health. However, most researchers agree that qualitative aspects of support are equally important (Kessler et al., 1985; Leavy, 1983; Sarason & Sarason, 1985).

Characteristics of the recipient also mediate social support. Indeed, variance in the need for and usefulness of social support have been found in persons of differing ages (Gore, 1980; Kahn & Attonucci, 1980), races (Dovido & Gaertner, 1983), gender (McMullen & Gross, 1983), degrees of psychopathology and physiological health (Janis, 1983; Leavy, 1983), levels of self-esteem and direction of locus of control (Nadler, 1983). Sex differences are a particularly robust finding. Women report larger and more supportive networks and they desire, receive, and provide more intimate and confiding relationships than do men (Antonucci, 1985). Also, women report larger kin ties and greater satisfaction with those ties, and higher maladjustment to lessened family support than do men (Leavy, 1983).

Numerous investigators have reported that the usefulness of support can also depend on the type of support

given and who provides the support. For example, Leavy's (1983) review notes that emotional support is more highly correlated with psychological health than other types of support. Also, a number of studies have shown that the occurrence and severity of psychopathology are directly related to the ratio of kin to non-kin supporters; non-kin dominated networks are typical of the more severely disturbed (Froland, Brodsky, Olson, & Stewart, 1979; Garrison, 1978; Silberfeld, 1978). Thus, emotional support provided by family members may be of most value in aiding health.

Determining what constitutes social support has been problematic. For example, continued controversy exists as to the different kinds of support available to an individual. A number of typologies have been offered (cf. Cohen & Syme, 1985); however most researchers agree that social support is a multi-dimensional construct. It includes tangible aid, social reinforcement and experiences, emotional, and cognitive support (Bogat, Caldwell, Rogosch, & Kriegler, 1985). Likewise, the perspective from which one evaluates social support has varied. So called "objective" methodologies typically have investigated the structural properties of social support (i.e., number and density of network members, and source of support). The "subjective" perspective has tied itself to the functional measurement of support including determination of the role of the different types of support and individual perceptions of support.

Cochran and Brassard (1979) and others have argued for the necessity of both perspectives.

Childrens' Social Support

One rapidly expanding area within this field is the assessment of childrens' social support. The importance of such research lies in understanding when and how social support networks evolve. One cannot assume that the factors affecting adult social support are necessarily similar to those influencing children's. Moreover, the study of children's social support may provide new links in our understanding of health and support in adults.

Some research indicates that childrens' support networks become more complex as they mature (e.g., Kriegler, 1985). Cruise (1987), also found that the number of peers and emotional supporters in a child's support network increased with age. This parallels findings in the literature on peers and friendship (e.g., Hartup, 1983) and children's confidants (e.g., Belle & Longfellow, 1984). Cochran and Brassard (1979) indicated that the increased size and complexity of childrens' social networks were due to the development of reciprocity (during approximately ages five to seven years)--a basic and necessary component of social support. Dunn (1983) has offered evidence that children as young as two have the rudiments of reciprocity, but she cautions that the age at which this capability appears differs both between and within families. While the age at which reciprocity is developed is still not clear, most

researchers would agree that it does not occur clearly until the school years. Thus, the study of children's social support, as understood by most, cannot be easily undertaken with children less than five years old.

A trend appearing in the children's support literature (and similar to the adult literature) is the failure of purely quantitative meaures of support to predict either adjustment to stress or overall health. These findings include the lack of consistently significant correlations between childrens' quantity of support and measures of perceived competence (Kriegler, 1985), adjustment to parental negative life events and psychopathology (Sandler, Wolchik, & Braver, 1985), depression, anxiety, aggression, and self-esteem, (Wolchik, Sandler, & Braver, 1984), and a behavior problem checklist (Phelps & Huntley, 1985). In fact, the only study reporting a significant correlation between quantitative measures of social support and adjustment (Wolchik, Ruelman, Braver, & Sandler, 1985) confounded the size of the network with measures of multiplexity (i.e., number of supporters providing more than one type of support). It seems clear that qualitative measures of social support are needed when analyzing children's social support.

It is not surprising that for children, like adults, the family is the key component of social support. Blyth, Hill, and Thiel (1982) mapped 2,800 adolescents' "significant others" and found that 90% of the subjects'

parents and siblings were listed--the nuclear family comprised 30% of these subjects' networks. This strongly parallels Bryant's (1985) evaluation of social support among 160, 1st and 4th graders. When asked to name their "ten most important others," 80% of these children listed both parents and 76% included all of their siblings.

Researchers at Arizona State University have investigated the social support among children in divorced families. Sandler, Wolchik, and Braver (1985) found that the social support provided by parents to their children decreased markedly with increases in parental psychopathology and negative life events. Furthermore, Wolchik, Rueler, Braver, and Sandler (1985) reported that the source of support discriminated those children adjusting favorably to divorce-related stress. A high degree of family support was significantly correlated with adjustment to high levels of stress and inversely related to ratings of psychopathology. These findings corroborate data from other social support studies. Sandler (1980), sampling from a younger population (71 kindergarten through third graders), found that those children with older siblings and/or two parents (versus no siblings or only one parent) showed better adjustment to negative life events. Also, Belle & Longfellow (1984) reported that children who turned to family members (mothers especially) as confidants had significantly higher self-esteem ratings (cf. Willis, 1981).

As with adult populations, there are gender differences in children's social support; however, the parameters of these differences are still unclear. This is due, in part, to the small number of studies. Reported sex differences with studies using quantitative measures of support are conflicting. Girls nominated a larger number of significant others (Blyth et al., 1983), but both Kriegler (1985) and Wolchik et al. (1985) reported no significant gender differences in network size. Qualitatively, there are clearer indications of sex differences. Girls consistently list more emotional supporters than boys (Kriegler, 1985; Wolchik et al., 1985). This complements findings from the confidant and friendship literature which shows that girls seek and have more intimate relationships (Belle & Longfellow, 1984). In the only study that evaluated sex differences in children's satisfaction with social support, Wolchik et al. (1985) found that girls were significantly more satisfied with both family and non-family support. This finding also parallels adult population studies (cf. Kessler et al., 1985). The source of children's social support also differs by sex and in the directions predicted by adult studies. Girls nominated more nuclear and extended family members as significant others (Blyth et al., 1985) and reported more family members as providing advice, goods and services, emotional, and positive feedback (Wolchik et al., 1985) than did boys.

An underlying feature of these sex difference findings

is the role of the family. Girls report more intimate and satisfying support, but especially with family members. This relationship also has important implications for health and coping. As was noted above, family members serve an important function in helping each other adjust to various stressors. If girls have quantitatively and qualitatively better support from family members and this support mediates health and adjustment (as seems indicated above), then gender differences should also be seen in coping and health. In fact, this hypothesis has received support from the divorce literature, where a number of studies indicate better adjustment by girls (e.g., Guidubaldi, Clemishaw, Perry, & McIoughlin, 1983).

These studies substantiate a connection between family support, stress, and health. However, prior research has indicated that a source-by-type analysis examination of how support acts as a mediator is important to such an understanding. The investigations noted above did not include this type of analysis. Only two studies could be found that differentiated source-by-type aspects of children's support. In their study of 38, 5th through 8th graders, Nair and Jason (1985) found that the children's family supplied all types of support (but especially cognitive guidance, material aid, and emotional support) more often than non-family members and children were most satisfied with family intensive networks. Social and academic adjustment, however, were not significantly

correlated with any type of family support. Only provision of physical assistance (regardless of the source) and heterogeneity of the network predicted adjustment. This failure to find a significant relationship may have resulted from the very small sample used. In the second study, Kriegler (1985) assessed the social support of 169, 3rd through 6th graders and found that family members provided significantly more physical assistance, emotional support, and advice and information than did any other source group. However, she did not find a significant correlation between support satisfaction and quantity of family support (as reported by Nair and Jason) or support satisfaction and perceived competence (analagous to the connection between self-esteem and family support found by Belle & Longfellow). These two studies indicate that the family is the primary source of three types of childrens' support: emotional, tangible aid, and cognitive guidance. However, the effects of this relationship are not clear, nor is it predictive of health and coping as reported with adults (cf. Leavy, 1983).

One measure of family support that has correlated with health is the relative multiplexity of the support relationship (i.e., a supporter supplying more than one type of support). Sandler et al. (1985) reported that the degree of family multiplexity (i.e., total number of family relationships that were multiplexous) was the only measure of family support that significantly decreased with increases in parental negative life events. More

importantly, family multiplexity was significantly correlated with children's adjustment to these life events and other stressors. Wolchik et al. (1984) also reported that family multiplexity correlated negatively with internalizing, externalizing, and school problems and positively with deficits in self-esteem. It was also found to be negatively correlated to parental reports of child psychopathology (Wolchik et al., 1985). These findings suggest that the effectiveness of familial support is due, in part, to a family member's role as the source of multiple types of support. Similar results with adult populations have been reported (Caplan, 1976).

These studies provide only preliminary information about children's social support. Clearly, a child's family is the single most important aspect of their support. Qualitative analyses of satisfaction, source, and type of support predict health and adjustment better than do quantitative measures only. While the amount of data is small, it does seem that children are most satisfied with familial support and this support is of greater benefit than that of non-family sources in helping children cope with various difficulties. In addition, gender influences the composition of childrens' support networks. Finally, family supporters seem to be support generalists (cf. Bogat et al., 1985), supplying a range of support types.

Sibling Social Support

Given the significant role of the family in children's support networks, it is surprising that the role of siblings has been virtually unexamined. Typically, social support studies do not differentiate between siblings and other family sources of support. Those that have (e.g., Belle & Longfellow, 1984; Blyth et al., 1982; Bryant, 1985; Sandler, 1980), measured only whether the sibling was listed as a source of support. Kriegler (1985) has suggested that one of the reasons for her insignificant correlation between support satisfaction and measures of familial support may have been her use of a general "family" category which did not differentiate between parents and siblings. This, and the results of the Sandler (1980) study showing the correlation between health and sibling support, suggests that the role of siblings should be more thoroughly investigated.

Because of the dearth of data on sibling social support, information about siblings from other areas must be used to provide the groundwork for research on sibling social support. Unfortunately, research on siblings has been very limited, despite the fact that 80% of children living in the United States and Great Britain have siblings (Dunn, 1983) and the strength of their relationship is second only to that of parents (Irish, 1964). Furthermore, researchers such as Bank and Kahn (1982) have suggested that the influence of siblings on one another has increased over

the last century because of shrinking family size (intensifying sibling relationships), longer life spans (siblings may now be involved with each other for 60 to 80 years), increased geographic mobility (disrupting many of the non- and extended-family sources of support), and increased rates of divorce and remarriage (broken families must rely on more non-parental support and remarriage forces new family bonds with half- and step-siblings).

Not only is information about siblings scarce, but research useful for predictions about social support is further restricted. For example, a large portion of the publications about the sibling relationship over the last 70 years has been written by psychoanalytic theorists such as Freud, Klein, Adler, Levy, and Obendorf who exclusively considered the negative influences of siblings (e.g., rivalry, hostility, competition, and psychopathology). Attempts by later psychoanalysts to expand the scope of their study have been inadequate (Colanna & Neman, 1983). Likewise, family systems researchers consistently fail to examine siblings as a subsysytem--shortcomings such as failure to separate siblings from parental "triangles" and lack of emotional/intimacy assessment have plagued this perspective (Bank & Kahn, 1982). The child caregiving literature does give us some important information about sibling social support, albeit with some limitations. First, the majority of research is cross-cultural--providing comparatively little information on American populations.

Second, the methodology of caregiving and social support studies differ markedly; the former involves primarily interviews and direct observation, while the latter typically uses indirect measures (e.g., scales and questionnaires).

Caregiving entails a wide range of activities, including provision of limited tasks (e.g., feeding, bathing, and help with chores), supervision of play, and comprehensive, full-time care (Weisner & Gallimore, 1977). Unfortunately, this literature does not provide detailed information about the different types of activities involved in caregiving (except for academic tutoring, which will be considered below). Thus, while full-time and even lesser degrees of sibling caregiving include many components of social support (e.g., emotional, physical assistance, etc.), systematic documentation of quantitative and qualitative differences of caregiving activities is very limited. The fact that siblings engage in a variety of behaviors and interact in many different situations through caregiving suggests two things. First, caregiving is broadly analogous to social support. Through the process of caregiving, tangible aid (e.g., helping a sibling to dress), emotional (e.g., nurturance occurring from providing care), socialization (e.g., supervision of play), and cognitive support (e.g., academic caretaking) occurs. Therefore, one might expect that the factors affecting the provision of caregiving also influence the provision of social support.

Second, caregiving indicates that siblings are support generalists, that is, they provide more than one type of support.

Although sibling caregiving in Western cultures occurs less often and is less intensive than in non-industrialized nations, most American families use it (Medrich, Rozien, Rubin, & Buckley, 1982). For example, Medrich et al. (1982) reported that two-thirds of their sample of 764 sixth-graders were caregivers for their younger sibs.

The prevalence of sibling caregiving increases according to the needs of the family. For example, Blacks, Asians, native Hawaiians, and Mexican-Americans use sibling caregiving more than Anglo-Americans (Werner, 1984). A good deal of this variation may be explained by economic necessity, including larger family sizes, a higher percentage of parents in the work force, and a higher percentage of single-parent families in the subcultures noted above.

Sibling caregiving seems to benefit both the receiver and provider. Whiting and Whiting (1975) reported that sibling caretakers of six different cultures (including the U.S.) were more responsible, nurturant, and altruistic than children who did not tend siblings. Likewise, children caregivers of their mentally retarded siblings are more socially mature and responsible than their same age peers (Simeonsson & McHale, 1981). Psychotherapists have also begun to recognize the usefulness of sibling "therapists" in

facilitating interventions. Both the provider and recipient seem to benefit in familial and individual behavioral therapies (Wegner, 1984). While the results of these studies indicate that siblings provide some function that has health-inducing effects (Sandler, 1980) that may include aspects of social support, the caregiving literature does not include specific evaluations of the mechanisms responsible for these effects.

The study of siblings as academic tutors (termed academic caregiving in the literature) may be analagous to cognitive guidance in the social support paradigm. Children do provide cognitive guidance to their siblings. For example, Bryant (1982) reported that 78% of the 1st and 4th graders in her sample had an older sibling who helped them with their homework. Siblings are also an important source of information on many informal topics including conflict resolution, sex roles, social skills, play, and sports/game rules (Tsudaka, 1979). As will be discussed below, the gender and relative ages of siblings influences the provision and reception of academic caregiving. These factors may also affect other types of social support.

The Influence of Gender on Sibling Social Support

Differences between brothers and sisters and social support exchange:

Cognitive guidance. The gender of the sibling providing tutoring seems to affect the usefulness of the support.

Sisters are reported to be more effective teachers than are brothers and younger siblings are more accepting of sisters' rather than brothers' instructions (Cicirelli, 1972). Also, Cicirelli (1973) reported that when paired with an older sibling, younger children are more likely to work independently of a brother than a sister--implying that children feel more comfortable receiving cognitive guidance from sisters. While these findings may be explained, in part, by the different teaching styles of males and females (i.e., deductive versus inductive), status/power/rivalry issues may also be implicated. Older brothers typically hold more power and evoke more ambivalence from their siblings than do older sisters (Sutton-Smith & Rosenberg, 1970). These researchers argued that older brothers engender more resentment, causing poorer compliance and performance from their younger siblings.

Older sisters also provide more help than brothers in informal learning situations such as teaching their younger siblings to wrap gifts or learning a new card game (Minnett, Vandell, & Santrock, 1983). This and the studies noted above indicate that younger children are more likely to accept and be more satisfied with cognitive guidance provided by sisters.

Socialization, emotional, and tangible aid support. Bryant (1982) suggests that the higher degree of acceptance and provision of sisters' guidance is due to a greater amount of involvement by sisters for all types of

caregiving. Both cross-culturally and within the U.S., females more typically take on the role of caregiver (Sutton-Smith & Rosenberg, 1970; Whiting & Whiting, 1975) and sisters are more likely to see themselves as caregivers (Koch, 1956). Since caregiving can include all types of social support, one would also expect sisters' support to be more extensive and satisfying for emotional, physical and material aid, and socialization support. As a gross measure of all types of support, Bryant (1982) reports that sisters were significantly more likely to be named on a list of children's "ten most significant others" than were brothers. Confirmation from other fields has been incomplete. Data on emotional support are clearer, as studies from siblings' relationships indicate that older sisters are more nurturant and positive (Pepler, Abramovitch, & Corter, 1981), and direct more prosocial behavior and praise toward their younger siblings than do brothers (Minnett et al., 1983). Children are also more likely to accept a dependent role with an older sister than an older brother (Cicirelli, 1972). Studies of socialization suggest that choice of playmate is due more to a interaction between the sex of the child and sex of his/her sibling rather than a sex main effect (a more detailed discussion follows below). However, Koch (1960) found that older sisters were more likely to report playing with their younger sisters than their brothers. Also, since older sisters more typically take on the role of caretaker, it stands to reason that they will

provide more socialization support. No studies could be found that investigated gender differences in the quality or quantity of tangible aid provided. Turning again to the general caretaking findings, a gender effect might also be expected given the older sisters' greater role in delivering care (including tangible aid).

Differences Between Cross-sex and Same-sex Sibling Pairs

Cognitive guidance. The acceptance and provision of cognitive guidance may be mediated by the interaction between sex of child and the sex of his/her sibling. Cicirelli (1976a) reported that older children gave more feedback to their cross-sex siblings during problem-solving tasks than to same-sex siblings, purportedly because cross-sex siblings engender less conflict and rivalry than same-sex siblings. In an earlier study, Cicirelli (1975) also found that a child worked more quickly for the solution of a cognitive problem-solving task with an older same-sex than with an older cross-sex sibling. From this, he deduced that more competition exists between same-sex siblings. Minnett et al.'s (1983) observations of siblings' interactions showed no significant differences between the teaching efforts of cross- and same-sex siblings, but there were strong trends in the same direction as the Cicirelli studies. Cross-sex siblings were more likely to offer cognitive guidance during cooperative and competitive task interactions.

The results of these studies indicate that siblings receive more and may prefer cognitive guidance from cross-sex siblings. Rivalry and conflict may cause these findings. Competition is a theme which appears in almost every facet of siblings' relationships (Pfouts, 1976). It has been hypothesized that since same-sex siblings are more alike and have a larger body of shared experiences, desires, and the like, they experience greater conflict and resentment than do their cross-sex counterparts (Schachter, Gilutz, Shore, & Adler, 1978). Given the extensiveness of this effect in most areas of siblings' relationships, one would expect it to similarly affect other types of social support.

Socialization support. Studies focusing on areas other than teaching have not shown results consistent with Cicirelli's same- and cross-sex differences. Koch (1960) reported that children prefer same-sex over cross-sex siblings as playmates and that cross-sex siblings were significantly more likely to play alone (rather than with their sibling) than were same-sex siblings. Furman and Buhrmester (1985) also found that companionship was highest among same-sex siblings. Bank and Kahn (1982) also note that same-sex siblings are more likely to share friends and activities (e.g., organizations such as Girl/Boy Scouts and sports teams). At least for socialization, same-sex siblings seem to be a more consistent and preferred source of support.

Emotional support. Studies examining siblings' emotional exchange also report a sex of child/sex of sibling effect; however, this is directly opposite to Minnett et al.'s and Cicirelli's findings concerning cognitive guidance. Koch (1954, 1955, 1956, 1960) noted that same-sex siblings report less conflict and greater warmth and nurturance over a range of activities including creativity and play activites than cross-sex siblings. In comparison to cross-sex siblings, same-sex siblings are more loyal and intimate (Bank & Kahn, 1982). However, Minnett et al. (1983) also noted that same-sex siblings were significantly more likely to exhibit negative and conflict-oriented behaviors than cross-sex siblings--suggesting that same-sex siblings are less emotionally supportive. To explain the apparent discrepancies in these studies concerning the direction of same-and cross-sex interactions, Furman and Burhmester (1985) hypothesized that previous notions about the factors warmth/closeness versus conflict (as polar opposites on a continuum) may be false. Their study strongly indicates that the two factors are, in fact, independent. They also found that same-sex siblings had higher scores on measures of warmth/closeness and conflict than did cross-sex siblings. They propose that since same-sex siblings have more extensive interactions, they have the opportunity to develop both more conflict and warmth/closeness in their relationships than cross-sex siblings--in short, the relationship is typified by

ambivalence. Thus, one would expect children to report exchanging more emotional support with cross-sex than same-sex siblings.

Tangible aid. No studies could be found which evaluated gender interactions and constructs similar to tangible aid.

The Influence of Age on Sibling Social Support

Differences between Younger and Older Sibling Pairs:

All types of support. The literatures concerning caregiving and relationships among siblings have reported that the relative age of children affects their interactions. Older children provide more and receive less academic caregiving from their younger siblings (Werner, 1984). Likewise, children receive more companionship and nurturance from their older siblings than from younger siblings (Furman & Buhrmester, 1985). In the area of physical/material aid, no direct evidence exists to confirm this age effect. However, because younger children are almost never caregivers for their older siblings (which presumably includes the provision of physical/material aid), children should receive more of this type of support from older siblings. Greater satisfaction with an older rather than a younger siblings' social support across all types seems indicated given consistent findings that children are

more satisfied with (Furman & Buhrmester, 1985), emotionally closer to (Bowerman & Dobash, 1974), and more admiring of (Bank & Kahn, 1982) their older siblings.

Differences between narrow- and wide-spaced sibling pairs:

The influence of age differences on the caregiving and quality of sibling relationships parallels the influences of gender on these same variables. Koch (1954, 1955, 1956, 1960) showed that sibling age differences of 0-2 years result in moderate levels of competitiveness, stress, and resentment which peak when the age gap is 3-4 years and decreases with age differences greater than 4 years. Furthermore, children who were closer in age had more interests in common, played more with each other, were less likely to want to be rid of the other, and had more of an impact on their siblings' interests, abilities, and attitudes. These studies suggest that age differences between siblings are directly analogous to the gender differences posited by Furman and Buhrmester (1985). That is, narrow-spaced siblings interact in similar ways as same-sex siblings--exhibiting more intensive and extensive relationships in both prosocial and conflictual ways than do wide-spaced siblings.

Cognitive guidance. This age effect has been reported in subsequent studies on formal and informal tutoring. Cicirelli (1973) found that children were much more likely to

accept help with categorization tasks if their sibling was four years older than if he/she was only two years older. Pepler et al. (1981), in a longitudinal home-observation study, also noted that children were more likely to accept the directives of siblings four years rather than two years older. Minnett et al.'s (1983) study reported similar results with two age-gap categories (1-2 versus 3-4 years difference). Narrow-spaced children were less likely to teach and provide help during cooperative and competitive tasks. These studies indicate that compared to wide-spaced siblings, narrow-spaced siblings are less likely to receive and more likely to reject cognitive help. Like same-sex siblings, cognitive guidance between narrow-spaced siblings appears to result in more ambivalence and less support than with wide-spaced siblings.

Socialization support. The reciprocation of socialization support between narrow- and wide-spaced siblings also parallels the gender effects reported above. As noted previously, Koch (1960) reported that children play more often with narrow-spaced than wide-spaced siblings and prefer the company of the former. Bank and Kahn (1982) also report that narrow-spaced siblings have higher access to one another through shared experiences in school and at home. They are more likely than wide-spaced siblings to have the same friends, join the same organizations, and participate on the same sports teams. Bank and Kahn argue that these shared social experiences precede and cause the development

of the keen, ambivalent feelings narrow-spaced siblings engender. In addition, this process occurs in the same fashion as with same-sex siblings.

Emotional support. In comparison to narrow-spaced siblings, wide-spaced siblings are less emotionally ambivalent. Minnett et al. (1983) reported that wide-spaced siblings show more positive behaviors, more affection, and less aggression and depreciation towards their younger siblings than do same-sex siblings. Furman and Burhmester (1985), using two age-difference categories (0-4 versus greater than 4), also found that children reported their wide-spaced siblings as more nurturant. Furthermore, these children accepted more nurturance from and were more satisfied with their relationships with wide- than narrow-spaced siblings. Bryant (1982) has suggested that when siblings' ages are relatively close, the struggle for power and competition over abilities and the attention of parents are the source of continued strife, resulting in emotional ambivalence. At some point (approximately four years age difference), a "no-contest" relationship ensues, wherein siblings' relative abilities and power are so different that competition and conflict are fruitless. Thus, sibling relationships are more nurturant and emotionally supportive when their ages are widely spaced. This does not conflict with Furman and Buhrmester's (1985) contentions about the bidimensionality of siblings' relationships--narrow-spaced siblings are by definition more emotionally ambivalent than

widely-spaced siblings.

Tangible aid. No data could be found detailing age difference interactions and the area of tangible aid.

Gender and Age Effects Combined

It has been hypothesized that the influence of gender and age differences, independently, will affect the exchange of social support between siblings. It seems logical to expect combinatory effects between the two variables as well. Four types of sibling pairs can be conceptualized from the sibling structural variables noted previously (e.g., one cell would represent siblings of the same sex and differing in age by less than four years). One might expect differences in the quantity and quality of social support exchanged between the pair types. Unfortunately, little data exists on these pairs with which to make predictions about social support. Minnett et al.'s (1983) study made no such comparisons, while Koch's (1960) and Furman and Burhmester's (1985) were incomplete--not analyzing many of the variables studied or only comparing two of the sibling pair types.

Cognitive guidance. No data exist on sibling pair differences and constructs similar to cognitive guidance.

Socialization support. There is some experimental evidence by which to guide hypotheses about socialization

support. Furman and Buhrmester (1985) note that children reported receiving more companionship from narrow-spaced, same-sex than narrow-spaced, opposite-sex siblings. However, no information on widely-spaced siblings was provided. Koch (1960) found that siblings closest in age and sex report more play together. Given prior hypotheses regarding more socialization between like sibling pairs, these findings are not unexpected.

Emotional support. On their measure of warmth/closeness, Furman and Buhrmester (1985) report higher scores among same- rather than cross-sex siblings for the narrow-spaced sibling pairs. However, this difference disappeared for the wide-spaced siblings. While they provided no combinatory information on measures of conflict, the above finding implies that age has a greater impact on emotional support than does gender. Koch (1960) also found a significant age and gender interaction effect for the amount of reported quarreling between siblings. Siblings closer in age and of the same sex were more likely to report quarreling. Combined with Furman and Buhrmester's data, Koch's findings indicate that increased similarity of siblings results in greater ambivalence.

Tangible aid. No information about the added effects of age and gender differences and sibling exchange of tangible aid could be found.

Satisfaction. Satisfaction with the social support given by siblings may also show significant age and sex effects. While no direct measure of this exists, Furman and Burhmester's (1985) sample of siblings rated satisfaction with their siblings relationships; however, the researchers only reported age effects. The satisfaction scores were greater with wide-spaced older siblings than narrow-spaced older siblings. This finding supports earlier contentions that narrow-spaced siblings are considerably more ambivalent towards their siblings.

RATIONALE

Researchers and theorists have begun to examine the social support of children for its implications for adult support, for understanding support development, and for interventions with children. To date, few studies of childrens' social support have been undertaken. The research completed thus far suggest that the usefulness of childrens' support is mediated by factors similar to those that affect adult social support. In particular, qualitative measures of social support are more predictive of health and coping than are quantitative descriptors. Finally, it was shown that family members are the most important provider of childrens' social support. They comprise a significant portion of childrens' networks and are instrumental in helping children adjust to stressors such as divorce.

Given the prominence of the family in childrens' social networks, the support literature shows a notable deficit in its evaluation of the role of siblings. The only data existing on sibling social support per se, is the proportion of siblings in the total support network (cf. Blyth et al., 1982). Research in related fields was examined to provide hypotheses about siblings and social support. This literature has limitations; however, it does seem that siblings exchange many types of social support and the degree of reciprocation depends on the needs of the family. The research shows further that this support can be

beneficial to children, although the process by which it affects coping, stress, and health is not known.

The caregiving and sibling relationship literatures did indicate some variables that may affect the exchange of sibling social support. Chief among these are the effects of age and gender. Bryant (1982) and others have suggested that sibling relationships are governed, in part, by a conflict over power and status. Since age and gender differences between siblings affect this conflict in predictable ways, it was suggested that social support would be similarly influenced. However, studies by Koch and Cicirelli, using constructs similar to social support, reported seemingly conflicting findings on these age and gender dimensions. Furman and Buhrmester (1985) argued that there are at least two independent dimensions to sibling relationships: a conflict and a warmth/closeness construct. It was suggested that the exchange of sibling social support as influenced by gender and age, may also be mediated by these dimensions.

Gender Influences

Experimental evidence suggested that, regardless of the gender of the target sibling, the exchange of sibling social support will be greater and more satisfying with sisters than with brothers. It was also predicted that an interaction between the sex of the child and sex of his/her sibling would mediate social support.

If Furman and Buhrmester's suppositions are correct--

that same-sex siblings have more intense and extensive relationships in both prosocial and antagonistic ways, the question remains as to how this would affect social support. If the result is a "cancellation" of the extremes (i.e., ambivalence resulting from being both more close and rivalrous than cross-sex siblings) it would suggest that cross-sex siblings will be more supportive for any given type of social support than same-sex siblings. However, the strength of same-sex siblings' more intensive and extensive relationships may outweigh the ambivalence. Here, the result would be greater provision and reception of a given type of social support by same-sex siblings rather than with cross-sex siblings.

The implications for cognitive guidance are fairly straight-forward. Cicirelli's and Minnett et al.'s data suggest that cross-sex siblings will provide more cognitive guidance than same-sex siblings and that the formers' help will be preferred. This implies that the provision and reception of cognitive guidance is governed by the "equalling" of the two factors. Intuitively, one could see how teaching is a more power-oriented relationship than other types of support, especially with children. Unfortunately, no data could be found to confirm this supposition.

The connotations for socialization support are less clear. The data indicate that children spend more time with and prefer the company of same-sex siblings. Therefore, one

would expect siblings to report receiving more and being more satisfied with socialization support provided by same-sex siblings. Socialization support seems to be the case where same-sex siblings' more extensive/intensive interactions outweigh the possible ambivalent direction of those relationships. However, it may also be that the two factors do not affect socialization support, but instead arise from the more extensive contact of same-sex siblings. That is, same-sex siblings' greater quantity of contact occurs for other reasons (e.g., cultural customs) which then creates the environment for greater warmth/closeness and conflict.

Emotional support between same- and cross-sex siblings is considerably more difficult to predict because the two factors (warmth/closeness and conflict) are themselves emotional constructs. Same-sex siblings seem to be both more and less emotionally supportive than cross-sex siblings because they exchange more warmth, loyalty, and conflict. This implies an ambivalent emotional relationship, and suggests two things. One is that children will receive less emotional support from same-sex than cross-sex siblings. Second, according to Furman and Buhrmester's hypotheses, emotional support is the case where same-sex siblings' more intensive relationships results in ambivalence.

No studies could be found which investigated same- versus cross-sex sibling differences regarding a construct similar to physical/material aid. Since same-sex siblings

would be more likely to have similar material items (e.g., toys and games), chores, and have more contact with one another than cross-sex siblings, one might expect children to receive more physical and material aid support from same-sex than from cross-sex siblings.

The Influence of Age

Studies investigating the effects of the relative age of siblings indicate that children will receive more and be more satisfied with the social support they receive from older than younger siblings. It is hypothesized that this will occur for all types of support.

It also seemed that sibling pairs differing in age (by less than four years versus those greater than or equal to four years) would have significant differences in the amount of social support exchanged and the satisfaction with that support. It was predicted that the direction of those differences would be mediated by the warmth/closeness and conflict factors in a fashion paralleling the gender interactions. For tangible aid, however, sufficient data could not be found to make these hypotheses. Left to intuition, one could hypothesize that narrowly-spaced siblings will reciprocate more tangible aid given their increased contact, shared materials (e.g., clothes), and needs. However, because children with siblings much younger than themselves are more likely to have a caregiving role, one could also predict that children will receive more of this type of support from older, more widely-spaced

siblings.

Finally, it was suggested that the influence of the combination of age and gender would have an effect on the quantity and quality of social support reciprocated by siblings. More clearly, one should see significant differences between the four sibling pair types on measures of the exchange of social support. The direction of these differences should provide information on the magnitude of the influence of Furman and Buhrmester's dimensions of warmth/closeness and conflict. Predictions are hampered, however, by the scarcity of relevant research.

Cognitive guidance. No data exists on sibling pair differences and constructs similar to cognitive guidance. Given prior suppositions that such caregiving increases with the increased disparity between siblings (e.g., cross-sex and widely spaced), this cell should show the greatest support exchange. Conversly, same-sex/close-spaced sibling pairs should report receiving the least amount of cognitive guidance from one another. Of the remaining pair types (cross-sex/narrow-spaced and same-sex/wide-spaced), the latter most likely will rank second in the quantity of support received. This is hypothesized because both variables (age and sex) seem to be governed by the conflict and warmth/closeness factors; however, age should have a greater impact since it is also affected by education, maturation, and information differences. An older, widely-spaced sibling has more education, maturation, and

information than his/her narrow-spaced counterpart (positively affecting the amount of cognitive guidance provided), while having a same- or opposite-sex sibling would not intuitively induce such a difference. Thus, the rank ordering of the four pair types by decreaing amounts of cognitive guidance received would be: cross-sex/wide-spacing, same-sex/wide-spacing, cross-sex/narrow-spacing, same-sex/narrow-spacing.

Socialization support. The research available in this area was limited, but did give evidence that sibling pairs closest in age and sex would reciprocate the most socialization support. The exact rank ordering among all the pairs types is left to intuition, however, because of data deficits. The first and fourth ranks (in decreasing order of the amount of socialization received) should be the same-sex/narrow-spaced and cross-sex/wide-spaced siblings pair types respectively. Again, the order of the two remaining pairs are difficult to determine because of the opposite effects these age and gender factors have on socialization support. Furthermore, the conflict versus warmth/closeness dimensions similarly influence both pair types. We are left with determining whether age or gender or their interaction has more of an effect. The relative magnitude between the influences of gender and age differences may be one way of measuring this. By this method, Furman and Buhrmester's data indicates that the effects of the relative sex of the child and his/her sibling

has a greater impact on companionship scores than the relative ages of the siblings. Thus, one would expect the same-sex/widely spaced siblings to exchange more socialization support than the cross-sex/narrow-spaced sibling pair type; making them second and third, respectively, in the ranking of the four types.

Emotional support. The data indicates that the increased similarity of siblings leads to greater ambivalence. From this, one would expect that cross-sex/widely-spaced siblings will exchange the greatest amount of emotional support, while same-sex/narrow-spaced siblings the least. If the age difference dimension is more influencial than the relative sex of the sibling (as seems indicated by Furman and Buhrmester's data), the second and third rankings would be same-sex/widely-spaced and cross-sex/narrow-spaced sibling types respectively. And intuitively, age, rather than gender, would have more of an impact on ambivalence. The keen competition between siblings for power and status is notably exacerbated by age differences (Koch, 1960). Conversely, a general trend towards more equitable treatment of boys and girls, especially with parenting styles, lowers the impact of gender differences. Finally, one would expect more conflict between the sexes during puberty than middle childhood.

Tangible aid. Again, predictions about tangible aid are made without the benefit of prior research. Earlier, it

was hypothesized that same-sex and close-aged siblings would be a more consistent source of this type of support due to the greater time spent together, likeness of material goods (e.g., clothes and games), and likelyhood of sharing chores. This was balanced by a hypothesis that older, wide-spaced siblings would provide more support than their narrow-spaced counterparts because of the formers' increased role in all types of caregiving and maturational differences enabling them to be of more help (i.e., more adept at meeting the needs of others). Given these arguments, it would seem that, regardless of age difference effects, same-sex siblings will exchange more physical/material aid compared to cross-sex pairs. It is not readily apparent how the age component will interact with the gender dimension to effect the provision of physical/material aid.

Satisfaction. Given the lack of sufficient data, hypotheses about how age and gender interactions influence satisfaction with sibling social support will be made from the assumption that satisfaction is inflenced by these factors in ways similar to emotional support. Satisfaction may be seen as a qualitative, rather than a quantitative measure of emotional support. In addition, Furman and Buhrmester's data indicates that the effects of gender and age interactions on satisfaction most closely parallels emotional support of all the types of support. Thus, the rankings of the four sibling pair types by decreasing magnitude would be cross-sex/wide-spaced, same-sex/wide-

spaced, cross-sex/narrow-spaced, and same-sex/narrow-spaced.

The present study seeks to incorporate the above findings and begin to delimit sibling social support. It will do so by analyzing the social support networks of multiple-child families with siblings of at least school age. Measures of social support will include quantitative and qualitative indices such as the source and type of support, and satisfaction with the support received. The bulk of this investigation will concern the support received by siblings as a function of age, gender, and their possible interactions.

Hypotheses

Hypothesis 1: Children will report receiving more social support from sisters than from brothers. That is, sisters will be nominated proportionately more often than will brothers.

a) This relationship will occur with each of the four types of social support.

b) This relationship will occur when mean nomination ratios are collapsed across the four support types.

c) Children will report being more satisfied with the social support they receive from sisters than from brothers. That is, sisters' average satisfaction ratings will be higher than will brothers'.

Hypothesis 2: The following relationships between social support, the sex of the child, and the sex of his/her sibling are predicted:

a) Children will report receiving more cognitive guidance from cross-sex than from same-sex siblings. That is, cross-sex siblings will be nominated proportionately more often than will same-sex siblings.

Children will report receiving more socialization support from same-sex than from cross-sex siblings. Same-sex siblings will be nominated proportionately more often than will cross-sex siblings.

Children will report receiving more emotional support from cross-sex than from same-sex siblings. Cross-sex siblings will be nominated proportionately more often than will same-sex siblings.

Children will report receiving more tangible aid from same-sex than from cross-sex siblings. Same-sex siblings will be nominated proportionately more often than will cross-sex siblings.

b) Children will report receiving more social support from cross-sex than same-sex siblings when the mean nomination ratios are collapsed across the four support types.

c) Children will report being more satisfied with the social support they receive from cross-sex than from same-sex siblings. Cross-sex siblings' average satisfaction ratings will be higher.

Hypothesis 3: Children will report receiving more social support from older than younger siblings. That is, older siblings will be nominated proportionately more often than will younger siblings.

a) This relationship will occur with each of the four types of social support.

b) This relationship will occur when the mean nomination ratios are collapsed across the four support types.

c) Children will report being more satisfied with the social support they receive from older than from younger siblings. That is, older siblings' social support satisfaction ratings will be higher.

Hypothesis 4: The following relationships between social support and the age spacing of siblings are predicted:

a) Children will report receiving more cognitive guidance from wide-spaced siblings (4 or more years older) than narrow-spaced siblings (less than 4 years older). That is, wide-spaced siblings will be nominated proportionally more often than will narrow-spaced siblings.

Children will report receiving more socialization support from narrow- than wide-spaced siblings. That is, narrow-spaced siblings will be nominated proportionally more often than will wide-spaced siblings.

Children will report receiving more emotional support from wide- than narrow-spaced siblings. That is, wide-spaced siblings will be nominated proportionately more

often than will narrow-spaced siblings.

Children will report receiving more tangible aid from wide- than narrow-spaced siblings. That is, wide-spaced siblings will be nominated proportionately more often than will narrow-spaced siblings.

b) Children will report receiving more support from wide-spaced than narrow-spaced siblings when the mean nomination ratios are collapsed across the four support types.

c) Children will report being more satisfied with the social support they receive from wide- than narrow-spaced siblings. That is, wide-spaced siblings' support satisfaction ratings will be higher.

Hypothesis 5: It is predicted that the relationship between the sex of the child, the sex of his/her sibling, and the age spacing of siblings are predicted will effect the support nomination ratios of children as follows:

a) Cognitive guidance: the effects of relative age and age-spacing will be cumulative with no interaction effects such that the greater the similarity of the sibling, the lower the probability of being nominated. The age-spacing of the sibling will be the more dominant factor. Thus, in decreasing order, the following sibling pair types will be nominated in greatest proportion: cross-sex/wide-spaced, same-sex/wide-spaced, cross-sex/narrow-spaced, and same-sex/narrow-spaced.

Socialization: the effects of relative sex and age-spacing will be cumulative with no interaction effects such that the greater the similarity of the sibling, the higher the probability of being nominated. The relative sex of the sibling will the more dominant factor. Thus, in decreasing order, the following sibling pairs will be nominated in greatest proportion as a source of socialization support: same-sex/narrow-spaced, same-sex/wide-spaced, cross-sex/narrow-spaced, and cross-sex/wide-spaced.

Emotional: The effects of relative sex and age-spacing will be cumulative with no interaction effects such that the greater the similarity of the sibling, the lower the probability of being nominated. The age-spacing of the sibling will be the more dominant factor. Thus, in decreasing order, the following sibling pairs will be nominated in greatest proportion as a source of emotional support: cross-sex/wide-spaced, same-sex/wide-spaced, cross-sex/narrow-spaced, and same-sex/narrow-spaced.

Tangible aid: The effects of relative sex and age-spacing will be cumulative with no interaction effects such that the greater the sibling similarity, the higher the probability of being nominated. The relative sex of the sibling will be the more dominant factor. Thus, in decreasing order, the following sibling pairs will be nominated in greatest proportion as a source of tangible aid: same-sex/narrow-spaced, same-sex/wide-spaced, cross-sex/narrow-spaced, and cross-sex/wide-spaced.

b) Satisfaction: the effects of relative sex and age-spacing will be cumulative with no interaction effects such that the greater the sibling similarity, the lower the satisfaction rating. The age-spacing of the sibling will be the more dominant factor. Thus, in decreasing order, the following sibling pairs will have the highest average support satisfaction ratings: cross-sex/wide-spaced, same-sex/wide-spaced, cross-sex/narrow-spaced, and same-sex/narrow-spaced.

Method

This study is a part of a larger research project. Therefore, only the methodology relevant to this particular study will be discussed.

Subjects

One hundred and forty-six children, 77 males and 69 females, with at least one sibling, living in a mid-western city were sampled in this study. No twins were included in the sample. At least one of the children in the family were between the ages of seven and eleven; children's ages ranged from 7 to 21 years with a median age of 10.5 years. The racial distribution of the sample was as follows: 87.1% Caucasian, 9.2% Black, 1.2% Hispanic, and 2.5% other. The subjects' religious affiliation was 71% Protestant, 18.6% Catholic, and 10.4% no preference or other. The mean SES was 5 and ranged from 0 to 9 (Hollingshead & Redlich, 1958).

The subjects were recruited through the local police department and coordinators of Neighborhood Watch Groups who nominated city areas with a high density of children. In order to verify these selections, 1980 census data was used. Bressers Guide (1982) was used to obtain the names, addresses, and telephone numbers of prospective subjects in each of ten neighborhoods.

Residents were first contacted via a letter explaining

the nature of the study, its connection with Michigan State University, and its support by the city police department (Appendix A). A follow-up phone call from a prepared script was made to each household to identify those with a child between the ages of seven and eleven. Those families with a child of target age were asked to participate after a more extensive desciption of the project including a lottery for four fifty-dollar checks upon completion of the interviews.

Procedure

After scheduling appointments, interviewers went to each of the subjects' homes to complete the questionnaires. All family members living in the household were asked to complete the interview packets after hearing a final description of the study and signing consent forms. The sessions lasted from sixty to ninety minutes and included an interviewer with the children and one with the parent(s).

Upon completion of the data gathering, subjects were debriefed with a summary sheet of typical questions about the project and answers to those queries. Additional questions were handled by the interviewers.

Interviewers, previously trained in administering the questionnaires, were graduate and upper-level undergraduate students at Michigan State University.

Tests and Measures

The Family Fact Sheet (FFS) is a 17 item questionnaire which obtains demographic information about the family and household including: the length of time the family has

lived at the present address, if the home is owned versus rented, marital status, age, race, education, employment status and occupation, and religion of the head of the household, religion of the children, and the name, age and relationship of those living within the home. (Appendix B).

The Children's Social Support Questionnaire (CSSQ) (Bogat, Chin, Sabbath, & Schwartz, 1983) was designed to measure the quantitative and qualitative components of a school-aged child's social support network. It includes four questions on each of four types of support: (1) cognitive guidance (e.g., who gives you information or advice about personal matters?), (2) socialization support (e.g., who do you 'hangout' with?), (3) emotional support (e.g., who cares about you?), and (4) tangible aid (e.g., who takes you places you need to go?). For each question, the child may list up to ten supporters. Each unique supporter is then listed on the last page of the questionnaire by the interviewer. The child is then asked to answer a series of questions to obtain information about each supporter including: sex of the supporter, relationship with the supporter (e.g., parent, professional, or classmate/schoolmate), frequency of contact with the supporter (i.e., six point scale from a few times a year or less to every day), and how happy the child is with the relationship with the supporter (i.e., five point scale from very unhappy to very happy). See Appendix C.

RESULTS

Hypothesis 1(a). It was predicted that children would nominate their sisters proportionately more often than their brothers on each of the four subtypes of social support: cognitive guidance, socialization, emotional, and tangible aid. A priori, directional t-tests between the mean ratios (# of times a sister was nominated / # of times a sister could have been nominated vs. # of times a brother was nominated / # of times a brother could have been nominated) showed a significant difference only with emotional support [$t(203) = 1.82$, $p < .05$], although all differences were in the predicted direction. See Table 1 for breakdown of each type of support.

1(b). It was hypothesized that a sex of sibling effect would also appear when mean nomination ratios were collapsed across the four support types. The two-tailed t-test just missed significance, but showed a trend with sisters being nominated proportionately more often than brothers, [$M_{sisters} = .18$; $M_{brothers} = .14$, $t(200) = 1.37$, $p < .10$.].

1(c). It was predicted that the mean satisfaction ratings of the support provided by sisters would be higher than that of brothers. This hypothesis was not supported ($M_{brothers} = 4.65$; $M_{sisters} = 4.63$), $t(207) = .18$.

Table 1

Mean Ratios of Sibling Supporters: Sisters vs. Brothers

Support Types	Source: Sisters (n = 100)	Source: Brothers (n = 105)	t
Cognitive Guidance			
M	.17	.11	1.48*
Var.	.09	.04	
Socialization			
M	.12	.11	.58
Var.	.04	.03	
Emotional			
M	.25	.17	1.82**
Var.	.13	.07	
Tangible Aid			
M	.18	.16	.55
Var.	.08	.06	
Combined (Across 4 types)			
M	.18	.14	1.37*
Var.	.06	.03	

*p <.10. **p < .05.

While analyzing the data, it was observed that the difference between many of the sample variances was fairly large. A simple post-hoc F-ratio was done on each of the variances to determine heterogeneity of variance. As will be fully explained below, t-tests are robust to violations of the assumption of homogeneity, especially given the large sample sizes in this study. However, the results of these homogeneity analyses are provided for complete accuracy. The nomination ratios of sisters were significantly different from that of brothers for cognitive support [$F(99, 104) = 2.05$, $p < .05$] and emotional support [$F(99, 104) = 1.80$, $p < .05$]. There was only a trend towards significant differences for socialization [$F(99, 104) = 1.45$, $p < .10$], but no significant difference for tangible aid [$F(99, 104) = 1.31$, $p > .10$].

Hypothesis 2(a). It was predicted that same-sex siblings would be nominated proportionately more often than cross-sex siblings on socialization and tangible aid support, while the reverse would be evidenced on cognitive guidance and emotional support. Table 2 shows that while the mean proportions for same-sex siblings compared to cross-sex siblings were larger for each support type, only socialization support was significantly different [$t(201) = 2.02$, $p < .05$].

2(b). It was predicted that the mean nomination ratios (collapsed across the four support types) of cross-sex siblings would be higher than that of same-sex siblings.

However, a post-hoc analysis revealed a trend favoring same-sex compared to cross-sex siblings (see Table 2), $t(200) = 1.73$, $p < .10$, two-tailed.

2(c). It was also hypothesized that mean satisfaction scores would be higher with cross-sex siblings compared to same-sex siblings, however the results showed a modest trend in the opposite direction [$M_{cross} = 4.58$; $M_{same} = 4.70$; $t(164) = -1.08$, $p < .15$, two-tailed].

Estimation of homogeneity of variance showed that the nomination ratios of same-sex siblings were significantly more varied than for cross-sex siblings on socialization support [$F(101, 100) = 1.52$, $p < .05$] and emotional support [$F(101, 100) = 1.60$, $p < .05$] but not for the other types of support. Also, the variance differences for the overall mean nomination ratios or mean satisfaction ratings were not significant.

Hypothesis 3(a). It was predicted that children would nominate their older siblings proportionately more often than their younger siblings on each of the four types of social support. Table 3 shows that the mean nomination ratios were significantly different in the predicted direction for all four types.

3(b). A relative age effect was also predicted in the mean nomination ratios of older versus younger siblings across the four support types. The two-tailed, post-hoc t-test showed that older siblings were nominated significantly more often than younger siblings [$t(200) = 4.27$, $p < .001$].

Table 2

Mean Ratios of Sibling Supporters: Cross- vs. Same-sex

Support Types	Source: Cross (n = 101)	Source: Same (n = 102)	t
Cognitive Guidance			
M	.11	.16	-1.23
Var.	.05	.06	
Socialization			
M	.09	.14	2.02**
Var.	.03	.04	
Emotional			
M	.17	.24	-1.42
Var.	.07	.11	
Tangible Aid			
M	.15	.19	1.28
Var.	.06	.07	
Combined (Across 4 types)			
M	.13	.18	-1.73*
Var.	.04	.05	

Note. minus t values indicate results opposite from predicted direction (t-tests are two-tailed).
**p < .05, one-tailed. *p < .10, two-tailed.

Table 3

Mean Ratios of Sibling Supporters: Younger vs. Older

Support Types	Source: Younger (n = 102)	Source: Older (n = 89)	t
Cognitive Guidance			
M	.05	.23	5.81***
Var.	.02	.08	
Socialization			
M	.09	.14	1.78*
Var.	.03	.04	
Emotional			
M	.15	.28	3.07**
Var.	.05	.12	
Tangible Aid			
M	.12	.25	3.54***
Var.	.04	.09	
Combined (Across 4 types)			
M	.10	.23	4.27+
Var.	.02	.05	

*p < .05, one-tailed. **p < .01, one-tailed.
***p < .001, one-tailed. +p < .001, two-tailed.

3(c). It was predicted that, compared to younger siblings, the mean satisfaction ratings of older siblings would be significantly higher. While the ratings differed in the hypothesized direction ($M_{younger}$ = 4.58; M_{older} = 4.69) they were not significantly different, $t(154) = .98$.

Analyses showed that the variances were heterogenous for each of the four support types (see Table 3 for variances). Childrens' nomination ratios of their older siblings, compared to their younger siblings, were significantly more varied for cognitive guidance [$F(88, 101) = 4.40$, $p < .001$] emotional [$F(88, 101) = 2.20$, $p < .01$] tangible aid [$F(88, 101) = 2.20$, $p < .01$]; and overall [$F(88, 101) = 2.52$, $p < .01$], but showed only a trend with socialization support [$F(88, 101) = 1.47$, $p < .10$].

Hypothesis 4(a). It was hypothesized that widely-spaced siblings would be nominated proportionately more often for three support types (cognitive guidance, emotional and tangible aid support), while narrow-spaced siblings would be nominated proportionately more often for socialization support. None of the mean ratios were significantly different, although socialization support approached significance in the predicted direction [$t(203) = 1.39$, $p < .10$]. (See Table 4 for a breakdown by support types).

4(b). It was predicted that wide-spaced, compared to narrow-spaced siblings, would be nominated proportionately more often across the four support types. This was not

Table 4

Mean Ratios of Sibling Supporters: Narrow- vs. Wide-Spaced

Support Types	Source: Narrow (n = 110)	Source: Wide (n = 95)	t
Cognitive Guidance			
M	.12	.14	.59
Var.	.05	.06	
Socialization			
M	.13	.09	1.39
Var.	.03	.04	
Emotional			
M	.21	.21	-.14
Var.	.09	.09	
Tangible Aid			
M	.18	.18	.10
Var.	.07	.07	
Combined (Across 4 types)			
M	.16	.16	.16
Var.	.04	.04	

supported [$t(200) = .16$, two-tailed].

4(c). It was hypothesized that the mean satisfaction ratings of wide-spaced siblings would be higher than that of narrow-spaced siblings. They were not significantly different [($M_{narrow} = 4.58$; $M_{wide} = 4.71$), $t(198) = 1.24$], although the difference was in the predicted direction.

The variances were significantly different between narrow- and wide-spaced siblings only on socialization support and the satisfaction ratings. For socialization, a significantly higher degree of variance occurred with the nomination ratios of narrow-spaced versus wide-spaced siblings [$F(109, 94) = 1.54$, $p < .05$]. Also, the satisfaction rating distributions showed a significantly higher degree of variance associated with the ratings of narrow- versus wide-spaced siblings [$F(94, 76) = 2.73$, $p < .01$].

Hypothesis 5. It was predicted that the relationship between the sex of the child, the sex of his/her sibling, and the age spacing between siblings would affect the support nomination ratios of children as follows:

Cognitive guidance: The effects of relative age and age spacing were predicted to be cumulative so that the greater the dissimilarity of the sibling, the greater the probability that they would be nominated. Further, the age-spacing of the sibling would be the most dominant factor of the two. Thus, the mean nomination ratios of the sibling pair types were predicted to be: cross-sex/wide-spaced,

same-sex/wide-spaced, cross-sex/narrow-spaced, same-sex/narrow-spaced. It was also predicted that there would be no interaction effects. The preliminary two-by-two factorial ANOVA (Table 5) reflects the lack of any main or interaction effects. However, there is a trend towards a relative gender main effect in the opposite direction predicted $F(1, 241) = 2.77$, $p < .10$.

Bartlett's test for homogeneity of variance among the four-groups revealed no significant results (variances can be found on Table 5), $X^2 (3, N = 90) = 5.76$.

Socialization: Greater sibling similarity was predicted to result in higher nomination ratios with relative sex again being the more powerful variable. No interaction effects were hypothesized. In decreasing order of magnitude, the mean proportional nomination ratios of the four sibling pair types were predicted to be: same-sex/narrow-spaced, same-sex/wide-spaced, cross-sex/narrow-spaced, cross-sex/wide-spaced. The two-by-two factorial ANOVA (Table 6) revealed a significant gender effect [$F(1, 241) = 6.06$, $p < .05$] in the predicted direction, but no age spacing or interaction effects.

Bartlett's test indicated that the sample variances were heterogenous [$X^2 (3, 244) = 13.07$, $p < .0001$].

Emotional: It was predicted that greater sibling dissimilarity would result in greater nomination ratios with gender being the dominant factor. None of the main effects were significant, although there was a trend towards a

Table 5

Relative Sex and Age Spacing Effects on Cognitive Guidance

	Same/Narrow	Same/Wide	Cross/Narrow	Cross/Wide
Mean	.13	.17	.10	.11
Variance	.05	.08	.04	.05

Variable	Sum of Squares	DF	Mean Square	F
Main Effects				
Gender	.16	1	.16	2.77*
Age	.03	1	.03	.54
Interaction				
Gender x Age	.01	1	.01	.18
Residual	13.65	241	.06	

*$p < .10$

Table 6

Relative Sex and Age Spacing Effects on Socialization Support

	Same/Narrow	Same/Wide	Cross/Narrow	Cross/Wide
Mean	.14	.13	.09	.06
Variance	.05	.04	.02	.02

Variable	Sum of Squares	DF	Mean Square	F
Main Effects				
Gender	.21	1	.21	6.06*
Age	.03	1	.03	.97
Interaction				
Gender x Age	.01	1	.01	.14
Residual	8.09	241	.03	

*$p < .05$

relative gender main effect [$F(1, 241) = 3.61$, $p < .10$] with same-sex siblings nominated proportionately more often that their cross-sex counter-parts. See Table 7.

Barlett's test indicated heterogeneity of variance [$X^2 (3, 244) = 9.84$, $p < .05$] with the larger variances associated with the same-sex sibling samples.

Tangible Aid: The mean proportional nomination ratios were predicted to be higher with siblings most similar with relative sex being more influential than age spacing. The data did not confirm such a relationship (see Table 8). A trend for a main gender effect in the predicted direction was found [$F(1, 241) = 3.46$, $p < .10$]; however no age spacing effect was seen.

Bartlett's test was not significant, indicating that the sample variances were homogenous, [$X^2 (3, 244) = 4.27$].

Satisfaction: It was predicted that increased sibling similarity would result result in higher satisfaction ratings with gender being the most dominant factor. In decreasing order of magnitude, the mean support satisfaction ratings (collapsed across the four types of support) of the four sibling pair types were hypothesized to be: cross-sex/wide-spaced, same-sex/wide-spaced, cross-sex/narrow-spaced, and same-sex/narrow-spaced. Table 9 shows there were no significant main or interaction effects.

Bartlett's test of the sample variances was significant [$X^2 (3, N = 172)$, $p < .001$] with the larger variances associated with the narrow-spaced sibling groups.

Table 7

Relative Sex and Age Spacing Effects on Emotional Support

	Same/Narrow	Same/Wide	Cross/Narrow	Cross/Wide
Mean	.24	.23	.16	.17
Variance	.11	.11	.06	.07

Variable	Sum of Squares	DF	Mean Square	F
Main Effects				
Gender	.32	1	.32	3.61*
Age	.00	1	.00	.00
Interaction				
Gender x Age	.01	1	.01	.07
Residual	21.29	241	.09	

*$p < .10$

Table 8

Relative Sex and Age Spacing Effects on Tangible Aid

	Same/Narrow	Same/Wide	Cross/Narrow	Cross/Wide
Mean	.19	.21	.13	.14
Variance	.07	.08	.05	.06

Variable	Sum of Squares	DF	Mean Square	F
Main Effects				
Gender	.23	1	.23	3.46*
Age	.02	1	.02	.26
Interaction				
Gender x Age	.01	1	.01	.04
Residual	15.73	241	.07	

*$p < .10$

Table 9

Relative Sex and Age Spacing Effects on Satisfaction Ratings

	Same/Narrow	Same/Wide	Cross/Narrow	Cross/Wide
Mean	4.65	4.75	4.49	4.69
Variance	.07	.08	.05	.06

Variable	Sum of Squares	DF	Mean Square	F
Main Effects				
Gender	.58	1	.58	1.07
Age	1.14	1	1.14	2.11
Interaction				
Gender x Age	.61	1	.61	1.13
Residual	90.90	169	.54	

DISCUSSION

The general trend of the data indicates that the gender of siblings do affect the characteristics of children's social support networks. Children tend to turn to their sisters more often for all types of social support in comparison to their brothers, but especially emotional support. Weak, but consistent results also suggested that children receive somewhat more support from their same- as compared to their cross-sex siblings and was clearest for socialization support.

The data indicated that children in the study received more of all types of social support from their older rather than their younger siblings. However, the results of the analysis of age-spacing was less clear. As will be explained in greater detail below, this may be attributed to a confound with relative age.

No significant relationship was found between age and gender variables and satisfaction with sibling support. This lack of significance may have been the result of restriction of range on the satisfaction measure. Satisfaction with support was rated on only a five-point scale--resulting in a negative skew for all distributions. For example, the distributions of mean satisfaction ratings for brothers and sisters were skewed -.53 and -.49,

respectively (Pearson formula for skewness using the mode, mean, and standard deviation). Perhaps a satisfaction rating scale with ten intervals, reducing the possiblility of a ceiling effect, would show more pronounced differences between siblings of different ages and gender.

Gender Effects

Brothers versus Sisters

This study indicates that these childrens' preference for the social support of their sisters, in comparison to brothers, occurs only for emotional support and cognitive guidance--a relationship corroborated by research reviewed earlier in this paper (e.g, Cicirelli, 1973; Minnett et al., 1983). This finding suggests that females, in one of their earliest and most significant relationships, are more nurturant and caring than are males. This may also explain, in part, why children seem to prefer their sisters in learning situations.

Several factors may account for the fact that, in this study, the gender effect for cognitive guidance was not more pronounced. First, much of the data from which this hypothesis was drawn were based on comparisons of children and their older brothers and sisters, while the sex of the nominee in this study was confounded with relative age (i.e., younger and older siblings of both sexes). Second, item #9 on the CSSQ (which asked children to nominate persons who they could count on to help get things done) included homework as a specific example. While this was

considered cognitive guidance in the research reviewed previously, the CSSQ used this as an example of tangible aid. The findings on cognitive guidance may, therefore, be underestimates of the true difference between the sexes.

There was not a significant sex difference for socialization support. This was not unexpected given Koch's (1960) and others findings that choice of playmate seems to be due to an interaction between sex of child and sex of sibling.

There was also no significant gender effect for tangible aid. As previously noted, the research literature suggests that tangible aid is governed more by a relative age effect, given children's greater likelihood to share material possessions and chores with same-sex siblings.

The lack of a significant difference in satisfaction ratings was unexpected. Besides the effects of restriction of range, the lack of significant findings may be due to the fact that the satisfaction indice in this study was a single, global measure of satisfaction. Satisfaction ratings on <u>each</u> type of support may have demonstrated significant differences. Just as quantitative measures showed differences between the sexes only for emotional support and cognitive guidance, gender effects may only appear on satisfaction ratings on those types of support. This has been partly corroborated by research on the developmental aspects of social relationships amoung children. For example, Cruise (1987) found that the only

support variable to be significantly correlated with satisfaction was the number of emotional supporters. In general, measurement of children's satisfaction with their social support has been limited by asking them to indicate their satisfaction with particular supporters rather than types of support. This has occurred because most researchers have agreed that the development of the ability to differentiate between types of support does not occur until early adolescence. Cruise suggests that since examination of satisfaction with particular types of support may be very difficult with younger children, other variables that have been correlated with the usefulness of support (e.g., social self-confidence and self-esteem) should be used. This follows from the belief that estimation of support satisfaction provides information about the perceived usefulness of that support.

Relative Sex

The results of the analyses of relative sex differences were not decisive. Generally, however, children did receive more support of all types from same-sex than from cross-sex siblings. This was manifested by consistently larger mean nomination ratios on all types of support and on the combined support category. However, this effect was only significant for socialization support--corroborating Koch (1960) and Furman and Buhrmester (1985).

The findings with socialization support may indicate that, as a result of increased contact, same-sex siblings

have the environment to develop the more intensive and ambivalent relationships that Bank and Kahn (1982) have mentioned. However, the magnitude of the difference between same- and cross-sex siblings on emotional support, where the ambivalence might appear most strongly, was not found to be significant. Given a number of factors which reduce the power of the analyses (which will be discussed in detail below), one may also argue for a more liberal interpretation of the non-significant results.

The hypothesis that cross-sex, as compared to same-sex siblings, would provide more cognitive guidance was not supported. This may again reflect the fact that prior research investigated more structured situations. The perception of support measured by the items in the CSSQ is much less formal than the educational tutoring studied by Cicirelli. Also, the aforementioned placing of item (#9) as tangible aid may have confounded the predicted results. As with emotional support, it may also be that the stronger relationships of same-sex siblings overrides their ambivalence, hence there is a higher nomination ratio for same- as compared to cross-sex siblings.

It was predicted that because same-sex siblings spend more time together, and have more similar interests and material things (e.g., toys and clothes), they would be nominated more frequently. The modest difference seen may reflect item #9 in the CSSQ and a low powered analysis.

Finally, it was predicted that the greater ambivalence

of same-sex siblings would override their more intensive relationships and result in lower satisfaction ratings when compared to cross-sex siblings (a hypothesis parallel to that for emotional support). This hypothesis was not supported and, in fact, there was a slight trend in the opposite direction.

Age Effects

Relative Age

The most consistent and the strongest findings of this study showed that children receive more social support from their older as compared to their younger siblings. This parallels findings with cognitive guidance (Werner, 1984), nurturance (emotional support), and companionship (socialization) (Furman & Buhrmester (1983). This relative age effect is also the clearest support for the notion that the provision of sibling support is guided, at least in part, by relationship issues such as rivalry and admiration. The fact that older siblings are a greater source of cognitive guidance and tangible aid may be attributed to their superior ability to provide information and material goods, as compared to younger siblings. However, socialization and especially emotional support seems to refer to factors such as admiration, nurturance, and loyalty in addition to relative efficaciousness in providing these types of support. It would be interesting to compare these self-report measures of support with more objective measures such as observation or parental perception. If one finds

that, in fact children receive approximately equal amounts of emotional or socialization support from older and younger siblings with the objective measures, but report receiving more from older siblings with the self-report instrument, it would suggest further that children desire more contact or are more pleased with contact with older siblings. This would rule out effectiveness differences between older and younger siblings in providing support and emphasize their relationship dynamics as a possible causal variable.

These findings also represent the first quantitative data to indicate that children receive more tangible aid from their older than younger siblings. This is probably due to the lack of research applying these specific social support constructs since the sibling care literature has consistently noted the greater role of older siblings in providing clothing, food, and the like.

While the quantitative measure of support (nomination ratios) showed extremely large differences between older and younger siblings within and across all types of support, the mean satisfaction ratings did not differ significantly, although all were in the predicted direction. Interpretation of this finding is difficult. It could be taken as evidence that the lack of significant findings is due to measurement issues (e.g., restriction of range). Intuitively, the great magnitude of the differences on the quantitative measure (nomination ratios) argues for satisfaction affecting the provision of support.

Conversely, it may indicate that the provision of greater quantities of sibling support is not closely tied to satisfaction with that support. Without the problem of restriction of range being ameliorated, ruling out either alternative cannot be done.

The lack of qualitative differences notwithstanding, the strength of this quantitative relative age effect has some important implications about the availability of social support. As a purported mediator of and buffering agent against stress, it has an impact on physiological and psychological health. For example, Wolchik et al.'s (1985) investigations showed that higher levels of family support correlated significantly with children's adjustment to the divorce of their parents and was inversely related to ratings of psychopathology. Early-born children would not have the benefit of sibling support that later-born children do. This should appear as negative correlations between birth order and adjustment to stressors. Investigators might also examine how (or if) early-born children attempt to supplement this deficit.

Age-Spacing

The testing of age-spacing effects was guided by the hypothesized role of ambivalence Furman and Buhrmester (1985) suggested from their sibling relationship study. Specifically, the greater ambivalence engendered by more age-alike siblings as it affected perception of support should have paralleled the relative gender findings. Since

the effects of age-spacing were confounded with the relative age of the nominee, these effects were obscured. None of the contrasts showed significant differences between wide- and narrow-spaced siblings, although the difference on socialization support approached significance in the predicted direction. It would be of great interest to compare the differences between older narrow- and wide-spaced siblings and younger narrow- and wide-spaced siblings.

Given the confound of relative age with age-spacing and the restriction of range with the rating scale used, it was not surprising that the mean satisfaction ratings were not significantly different. However, there was a trend towards higher ratings for wide-spaced siblings as predicted from previous investigations.

Relative Sex and Age of Siblings

Four-Group Comparisons

It was hypothesized that the effects of age-spacing and relative sex would be additive without interaction effects for each of the support types. Factorial, two-by-two ANOVAs were used to evaluate possible interaction effects. They also served to provide preliminary bases for post-hoc contrasts for ordering the means. The results of the ANOVAs indicate that no interaction effects occurred with any of the support types. Only the analysis of socialization support revealed a significant main effect. The relative

sex of the nominee accounted for most of the variance attributed to between group differences, although all the means were in the predicted order. It is believed that any actual age-spacing main effects were obscured by the confound with relative age. Given these lack of significant results, the proposed post-hoc contrasts were deemed unnecessary.

Future investigations may profit from using a two-by-two-by-two factoral design. A younger versus older dimension added to the relative sex and age-spacing factors would help delineate the predicted age-spacing main effects, as well as rule out possible interaction effects.

SUMMARY AND CONCLUSIONS

This study shows that age and gender effects figure prominently in these children's sibling social support. The cause of these effects must be further delineated if interventions are to follow. Part of the rationale for this study came from the belief that these effects may be best seen in siblings' relationships. More specific analyses of rivalry, loyalty, and ambivalence (key components of these relationships) as they affect the provision of support seems indicated. This would include self-report and observational data of siblings such as those used by Minnett et al. (1983) and Koch (1960) in comparison with social support measures. Since parental influence also affects siblings' relationships, the role of mothers and fathers must also be investigated.

Another direction for future research would be the longitudinal evaluation of childrens' sibling support. This would be helpful in conceptualizing how childrens' social support, in general, is developed. Finally, investigations of sibling support variables as they directly affect stress and physical and mental health are needed. Even if we find significant correlations between relationship factors and qualitative and quantitative differences in sibling support, we must determine if and how they have a health-inducing or

illness reducing effect.

The strength of the conclusions reached in this study is limited because of some methodological and statistical difficulties. Because the data for this study came from a larger project not explicitly designed to analyze sibling age and gender variables, the effects of some factors that may have mediated these variables could not be nullified. One such factor was the confound of relative age with age spacing in the nomination ratios. Coding of the main data set did not allow such an investigation. A subsequent recoding failed to account for the now obvious effects of relative age when identifying age-spacing difference effects between siblings.

The use of non-independent data also hindered the inferences made from the data. The quantitative analyses of this study involved comparing mean nomination ratios: the number of times a type of sibling was nominated (e.g., same- versus cross-sex) divided by the number of times that type of sibling could have been nominated. The non-independence of the data arises from the fact that any particular child could have ratios in <u>both</u> distributions (e.g., one for his/her same-sex siblings, and another for his/her cross-sex siblings). Research evaluating the effect of this violation on <u>t</u>-tests and other parametric tests have been reviewed by Glass, Peckham, and Sanders (1972). The use of non-independent data results in a decrease or increase by some unknown magnitude in the variance accounted for between

samples. For this investigation, it lowered both the level of alpha and the power of the tests.

Another assumption needed for parametric tests of significance is homogeneity of variance. As seen in the results section, tests for heterogeneity revealed significant differences in some samples. Glass et al. (1972) determined that the actual level of alpha depends on the proportional difference between the variances, the proportional difference between the sample sizes, and the sample size in which the larger variance occurs. Greater variability associated with the larger sample results in an actual alpha level smaller than the nominal level. The power of the analysis is similarly affected; it is lowered in this case. Conversely, if the greater variation appears with the smaller sample, the actual alpha is higher than the nominal level and the power is raised. However, only if the sample sizes and variances are relatively disproportionate (greater than 1:2 for both ratios) are there changes in the alpha level by more the three one-hundreths in either direction. Since the ratios in this study were never more than 1:2 (and in most cases were much less) one can assume that alpha did not deviate by more than the three one-hundreths. Also, the t-tests used in this study are relatively robust to even these effects because the sample sizes are large.

The authors also reported that the effect of heterogeneity on the actual level of alpha is also additive (non-

interactive) with the effect of the non-independence of the data. In this study, the larger variance was typically associated with the larger sample. This, combined with the effects of dependent data, further decreased the actual level of alpha. This suggests that any significant findings found were more probably not due to random error, but it also decreased the detection of true age and/or gender differences. In those cases where the larger variance appeared with the smaller sample (e.g., brothers versus sisters with cognitive guidance) the heterogeneity served to offset the lowered nominal level of alpha and power of the analyses due to the non-independence of the data.

Glass et al. (1972) also reported that a violation of the assumption of normality (e.g., satisfaction ratings being skewed) has almost no effect on Type-I or Type-II errors with *t*-tests.

The effects of these violations on the level of alpha when using ANOVAs are parallel to that with *t*-tests with two exceptions (Glass et al., 1972). First, the effects of dependent data are much greater when using an ANOVA than with a *t*-test. Second, power cannot be determined when variances are not homogenous. For this study, the non-independence would act to further lower the nominal level of alpha. Thus, the significant main effects seen are even more likely to be due to actual rather than random differences.

APPENDICES

APPENDIX A

Letter of Explanation

and

Consent Form

Dear Neighborhood Resident:

WE'D LIKE TO KNOW WHAT YOU THINK ABOUT NEIGHBORHOODS AND FRIENDS

If you have at least one child between the ages of 7 and 11, Michigan State University's Neighborhood Project would like to interview you and your family as part of a research study involving neighborhoods. Your neighborhood was chosen for this study because it has a large concentration of young children and because it belongs to the Lansing Police Department's Neighborhood Watch.

WHAT DO YOU WANT TO KNOW ABOUT?

The Neighborhood Project is interested in learning about how parents and children feel about their neighborhoods and understanding the types of friendships that they develop.

WHAT DO I NEED TO DO?

Within the next few weeks, someone from the Neighborhood Project will be telephoning you to ask whether you have children between the ages of 7 and 11 and whether you would like to participate. At this time we will explain the project to you in greater detail and answer any questions you may have.

WHAT DO I GET?

We appreciate the help of all the families who participate in this study; however, our funds are limited, and as much as we would like to, we cannot pay all participants for their help. As a token of our appreciation, the names of all the families who participate will be entered into a drawing and four families will receive a cash award of $50.00 each.

Families who have participated in this project so far have enjoyed talking with us. We hope that you will consider helping. Thank you for taking the time to read this letter. We look forward to speaking with you further.

Sincerely,

G. Anne Bogat, Ph.D.
(Telephone Number: 353-8690)

P.S. The Neighborhood Project is working with the Lansing Police Department, Community Services Division. If you would like to verify the authenticity of this project, please feel free to contact Officer Linda Wittman (372-9400, extension 120).

APPENDIX B

Family Fact Sheet

Code No. _____

FAMILY FACT SHEET

1. How long has the family lived at this address? (check one)

   _____ Less than 1 year

   _____ 1 - 3 years

   _____ 4 - 6 years

   _____ 6 or more years

2. Is the home: (check one)

   _____ Rented?

   _____ Owned?

3. Marital Status:

   _____ Single (never married) _____ Divorced _____ Widowed

   _____ Married _____ Separated _____ Living together, not married

4. Husband's Age: _____

5. Wife's Age: _____

6. Husband's Race: (check one)

   _____ Black _____ Oriental

   _____ White _____ Hispanic

   _____ Other (please specify): _____

7. Wife's Race: (check one)

   _____ Black _____ Oriental

   _____ White _____ Hispanic

   _____ Other (please specify): _____

8. Husband's highest level of education (check highest level completed):

_____1 _____2 _____3 _____4 _____5 _____6 _____7 _____8

_____9 _____10 _____11 _____12 _____High School Graduate

College: _____1yr _____2yrs _____3yrs _____4yrs _____College Graduate

Advanced Degree: _____

Technical/Occupational School:_____

9. Wife's highest level of education (check highest level completed):

_____1 _____2 _____3 _____4 _____5 _____6 _____7 _____8

_____9 _____10 _____11 _____12 _____High School Graduate

College: _____1yr _____2yrs _____3yrs _____4yrs _____College Graduate

Advanced Degree: _____

Technical/Occupational School:_____

10. What is the husband's employment status? (check one)

_____ Full-time

_____ Part-time

_____ Occasional

_____ Unemployed, looking for work

_____ Unemployed, not looking for work

11. What is the husband's occupation? (please be specific)_____

_____

12. What is the wife's employment status? (check one)

_____ Full-time

_____ Part-time

_____ Occasional

_____ Unemployed, looking for work

_____ Unemployed, not looking for work

13. What is the wife's occupation? (please be specific) _____

_____

14. Husband's Religion: _____

15. Wife's Religion: _____

16. Children's Religion: _____

17. List the first names of all the people that live in the house, their relationship to each other (e.g., son, spouse, mother-in-law), and their ages.

First Name	Relationship (be specific)	Age

APPENDIX C

Childrens' Social Support Questionnaire

SOCIAL SUPPORT QUESTIONNAIRE
CHILD'S FORM

Code No. _____

Your age: _____ Your sex: Male Female

QUESTION 1: WHO DO YOU HANG OUT WITH (FOR EXAMPLE, AT THEIR HOUSE, YOUR HOUSE, AROUND THE NEIGHBORHOOD, SCHOOL, ETC.)?

_____ _____

_____ _____

_____ _____

_____ _____

QUESTION 2: WHO DO YOU THINK ARE FUN PEOPLE TO TALK WITH (FOR INSTANCE, ABOUT THINGS YOU LIKE TO DO OR T.V. SHOWS, ETC.)?

_____ _____

_____ _____

_____ _____

_____ _____

QUESTION 3: WHO DO YOU GO OUT WITH (FOR EXAMPLE, TO MOVIES, PARTIES, VIDEO ARCADES, ETC.)?

_____ _____

_____ _____

_____ _____

_____ _____

QUESTION 4: WHO ARE YOUR FRIENDS AT ORGANIZED ACTIVITIES? ORGANIZED ACTIVITIES ARE THINGS THAT YOU DO ONCE A WEEK OR ONCE A MONTH, FOR EXAMPLE, CLUBS, LITTLE LEAGUE, BOWLING TEAMS, SCOUTS, ETC.

_____ _____

_____ _____

_____ _____

_____ _____

QUESTION 5: WHO GIVES YOU INFORMATION OR ADVICE ABOUT RELIGIOUS THINGS?

_____ _____

_____ _____

_____ _____

_____ _____

QUESTION 6: WHO GIVES YOU INFORMATION OR ADVICE ABOUT PERSONAL THINGS (FOR EXAMPLE, (PROBLEMS BETWEEN YOU AND YOUR PARENTS, HOW TO MAKE FRIENDS, ETC.)?

_____ _____

_____ _____

_____ _____

_____ _____

QUESTION 7: WHO TEACHES YOU HOW TO DO THINGS (FOR EXAMPLE, FIX A BIKE, PLAY A GAME, COOK, MAKE EXTRA MONEY, ETC.)?

_____ _____

_____ _____

_____ _____

_____ _____

QUESTION 8: WHO GIVES YOU INFORMATION OR ADVICE ABOUT FUN THINGS TO DO (FOR EXAMPLE, WHAT IS A GOOD MOVIE TO SEE, WHAT IS A GOOD RECORD TO LISTEN TO, WHAT IS A GOOD BOOK TO READ, ETC.)?

_____ _____

_____ _____

_____ _____

_____ _____

QUESTION 9: WHO CAN YOU COUNT ON TO HELP YOU DO THINGS THAT NEED TO GET DONE (FOR EXAMPLE, HOMEWORK, FIXING A TOY, CHORES, ETC.)?

_____ _____

_____ _____

_____ _____

_____ _____

QUESTION 10: WHO TAKES YOU PLACES YOU NEED TO GO?

_____ _____

_____ _____

_____ _____

_____ _____

QUESTION 11: WHO LETS YOU BORROW A LITTLE BIT OF MONEY IF YOU NEED IT (FOR THINGS LIKE A COKE, SOME CANDY, A VIDEO GAME, ETC.)?

QUESTION 12: WHO LETS YOU BORROW SOMETHING FROM THEM IF YOU NEED IT (LIKE A SWEATER, A JACKET, A TOY, A RECORD, A BOOK, ETC.)?

QUESTION 13: WHO LISTENS TO YOU WHEN YOU NEED TO TALK ABOUT SOMETHING PERSONAL?

QUESTION 14: WHO MAKES YOU FEEL BETTER WHEN YOU'RE UPSET?

QUESTION 15: WHO CARES ABOUT YOU?

QUESTION 16: WHO CAN YOU REALLY COUNT ON TO ALWAYS BE THERE FOR YOU?

Your age: _____

Your sex: Male Female

What is your relationship with this person? (Circle all that apply)
1. Family/relative
2. Friend
3. Neighbor
4. Classmate/Schoolmate
5. Professional (e.g., teacher, doctor, minister, social worker)
6. Other (state relationship in the margin)

How often do you have contact with this person?
A. A few times a year
B. Once a month or less
C. A few times a month
D. Once a week
E. A few times a week
F. Everyday

Code No. _____

How happy are you with your relationship with this person?
1. Very unhappy
2. Unhappy
3. Not happy or unhappy
4. Happy
5. Very happy

	Name	Male 1	Female? 2	What is your relationship with this person? (Circle all that apply) 1 2 3 4 5 6	How often do you have contact with this person? A B C D E F	How happy are you with your relationship with this person? 1 2 3 4 5
1.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
2.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
3.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
4.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
5.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
6.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
7.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
8.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
9.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
10.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
11.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
12.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
13.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
14.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
15.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
16.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
17.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
18.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
19.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
20.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
21.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
22.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
23.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5
24.	_____	1	2	1 2 3 4 5 6	A B C D E F	1 2 3 4 5

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