National Library of Canada
Acquisitions and Bibliographic Services Branch
395 Wellington Street
Ottawa, Ontario
K1A 0N4

Bibliothèque nationale du Canada
Direction des acquisitions et des services bibliographiques
395, rue Wellington
Ottawa (Ontario)
K1A 0N4

NOTICE

The quality of this microform is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible.

If pages are missing, contact the university which granted the degree.

Some pages may have indistinct print especially if the original pages were typed with a poor typewriter ribbon or if the university sent us an inferior photocopy.

AVIS

La qualité de cette microforme dépend grandement de la qualité de la thèse soumise au microfilmage. Nous avons tout fait pour assurer une qualité supérieure de reproduction.

S'il manque des pages, veuillez communiquer avec l'université qui a conféré le grade.

La qualité d'impression de certaines pages peut laisser à désirer, surtout si les pages originales ont été dactylographiées à l'aide d'un ruban usé ou si l'université nous a fait parvenir une photocopie de qualité inférieure.

Canada

The Relationship of Group and Family Experiences to Peer-Rated Aggression and Popularity in Middle Class Kindergarten Children

Rhonda S. Adessky

A Thesis

in

The Department

of

Psychology

Presented in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy at
Concordia University
Montreal, Quebec, Canada

March, 1996

ISBN 0-612-10820-1

Canada

ABSTRACT

The Relationship of Group and Family Experiences to Peer-Rated Aggression and Popularity in Middle Class Kindergarten Children

Rhonda S. Adessky
Concordia University 1996

One purpose of this study was to examine several specific hypotheses regarding differences in maternal stress, and peer rated aggression and popularity in kindergarten children as a function of maternal employment, group experience, and gender. The study also examined the combined effects of family variables and group experience in predicting peer-rated aggression and popularity, using Bronfenbrenner's theory of social ecology to guide explorations of relationships among maternal employment, maternal self-perceptions, child temperament and sex, group experience and peer-rated aggression and popularity.

Two hundred and forty five kindergarten children (108 girls, 137 boys) participated in the study. Information on maternal, family and child variables was collected from 189 of their mothers. Results indicated that employed mothers reported more stress, as measured by the amount of hassles experienced, than non-employed mothers. Contrary to predictions, mothers of girls reported more perceived stress than mothers of boys. Boys were

rated as more aggressive than girls by their peers and girls were rated as more popular by peers than boys. Boys who spent extensive time in groups such as after-school French Programs, lunch programs, and/or after-school recreational programs were rated as more aggressive and less popular than boys who spent less time in groups and than girls, regardless of the amount of current group experience.

Results also indicated that group experience is a significant predictor of aggression for boys but not for girls. Family factors are also related to aggression and popularity in that maternal employment was related to increased stress, which in turn predicted parental harshness. Parental harshness predicted aggression and aggression was negatively related to popularity. Furthermore, difficult temperament in children was related to maternal stress and maternal harshness, and these variables mediated the influence of temperament on aggression.

These results are discussed in terms of the contribution of maternal variables, child gender and temperament, and group experience to aggressive behavior and popularity in children. The need to integrate information from many contexts to understand children's social behavior is emphasized.

ACKNOWLEDGEMENTS

It is with great pleasure that I thank the many people who have provided assistance during the course of this project. First and foremost, I extend my sincere appreciation to Dr. Donna White for her support, guidance and encouragement on the dissertation as well as throughout my graduate career. She exemplifies the true meaning of mentor.

I also wish to thank my committee members, Dr. William Bukowski and Dr. Anna-Beth Doyle for their valuable input and constructive comments during the various stages of this project.

Many thanks to Dr. Keith Marchessault, Dr. William Bukowski, Dr. Jacky Boivin and Davina Mill who so patiently assisted with statistical programming and analyses.

I thank Adrian Stein for her invaluable help with data collection and her wonderful organizational skills. To my graduate school buddies, Cyma, Davina, Louise, Annick, Lynn and Evelyn, thanks for the support, suggestions and fun.

I am especially grateful to the children, families, teachers and principals who participated in this study.

To my family members and friends who went beyond the call of duty, listening, empathizing and encouraging me over the last several years, I thank you.

Finally, to my parents, Myrna and Hy, who taught me about the "Little Engine that Could", your unconditional love, support and belief in me enabled me to get to the top of the mountain. I dedicate this work to you.

Table of Contents

List of Tables

List of Figures

List of Appendices

The use of nonparental child care has sharply increased in the last two decades given the dramatic rise in employment among women with young children (Hofferth & Phillips, 1987). One of the most common forms of preschool child care is group daycare (Lero, Goelman, Pence, Brockman, Nuttal, 1992). The effect of group daycare during the preschool years has received much attention in the literature. More recently, mothers employed outside the home have sought care for their school-aged children. A wide variety of group after-school programs have been developed including programs which focus on recreation/play and those which extend academic activities. Very little research has been done on school-age group experience. One goal of this project is to describe and study group experience in a school-age population of kindergarten children.

More than 50 years ago, Bronfenbrenner (1943) wrote about the importance that groups have in shaping and supporting the behaviours of individuals. The more recent use of group child care has enabled researchers to study the effects of the group context on children's social behaviour and interactions with their peers. Some researchers report positive effects including increased maturity and sociability in children attending preschool and school-based group care (Clarke-Stewart & Fein,

1983; Field, Masi, Goldstein, Perry, Parl, 1988; Howes, Olenick & Der-Kiureghian, 1987). Others have found group daycare to be related to higher levels of aggression and lower levels of compliance in children (Adessky & White, 1991; Bates, Marvinney, Kelly, Dodge, Bennett, Petit, 1994; Haskins, 1985; McCartney, Scarr, Phillips, Grajek & Schwarz, 1982; Rubenstein, Howes & Boyle, 1981; Vandell & Corasaniti, 1988; Vliestra, 1981; Volling, Braungart, Nuss & Feagans, 1990; White, 1995). Two theories have commonly been used to explain the findings of increased aggression in children who attend group care: attachment theory (Bowlby, 1969) and social learning theory (Bandura, 1973). The proponents of attachment theory believe that children who enter daycare at an early age are at higher risk for developing insecure attachments (Belsky, 1988). Insecure attachment has been found to be related to aggression in children (Sroufe, 1983). Proponents of social learning theory postulate that children who attend groups have increased exposure to peers and thus may see and model aggressive behaviour of their peers. On the other hand, children with more experience interacting with peers may learn to share, play together and be more socially skilled than children who lack such experience (Hartup & Moore, 1990).

Theorizing about the origins or causes of such a complex phenomenon as social development in children using only one dimension, group experience, is limited. Researchers have begun to realize that one must study the larger picture including family factors, child dispositional factors and the associations between the two in order to more fully understand how these factors, as well as group experience, influence children's social development (Bronfenbrenner, 1986; McCartney & Rosenthal, 1991). There are theoretical reasons for expecting that family and child factors may influence children's social development. First, the interactions and relationships children have with their parents can influence children's social well being (Rubin, Bukowski & Parker, in press). For instance, parents who are harsh and critical with their children often have children who model such behaviour and act accordingly with their peers. As well, children's temperament can influence the way in which parents respond to them. Children with more difficult or active temperaments are more likely to behave aggressively, placing themselves at higher risk for peer rejection (Rubin, Coplan, Fox, Calkins, 1995). Finally, according to the theory of social ecology, development takes place within a multilayered context (Bronfenbrenner, 1979). This view posits that external

influences affect the way in which families interact and in turn foster healthy development of their children. More specifically, children are affected directly by the nature and quality of care they receive from their parents. Their parents likewise are affected by the context of their lives, both within and outside the family, such as their employment and social networks (Bronfenbrenner, 1986). Contextual factors such as employment may affect children's social development to the extent that it has deleterious effects on parenting practices. Employment may be related to increased stress and stress may negatively influence parenting styles. However, variables such as support and satisfaction may modify the relationship between employment and quality of care children receive (Crockenberg, 1988). In sum, the need to examine the family environment in addition to group experience when studying children's development is crucial (Crockenberg & Litman, 1991; McCartney & Rosenthal, 1991; Moorehouse, 1991).

Surprisingly, despite the extant relationship between group child care and maternal employment, few studies have examined these two dimensions in a single design. Moreover, research exploring the relationships among family factors, child group experience, child characteristics and children's social behaviour

is sparse. The aim of the current research is to address these gaps in our knowledge by examining differences in child and maternal variables as a function of both maternal employment and group experience and by examining multivariate contributions to social development in young children.

BACKGROUND

The literature relevant to this thesis comes from a number of different areas; most of the studies include only a few variables of interest. Because there has been little attempt to incorporate many variables affecting aggression and popularity into one design, the literature must be reviewed in several sections.

The first section of the literature review deals with research on group experience. Although the current investigation studies school-age children, most of the research on group experience has been done at the infant or preschool level. The relationship of children's social development and group experience at the infant and preschool level, followed by research dealing with school-age group experience and its correlates, is discussed. The second section is concerned with maternal employment and research relating maternal employment to children's social behavior, child gender, parenting styles, and

stress. The third section focuses on parenting styles. Studies dealing with the relationship of parenting styles to stress and aggression; to social support, role satisfaction, and stress; and to children's temperament and social behavior are reviewed. Finally, a brief discussion of the importance of studying popularity and aggression in young children and the methodological problems in assessing these constructs is presented.

Group Experience and Children's Social Development

Preschool Child Care Studies: Infant and preschool child care provide researchers the opportunity to study naturally existing groups of children of varying ages. The effects of group child care on children's development has received much attention in the literature but there is little consensus about its relationship to social development among researchers (Belsky, 1988; Howes, 1990; Phillips, McCartney, Scarr & Howes, 1986; Vandell & Corasaniti, 1990). As stated earlier, some authors have found group experience as reflected by daycare attendance to be related to increased aggression and noncompliance in children while others report positive effects including increased maturity and sociability in children with greater amounts of group child care experience.

The discrepancy in findings regarding the relationship between group experience and children's social behaviour may be attributable to several variables, including quality of care, age of entry into group daycare, and amount of time spent in group daycare. The issue of quality and its relationship with children's social development has been widely examined (Andersson, 1989; Gunarrson, 1978; Jacobs & White, 1994; Kontos, 1991; McCartney, Scarr, Phillips, Grajek, & Schwarz, 1982; Phillips & Howes, 1987; Phillips, McCartney & Scarr, 1987). The studies generally conclude that children who attend high quality preschool daycare centres show an increased ability to get along with peers compared to children who attend low quality centres. For instance, Phillips, McCartney and Scarr (1987) found children from better quality programs to be more considerate and sociable than children from poorer quality programs. Vandell, Henderson & Wilson (1988) reported that children attending better quality daycare had more friendly interactions and fewer unfriendly interactions with peers, and were rated as more socially competent and "happier" than children who attended poor quality child care. Howes and Olenick (1986) found that toddlers were more impulsive and less compliant when they attended daycare centres of poorer quality. Howes (1990) reported that children

who entered low quality care at a younger age had more difficulty with peers in preschool than their counterparts who entered such care at an older age. These children were observed to be less competent in their play with other children and rated as more hostile by their teachers. Vandell and Corasaniti (1990) found that children who began extensive, poor quality group daycare during infancy received more negative peer nominations than their counterparts who had exclusive maternal care or attended part-time daycare during infancy or extensive daycare during preschool.

The concern regarding early entry into child care was illustrated in Belsky's (1986) article in which he concludes based on a review of the extant research that "entry into care in the first year of life is a "risk-factor" for the development of insecure-avoidant attachments in infancy and heightened aggressiveness and noncompliance in the preschool and early school years" (p.7). He also specified that the amount of time the infant spent in nonmaternal care, in particular 20 or more hours per week, increased the potential for disturbed attachment with mother. Several experts in the field (Clarke-Stewart, 1988; Phillips, McCartney, Scarr & Howes, 1986) have criticized Belsky's conclusions and argue that he misinterprets the data.

They argue that there is not enough evidence to support his conclusion that children who begin daycare in infancy are insecurely attached. Nonetheless, Belsky's work has raised important issues regarding group care at the infant level and children's interactions with their peers.

In addition to aggression, several other factors, including popularity, sociability, rejection and withdrawal from peers have been used to examine children's social development within the context of group daycare. The findings have been discrepant, both within and across studies. For instance, Vliestra (1981) found that children who attended kindergarten in the morning and group daycare in the afternoon were rated by their teachers as less able to get along with peers and as more aggressive than their counterparts who only attended kindergarten. In contrast, observers recorded more positive peer interactions among the daycare children. Field, et al., (1988) found that children with more months of group daycare experience were more socially interactive with their peers. More specifically, children who started high-quality daycare earlier and attended daycare full time were more sociable and cooperative than their peers who attend half days. As with the Vliestra study, teachers in the Field et al.,(1988) study rated the children with more extensive

daycare experience as more aggressive and assertive. Baillergeon, Betsalel-Presser, Joncas and Larouche (1993) examined both teacher ratings and peer nominations in a sample of kindergarten aged children, half of whom had preschool daycare experience and the other half who were cared for at home by their mothers. They found that teachers rated the children with preschool experience as expressing significantly more interest and participation in the classroom but also significantly more anger and defiance. Experience in group daycare was unrelated to popularity with peers.

These seemingly contradictory findings require some discussion. Jacobs, White, Baillergeon, and Betsalel-Presser (1995) speculate that the findings of positive peer interaction, and increased interest, participation and sociability in children with extensive group experience suggest that these children may be more attuned to the communal nature of functioning within a group setting and ready to participate in the activities. Their prior group experience facilitates their comfort and confidence with peers. In addition to increased social skills, children with preschool group experience may have also learned that some assertiveness or aggression may actually serve them well in obtaining the desired toy or demand for teacher attention that is

often scarce in many daycare centres, particularly those of lower quality. However, what remains puzzling is the relationship (or lack thereof, according to Baillergeon et al., 1993) between group daycare experience and popularity with peers. According to the peer relations literature, an association between aggression and rejection or unpopularity exists, particularly amongst preschool children (Newcomb, Bukowski & Pattee, 1993; Parker & Asher, 1987). Thus, if children with increased group experience act more aggressively, they may be at risk for being less popular with peers than children with less group experience. Conversely, if as Jacobs et al., (1995) suggest, children with additional group experience may have better skills to negotiate in a group setting, they may be rated by peers as more popular than children who have less group experience. Alternatively, children with more group experience may be both more prosocial and aggressive and therefore no more or less popular than children with less group experience.

Several methodological problems may have some bearing on the apparently discrepant research findings. One difficulty with past research is the use of different methodologies such as peer, teacher and observer ratings to assess children's social development. Hymel and Rubin (1985) believe that peers in middle

childhood are better able to identify characteristics of children which may determine their status in the peer group than outsiders can. Similarly, Youniss (1980) argues that children and adults inhabit different cultures and may view certain behaviours differently from their respective points of reference. The current study uses children's ratings to assess both aggression and popularity with peers.

Another problem with the earlier literature that attempts to examine the social behaviours of children who attend group daycare, is that the results are often not reported separately for boys and girls. A well-documented finding in the literature is that boys are consistently seen as more aggressive than girls (Maccoby & Jacklin, 1985). Girls, on the other hand, on average are usually rated as more well-liked and exhibit greater prosocial behaviour than boys (Radke-Yarrow, Zahn-Waxler & Chapman, 1983; White, Marchessault, Bouchard, LaCroix, 1995). It is surprising then, that so many child care studies either do not analyze for or report sex differences when examining social behaviour. Some studies that have examined by sex differences have found preschool daycare experience to be a stronger predictor of aggression in boys (Bates, et al., 1994), while others have found preschool daycare to be a stronger predictor of

aggression in girls (Adessky & White, 1991). Further investigation into sex differences with regard to group care and social behaviour is warranted, and sex differences will be analyzed in the current study.

In summary, the preschool literature is difficult to interpret. Nonetheless, in spite of methodological problems, the tendency for children in daycare to be more aggressive and possibly less popular than children reared at home has been noted in a sufficient number of studies to warrant further investigation (Holloway & Reichhart-Erickson, 1988).

A final caveat with respect to the effects of preschool group experience on children's social behaviour is necessary. Haskins (1985) found increased aggression in his sample of kindergarten children who attended group daycare during preschool compared to their home-reared counterparts. Haskins continued to follow the children through elementary school and found that the aggression levels of the group care children diminished gradually and that by the third year of school, the daycare children were no more aggressive than the home-reared children. He speculated that the daycare children were undergoing a gradual socialization to school norms and were learning to control their aggression. Given the increased use of school-based group daycare programs in

the elementary schools (White et al., 1995), one wonders about the effects of group experience in such programs on aggressive behaviour of children who attend them. The next section addresses the issue of school-based group care and children's social development.

School-Age Care Studies: An area in the child care domain which has received considerably less attention than infant or preschool care is school-based care. School-based care programs (also referred to as after-school daycare or after-school group care) were developed recently to meet the needs of many working parents with children attending elementary school. These programs, available to children from kindergarten through sixth grade, are generally based in the elementary schools, begin early in the morning before school begins, resume at the end of the school day and continue until 6:00 p.m. when parents are available to pick up their children. Many of the children stay at school for a "supervised" lunch period. The programs vary considerably in the type of activities offered, their emphasis on homework, and the role of staff as caregivers versus educators. During data collection for this thesis, no measure of quality of school-age care was available. Little information exists on the relationship between school-based programs in elementary schools

and children's social behaviour. Moreover, the studies that have looked at the social development of elementary school children who attend school-based care have reported mixed results. While some studies find positive effects from attending organized after-school care programs (Howes, Olenick & Der-Kiureghian, 1987) others report negative findings (Vandell & Corasaniti, 1988; White et al., 1995).

Vandell and Corasaniti (1988) examined the social behaviour of white, middle class third graders with differing after-school care arrangements (mother-care, sitter-care, latchkey-care or centre-based care off school premises). Results revealed that the centre-based children received more negative peer nominations and had poorer school performance compared with mother-care or latch-key care children. The authors speculate that centre-based daycare may be more likely reserved for children who are having problems. Parents may have chosen adult-supervised rather than latch-key care as they recognized their children's need for additional adult supervision. Furthermore, the centres were not on school premises, requiring children to be picked up in vans bearing the daycare logo. Teachers and parents thought that the highly visible stigma associated with attending "daycare" may have contributed to the negative findings among these children.

Finally, the authors hypothesized that the poor quality (unmeasured) of the after-school daycare program may have exerted a negative effect on the children in the same way that poor quality preschool programs adversely affect preschool children. They speculated that different outcomes may result from high quality after-school programs.

In fact, Howes, Olenick and Der-Kiureghian (1987) reported positive effects of high quality (unmeasured) after-school programs. They compared the sociometric status of kindergarten aged children who attended a school-based daycare program designed to promote social-emotional development with their counterparts who returned home after school. The subjects were a representative sample recruited from an elementary school designed to reflect the educational, occupational and ethnic diversity of the U.S. population. Results revealed that the after-school daycare children appeared more advanced in their social development as measured by their ability to form friendships and to be selected as friends. Children in both the after-school program and the morning kindergarten more frequently selected the after-school care children as friends. The authors offer two reasons for the differences in popularity between the groups. First, the after-school program emphasized social-

emotional development. Second, additional social experience of the after-school group may have contributed to their popularity. In their discussion, the authors reported that the after-school children had earlier and more consistent experience with peers than the children who did not attend the after-school program, and concluded that the after-school children may have entered elementary school with more friendship formation skills than the other children. Unfortunately, Howes, et al., (1987) did not control for the amount, the quality or the effects of previous child care experience.

White et al., (1995) improved upon both preschool and after-school care studies by including sex differences and amount of previous child care when examining the relationship between after-school care and peer interactions. They used teacher ratings to examine the peer relations of a sample of 686 French-speaking kindergarten, grade 1 and grade 2 children. Two hundred and fifty four children were enrolled in after-school programs on the school premises; 432 were cared for by mothers or sitters. The results indicated that teachers rated boys as significantly more aggressive and rejected than girls; girls were rated as more well-liked by peers, regardless of type of after-school arrangement. Children in the after-school care setting were

rated as significantly more aggressive and less withdrawn. There were no significant differences on rejection or being liked by peers as a function of group versus home care. Since a large proportion of the children in the after-school group care had also attended preschool daycare, White et al., tried to determine whether the differences between groups were due to current after-school group care or past group care. These investigators found that greater amounts of preschool group experience were related to greater aggression and less withdrawal in children. When the effects of preschool experience were statistically controlled, children in the after-school programs and home care did not differ on any of the teacher ratings. These findings lend support to the role of group experience during infancy and preschool years in later social behaviours. However, a design which looks at children at the beginning and end of kindergarten might provide more insight into the relationship of school-age group experience and social behaviour. In a second study, White (1995) reports that when such a pre-post design was used, children with day care experience were more aggressive at both the beginning and end of the kindergarten year. Further, after-school group experience contributed unique variance to the prediction of aggressive behaviour only at the end of the

kindergarten year, and after controlling for sex, activity level and preschool group experience. Based on these results, it can be concluded that school-based group experience may sustain patterns of aggression established in preschool groups.

In addition to supporting the relationship between group child care experience and social behaviour and emphasizing gender differences in social behavior, White and her colleagues, speculate that other factors including particular characteristics of the child and characteristics of the parents may be contributing to the differences. A major shortcoming of the research on group child care (infant, preschool and school-age) is the lack of inclusion of parent information, most notably, maternal employment. The need for child care is based on the premise that mothers are working. Thus, it is difficult to discern whether differences in the social behaviour of children who attend group care and whose mothers are employed compared to children with non-employed mothers who are cared for at home, is due to child care, employment or a combination of both. The next section will review the literature that examines the relationship between maternal employment and children's social development, as well as a number of maternal variables such as stress, support and role satisfaction.

Maternal Employment

Maternal Employment and Children's Social Development: The research examining the relationship between maternal employment and children's social development has been equivocal. Some researchers argue that maternal employment leads to negative consequences in children including increased aggressive behaviour and noncompliance (Baydar & Brooks-Gunn, 1991; Belsky, 1988; Belsky & Eggebeen, 1991). These authors conclude that maternal employment is a risk-factor for maladjustment. Others argue that the relationship between maternal employment and children's social behaviour is unclear, with some positive effects including increased independence and maturity (Gottfried & Gottfried, 1988; Vandell & Ramanan, 1992).

To better understand the differences in social behaviours of children with employed and non-employed mothers, researchers have looked at variables including child gender, maternal parenting styles, stress, social support and role satisfaction as midiating and moderating the effects of maternal employment of children's behaviour. Surprisingly, the employment research has not investigated group child care experience, which is frequently used by employed mothers, and its relation to aggression or popularity in children.

Maternal Employment and Child Gender: Maternal employment has been found to have differential effects on sons and daughters. Hoffman (1984) concluded from her extensive review of the literature that maternal employment has detrimental effects on boys but salutary effects on girls. Daughters of employed mothers were found to be more sociable and to have better school accomplishments and professional achievements. Bronfenbrenner, Alvarez and Henderson (1984) found that mothers who were employed full-time described their daughters in more positive terms than their sons. Non-employed mothers spoke more highly of their sons than their daughters. Stuckey, McGhee and Bell (1982) found that employed mothers engaged in more positive interaction with their daughters while non-employed mothers payed more attention to their sons. Crockenberg and Litman (1991) found that boys of employed mothers were more defiant than boys of non-employed mothers and girls of both employed and non-employed mothers.

Several hypotheses have been offered to explain the differential effects of maternal employment on sons and daughters. First, Bronfenbrenner and Crouter (1982) suggest that women who work outside the home may have different attitudes or beliefs toward gender roles, and thus, their parenting styles may differ for sons and daughters and when compared to non-employed

mothers. For instance, in her review of the literature, Hoffman (1989) found that employed women have a more positive conception of the female role and encourage independence in their children, particularly in their daughters. Similarly, employed women engaged in less sex-typing behaviour, i.e. they had less restricted views of sex roles than non-employed women (Hoffman, 1989). Second, the literature suggests that boys are generally more active and less compliant than girls (Block, 1983; Maccoby and Jacklin, 1985). Such activity may exacerbate the stress and strain an employed mother endures as a result of her multiple roles and may cause her to act differently with her noncompliant son than with her compliant daughter (Hoffman, 1984). Moreover, Hetherington and Camara (1984) have noted that when parents are under stress, they are less likely to be protective of sons. Inasmuch, mothers who are stressed may act differently, i.e., short-tempered or harsh with sons. In turn, their sons may behave in a more hostile and aggressive manner in response to their mothers.

In contrast, Crockenberg and Litman (1991) argue that boys may be more adversely effected by maternal employment than girls, not because employed mothers treat sons and daughters differently, but rather boys and girls may respond differently to

the same treatment. In other words, boys may be more vulnerable to the effects of maternal employment than girls and may not fare as well when their mothers are away or when placed in a strange environment (e.g. daycare).

Both research and theory foster the conclusion that gender differences as well as employment and group experience must be examined in attempting to understand factors that contribute to children's social behavior. The variety of hypotheses put forth to understand the differential effects of maternal employment on girls and boys illustrates the complexity of the issue and the host of variables that may interact with maternal employment to influence children's social development. Researchers have begun to examine these variables to better understand the process or mechanism through which employment is related to children's social development (Crockenberg & Litman, 1991; Desai, Michael & Chase-Landsdale, 1990; Kuzela, Becker-Hahn & Weinraub, 1991; Lerner & Galambos, 1985; Greenberger & Goldberg, 1989; McCartney & Rosenthal, 1991). One hypothesis is that the mechanism by which maternal employment influences children's peer relations is through its impact on parenting styles with their children.

Maternal Employment and Parenting Styles: Researchers have looked at differential parenting styles of employed and non-

employed mothers as a possible explanation for increased aggression and noncompliance in children of employed mothers. It has been argued that employed mothers may have differing child-rearing values than non-employed mothers which may influence their parenting styles (Bronfenbrenner et al., 1982).

Studies examining the parenting styles of both employed and non-employed mothers have reported discrepant results (Crockenberg & Litman, 1991; Goldberg & Easterbrooks, 1988; Greenberger & Goldberg, 1989). In their study, Crockenberg et al., (1991) found that employed mothers used less power assertion with their 2 year old children in the home. Mothers who worked longer hours used more guidance and were more responsive to their children. Greenberger and Goldberg (1989) found that employed mothers who were invested in both work and parenting engaged in more authoritative parenting styles with their preschool-age children. Goldberg and Easterbrooks (1988) assessed the relationship between employment status and parenting styles when the children were toddlers (19-21 months of age) and again when they reached kindergarten (5-6 years old). The results differed for the two age groups. When the children were toddlers, non-employed mothers held warmer attitudes than mothers employed full-time and non-employed mothers were stricter than mothers

employed part-time. In contrast, once the children reached kindergarten, there was no difference between employed and non-employed mothers in their parenting styles. Thus, differences in parenting styles of employed and non-employed mothers seem to be inconsistent across studies and to vary with age of the children.

At this point, no strong argument for specific differences in parenting styles as a function of maternal employment can be made. However, a number of variables may link maternal employment, parenting styles, and children's social behavior. Such variables include stress, social support and role satisfaction.

Maternal Employment and Stress: Both theory and common sense suggest that mothers who are working for pay may experience greater stress in their lives, given their additional role and responsibilities. The "scarcity hypothesis" (Goode, 1960) posits that human energy is a finite quality and the demands of multiple roles creates overload and conflict. Such overload will impair or negatively affect the well-being of the employed mother who has additional family responsibilities. Consistent with the scarcity hypothesis, Alpert and Culbertson (1987) found that women who were employed outside the home for a minimum of 30 hours per week reported experiencing significantly more hassles than non-

employed women. Walker and Best (1991) found that full-time employed mothers with infants reported greater perceived stress than non-employed mothers. The current study will compare the amount of perceived stress, i.e. global stress and daily hassles, i.e. annoying events that employed and non-employed mothers of kindergarten children experience.

Parenting Styles

Parenting Styles, Stress and Aggression: While evidence relating maternal employment and parenting styles is weak, some investigators have suggested that the additional stress employed mothers may experience as a result of their multiple roles is related to parenting styles. Several researchers in the field have found stress to negatively influence parenting styles (Patterson, 1982; Rubin, LeMare & Lollis, 1989; Travillion and Snyder, 1993). Belsky (1984) states that stress is a major determinant of parenting and can both directly and indirectly influence children's development. Parent's psychological well-being and emotional availability influence the interaction with their child and in turn may influence the child's peer relations. Webster-Stratton (1990) concludes that stressors have the power to disrupt parenting practices by causing some parents to be more irritable, critical and punitive. Such parenting behaviours

increase the likelihood that children will develop behaviour problems. For instance, Dumas (1986) found that mothers interacted significantly more negatively with their children on days when they had experienced aversive interactions with other adults than on days when they did not. While Dumas did not assess the children's behaviour, Patterson (1983) has shown that minor daily hassles experienced by mothers predicted irritable respondses to their children during home observations, which in turn, increased the likelihood of aggressive responding by their children. The relationship between stress and peer relations appears to be mediated by parenting behaviours. Generally, greater stress has been associated with less optimal parent and family functioning, less optimal parent-child interactions and less competence in children (Crnic & Greenberg, 1990). The mediational or indirect effects of stress through parenting styles on aggression will be tested in the proposed model.

Parenting Styles, Maternal Employment, Social Support, Role Satisfaction and Stress: Several researchers have argued that the count-the-burden approach is too simplistic to fully appreciate the effects of multiple roles on women (Baruch & Barnett, 1986; McBride, 1991; Lennon & Rosenfeld, 1992). The need to examine variables such as satisfaction with roles and

social support that may moderate the effects of stress on women is essential (McBride, 1991).

Social support has been defined as the availability of meaningful and enduring relationships that provide nurturance, security and a sense of interpersonal commitment (Shonkoff, 1985). In the late 1970's interest in the impact of social support on the psychological well-being, attitudes and behaviour of parents arose following Bronfenbrenner's (1979) theorizing about the importance of ecological variables to familial functioning. Increasing evidence suggests that social support may be negatively related to stress (Webster-Stratton, 1990). Crockenberg (1988) argues that employed mothers are considered at higher risk for stress because they are responsible for more tasks than non-employed mothers. However, employed mothers who have more social support will experience less stress than employed mothers with less social support. Similarly, non-employed mothers who have greater social support will experience less stress than non-employed mothers who have less social support. Support for this hypothesis has been found in several studies. Kessler and McRae (1982) found positive associations between women's mental health and maternal employment only for those women whose husband's shared house work. Adessky,

Marchessault and White (1994) found that women who perceived their husbands to be more helpful at home reported experiencing less stress.

Some studies have linked social support directly to parenting styles. Colletta (1979) found that social support provided by friends, relatives and spouse was associated with less maternal restrictiveness and punitiveness. Crnic and Greenberg (1990) reported that social support consistently moderated mothers' experience of daily hassles and parenting styles. They found that under higher levels of stress or increased hassles, mothers with greater social support had more positive behavioral interactions with their 5 year old children than mothers with low support.

Research has also begun to examine the relationships among parenting styles, stress and role satisfaction. In general, the findings suggest that mothers who are satisfied with their roles, regardless of whether or not they are employed, have more positive interactions with their children (Lerner & Galambos, 1985; Stuckey, McGee & Bell, 1982; Yarrow, Scott, deLeeuw & Heinig, 1962).

Stuckey, McGhee and Bell (1982) reported an increase in negative emotions in families with preschool children who

experienced an incongruence between parent's attitudes toward employment and mother's employment status. Yarrow, Scott, deLeeuw, and Heinig (1962) found that dissatisfied mothers, regardless of employment status, expressed more problems in childrearing. Hoffman (1961) found that the working mothers who enjoyed their work were more affectionate and used milder discipline styles. Lerner and Galambos (1985) found that mothers who were more dissatisfied with their roles showed more rejection of their preschool-age child and reported having more temperamentally "difficult" children. Kuzela, Becker-Hahn and Weinraub (1991) found that for preschool boys but not girls, maternal role satisfaction predicted sociability and compliance.

A few studies have included both social support and role satisfaction as measures of maternal well-being. Crockenberg (1988) examined the associations between employment status, stress, social support and role choice in mothers with 2 year old children. Contrary to most reports, she found that employment status (i.e., employed or not employed) and the number of hours mothers worked for pay were unrelated to experienced stress. Experienced stress was lower for mothers who were in their roles by choice and for mothers who were satisfied with the amount of social support they received. Role satisfaction was higher for

mothers in two-parent families and for employed mothers. Role satisfaction was lower for mothers in roles they did not choose and for mothers dissatisfied with their social support. The author concluded that role choice and social support are important for both employed and non-employed women since both groups of women experience less stress when they are satisfied with the support they receive and are in their roles by choice.

Crockenberg and Litman (1991) examined the effects of employment, role satisfaction and social support on mothers' behaviour with their 2 year old children at home and in a laboratory setting. The authors found that in the laboratory setting maternal employment adversely affected maternal behaviour when satisfaction with social support or with the work role was low. Employed mothers with low role satisfaction used more negative control than did employed mothers with high role satisfaction. Employed mothers used significantly more power assertive behaviours than did non-employed mothers when role satisfaction was low. Based on these findings the authors surmise that low role satisfaction translates into higher overall stress for the employed mother because it occurs in conjunction with the stressors and hassles that all mothers with young children experience. Crockenberg et al., did not find that the

employed mothers in their study perceived more stress in their lives than the non-employed mothers but remark that their measure of stress takes into account the individual's ability to cope with stress. In fact, Hoffman (1989) reports that employed mothers do not score higher on stress indicators such as psychosomatic symptoms and depression than their non-employed counterparts. However, employed mothers do indicate concerns about "not enough time" similar to the "hassles" Crockenberg makes reference to in her study.

Information is lacking regarding the relationship between the different types of stress, maternal employment and parenting styles in school-age children. The current study will use two stress measures (hassles and perceived stress) to further explore these relationships in kindergarten children. The research with infants and preschool children that has examined the relationship between maternal employment and parenting styles finds that maternal employment per se seems less important than other variables such as stress, social support, and role satisfaction in influencing parenting styles and children's social development. The need to further examine the complex relationships among these variables in school-age children is evident and is a major goal of the current research.

In sum, while some studies support the theory and logic that employed mothers experience more stress than non-employed mothers, other studies have found that variables including role satisfaction and social support are also related to stress in employed and non-employed mothers. It seems that in order to understand the relationship between stress and maternal parenting styles, other maternal self-perceptions must be considered. Using the current data set, maternal stress, support, role satisfaction and parenting styles will be examined as a function of employment status, child gender, and amount of time the child is spending in school based group settings. Stress is expected to differ as a function of employment status. Univariate and multivariate relations among role satisfaction, support, stress, and parenting styles will also be examined.

Parenting Styles and Children's Social Behaviour: In recent years, considerable attention has been given to examining the link between family and the peer group (Ladd, 1992). Research has begun to investigate the role parents play in the development and maintenance of their children's social behaviour and peer relations (Dekovic & Janssens, 1992). One of the ways parents influence their children's peer relations is through their child-rearing practices and interactive styles (Ladd, 1992).

Research on parenting attitudes, values and behaviours received much attention in the early 1970's with the development of typologies. Maccoby and Martin (1983) categorized parenting styles along two primary dimensions: warmth (e.g. responsiveness vs. unresponsive) and control (e.g. demanding vs. undemanding). Four typologies emerged from this two-dimensional scheme: authoritarian (i.e., more demanding than responsive), authoritative (i.e., demanding but also responsive), indulgent (i.e., more responsive than demanding) and indifferent/uninvolved (i.e., undemanding and unresponsive).

A relationship between parenting styles and children's social behaviour and sociometric status has been found in several studies (Dekovic & Janssens, 1992; Goldberg & Easterbrooks, 1988; Petit & Bates, 1989). Researchers have found that children of parents who use more inductive, warm or democratic styles of parenting exhibit more prosocial behaviour with peers and are remarkable for their absence of behaviour problems (Dekovic & Janssens, 1992; Hart, DeWolf, Wozniak & Burts, 1992; Petit & Bates, 1989). Moreover, warm parenting styles may act as a buffer against problematic peer relations. Patterson, Cohn and Kao (1989) found that while maternal warmth was not related to children's sociometric status, both were related to children's

behaviour problems and competence in school. The children who were rejected by their peers and had mothers who were rated as low in warmth in their interactions with their children were rated by teachers as having more behaviour problems. In contrast, such behaviour problems were not evidenced in the group of children who were rejected by their peers but whose interactions with their mothers were rated higher in warmth. Based on these findings, the authors concluded that maternal warmth may act as a protective factor against adjustment difficulties associated with peer rejection.

In contrast, authoritarian parenting style is related to problematic peer relationships in children. Parents who use power-assertive styles tend to have children who are more aggressive, withdrawn and dominated by peers (Hart, et al., 1992; Hart, Ladd & Burleson, 1990; Patterson, 1982; Peery, Jensen & Adams, 1985). Moreover, parents who use harsh or physical discipline techniques also tend to have children who are more aggressive (Kochanska, Kuczynski & Radke-Yarrow, 1989; Loeber & Dishion, 1983; Olweus, 1980; Reid & Patterson, 1989; Travillion & Snyder, 1993) and rejected by their peers (Kennedy, 1992). Travillion et al., (1993) used a path model to show that poor discipline i.e., the use of coercion and harshness was associated

with social aggression in children which in turn was associated with peer neglect. Maternal discipline was negatively related to maternal stress and family disadvantage.

The research suggests that parenting styles characterized by harsh, critical attitudes are related to problems in children's peer relationships. On the other hand, warm or inductive parenting styles are related to positive social development. Finally, the literature suggests that parents may use different discipline styles with boys and girls (Block, 1983). Generally parents are harsher with sons and warmer with daughters.

In this study, parenting styles will be examined as a function of gender, maternal employment, and group experience. As well, the relationship between parenting styles and children's social behaviours will be explored. It is expected that, as in previous studies, high maternal warmth will be related to positive behaviours such as popularity, while high harshness and low warmth will related to negative behaviours such as aggression.

Parenting styles are often influenced by the dispositional factors (e.g. temperament) of their children. Rubin et al.,(in press) argue that temperament of a child may set the stage for the development of a particular type of parent-child interaction

and for the development of social behaviours that may predict the quality of peer interactions.

Parenting Styles, Stress, Temperament, and Children's Social Behaviour: The construct of temperament has been a consistent subject of debate in psychology and philosophy for several decades. Contemporary researchers continue to discuss, debate and disagree on the elusive nature of the construct of temperament (Goldsmith, Buss, Plomin, Rothbart, Thomas, Chess, Hinde & McCall, 1987). However, it is widely agreed that temperament is a set of relatively stable traits that are present early in life, differentiate individuals, and influence the nature of social interaction within relationships (Carlson & Chang, 1993).

The current study uses Buss and Plomin's (1984) EAS Temperament Survey to assess temperament and this section summarizes their point of view. Buss and Plomin (1975) define temperament as a set of inherited (i.e., genetic in origin) personality traits that appear within the first year of life and are stable over time. These researchers exclude personality traits that originate solely in environmental events. However, temperament is expected to vary as a function of developmental events and environmental forces. Buss and Plomin's concept of

temperament centers on four dimensions of reactivity, i.e., emotionality, activity, sociability and shyness.

The first trait is emotionality which is similar to distress. The dimension ranges from a lack of an expression of affect to extreme reactions that are often out of control. The behaviours along this dimension include excessive crying, tantrums and difficulty in being comforted. This trait involves both emotional and behavioral arousal.

The second trait is activity level and assesses behavioral arousal. Individuals range from energetic to lethargic. The behaviours include items about energy level and pace of movement.

The third trait is sociability which is the preference for being with others rather than being alone. Sociability is assessed by the degree to which the individual prefers playing with and being with others rather than being alone and the degree to which the child feels isolated.

The fourth trait is shyness and assesses the child's behavioral response to others including friendliness and difficulty warming up to others. A relationship between child temperament and peer relations has been well documented in the literature. "Difficult" or highly emotional temperament has been found to be a strong predictor of aggressive behaviour later in

life (Lee & Bates, 1985; Lytton, 1990; Olweus, 1980; Quay, 1986). "Easy" (i.e. low in emotionality) has often been related to adjustment in childhood such as good peer relations, independence and school adjustment (Cowen, Wyman & Work, 1992; Garmezy, Masten, & Tellegan, 1984).

Several researchers (Olweus, 1980; Patterson, 1982; Rubin, LeMare, Lollis, 1989) have examined parent-child interactions in order to explain the relationship between temperament and children's social behaviour and peer acceptance. It has been demonstrated that parents display differing interactive styles depending on the temperament of their child. Van Den Boom and Hoeksma (1994) found differences in the interactive behaviours of mothers with irritable infants and mothers with non-irritable infants aged 1-6 months. The behaviours that differed included visual and physical contact, effective stimulation, noninvolvement and responsiveness to positive infant signals. Maternal interactive behaviours toward non-irritable infants were characterized by a high level of visual and physical involvement combined with a gradual increase in effective stimulation and a rapidly increasing level of responsiveness to positive infant signals. Irritable infants were confronted with less visual and physical involvement, a very low level of effective stimulation

and rapidly decreasing relief of distress. Mothers seem to be less responsive with "difficult" children and more responsive with "easier" children.

The biological construct of temperament and the family construct of parent-child interactions have been used to explain developmental pathways to aggression (Olweus, 1980; Patterson, 1982) and rejection (Rubin, LeMare & Lolis, 1989) in children. Rubin et al., (1989) proposed that the scenario begins with an infant who is perceived by his or her parents as being of difficult temperament and a mother who is more stressed and less responsive to her child. The interaction results in the child experiencing increased anger and insecurity which is displaced in aggressive behaviour with peers and results in negative peer nominations. Olweus (1980) found an additive effect of mother's permissiveness for aggression, mother's negativism, boys' difficult temperament and parent's use of power-assertive methods of discipline in predicting elementary school-aged boys' aggressive behaviour. Cameron (1978) found that a difficult temperament index at age 1 year and an index of parental child-rearing problems at age 3 years combined to predict later behaviour problems in children. Carlson and Chang (1993) used path analysis to examine the relation between temperament

characteristics, parenting variables and peer sociometric nominations. While the data did not support a direct link between temperament and peer nominations, they found that the child's temperament was mediated by parenting quality in predicting peer competence. Specifically, when children (aged 8-13 years) were viewed more negatively by their mothers, and their mothers reported experiencing greater stress, their children were more likely to receive negative peer nominations. Similarly, Barron and Earls (1984) found behaviour problems to be indirectly related to family stress but directly linked to temperament and parent-child interactions.

In sum, the relationship between temperament, parenting styles and children's social behaviour is a complex one. However, research consistently supports the association between difficult temperament, harsh and critical parenting styles, aggression in children and finally poor peer relations. This relationship between temperament, parenting styles and children's aggression and popularity will be examined in the current data set.

Children's Peer Rated Aggression and Popularity

The final section of this literature review highlights the importance of studying aggressive behaviour and popularity with

peers. According to Rubin et al., (in press), experience with peers constitutes an important developmental context for children. The development of competent peer relations is seen as one of the most important psychosocial tasks of childhood (Parker & Asher, 1987). Positive relations with peers have often been associated with later social and emotional adjustment. Conversely, the failure to develop successful relationships with peers in childhood has been identified as a major risk factor for later maladjustment and even psychopathology (Newcomb, Bukowski & Pattee, 1993; Parker et al., 1987). Children's social behaviour has been identified as one of the most salient predictors of peer status. In particular, aggressive behaviour has been found to be strongly associated with peer rejection and unpopularity (Newcomb, et al., 1993, Parker et al., 1987).

Children's aggression and popularity has been assessed in a variety of different ways including parent ratings, teacher ratings, peer ratings, peer nominations, and direct observation. Research indicates that all of these sources of data have significant convergence of ratings particularly when identifying hyperactive and aggressive children (Milich, Landau, Kilby & Whitten, 1982; Olson & Brodfeld, 1991; Coie & Dodge, 1988;). According to Hymel et al., (1985) the use of peers as informants

about who in the peer group behaves competently or incompetently and who is rejected or accepted has several advantages. First, as insiders peers can detect the characteristics of children that outsiders may not be able to, second, they may be privy to certain behaviours that others may not understand the meaning of and third, there is the advantage of many raters rather than just one

The peer rating scale assesses children's views toward their peers according to a continuum from highly liked to highly disliked (Asher, Singleton, Tinsley & Hymel, 1979). The procedure requires children to rate each of their classmates using a 3-point scale ranging from a lot to not at all on "how much do you like to play with ___?". Peer ratings, in contrast to peer nominations (a procedure which requires children to nominate three children with whom they like to play and three children with whom they do not like to play) provides a more sensitive evaluation system relative to the nomination technique (Rubin et al., in press). Peer ratings will be used to assess aggression and popularity in the current study.

STATEMENT OF PURPOSE

The present study has three goals. The first is to describe group experiences at the school-age level. The second is to examine differences in children's peer-rated aggression and popularity, child temperament, maternal self-perception variables (perceived stress, hassles, support, and role satisfaction), and maternal parenting styles as a function of group experience, maternal employment and gender. The third purpose of the present work is to investigate the ways in which family, child and child environment variables might work together to influence kindergarten children's social development. In particular, the study focuses on the relationships between maternal employment, maternal self perceptions, parenting styles, child gender, child temperament, and group experience as direct and indirect contributors to children's aggressive behaviour and popularity status among their peers. While some studies have examined the influence of one or two of these variables on each other and/or on children's social behaviour, no study to date has looked at all of these domains in a single paradigm. The theory of social ecology (Bronfenbrenner, 1979) states that human development must be studied within the multi-layered contexts in which it takes place. Distal variables including parenting styles and child

constitutional factors as well as contextual factors such as employment and maternal variables such as social support, role satisfaction and stress are considered as possible factors contributing to children's social development.

The study focuses on kindergarten children since it is at this age when children may attend a formal group setting for the first time. The effects of group care on children's aggression and popularity is of particular interest. Studying kindergarten children allows for a representative sample of children with varying amounts of preschool group experience, all of whom experienced at least one group i.e., kindergarten. It also allows for the examination of the effects of after-school care, since it is at this age that children begin to attend such programs.

A unique and valuable feature of this research is the use of peer ratings to study aggression and popularity. This procedure has the advantage of avoiding rater bias by having a variety of people rate each child rather than just one (e.g., teacher, parent or observer) and extends past research that generally relies on adults' perception of children. It enables the researcher to examine children's perceptions of their peers.

The outcome measures used for this study are peer ratings of aggression and popularity. These variables were chosen for several reasons 1) few studies have examined the relationship between maternal employment and children's popularity status among peers, prefering to look at teacher or observers ratings of children's behaviour, 2) aggression has been the one behaviour consistently found to be related to group care experience, 3) aggressive behaviour has repeatedly been shown in the literature to be related to unpopularity or lack of acceptance by peers.

The value of the current research is the inclusion of numerous domains in a single design as well as the comprehensive approach to data collection. The variables used in this study are by no means exhaustive of the possible contributing factors to stress, parenting styles or children's aggressive behaviour and popularity with peers. However, they do incorporate important variables that have been shown in the maternal employment literature, parental socialization literature and the peer relations literature to influence each other and affect children's peer relations. The methodological diversity of this study coupled with the dearth of systematic, consistent, empirically derived findings that address the complicated relationships among the variables and their influence on peer

relations affords the unique opportunity to study the effects of the child and family environment, child characteristics and children's aggression and popularity in a broader, more comprehensive manner.

Research Questions and Hypotheses

Since there is a great diversity in the amount of time school-age children spend in groups and in the type of groups in which children participate, the first goal of the study is to describe group experience in the sample of kindergarten children studied.

The second goal is to examine variables from the different domains as a function of maternal employment, gender and amount of group experience. In order to explore the data thoroughly, child measures (temperament, aggression and popularity) and maternal variables (perceived stress, hassles, warmth, harshness, support and role satisfaction) are all used as dependent variables in this three-way anova design. Based on past studies, social ecology theory and logic, certain results can be predicted while the remaining variables are simply explored. The specific hypotheses made are outlined.

With respect to group experience, and based on work with school-age child care (White, 1995) and preschool child care

(Bates et al., 1994; Vandell et al., 1988), it is predicted that aggression will be higher in children who spend more time in school-aged group programs. It is also predicted that boys will obtain higher aggression ratings than girls.

With respect to maternal stress, it is predicted that perceived stress and daily hassles will be greater in employed mothers compared to non-employed mothers (Alpert et al., 1987; Walker et al., 1991) and in mothers of boys compared to mothers of girls (Block, 1978).

The third goal of this research is to examine the univariate and multivariate relationships between the individual variables in the study as a prelude to testing the model relating them. Based on previous research, several hypotheses regarding these relationships will be explored.

Three sets of relationships will be examined. First, the relationship of employment, support, role satisfaction, and their interactions in the prediction of stress will be tested. There is some evidence that stress will be related to employment and will be negatively correlated with role satisfaction and support (Crockenberg, 1988; Webster-Stratton, 1990). This literature also suggests that interactions between employment, role satisfaction and support may moderate stress effects. However,

evidence for moderating effects is weak, and the studies usually were done with children younger than our kindergarten sample. Therefore, no specific hypotheses are made.

The relationship between parental warmth and harshness as predicted by perceived stress, role satisfaction, support and their interactions will also be examined. High stress has been related to harshness and low stress to warmth in some studies (Crockenberg, 1988; Crockenberg & Litman, 1991) with 2 year old children, but these relationships have not been examined with 5 year olds.

Finally, child ratings of aggression and popularity will be examined in relation to parenting styles and temperament. Studies have found warm parenting styles to be related to prosocial behaviors (Dekovic & Janssens, 1992; Goldberg & Easterbrooks, 1988; Petit & Bates, 1989). Harsh parenting styles have been related to greater aggression in children (e.g. Kochanska et al., 1989; Patterson, 1986). Finally, work by Olweus (1980) has linked difficult or emotional temperament styles to aggression. Again, because these studies often examine younger children, and use different measures of temperament, aggression and prosocial behavior, no specific hypotheses were made for the current study.

Another goal of the current study is to test a proposed theoretical model. Figure 1 presents a diagram of the model illustrating the proposed interconnected features of relationships that formed the basis for this investigation. The model consists of associations between (a) maternal employment, (b) maternal self-perception variables, (c) parenting styles, (d) child gender, (e) child temperament, (f) group experience and (g) children's peer-rated aggression and popularity. The rationale for the current study, adopted from both the maternal employment literature (Crockenberg & Litman, 1988) and the peer relations literature (Rubin et al., 1989), proposes a developmental pathway to a lower popularity status whereby stress, directly affected by employment and maternal perceptions of a "difficult" child, is related to the use of harsh parenting styles which in turn leads to aggressive behaviour in children and ultimately unpopularity or the unwillingness of peers to choose such children as playmates. As well, group experience and being a boy is predicted to be positively related to aggression ratings.

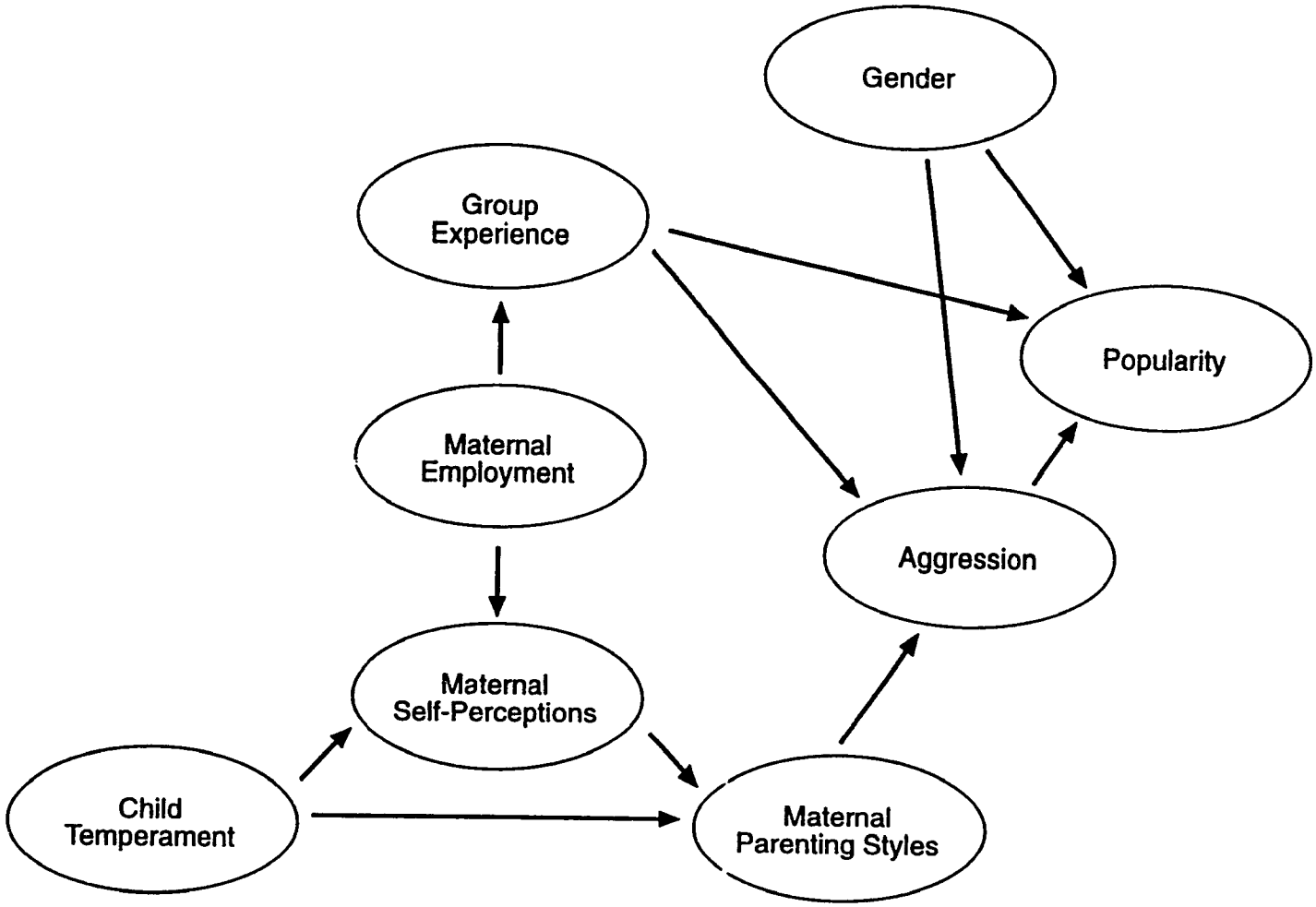


Figure 1. Hypothetical Model Examining Direct and Indirect Relationships Between Maternal and Child Variables

METHOD

Subjects

Kindergarten children (N = 245, 137 boys (56%), 108 girls, M = 73.98 months, SD = 3.62) from eight English-sector elementary schools in the Montreal area participated in this study. The participants represented over 75% of the potential pool of subjects in 15 Kindergarten classrooms. Each child received parental permission to participate in the study. Appendix A presents the Introductory Letter describing the project and Parent Consent Forms.

Demographic Information: Two hundred and twenty three mothers of the sample of 245 children agreed to participate in a telephone interview. One hundred and eighty nine mothers of the 223 who participated in the telephone interview returned questionnaires as part of the study. During the 20 minute interview with the mother, information was collected on family demographics including marital status, parental education and occupation, number of children in the home and current maternal employment. Information was also collected on past and current child care arrangements. The demographic information will be presented here for descriptive purposes.

Appendix B presents a frequency table of the family demographic information. Means, standard deviations and ranges for the family status variables appear in Table 1. The families who participated in this study were predominately white, married (90%), college educated and middle to upper-middle class. Socioeconomic status (SES) was calculated using the Hollingshead Four Factor Index (Hollingshead, 1975). Approximately 75% of mothers and fathers had at least a college degree. Fathers had slightly more education than mothers in that 53% of the fathers had either a university or graduate degree compared to 34% of mothers who had received advanced degrees. Approximately 77% of fathers occupied semi-professional, managerial or high executive positions. Slightly more than half of the mothers in the sample did not work for pay (n = 118). Of the 105 mothers who were employed, the majority (60%) were in semi-professional, managerial or high executive positions. Mothers worked for pay either part-time (7-25 hours/week, n = 46) or full-time (29-50 hours/week, n = 59). The employed mothers worked a mean of 28.8 hours per week. The univariate correlations among parental education and occupation and SES can be found in Appendix C.

Table 1

Means, Standard Deviations and Ranges of Family Demographic Variables (N = 223)

Variable	M	SD	Range
Mother's Education[a]	5.1 (College)	1.0	1-7 (Elementary -Grad School)
Father's Education[a]	5.4 (College)	1.2	1-7 (Elementary -Grad School)
Mother's Occupation[ab]	6.1 (Small Business)	1.7	1-9 (Unskilled -Professional)
Father's Occupation[a]	6.7 (Small Business)	2.0	1-9 (Unskilled -Professional)
Socioeconomic Status[a]	49.3 (Upper-Middle Class)	11.2	11-66 (Lower -Upper Class)
Siblings	1.4	0.9	1-6

[a] Based on Hollingshead Four Factor Index
[b] Based on 105 employed mothers

Child Care Experience: Information on children's past and current child care arrangements was collected by telephone interviews. Beginning with the current year, mothers were asked about the type of arrangement for the child (i.e., homecare, sitter care, relative care, preschool daycare, family daycare, school-based group care or other), and the amount of time (days/week and hours/day) the child spent in the care arrangement. Data were collected on the subjects' child care arrangements beginning with the current year and going over each year working backwards to time of birth. From this information several past and current child care variables were calculated in order to assess the child care history of the current sample. The four preschool child care variables include, 1) stability of care (i.e., number of different types of care arrangements), 2) age of entry into first alternative (other than parent) form of child care, 3) age of first group experience (group experience included group daycare, preschool and large playgroups) and 4) amount of time spent in group daycare. The current care variables include: 1) type of current care; 2) number of different current care arrangements; and 3) amount of time spent in school based group programs.

The means and standard deviations for the preschool child care variables used in this study can be found in Table 2. The children's preschool child care history is relatively stable with the majority of the sample having one-mother care only (38%) or two (37%) different types of care arrangements. The average age of entry into alternative forms of child care is approximately 2 years. A slightly higher percent of children (54%) began alternative care prior to age 2, compared to the 46% of children who began alternative forms of care after age 2. The average age of entry into group experience was approximately 3.5 years. Only 47 children in this sample attended preschool group daycare. They spent on average 2 years in group daycare. The other alternative forms of child care include sitter care in or out of home (87 children), relative care (46 children), family daycare (8 children) and sibling care (2 children). The univariate correlations for the preschool child care variables can be found in Appendix D.

The current care arrangements are similar to the preschool care arrangements. The majority of children (n = 172) returned home after school and were primarily cared for by parents. The second most frequently used form of care was sitter care in or out of the home (21 children). Seventeen children used school-

Table 2

Means, Standard Deviations and Ranges for Child Care Variables

(N = 224)

Variable	M	SD	Range
Number of Different Types of Care*	1.9	0.9	1-4
Age in Months of First Alternative Care**	26.0	21.2	0-71
Age in Months of First Group Experience***	43.1	15.5	3-75
Number of Months In Preschool Group Daycare****	25.5	18.3	1-64

*Types of Child Care include: mother care, father care, sitter in the home, sitter out of the home, relative care, family day care, centre day care, sibling care

**Alternative care includes all the different types of care other than maternal care.

***Group experience is described as any type of formal group including daycare, preschool, nursery, large playgroups.

**** Calculated as the number of months spent in preschool daycare multiplied by the number of days/week spent in daycare divided by 5 (days/week) for the 47 children who attended preschool group daycare.

based group daycare, 10 children were cared for by relatives and family daycare was used by three children. The second current child care variable, number of care arrangements, revealed that only 31 (14%) children had two forms of child care and four (2%) children had three different child care arrangements. Appendix E indicates the frequencies and percentages of current care arrangement used by children of non-employed and employed mothers and by girls and boys.

Current Group Experience: Although most of the children in the sample had little traditional group child care at the preschool or school-age level, many spent a great deal of time in groups. A new variable was calculated for the study called current group experience. Current group experience is made up of the number of hours per week children spent at school in a group setting. Children in this sample spent anywhere from 10 to 50 hours/week averaging 21 hours/week at school. The minimum 10 hours/week at school consisted of the 2 hours/day, 5 days/week all children spent in kindergarten. The additional hours children spent at school were in programs provided by the school. The programs included 1) structured French programs 2) lunch programs 3) morning and afternoon school-based daycare programs.

The French programs were designed to teach French as a second language to English speaking children using immersion techniques including music, drama, art, vocabulary and language instruction. The French programs, taught by certified French teachers were on average 2 hours per day and ranged from 3 to 5 days per week depending on the school.

The lunch programs were offered every day of the week and lasted for approximately one and a half hours during which the children ate lunches they brought from home and played with their peers. The lunch programs were generally supervised by a teacher or after-school daycare worker and a parent. The morning and after-school daycare programs were available to children daily for approximately 4 hours per day, closing at 6 P.M..

The school-based daycare programs are similar to those described in Jacobs, White, Baillergeon and Betsalel-Presser (1995). The programs emphasize recreational activities and children can participate in a variety of activities and games. Materials (balls, toys, arts and crafts, etc.) are generally scarce and children are required to share and take turns using them. Children spend much time in the schoolyard playing amongst themselves Generally a qualified daycare worker and one or two high school students supervise the children. Only 22% of the

sample spent the minimum 10 hours/week at school. The remaining 78% of the children (n = 175) spent additional hours in the programs provided by the schools.

Measures

A variety of measures were used to evaluate maternal self perceptions including stress, support and role satisfaction, maternal parenting styles, child temperament, children's social behaviours and interactions with peers. Information was collected from the children, their teachers and their mothers. The measures used in this study and information on their reliability are described in the next section. Appendix F contains a copy of the measures.

Perceived Stress: The Perceived Stress Scale (PSS) (Cohen, Karmack, & Mermelstein, 1983) was used to obtain a global measure of stress experienced by mothers. The scale measures the degree to which events in the past month are perceived as stressful, unpredictable and beyond one's resources to cope. The PSS consists of 14 items rated on a 5-point scale from 0 "never" to 4 "very often". The questions are designed to assess nonspecific self-reported stress. An example item would be "In the last month how often have you felt that you could not cope with all the things that you had to do?". Internal consistency was found

was found to be 0.88 for the current sample, which compares favourably to the consistency reported by Cohen et al., (1983) of .84 and .86 in their respective samples. The mean and standard deviation (M = 22.6, SD = 7.1) are similar to those reported by Cohen et al., (1983) (M = 23.18, SD = 7.31; M = 23.67, SD = 7.79) from their two samples of college aged students.

Daily Hassles: The Daily Hassles Scale (Delongis, Folkman & Lazarus, 1988) lists 53 potentially annoying daily events such as children, work-load, family related obligations and the weather. The respondent is asked to indicate on a scale of 0 to 3 how much of a hassle each item tends to be in their lives. This scale has good internal consistency. Cronbach's alpha for the current study was .88, similar to the consistency reported by Delongis et al., (1988) which was .80. The mean and standard deviation found in the current sample (M = 29.5, SD = 15.9) are higher than the mean and standard deviation (M = 16.3, SD = 10.9) of Delongis, et al., (1988).

Social support. The Emotional Support Scale developed by Reid and Landsman-Ramey (1991) lists 14 potential sources of support including spouse, friends, and community or government programs. Emotional support is defined as the willingness to "listen, reassure, and show that they care". The respondent must

indicate on a 5-point scale ranging from 1 ("not helpful") to 5 ("extremely helpful") how much support they receive from each of the sources. The scale assesses both the number of supports as well as the amount of support the respondent feels they have. Table 3 lists the means and standard deviations for the sources of support listed on the scale.

Standardization data is not available for the Emotional Support Scale making it impossible to compare the current sample with other studies. Inasmuch, a description of the findings for the current sample will ensue. The majority of subjects found spouses to be supportive. An exception to this was in cases when parents were divorced, mothers did not endorse the child's biological father as a source of support. Mothers also found friends, teachers, grandparents, doctors, books, and relatives (listed in order of importance) to be supportive. While some mothers found community programs, co-workers, and church to be supportive, most did not. Finally, few of the respondents endorsed counsellors or listed "other" forms of support.

Role Satisfaction: Crockenberg's (1988) measure was used to assess the respondent's satisfaction with different aspects of their lives. Mothers were asked to indicate on a scale of 1 ("about as bad as it can get") to 10 ("perfect") their

Table 3

Means and Standard Deviations and Number of Observations for Sources of Emotional Support

Source of Support	M	SD	Number of Observations
Spouse/Partner	3.97	1.13	179
Child's Biological Father if not current Spouse/Partner	2.55	1.43	40
Child's Grandparents (mother's side)	3.39	1.43	166
Child's Grandparents (father's side)	2.69	1.32	165
Other Relatives	2.86	1.21	154
Close Friends	3.30	1.22	179
Co-workers	2.34	1.20	16
Church/Temple	2.39	1.41	71
Teachers	3.09	1.25	169
Doctors	2.96	1.27	160
Counsellors	2.41	1.68	39
Books	3.03	1.10	160
Community or Govt. Programs	2.60	1.25	82
Other	3.57	1.60	14

satisfaction with 1) the time they spend with their child, 2) the time they spend running the household, 3) the amount of moneycoming into the house, 4) the time they spend with other adults, 5) their feelings of personal growth and 6) their overall satisfaction with being a parent.

The internal consistency for the current sample (Cronbach's alpha = .74) is similar to the consistency found in Crockenberg and Litman's (1991) study (Cronbach's alpha = .71). The overall mean satisfaction score for the mothers in the current study was 6.06 (SD = 1.74), slightly lower than the mean (M = 6.89, SD = 1.64) reported by Crockenberg et al., (1991). A major difference between the current sample and Crockenberg et al.,'s sample is that the current study includes both employed and non-employed mothers, whereas Crockenberg et al.,'s sample only looked at the role satisfaction for non-working mothers. Means and standard deviations for the overall and individual role satisfaction items for the full sample can be found in Table 4.

Parenting Styles: The Questionnaire on Parental Attitudes (Easterbrooks & Goldberg, 1985) was used to assess mothers' thoughts and feelings about child-rearing and the behaviours they report using when interacting with their children. The measure includes 65 items and has a 6-point scale ranging from strongly

Table 4

Means and Standard Deviations for Overall and Individual Role Satisfaction Items (N = 180)

Variable	M	SD
Overall Satisfaction	6.01	1.43
Time with Child	7.73	1.97
Time with House	5.19	2.31
Money	5.53	2.31
Time with Adults	5.21	2.28
Personal Growth	5.79	2.28
Being a Parent	7.62	1.74

agree to strongly disagree. The items load onto three factors: warmth (sample item: "I believe in praising my child when s/he is good and think it gets better results than punishing when s/he is bad)", strictness/overprotectiveness (sample item: "I try and stop my child from playing rough games or doing things where s/he might get hurt)" and conflict/anger (sample item: "I believe physical punishment to be the best way of disciplining my child").

The means and standard deviations for the current sample (warmth $\underline{M}$ = 5.42, $\underline{SD}$ = .33; strictness $\underline{M}$ = 3.97, $\underline{SD}$ = .50; conflict $\underline{M}$ = 2.35, $\underline{SD}$ = .61) are similar to those reported by Easterbrooks and Goldberg (1985) (warmth $\underline{M}$ = 5.39, $\underline{SD}$ = .38; strictness $\underline{M}$ = 3.49, $\underline{SD}$ = .61; conflict $\underline{M}$ = 2.73, $\underline{SD}$ = .59). Easterbrooks and Goldberg (1985) report internal consistencies ranging from .69 to .89. In the current study, the internal consistency for warmth (23 items) was 0.72 (slightly low given the number of items on the subscale). The internal consistencies for strictness (16 items) and conflict (10 items) were very low with alpha coefficients of 0.51 and 0.60 respectively. Inter-item correlations were examined in an effort to improve the internal consistency of the two very low subscales. The internal consistency for the strictness subscale could not be improved and

was subsequently dropped from any further analyses. The internal consistency of the conflict subscale was improved to 0.64 when two items were deleted. Two additional items from the original measure that did not load onto the other subscales and logically seemed related to the conflict subscale were added to that subscale. The internal consistency improved to .66 with the addition of the two new items and was considered adequate. The revised conflict/anger subscale, with the deletion of two original items, the addition of two new items and an internal reliability of .66 was renamed harshness, as it seemed more appropriate based on the 10 items in the scale and consistent with terms used in the literature. The 10 items that are used in this study to make up the harshness subscale and the 23 items that make up the warmth subscale are marked by an H and W respectively on the Questionnaire on Parental Attitudes in Appendix F.

Temperament Ratings: The EAS Temperament Survey (Buss & Plomin, 1984) is designed to assess parent's perceptions of their child's temperament. The measure consists of 20 items rated on a 5-point scale indicating whether the item is "not characteristic or typical" of their child to "very characteristic or typical" of their child. The measure loads onto four factors each with five

items: shyness (sample item: "child takes a long time to warm up to strangers"), activity (sample item: "child is very energetic"), emotionality (sample item: "child gets upset easily") and sociability (sample item: "child likes to be with people"). The original measure (Buss & Plomin, 1975) combined the sociability and shyness scales and had only three factors. The sociability scale, devoid of shyness items is experimental and does not have standardization data available (Buss & Plomin, 1984).

The means, standard deviations, and alpha coefficients for the four subscales on the temperament measure for the current study are shown in Table 5. The internal consistency on the EAS Temperament Survey for the current sample ranged from .67 to .83. Buss and Plomin (1984) report internal consistency ranging from .80 to .88 for the three scales (emotionality, activity, sociability/shyness) in their sample. Boer and Westenberg (1994) examined the psychometric properties of the EAS Temperament Survey in a sample of Dutch children and found the internal reliability to range from .74 to .81. Means, standard deviations and alpha levels for both Buss and Plomin's original sample and the Dutch sample can be found in Appendix G. The means for all three samples are comparable.

Table 5

Means, Standard Deviations, Ranges and Alpha Coefficients for EAS Temperament Survey (N = 189)

Variable	M	SD	Range	Alpha
Shyness	2.3	.81	1.0 - 4.4	.75
Sociability	3.6	.69	1.6 - 5.0	.67
Emotionality	2.5	.90	1.0 - 5.0	.83
Activity	4.1	.75	1.8 - 5.0	.78

Peer Ratings of Aggression and Popularity: The peer rating scale is a commonly used technique which requires children to rate each of his/her classmates on a Likert-type scale, according to some specified criteria. For instance, children are often asked to rate how much they like this person. Rating scales provide children's views of their peers along a continuum of highly liked to highly disliked. The average of the ratings that a child receives from peers is an index of the child's popularity. In the current study each child was shown a photograph of his/her classmate and asked to rate the child on a scale of 1 "I like to play with this child a lot" 2 "I like to play with this child a little" or 3 "I do not like to play with this child". Each child received a mean "likeability" or "popularity" score based on the ratings of all the children in the class. The term popularity will be used in this paper to describe children rated as desirable play partners by their peers.

For the purposes of this study, the measure was also adapted to assess peer ratings of aggression. Children were asked to rate their peers on two typical aggressive behaviours: fighting and talking in an aggressive manner (i.e. 1 "this child fights and says mean things a lot" 2 "this child fights and says mean

things a little" and 3 "this child does not fight or say mean things").

Each child rated both boys and girls on popularity and aggression. The rating order for aggression and popularity was counterbalanced. The current study uses total scores and does not distinguish between same and cross-sex ratings (i.e. mixed scores are used). Boivin and Begin (1986) found that same-sex sociometric scores and total scores are highly related in kindergarten age children. These authors argue that same-sex sociometrics provide fewer data points yielding less stable data and conclude that the use of total sociometric scores are preferable for kindergarten aged children. The mean popularity rating for this sample (M = 2.1, SD = .37) is slightly higher than the aggression rating (M = 1.6, SD = .45).

Peer ratings of popularity have good temporal reliability and concurrent validity (Boivin & Begin, 1986; Parker & Asher, 1987). Asher et al., (1979) and Boivin et al., (1986) found test-retest correlations of .81 and .80 in their respective samples of preschool children. Boivin et al., (1986) found peer ratings to be moderately to highly correlated with several teacher rating measures (r = .38 to .64) in their sample of kindergarten aged children. Temporal reliability was not

assessed in the current sample, as the children were only seen once. However, this sample showed moderate to good concurrent validity with teacher ratings of aggression (r = .69) and popularity (r = .49).

Teacher Ratings of Children's Social Behaviour: The teacher questionnaire used in this study is an adaptation of Vandell and Corasaniti's (1988) Teacher Rating Scale used to evaluate children's behaviour and adjustment to the kindergarten class. The 5-point scale ranging from 1 (almost always) to 5 (almost never) is designed to have teachers rate the frequency of each behaviour described in the scale. The original scale contained 32 items, grouped conceptually to form four subscales: peer relations, work/study skills, emotional well-being, and adult-child relationships. The scale was modified by White (1995) to include 44 items grouped into five subscales: aggression, withdrawal, rejection, likeability, and compliance. The current study uses only two of the subscales, likeability and aggression, to validate the peer ratings. The eight items that make up the likeability subscale and eight items that make up the aggression subscale are marked with an L and an A respectively on the Teacher Rating Scale in Appendix F.

The means and standard deviations on teacher ratings of

likeability (M = 30.6, SD = 5.6) and aggression (M = 18.5, SD = 8.9) in the current sample are similar to those reported by White et al., (1995). In a sample of French children in Montreal, White et al., (1995) found scores on likeability between 30.4 to 32.3 and aggression between 16.2 to 19.1 depending on the sex and child care experience of the children.

Vandell and Corasaniti (1988) report internal consistencies ranging from .82 to .93 (M = .86) on the four original subscales. The internal consistency for teacher ratings on likeability and aggression for the current study was .91 and .95 respectively.

Procedure

Letters describing the project were sent to several schoolboards and independent schools in the Montreal area. Appendix H presents the letter to the schoolboard commissioners and/or the school principals. In order to be accepted into the project, the schools were required to meet three criteria : 1) primary language of instruction must be English 2) an after school daycare program (similar to the ones described by Jacobs et al., 1995) was available to the Kindergarten children 3) a minimum of 75% of the children from each class had to have parental permission to participate in the study since according

to Asher, et al., (1979), 75% participation is required in each class to adequately assess the children's sociometric status.

Three independent schools and one school board agreed to participate. The school board commissioner contacted the principals of seven schools in his sector who agreed to participate. The author contacted the principals at the three independent schools. The 10 schools had 22 kindergarten classes in total. Individual meetings were held with the 10 school principals and a representative teacher in each of the schools to explain the procedure and enlist their cooperation. A minimum of 75% participation was required in each class to adequately assess the children's sociometric status. Fifteen of the original 22 kindergarten classes solicited reached this criteria. In total, 15 classes in eight English-speaking elementary schools participated in the study.

Teachers distributed information letters and consent forms to all the students to be signed by their parents and returned to the teacher. Parent's consent was obtained to: 1) allow researchers to take their child's photograph and meet with him or her individually during school hours, 2) interview parents by telephone to obtain information about their child care history, parental education and occupation and family status, 3) have

parents complete a questionnaire package and 4) allow the classroom teacher to complete a rating measure on their child. Teachers received a $5 honorarium for each completed questionnaire.

Prior to testing the children, the researchers visited each classroom. The teachers explained the purpose of the study to the children, indicating that the researchers were interested in learning more about children's friendships and who they like to play with and that their class was chosen to help us out with the task. The issue of confidentiality was also discussed with the children. Each child who received parental permission to participate in the study had his/her photograph taken by the author. Children were interviewed individually, outside of the classroom for approximately 20-30 minutes in order to complete the testing procedure. Some children were seen twice if the testing could not be completed in one session. The author and one research assistant administered the measures to the children. Efforts were made to establish good rapport with the children and facilitate their comfort level in the testing situation. At the end of testing the children were thanked for their participation and effort. Each class that participated in the study received a

$20 gift certificate as a token of appreciation. The classroom teachers chose an appropriate gift for their class.

Telephone interviews with mothers were conducted by the author and a research assistant, blind to the child's peer ratings of aggression and popularity. At the end of the interview, mothers were told that the questionnaire package they had agreed to complete would be sent home with their child. Mothers were asked to fill in the questionnaire package and return it to the teacher. Parents, teachers and principals were given the results of the study in appreciation for their participation.

RESULTS

The results of this study are presented in four sections. First, preliminary analyses are presented. Next, group experience x maternal employment x gender analyses are conducted on maternal self-perceptions, parenting styles, child temperament variables, and child aggression and popularity ratings. Third, in order to examine relationships among subsets of the variables, and in preparation for developing and testing a model relating the variable domains (employment, group care, gender, peer ratings, maternal self-perceptions, maternal parenting style and child temperament), univariate correlations and several multiple regressions are conducted. In the fourth section, an exploratory model is tested.

Preliminary Analyses

Several preliminary analyses were conducted to explore the maternal and child variables prior to conducting the analyses. First, differences between the eight schools used in this study were assessed to determine whether collapsing the data across schools was a viable option. One-way analyses of variance conducted on all the variables for the eight schools revealed no significant differences on any of the variables across schools. Therefore, the data were collapsed across schools.

Each of the variables were examined for violations of assumptions for univariate and multivariate analyses including outliers, normality, linearity, and multicollinearity. Univariate outliers were found on the warmth, daily hassles and maternal employment variables. All of the outliers were brought in to the next highest Z-score value obtained in the sample. No multivariate outliers were found. Several of the variables showed moderately to severely skewed distributions. Maternal warmth, child activity level and peer ratings of popularity were reflected and corrected using square root transformations. Skewness on peer ratings of aggression was corrected using an inverse transformation. Data transformations corrected the skewness but did not affect results of the analyses, therefore reports of analyses original scores are presented.

The data were examined for multicollinearity and singularity. These assumptions were not violated. Nonetheless, a very high correlation between peer ratings of aggression and popularity was found (r = .71). This correlation replicates the findings in the peer relations literature that these two dimensions are strongly associated. Investigators believe that these dimensions are theoretically separate (Newcomb, et al., 1993) and both were retained for analyses in the current study.

Maternal and Child Variables as a Function of Employment, Group Experience and Gender

As discussed earlier, despite the relationship between maternal employment and child group experience, few studies have examined variables such as maternal self-perceptions, parenting styles, child temperament, and peer ratings of aggression and popularity when employment and group experience are both included as independent variables. Thus, the purpose of the next set of analyses was to describe the variables in this study as a function of maternal employment, child care and gender. Gender was included as an independent variable because of the differences between boys and girls found in the literature on variables such as maternal stress, parenting styles and children's peer ratings of aggression and popularity. The group experience variable used in the current set of analyses was the number of hours spent in school-based group programs. A median split of less than and equal to 20 hours per week in school-based group programs and more than 20 hours per week in school-based group programs was used in the analyses. Maternal employment was dichotomized because at least half of the mothers in the sample were not employed and therefore received scores of zero.

Dichotomization allowed for a more accurate representation of the groups and facilitated the data analyses. The literature on maternal employment has differentiated between part-time and full-time employment, often finding differences between these groups. None of the variables in this study were found to differ significantly as a function of whether mothers were employed part-time or full-time. Thus, employment was collapsed and the dichotomized variable (employed, n = 105, not employed , n = 118) was used in all further analyses. Employed mothers worked for pay a minimum of 7 hours per week). The following series of three-way analyses of variance examined maternal self-perception variables, parenting styles, child temperament, and peer ratings as a function of maternal employment, group experience and gender. The source tables for the analyses of variance can be found in Appendix I.

Maternal Self Perception Variables: Maternal self perceptions consisted of perceived stress, daily hassles, emotional support and role satisfaction. As can be seen in Table 6, each of these variables was retained for analyses as they seem to represent independent constructs and are not correlated at levels greater than .70. Bonferonni corrections were used to account for the fact that multiple analyses may result in chance

Table 6

Univariate Correlations for Maternal Self-Perception Variables

	Perceived Stress	Daily Hassles	Emotional Support
Daily Hassles	.48**		
Emotional Support	-.15**	-.04	
Role Satisfaction	-.48**	-.51**	.24**

**p < .01

significance. A more stringent alpha level was set at .01. As can be seen in Table 7, there were several significant main effects. None of the interactions were significant and are not discussed further. As predicted, employed mothers reported experiencing significantly more daily hassles ($\underline{M}$ = 33.27) than non-employed mothers ($\underline{M}$ = 26.28). Though employed mothers also had higher perceived stress scores ($\underline{M}$ = 23.47) than nonemployed mothers ($\underline{M}$ = 21.52), this difference did not reach statistical significance. Neither role satisfaction nor emotional support differed as a function of employment status.

Contrary to the prediction that mothers of boys would report higher stress and hassles than mothers of girls, in fact, mothers of girls reported higher stress levels ($\underline{M}$ = 24.04) than mothers of boys ($\underline{M}$ = 21.17), while no differences were found on the hassles measure.

Role satisfaction was significantly lower in mothers of girls ($\underline{M}$ = 5.65) compared to mothers of boys ($\underline{M}$ = 6.29). There were no main effects for the emotional support as a function of employment, gender or group experience. None of the maternal self-perception variables differed as a function of amount of group care used.

Table 7

Means and Standard Deviations of Maternal Self-Perceptions and Parenting Styles as a Function of Employment, Group Experience, and Gender

	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
	Not Employed	Employed	<20 Group Hours	>20 Group Hours	Boys	Girls
Self Perception						
Stress	21.52 (6.74)	23.47 (7.41)	22.20 (6.39)	22.65 (7.71)	21.17 (7.46)	24.04** (6.43)
Hassles	26.28 (15.29)	33.27** (15.21)	28.22 (14.54)	30.75 (16.40)	27.74 (15.32)	31.94 (15.40)
Role Satis-faction	6.20 (1.32)	5.82 (1.50)	6.06 (1.32)	5.97 (1.50)	6.29 (1.41)	5.65** (1.43)
Support	26.21 (7.12)	28.24 (7.96)	26.73 (7.64)	27.56 (7.61)	27.60 (7.97)	26.64 (7.34)
Parenting Styles						
Warmth	5.40 (.35)	5.44 (.31)	5.42 (.34)	5.42 (.33)	5.41 (.36)	5.44 (.30)
Harsh-ness	2.37 (.66)	2.35 (.67)	2.35 (.66)	2.37 (.66)	2.35 (.64)	2.38 (.70)

*p < .025
**p < .01

Parenting Styles: The next set of analyses examined maternal parenting styles as a function of employment, group experience and gender. Maternal parenting styles consisted of mothers' beliefs, behaviours and attitudes regarding child rearing. The parenting styles used in this study were warmth and harshness. Maternal warmth and harshness were significantly negatively correlated with each other (r = -.52). Again, these constructs warrant separate analyses as they may be differentially related to other maternal and child variables. As well, the variables are not redundant. Given that only two anovas were being run, corrected alpha levels were set at p <.025. As can be seen in Table 7, no significant main effects or interactions were found for either warmth or harshness. These findings suggest that mothers who work do not differ from mothers who do not work for pay on amount of warmth or harshness they report using with their children. Moreover, mothers do not use different parenting styles with sons and daughters or with children who have more or less group experience.

Child Temperament and Peer Ratings: The final set of analyses used to describe the data were three-way ANOVAS examining children's temperament and peer ratings of aggression and popularity as a function of maternal employment, group

experience and gender. Alpha was set at .01 given the number of analyses run. As can be seen in Table 8, no significant main effects or interactions for maternal employment, group experience or gender were found on the four temperament variables (i.e., emotionality, sociability, shyness, or activity).

Significant main effects and interactions were found on the peer ratings of aggression and popularity. Again, corrected alpha levels of .025 were used. First, a significant interaction was found for gender by group experience on peer ratings of aggression F (1,215) = 5.51, $p < .01$. One-way analyses were used to test the interaction. Boys with more group experience were rated as significantly more aggressive (M = 1.83) than boys with less group experience (M = 1.58). There was no significant difference on aggression for girls with more (M = 1.43) or less (M = 1.41) group experience. Main effects were found on aggression for gender F (1,215) = 25.59, $p < .001$, and group experience F (1,215) = 4.86 $p < .025$. As predicted, boys were rated as more aggressive (M = 1.72) than girls (M = 1.42), and children with more group experience were rated as more aggressive (M = 1.68) than children with less group experience (M = 1.49).

A main effect for gender F (1,215) = 7.92, $p < .01$ and a significant interaction for gender by group experience F (1,215)

Table 8

Means and Standard Deviations on Child Variables as a Function of Employment, Group Experience, and Gender

	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
	Not Employed	Employed	<20 Group Hours	>20 Group Hours	Boys	Girls
Temperament						
Emotionality	2.48 (.82	2.54 (.97)	2.46 (.89)	2.55 (.89)	2.48 (.82)	2.54 (.99)
Sociability	3.62 (.63)	3.67 (.76)	3.68 (.63)	3.61 (.74)	3.61 (.70)	3.68 (.68)
Shyness	2.42 (.86)	2.19 (.76)	2.40 (.86)	2.24 (.78)	2.22 (.81)	2.42 (.22)
Activity	4.15 (.72)	4.02 (.78)	4.09 (.83)	4.99 (.66)	4.09 (.75)	4.09 (.75)
Peer Ratings						
Aggression	1.52 (.42)	1.66 (.48)	1.49 (.39)	1.68* (.49)	1.72 (.48)	1.42** (.34)
Popularity	2.18 (.36)	2.11 (.37)	2.21 (.32)	2.09 (.40)	1.08 (.40)	2.23** (.33)

*p < .025
**p < .01

= 5.83, $p < .05$ was found for popularity. Again the interaction was examined using one-way anovas and boys with more group experience were rated as significantly less popular (M = 1.99) than boys with less group experience (M = 2.19). There was no significant difference on popularity for girls with more (M = 2.22) or less (M = 2.24) group experience. The main effect revealed that girls were rated as more popular (M = 2.23) than boys (M = 2.08).

Finally, current group experience was examined as a function of employment and gender. Significant main effects were found for group experience as a function of employment $F(2,222)$ = 14.43, $p < .001$. Children of employed mothers attended school for significantly more hours (M = 24.49) than children of nonemployed mothers (M = 18.04). No significant main effects for sex or interactions were found.

Univariate and Multivariate Relationships between Maternal and Child Variables

A second goal of this study was to examine the univariate and multivariate relationships between the different domains used in the current data set in an attempt to replicate some of the findings in the literature and as a prelude to testing the model. In addition to presenting correlations among the variables, three

multivariate relationships were examined: (1) stress and employment, support and satisfaction; (2) parenting styles and maternal and maternal self-perception variables; and (3) peer ratings of aggression and popularity and naternal and child variables.

Stress, Employment, Support, and Satisfaction: As indicated previously in Table 6, perceived stress was significantly positively correlated with daily hassles and significantly negatively correlated with support and satisfaction. Hassles were not related to support but were highly negatively correlated with satisfaction. Finally, support and satisfaction were moderately positively correlated. These univariate correlations do not take employment status into account, nor do they allow for examination of the shared and unique variance or interactions which might characterize the predictor variables.

Much of the literature reviewed earlier suggested that support and satisfaction are negatively related to stress, regardless of maternal employment status. To test this hypothesis, two hierarchical multiple regressions, controlling for employment, were conducted using stress and daily hassles as the dependent variables. Employment (dichotomized as employed or not employed) was entered on the first step, support and

satisfaction were entered on the second step and the interaction between employment and support and employment and satisfaction were entered on the third step. For perceived stress, results revealed that there was a trend indicating a relationship between employment and stress, F (1, 172) = 3.51, p <.06. The second step was significant F (3, 170) = 17.1, p <.00, R change = .23. Only role satisfaction accounted for a significant amount (18%) of the unique variance. The interactions did not add significant variance to the regression F (5, 186) = 10.20, ns, R change = .00). The results using daily hassles were similar. Employment predicted a significant amount of variance in hassles F (1, 172) = 10.49 p <.00. The second step (support and satisfaction) significantly added variance F (3, 170) = 23.30, p <.00, R^2 change = .23. Again, only role satisfaction accounted for a significant amount (23%) of the unique variance. As with perceived stress, the interactions on the third step were not significant F (5, 186) = 13.97, ns, R^2 change = .00). These results indicate that role satisfaction negatively predicts stress regardless of employment status.

Parenting Styles and Maternal and Child Variables: The role parenting styles play in children's social development in conjunction with maternal self-perceptions, child temperament and

peer ratings was examined. It was hypothesized that maternal warmth and harshness would be related to maternal self-perception variables such as stress, hassles, support and satisfaction. It was also expected that harshness would be related to difficult temperament in children and peer ratings of higher aggression and less popularity. Warmth was expected to be related to easier (or less emotional) temperament in children, to lower aggression, and higher popularity ratings.

The relationship between maternal parenting styles and maternal self-perceptions was examined first. Univariate correlations and multiple regression analyses were conducted to examine the direct relationships and interactions between parenting styles and maternal stress, daily hassles, support and role satisfaction. Significant univariate correlations were found between warmth and all of the maternal self-perception variables i.e. stress (r = -.23, p < .01), daily hassles (r = -.20, p < .01), support (r = .16, p < .05) and role satisfaction (r = .29, p < .01). Harshness was also significantly related to stress (r = .24, p < .01) and daily hassles (r = .20, p < .01) but not to support (r = -.08, ns) or role satisfaction (r = -.13, ns).

Hierarchical multiple regressions were used to examine the multivariate relations among stress, role satisfaction and support as predictors of parenting styles. Separate regressions were run using harshness and warmth as the dependent variables and perceived stress, support and satisfaction as the independent variables. Maternal perceived stress was entered on the first step and accounted for a significant amount of the variance in maternal harshness F (1,171) = 15.51, p < .00, R^2 = .08. Social support and role satisfaction were entered on the second step and did not add significant variance over and above what was predicted by stress F (3,169) = 5.30, ns, R^2 change = .00. The interactions between stress and support and stress and satisfaction were entered on the third step. The third step was not significant, F (5,167) = 3.21, p < .85, R^2 change = .00. The results for maternal warmth differed slightly. Maternal perceived stress was entered on the first step and accounted for a significant amount of the variance for maternal warmth F (1,173) = 9.85, p < .00, R^2 = .05. Social support and role satisfaction were entered on the second step and added significant variance over and above what was predicted by stress: F (3,171) = 5.90, p < .03, R^2 change = .04. Role satisfaction contributed a significant amount of unique variance to the

equation (sr^2 = .03, p < .03). The interactions between stress and support and stress and satisfaction were entered on the third step to test for moderating effects. The third step was not significant F (5,169) = 3.84, ns, R^2 change = .01. The results support the idea that stress is positively associated with maternal reports of harshness, and that neither emotional support nor role satisfaction contribute to increasing prediction of this relationship. On the other hand, maternal warmth is negatively associated with stress, and role satisfaction is also positively associated with warmth.

Next, the relationship between parenting styles and the four temperament subscales were examined. Univariate correlations revealed that only the emotionality subscale was significantly related to maternal warmth (r = -.22, p < .01) and maternal harshness (r = .34, p < .01). High emotionality was associated with higher harshness and low emotionality was associated with higher warmth. Maternal warmth was not significantly related to shyness (r = -.10, ns), sociability (r = .10, ns), or activity (r = .01, ns). Similarly, maternal harshness was not significantly related to shyness (r = .01, ns), sociability (r = .01, ns), or activity (r = .06, ns).

Univariate correlations between peer ratings of aggression and popularity and parenting styles found maternal warmth to be significantly related to both popularity (r = .15, p < .05) and aggression (r = -.23, p < .05) and maternal harshness to be related to aggression (r = .16, p < .05) but not popularity (r = -.03, ns). Thus, high endorsement of warmth was related to high popularity and low endorsement of warmth and high endorsement of harshness was related to aggression.

Finally, hierarchical multiple regressions were used to test for interactions between parenting styles and emotional (difficult) temperament on aggression and popularity as rated by peers. As can be seen in Appendix J, warmth was the only variable that significantly and negatively predicted aggression. None of the interactions or other main effects predicting aggression or popularity were significant.

Peer Ratings of Aggression and Popularity and Child Temperament: The relationships among peer ratings of aggression and popularity and child temperament were examined. Since gender differences have been found on aggression and popularity, the variables were examined separately for boys and girls. Emotionality was the only temperament variable that was significantly correlated with aggression and this relationship

was found only for girls (r = .25, p < .01) and not boys (r = .06, ns). Sociability, shyness and activity were not significantly correlated with aggression or popularity for either boys or girls.

Testing the Model

Variable Selection: Structural equation modeling was used to assess an hypothesized path model examining the direct and indirect effects of maternal variables and child variables on children's peer ratings of aggression and popularity. Only a select number of variables were used in the model. Reasons for selecting the variables are based on findings from the univariate and multivariate analyses as well as the theoretical links derived from the child development literature. The variables chosen were emotional temperament, maternal perceived stress, maternal harshness, maternal employment, current group experience, gender, aggression and popularity. Emotional temperament was chosen over the other temperament variables because of its theoretical links with maternal harshness, maternal stress and peer-rated aggression. Moreover, in the current data set, emotionality was the only temperament variable that related to maternal harshness and aggression. Perceived stress was selected over daily hassles because it incorporates a

sense of coping rather than mere annoyances. Maternal harshness was included because of its theoretical link with aggression and stress. Current group experience was chosen for two reasons: (1) because of our interest in looking at the effects of group experience on children's social development and (2) for the practical reasons related to this variable that were described earlier i.e., variability of the variable, inclusion of all subjects, reducing selection bias. Moreover, the strong association between current group experience and peer ratings of aggression (in boys) in the current data set merited its inclusion in the model. Finally, maternal employment was included because of our interest in the relationship between this variable and children's aggression and popularity.

As an initial step in the process of analyzing the proposed model, bivariate correlations between the variables were examined. A low association (trend toward significance) between maternal employment and maternal stress was found (r = .13, p < .06). Maternal employment was significantly related to group experience (r = .33, p < .01) and peer ratings of aggression (r = .16, p < .05). As expected, emotional temperament was significantly related to maternal stress (r = .23, p < .01) and maternal harshness (r = .34, p < .01). Maternal stress was

significantly associated with maternal harshness (r = .24, p < .01) and sex (r = .18, p < .05). Maternal harshness was significantly related to aggression (r = .16, p < .05). Peer ratings of aggression were significantly associated with sex (r = -.35, p < .01), group experience (r = .24, p < .01) and popularity (r = -.71, p < .01). Sex was related to popularity (r = .19, p < .05).

Evaluating the Mediational Model: The first hypothesis tested was that maternal employment would be linked to popularity via maternal stress, maternal harshness and child aggressive behaviour as rated by peers. Presumably, mothers who are employed experience more stress than mothers who are not employed. Highly stressed mothers are at greater risk for adopting harsh parenting styles which consequently influence children's aggressive behaviour and in turn unpopularity with peers. The first step in the proposed mediational model requires that maternal employment be related to maternal stress. The path coefficient of .13, (see Figure 2) is low with a trend toward significance. The second step requires maternal stress to be related to maternal harshness. The path coefficient of .18 (p <.01) confirms the relationship between high stress and the use of harsh parenting styles. The third step calls for the

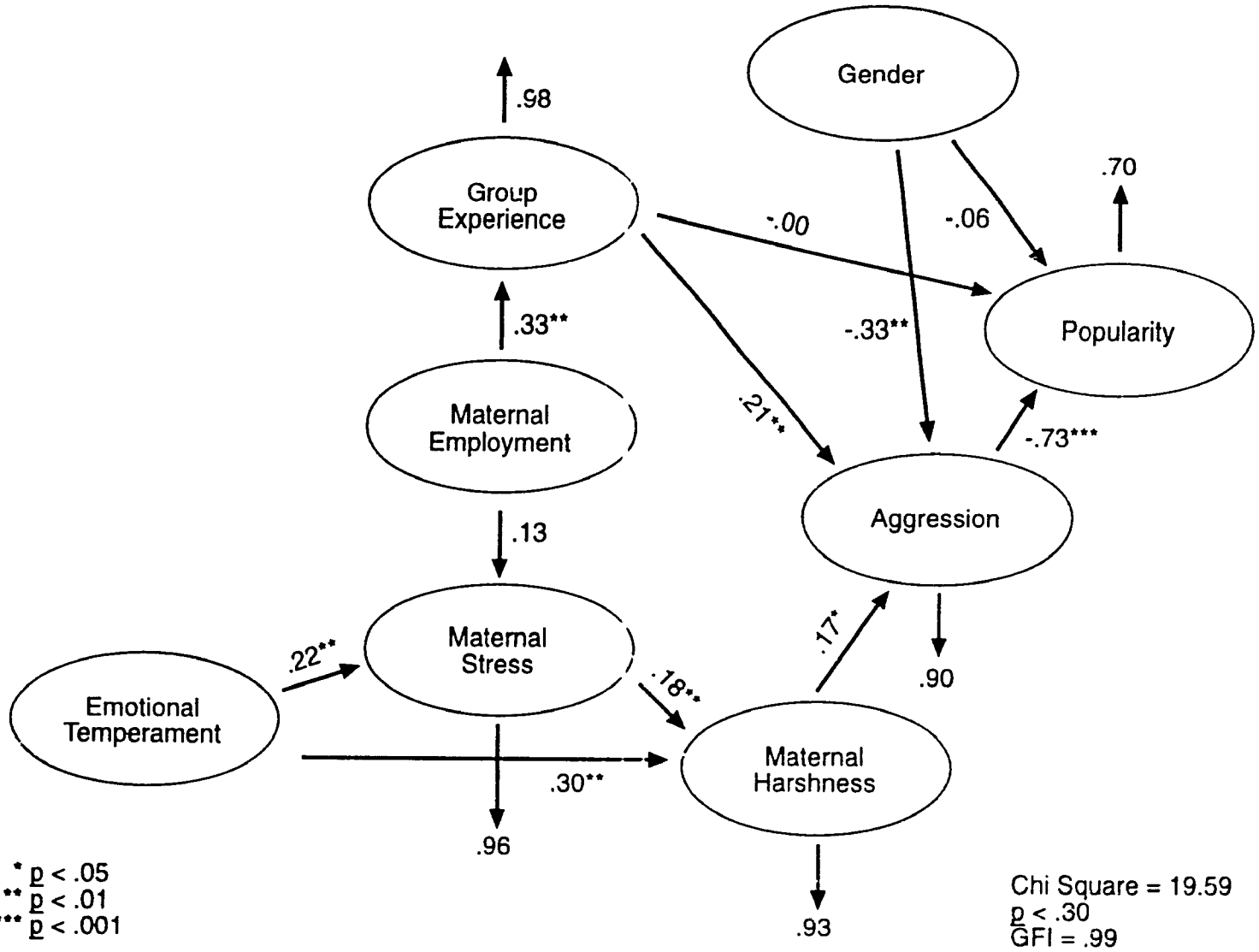


Figure 2. Model Examining Direct and Indirect Relationships Between Maternal and Child Variables

relationship between maternal harshness and child aggression. The path coefficient of .17 is small but significant ($p < .05$). Finally the strong negative association between aggression and popularity (-.73) confirms the relationship between aggression and low ratings of popularity in children.

The second hypothesis tested in this model is that emotional temperament influences child aggression by its direct impact on maternal harshness as well as its indirect impact on maternal harshness through maternal stress. The significant path coefficient from emotional temperament to maternal harshness (.30) showed a direct link between these two variables. An indirect link between harshness and temperament was found with stress as a mediating variable. The path coefficients from temperament to stress (.22) and stress to harshness (.18) were significant at the .01 level. The relationship between harshness and aggression, discussed earlier was significant.

The final research question pertaining to the model examined the relationship between group experience, sex and children's peer relations. It was expected that sex would be related to both aggression and popularity whereby girls would be associated with popularity and boys would be associated with aggression. This hypothesis was only partially supported in that the path

coefficient between sex and aggression was significant (-.33) but not between sex and popularity (-.06). It was hypothesized that group experience would be both directly related to popularity and indirectly related to popularity through aggression. Again, this hypothesis was only partially supported in that group experience was not directly related to popularity (-.00) but was indirectly related to popularity through its relation with aggression (.21). As noted earlier the path coefficient between aggression and popularity was -.73. As shown in Figure 2 there is an acceptable fit of the data to the a priori model, in that the chi-square value of 19.59, based on 16 degrees of freedom is not statistically significant ($p < .30$). The Goodness-of-Fit Index (GFI) of .99 supports the conclusion that the model fits the data very well.

A path not included in the original hypothesized model which was important for enhancing the fit of the model was the relationship between sex and stress. By including the path between sex and stress to the original hypothesized model, the fit index increased to 1.0 with X^2 (16, N = 183) = 14.20 $p < .58$.

The most theoretically compelling alternative models to the hypothesized mediational process are ones in which direct paths are assessed. A number of plausible competing models were tested

and compared to the hypothesized model. To determine whether employment was directly related to peer ratings, direct paths between employment and popularity and employment and aggression were tested. The models with the direct path from employment to popularity X^2 (16, $\underline{N}$ = 183) = 19.55 $\underline{p}$ < .24) and employment to aggression X^2 (16, $\underline{N}$ = 183) = 17.44 $\underline{p}$ < .36 did not differ significantly from the hypothesized model suggesting that an indirect relationship between maternal employment and peer ratings of popularity and aggression is the best fit. Next, a direct path from employment to maternal harshness was assessed to determine whether stress in fact mediated the relationship between employment and parenting styles. The model with the direct path from employment to harshness X^2 (16, $\underline{N}$ = 183) = 19.11 $\underline{p}$ < .26 did not differ significantly from the original model indicating that the relationship between employment and maternal harshness is best explained via its relationship to maternal stress. To test alternative models with respect to the second hypothesis, direct paths between emotional temperament and aggression and stress and aggression were run. Results revealed that adding paths from emotionality to aggression X^2 (16, $\underline{N}$ = 183) = 18.92 $\underline{p}$ < .28) or stress to aggression X^2 (16, $\underline{N}$ = 183) = 17.45 $\underline{p}$ < .36) did not significantly change the original model

suggesting that emotional temperament was in fact indirectly related to aggression via maternal stress and maternal harshness.

In sum, none of the competing models which assessed the direct paths offered a significantly better fit. In no case did the relative size of the coefficients for the direct paths added in the expanded models exceed those of the indirect paths in the originally hypothesized model. Thus, the more parsimonious theoretical model was not rejected in favour of the alternative model.

Given that several of the analyses done prior to running the model revealed sex differences on some of the variables (e.g. peer rated aggression and popularity, stress and emotional temperament) it was difficult to know whether the model fit equally well for boys and girls. The small sample size (n = 88 girls) precluded running the model separately by sex. Inasmuch, Cohen and Cohen's (1983) procedure to test for interactions was employed. Given the large number of interactions tested (16 associations were required to account for all the variables in the model) a stringent alpha level of .003 (16/.05) was set. None of the regressions revealed significant interactions by sex. The lack of interactions by sex suggests that the model should fit equally well for boys and girls.

The results of the model support the three sets of hypotheses proposed in this study. Maternal employment indirectly influences peer relations through several mediating variables including stress, harsh parenting and aggression in children. Difficult temperament has both a direct and indirect (mediated by stress) effect on maternal harshness. Maternal harshness directly impacts upon child aggression which negatively effects popularity among peers. Sex of the child is related to peer ratings of aggression but not popularity. Finally, group experience is directly related to peer ratings of aggression (positively) but not popularity. The large magnitude of the path coefficient supports the hypothesized relationship between child aggression and lower popularity with peers.

DISCUSSION

The main purpose of the present work was to investigate how family, child and child environment (i.e., group experience) variables work together to influence kindergarten children's peer ratings of aggression and popularity. The ideas and analyses were based on the theory of social ecology which states that development takes place within a multi-layered context and external forces influence the way in which families interact and foster children's development (Bronfenbrenner, 1986). The investigation was guided by three main goals: (1) to examine group experience in school-age children; (2) to examine the effects of maternal employment, group experience and gender on a variety of family and child variables; (3) to explore the univariate and multivariate relationships between the individual variables to replicate past research and as a prelude to testing a proposed theoretical model exploring the direct and indirect relationships between employment, stress, parenting styles, gender, temperament, and group experience on children's aggressive behaviour and popularity among their peers (see Figure 1).

The first section of the discussion summarizes the current results in relation to specific hypotheses and exploratory

analyses. The relationship of the current results to past studies is discussed. The second section integrates results of the current study to examine basic issues such as the relationship of group experience, maternal employment and intervening variables on aggression and popularity in children. Finally limitations of the current study and directions for future research are outlined.

Summary of Findings

Effects of Maternal Employment, Group Experience and Gender: The following hypotheses were tested in this study:

(1) Employed mothers would report higher perceived stress and more hassles than non-employed mothers.

(2) Mothers of boys would report higher perceived stress and more hassles than mothers of girls.

(3) Boys would be rated as more aggressive than girls by their peers.

(4) Girls would be rated as more popular than boys by their peers.

(5) Children with more school-age group experience would be more aggressive than children with less school age group experience.

Hypothesis 1 was partially supported by the analyses. Employed mothers did report signifcantly more hassles than

non-employed mothers. Though employed mothers also reported higher levels of perceived stress than non-employed mothers, these differences were not significant. These findings are consistent with the scarcity hypothesis (Crockenberg, 1988; Goode, 1960) and findings from the maternal employment literature (Alpert et al., 1987), indicating that some forms of stress, particularly as measured by hassles, are greater when mothers work outside the home. The finding that employed mothers experience many more hassles than non-employed mothers, but not necessarily more perceived stress lends support to Crockenberg's (1988) argument that employed mothers may have less time to accomplish tasks but their overall stress and ability to cope (as assessed by the perceived stress scale) does not differ significantly from mothers who are not employed.

The second hypothesis predicted that mothers of boys would report higher perceived stress and more hassles than mothers of girls. This hypothesis was not supported. In fact, mothers of girls in the current sample reported higher perceived stress levels. No differences were found between employed and non-employed mothers when the hassles measures was used. The result that mothers of girls rather than boys report experiencing more stress and less role satisfaction contradicts the parental

socialization literature that generally finds boys to be harder to handle and mothers of boys to report more stress (Block, 1983; Hetherington et al., 1984; Hoffman, 1984).

The other three hypotheses predicted that boys would be rated as more aggressive than girls by their peers, that girls would be rated as more popular than boys, and that children with more group experience would be rated as more aggressive than children with less group experience. As predicted, boys were more aggressive than girls and girls were more popular than boys. Also, aggression was higher in children with more group experience than children with less group experience. However, an interaction effect indicating that boys who spent more time in groups at school were more aggressive than boys who spent less time in school groups, while time in school groups did not affect aggression in girls was found, modifies the interpretation based upon main effects of gender and group experience. With respect to popularity, boys who spent more time in groups at school were less popular than boys with less group experience, while time in school did not differentiate popularity in girls. Again, the interpretation of main effects is modified.

These findings are consistent with the literature that finds boys to be more aggressive and girls to be more popular (Maccoby

et al., 1985; White et al., 1995), and with the child care literature that finds boys with additional group experience to show increased aggression (Bates et al., 1994; Belsky, 1988). Of particular importance is that fact that group experience, not employment, seems to have particularly adverse effects in boys but not in girls.

Role satisfaction was found to be slightly, though not significantly, higher in non-employed than employed mothers. This finding is in contrast to Crockenberg et al.,'s (1991) study which found role satisfaction to be higher in employed mothers. Unlike Crockenberg who used different measures to assess satisfaction in employed and non-employed women, the current study used the same measure to assess both groups. As can be seen by the items on the role satisfaction measure (see Table 3) half of the items pertain to amount of time the respondent has to do things (e.g. time with child, time with house, time with adults). Given that employed mothers experience more daily hassles and may feel that they do not have enough time to accomplish tasks, the measure of role satisfaction used in this study may be somewhat biased against them.

The lack of an interaction between employment and gender on maternal warmth and harshness is inconsistent with the studies

that have found employed mothers to interact differently with sons than daughters (Bronfenbrenner et al., 1984; Hoffman, 1989; Stuckey et al., 1982). Most of these studies utilized younger children, and it may be that by the age of 5 years, mothers' parenting styles are unrelated to employment and gender. Such an explanation is consistent with Goldberg and Easterbrooks' (1988) finding that employed mothers of kindergarten-aged children do not differ from non-employed mothers on parenting styles, while employment affected parenting styles in mothers of two year old children.

Several additional variables were explored in the current study. These variables are remarkable for the lack of significant differences found. Social support, parenting styles, and temperament did not differ as a function of employment, group experience, gender or the interactions of these variables.

Univariate and Multivariate Relationships Between Maternal, Child and Child Environment Variables: Although several studies have examined univariate relationships among variables used in this study, the current work emphasized exploration of three multivariate analyses as a precursor to proposing a model integrating the effects of variables from several domains on children's social behavior.

The first set of multiple regression analyses examined employment, role satisfaction, social support, and their interactions as predictors of stress. In particular, the relationship of role satisfaction and social support to stress after controlling for employment was investigated. The results using perceived stress and hassles measures as dependent variables were similar. Employment was negatively related to stress. Even after employment was controlled, role satisfaction and social support were postively related to stress, though these variables shared variance, only role satisfaction contributed unique variance to the prediction equation. None of the interactions were significant. These findings support correlational analyses that have linked high stress to low role satisfaction and support in both employed and non-employed mothers (Crockenberg, 1988; Kessler et al., 1982; Adessky et al., 1994).

The relationship between parenting styles and maternal self-perception variables was explored. It was found that maternal warmth was negatively related to stress and hassles, and positively related to support and satisfaction. Maternal harshness was positively related to stress and hassles, but was not related to support and satisfaction.

The findings that stress and hassles are positively related to harshness and negatively related to warmth are consistent with the plethora of data on stress and parenting styles (Belsky, 1984; Crnic et al., 1990; Dumas, 1986; Patterson, 1983). The finding that maternal warmth is positively related to perceived support and role satisfaction supports Cochran and Brassard's (1979) theory that social support networks directly influence parenting attitudes and behaviours. The lack of relationship between harshness and support is inconsistent with C letta's (1979) finding that support provided by friends and relatives was associated with less maternal restrictiveness and punitiveness.

Neither emotional support, nor role satisfaction interacted with stress to lessen its effects on maternal warmth or harshness. These results do not support Powell's (1980) suggestion that parental social support mediates stress and serves as a protective factor against parent-child relation difficulties. They are in contrast to Crnic et al.,'s, (1990) finding that social support moderated experiences of daily hassles in mothers with young children.

The relationship between parenting styles, child temperament and peer ratings were examined next. It was found that only low

warmth (not harshness) predicted aggression. None of the variables, i.e. warmth, harshness or emotionality, predicted popularity. The negative relationship between warmth and aggression lends support to Patterson et al.,'s (1989) notion that warmth may act as a buffer or protective factor against poor peer relations. A relationship between harshness, emotionality and aggression has been found in numerous studies (Lee & Bates, 1985; Lytton, 1990; Olweus, 1980; Patterson, 1983; Quay, 1986; Rubin et al., 1989). One explanation for the failure to find such relationships in the current study is that these relationships may be related to gender and group experience effects. Boys with extensive group experience were more aggressive and less popular than boys with less group experience, while no differences in aggression or popularity were found for girls with high versus low group experience. Emotionality was related to peer ratings of aggression in girls but not boys when the univariate correlations were examined separately for sex. These complex relationships were examined further in the path model.

Path Model: The final goal of the current work was to test a proposed theoretical model. Three research questions stemmed from the model. The first question focused on the direct and

indirect relationships between maternal employment and peer ratings of aggression and popularity. It was hypothesized that maternal employment would be linked to children's popularity via maternal stress, maternal harshness and children's aggressive behaviour as rated by peers. The path model supported the hypotheses and found that maternal employment was related to stress (albeit a low correlation), stress was directly related to maternal harshness, harshness was related to aggression and aggression was negatively related to popularity. The finding that the alternative models examining the direct relationship between maternal employment and peer ratings and maternal employment and parenting harshness did not better explain their association suggests that the relationship between employment and peer ratings of both aggression and popularity is best explained by its indirect association via maternal stress and maternal harshness. These findings offer support to the claims of several researchers (Crockenberg et al., 1991; Desai et al., 1991; Lerner et al., 1985; Greenberger et al., 1989) that maternal employment per se does not influence children's social behaviour, but rather the intervening variables, in particular, stress and parenting styles are more important predictors.

The second research question examined the relationship

between child temperament and peer ratings of aggression. The path model supported the hypothesis that emotional temperament was both directly and indirectly (via stress) related to maternal harshness and that maternal harshness was the link between temperament and aggression appeared to be the best fit compared to several competing models. This finding is consistent with Rubin et al., (1989), Patterson (1986), Olweus (1980) and Carlson et al.,'s (1993) findings that difficult temperament in children, coupled with increased stress and the use of harsh and critical discipline styles by parents is related to increased aggression in children and ultimately rejection or unpopularity with peers.

The third research question pertaining to the model examined the relationship between gender, current group experience and peer ratings of aggression and popularity. It was hypothesized that sex would be directly related to both aggression and popularity such that girls would be associated with popularity and boys with aggression. The results support the peer relations literature that finds boys to be more aggressive than girls, but not the data which finds girls to be more popular (Maccoby & Jacklin, 1985; White et al., 1995). The lack of direct relationship between group experience and popularity is consistent with Baillergeon et al.,'s (1993) findings. The

relationship between popularity and group experience is mediated by aggression. The direct relationship between aggression and group experience is consistent with the plethora of studies that have found children in daycare to exhibit increased aggressive and noncompliant behaviour.

A path not considered in the model that proved to be important was the relationship between stress and sex. The direct relationship revealed that maternal perceived stress increased in relation to having a daughter. This finding is inconsistent with past research that finds maternal stress to be higher in mothers with sons (Hoffman, 1984). To determine if the model fit equally well for boys and girls, a series of sex interactions for all the variables in the model were tested. None of the interactions were significant, thus it was concluded that the model fit equally well for boys and girls.

Integration of Results

Family Demographics: The families who participated in the study were predominately white, middle to upper middle class, married, college educated and living in the suburbs. Approximately half of the mothers were working for pay. There was some variability between the families on maternal education, socioeconomic status, and amount of group experience children had

so that the sample did not have restriced ranges on important variables. Fewer children in our sample had preschool daycare experience or current traditional afterschool group experience than is found in most of the studies that examine the effects of group daycare on children (Bates et al., 1994; Vandell & Corasaniti, 1988; White, et al., 1995). This is likely due to the fact that half of the mothers in the current study were not employed and those who were working, were able to find and afford alternative arrangements including homecare, sitter, or relative care. Over half of the working mothers reported using mother or father care as their main form of child care.

Another unique feature of the current sample was the availability of the French program at school offered to parents at an additional cost. Approximately 70% of the children attended these structured, extracurricular programs. While the majority of parents enrolled their children in the programs in order to learn French, some reported using the program as a convenient mode of child care. The typical afterschool daycare programs (described by Jacobs et al., 1995; Vandell et al., 1988) only began after the French programs were over and were attended by a small percentage of kindergarten children.

Effects of Group Care: The school programs available to the

children in the current sample allowed for the examination of a different type of group experience than is usually studied in the child care literature. The child care literature has generally found aggression to be related to amount of preschool daycare, early entry into daycare and attendance in recreational after school programs. In the current study, it was found that kindergarten boys with greater group experience were rated by their peers as more aggressive and less popular than their male counterparts with less group experience and than girls regardless of amount of group experience. This finding is not only consistent with studies that have found both infant, preschool and school-based daycare to be related to increased aggression, but it extends past research by showing that a different type of group experience (e.g. extended educational French programs, lunch programs, and/or school-based daycare programs) also predict increased aggression and decreased popularity in boys. Moreover, the majority of children in this study had no preschool daycare experience, did not enter groups at an early age and were predominately from middle to upper class families. It seems that the amount of time kindergarten boys spend in school-based groups is a salient distal predictor of aggression and unpopularity as rated by peers. These findings are consistent with Vandell et

al., (1988) who found that third grade children who attended after school programs received more negative peer nominations compared to children with alternative forms of after school care. Two major differences between the children in the current study and Vandell's study exist. First, the children in Vandell's study left the school premises to attend the centre based program and were believed to have been stigmatized for it by the other children, whereas the children in the current study remained on school premises in programs attended by a majority of their classmates. Second, the parents in Vandell's study may have chosen after-school centre care as a means of additional supervision for their children who may have been having problems. This selection problem did not occur in the current sample, as parents placed their children in additional school programs primarily to learn French.

It should also be noted that Vandell described the programs in her sample as poor in quality. It would be very difficult to ascertain quality of the French programs in the current sample, as regulatable characteristics such as staff:child ratios were not assessed, and no global measure of quality for such programs exists. Future research should include quality in studies of group experience. Moreover, examining each of these groups

separately (e.g. French program, lunch program, recreational program) to determine their unique contribution to peer ratings of aggression and popularity seems warranted.

The findings of increased aggression and decreased popularity in boys with additional group experience is of some concern. Parents, with the best of intentions, enroll their children in such programs to stimulate social and cognitive development. Are they putting their son's at risk for aggression and later social problems?

There are many possible answers to such a question which need to be investigated. Kindergarten children may in fact be too young to be spending more than four hours per day in educationally oriented groups, which require them to attend and concentrate. The potential for over-stimulation may cause boys to behave in ways that are aggressive and unacceptable to peers causing them to be rejected or unpopular. This explanation seems lacking in that aggression is also related to preschool and school-age recreational programs. Perhaps, the activity of the group is less important than the quality of the group supervision. There is a strong need to examine social interactions and teacher-child supervision in such groups, and perhaps in the kindergarten classrooms as well.

According to Haskins (1985) the increased aggressive behaviour that children with extensive experience in preschool groups exhibit, diminishes as the children get older. He found that by third grade the children with more group experience no longer differed on aggression from the children with no preschool group experience. It is possible that socialization practices of teachers, who tolerate less aggression from girls, contribute to the fact boys, but not girls, are rated as more aggressive. Obviously the need for longitudinal research following children, particularly those who remain in the school-based programs after school, through the elementary school years will provide a better understanding of the effects of extended group experience on children.

The finding that group experience (both past and current) predicts aggression in boys but not girls is consistent with Bates et al.,'s (1994) paper that finds daycare to be a more salient predictor of aggression in boys. It also supports the social learning theory which postulates that children will imitate the behaviours of their peers. Children's preference for same-sex playmates begins as early as age 2 and by age 6 the ratio between same-sex and opposite sex playmates is 11 to 1 (Beneson, 1993). Moreover, boys' play is more aggressive than

that of girls (Maccoby & Jacklin, 1983). Thus, if boys are interacting more with each other they will imitate, learn and engage in more aggressive behaviour with peers and ultimately become less popular with both boys and girls in their class. On the other hand, girls engage in more prosocial play (Radke-Yarrow, et al., 1983) and do not seem to learn or engage in aggressive behaviour with their same-sex peers.

Results from the path analysis revealed that amount of current group experience was directly related to peer ratings of aggression and indirectly related to popularity through its relationship with aggression. For both boys and girls, aggression negatively predicted popularity, confirming past findings that children who are aggressive are not well-liked by their peers (Newcomb et al., 1993). The fact that aggression is negatively related to popularity suggests that it is children's behavior, how they interact with peers that influences their status amongst peers. Future research might examine the relationship between group experience, children's prosocial behaviour such as turn-taking, sharing etc., and children's popularity status.

Effects of Maternal Employment: Two very interesting findings emerged as a result of looking at maternal employment.

One finding relates to the relationship between employment, stress, and hassles and the second pertains to the association between employment and children's peer ratings of aggression.

It was found that employed mothers reported experiencing more daily hasssles than non-employed mothers. That employed mothers experience more hassles than non-employed mothers, but only slightly more perceived stress lends support to Crockenberg's (1988) argument that employed mothers may have less time to accomplish tasks but their overall stress and ability to cope (as assessed by the perceived stress scale) may not differ significantly from mothers who are not employed.

When multivariate relations among employment, role satisfaction and support in relation to hassles were examined, role satisfaction and support were negatively related to hassles even after employment was controlled. Such findings indicate that support and satisfaction, as well as employment, are important factors in predicting the amount of hassles reported. These findings may be encouraging for both employed and non-employed mothers. True, employed mothers may feel they have more hassles and chores to accompli ' in their daily lives, but they do not appear overwhelmed or unable to cope with such additional stressors. Moreover, both employed and non-employed mothers who

feel supported and satisfied with their role choices report fewer hassles and perceive themselves as less stressed.

Maternal employment does not significantly predict or directly relate to aggression or popularity in children when examined in a causal model. The relationship between employment and aggression is mediated by maternal stress and harshness. Thus, maternal employment per se does not directly influence children's peer relations. Contrary to Belsky's (1988) claim, children of employed mothers do not seem to be at greater risk for becoming more aggressive or developing poor peer relations simply because mothers are working.

Given that maternal employment is a reality in this country, research and interventions must focus on ways of supporting working women, rather than blaming them for any difficulties their children may face. Maternal employment per se is not related to aggression in children. Maternal employment may be related to increased hassles, a factor that has shown to be modified by support from others. Providing support and assistance to working women to help them accomplish daily tasks, ensuring that their children are being properly cared for in high quality child care settings while they are at work, and encouraging them to interact positively with their children are

ways to decrease stress on employed mothers and decrease the possibility that their children will behave aggressively with peers.

Gender Differences: This study revealed some very surprising gender differences. Contrary to the prediction based on findings in the literature, it was found that mothers of girls reported experiencing more perceived stress, and somewhat less role satisfaction than mothers of boys. The differences between the groups were not large, however, stress was significantly greater in mothers of girls. This finding is inconsistant with past studies that find mothers of boys to be more stressed and less satisfied because boys are generally harder to handle than their girls (Block, 1983; Hetherington et al., 1984). The current study found no sex differences for temperament that might explain why mothers of girls are more stressed (i.e. girls were not exhibiting more activity or difficult behaviour than boys).

A possible explanation, related to the nature of the sample used in this study may account for these results. Highly educated, middle-class, suburban mothers may worry more about the well-being of their daughters than their sons. Such worry, and efforts to protect their daughters may cause them additional stress and less satisfaction. Additionally, these mothers may

have conflicting expectations for their daughters. Daughters may be expected to achieve and be assertive, as well as fit traditional sex roles which would require compliance. The mother's own conflict in dealing with her own multiple roles may be unresolved. Thus, mother's aspirations and expectations for their daughters may produce more stress than their more consistent expectations for their sons. Future research should examine the relationship of mothers' values and sex role expectations on children's social behavior.

The final unexpected finding with respect to gender differences was related to temperament. Results indicated that emotional or "difficult" temperament was related to aggression in girls but not boys. The lack of findings between difficult temperament and aggression in boys is puzzling, given the plethora of research conducted by Patterson (1986), Dishion (1990), and Olweus (1980) that have focused specifically on the relationship between difficult temperament and aggression in boys. Differences in temperament and aggression measures between the studies may account for the discrepant findings. The current study used peer ratings to assess aggression whereas the other studies used teacher ratings of aggression. Moreover, in the current study, child temperament was measured when the children

were in kindergarten rather than during infancy. It is likely that by age 5 or 6 children's temperament has been influenced by parental behaviour. Thus, when boys act aggressively, parents may not see this as their son being "difficult" but rather as normal behaviour for boys. On the other hand, if a girl acts aggressively, a behaviour that is less acceptable and tolerated in females, parents may see her as being a more "difficult" child. It may be that parental bias regarding acceptable sociable behaviour for sons and daughters is accounting for the difference between aggression and temperament in boys and girls.

The study of aggression, its development and maintenance has received much less attention in girls than in boys (Cairns & Cairns, 1984; Serbin, Schwartzman, Moskowitz, Ledingham, 1991). The very few studies that have examined the relationship between temperament and aggression in girls have in fact found difficult temperament to predict aggression in girls (Bates, Bayles, Bennet, Ridge, Brown, 1991; Cameron, 1978). The current study lends support to the idea that the developmental course and maintenance of aggressive behaviour may differ for girls and boys. In the current study, temperament appears to be a more important predictor of aggression in girls, whereas group experience is a stronger predictor for boys. Aggressive

behaviour seems to be more acceptable and tolerated in boys, who may engage in such behaviour with peers. On the other hand, girls are taught that aggression is not acceptable and thus, do not engage in such behaviours as frequently.

Parenting Styles: This study reveals the importance of parenting styles in influencing children's aggression and popularity amongst peers. Both warmth and harshness are directly related to aggression and indirectly related to popularity. Children whose parents are punitive and harsh with them, respond in kind with their peers. It is not surprising then that children with harsh and critical parents are rated as more aggressive and less well-liked by peers. In contrast, children whose parents are warm, caring and empathic with them, show similar qualities with their peers and as such are rated by peers as less aggressive and more well-liked. It is likely that children model the behaviour they see at home and act in similar ways with peers. Hartup (1983) notes that it is within the parent-child relationship that children begin to develop expectations and assumptions about interactions and relationships with other people. It is no surprise then that parenting styles may be the most important link that connects the world of the parents and the world of the child.

Parents who experience greater amounts of stress tend to be more harsh and critical with their children, whereas parents who perceive themselves as having greater support and satisfaction in their lives and less stress tend to report warmer styles of interaction with their children. Although the possibility that some measurement bias exists when several self-report measures are used, it makes some intuitive sense that parents who are satisfied and feel in control have more positive affect to share with their children.

The current research also finds that children can influence the ways in which their parents will interact with them. Results indicate that "difficult" temperament in children is related to harshness in parents and "easy" temperament is related to warmth in parents. Despite the fact that a unidimensional relationship between temperament and parenting styles is implied, it is likely that there exists a bi-directional effect between temperament and parenting styles. The finding that emotional temperament is both directly and indirectly (via stress) related to maternal harshness suggests that such bidirectional influences exist.

Path Model: The results of the hypothetical model support Bronfenbrennner's ecological perspective such that the external

environment of the parents, in particular maternal employment is related to the amount of stress mothers feel which in turn influences mothers' interaction styles with their children and ultimately children's aggressive behaviour and popularity with peers. Maternal employment had no direct effect on children's aggression and popularity as rated by peers. Other distal variables including child emotional temperament, gender and group experience contribute to children's aggression and lack of popularity with peers.

We learn from the current study that children's popularity amongst their peers is significantly influenced by their aggressive behaviour. The strongest predictor of children's aggressive behaviour is sex of the child, such that being a boy significantly predicts aggression. The second strongest predictor of children's aggressive behaviour is the amount of group experience they have. Maternal harshness also directly influences children's aggressive behaviour, but is not as strong a predictor as gender or group experience. Maternal harshness, is influenced by maternal stress and child emotional temperament, with temperament having a stronger relationship with harshness. The variables that influence maternal stress are maternal employment and sex of the child. Finally, maternal employment

influences amount of group experience a child has which in turn, influences aggressive behaviour in children. Thus we see, as Hoffman (1989) concluded, that maternal employment per se does not influence children's aggressive behavior or popularity with peers. This study supports the conjectures of Hoffman and others that it is crucial to identify the processes through which maternal employment may influence outcomes such as child behaviour.

The external world of the parents such as their employment and how they are influenced by it seems to relate to the way in which they respond to their children which influences the way in which their children behave with their peers. The child also influences the parent. The child's temperament and gender is related to maternal stress which influences how she will respond to her child and ultimately how the child behaves with peers. The external environment of the parent i.e., whether or not mother is employed, influences the external world of the child i.e., amount of group care the child will experience. The external world of the child (group care) impacts upon his or her aggressive behaviour and popularity. The current study incorporates the mesosystem models (the relationship between the number of hours at school and peer ratings), the exosystem models

(the relationship between maternal employment and maternal parenting styles and peer ratings) and a person-process-context model (the relationship between the child, his or her parent and the environment in which they live).

Structural equation modeling allowed for the examination of the system as a whole. The current study extended past research that has examined the relationships between one or two variables to look at several domains. While conclusions regarding causation can not be stated emphatically, a better understanding of the effects of parental variables on children's aggression and popularity is evident. The path analysis also revealed that parenting variables such as employment, stress and parenting styles appear to be less important in influencing children's aggressive behaviour than child variables such as gender and group experience.

Limitations of the Current Study and Directions for Future Research

A major shortcoming of the current study is the lack of generalizability to the larger population. The subjects in the current research are unique in that they are from average middle to upper-middle class families, in which half of the mothers do not have to work and few of the mothers currently use

recreational child care or used preschool daycare as a primary form of care for their children. Nonetheless, the sample enables us to compare employed and non-employed mothers as well as children with varied amounts of current group experience. The results of this study, particularly regarding the relationship between group experience and aggression are consistent with past research with less advantaged children in recreational after-school care.

An additional problem with the current study is the issue of shared method variance. It is not surprising that many of the variables in the study were highly correlated given that they were completed by the same rater at the same time (e.g. peer ratings of aggression and popularity; maternal stress, support and satisfaction). Future research should include observational measures of aggression and parent-child interactions.

Interesting gender differences emerged from the current study using univariate analyses. For instance, there are sex differences on peer ratings of aggression and popularity, and maternal stress and satisfaction. However, none of the sex interactions were significant using a multivariate technique. Despite the powerful statistical technique, the large number of analyses and small sample size may not indicate actual

interactions. Inasmuch, it may have been useful to examine the model separately for boys and girls. The large sample size required for structural equational modeling did not allow for separate models by sex. Future research may consider the possibility that the relationship between temperament, aggression, popularity, stress, satisfaction and group experience may differ for boys and girls. It seems that for the current sample, temperament is a more important predictor of aggression in girls whereas group experience is a more salient predictor of aggression in boys. These findings may partially account for a differential course of aggression in boys and girls. The paucity of empirical research examing the developmental course of aggression in girls is remarkable. The current research, using an ecological approach to examine development, is instrumental in laying down a piece of the necessary groundwork to study the course of aggression in girls and to advocate for the importance of studying children's social development separately by sex.

This study serves to bridge the gap between several areas of research that are related but have not necessarily been connected in a single study such as child care, peer ratings, maternal employment, parenting styles, stress, child temperament and gender. The ecological approach to study child development may

at first seem daunting, however, it is essential to understand the direct and indirect effects of a variety of variables on children's development. Future research must continue in this vain, despite the enormity of the task in order to more fully understand the developing child. Obviously each study can only include a finite number of variables. The current study has attempted to include variables that according to ecological theory and past research have been found to be important contributors to peer relations. However, not all variables could be included and variables such as marital satisfaction and maternal psychopathology including depression and anxiety which influence the quality of parent child-interactions, as well as mothers' direct involvement in organizing their children's social activities should be considered in future research.

In sum, despite certain limitations, this study offers important contributions to the literature. It sheds light on the complex relationships between maternal employment, maternal self-perceptions, parenting styles, child temperament, gender, group experience and peer ratings of aggression and popularity. It replicates and extends past findings regarding the relationship between group experience and aggression in a middle-class sample without extensive preschool daycare experience that has often

confounded the research on after-school care. It provides necessary directions for future studies, particularly with respect to gender differences in the course of aggression and the use of ecological theory to guide research. Finally, the current work illustates an initial step in bridging the gap between several different but interconnected domains of research.

References

Adessky, R. & White, D. (1991). Child care experience predicts teacher ratings of aggression in kindergarten girls. Poster presented at the American Psychological Society, Washington, DC.

Adessky, R. & Marchessault, K. and White, D. R. (1994). Predictors of stress measured by parenting hassles, daily hassles and global perceptions. Paper presented at the American Psychological Association, Psychological and Behavioral Factors in Women's Health Conference, Washington, DC.

Alpert, D., & Culbertson, A. (1987). Daily hassles and coping strategies of dual-earner and nondual-earner women. Psychology of Women Quarterly, 11, 359-366.

Andersson, B. E. (1989). Effects of public day care: A longitudinal study. Child Development, 60, 857-866.

Asher, S. R., Singleton, L. C., Tinsley, B. R., & Hymel, S. (1979). A reliable sociometic measure for preschool children. Developmental Psychology, 15, 443-444.

Baillargeon, M., Betsalel-Presser, R., Joncas, M. & Larouche, H. (1993). One child, many environments: Continuity or discontinuity in kindergarten and school-based day care programs? Alberta Journal of Educational Research, 39, 127-142.

Bandura, A. (1973). Aggression: A social learning analysis. New York: Holt.

Barron, A. P. & Earls, F. (1984). The relation of temperament and social factors to behavior problems in three-year-old children. Journal of Child Psychology and Psychiatry and Allied Disciplines, 25, 23-33.

Baruch, G. K., & Barnett, R. C. (1986). Consequences of fathers' participation in family work: Parents' role strain and well-being. Journal of Personality and Social Psychology, 51, 983-992.

Bates, J. E., Bayles, K., Bennett, D. S. Ridge, B., Brown, M. M. (1991). Origins of externalizing behavior problems at eight years of age. In D. J. Pepler and K. H. Rubin (Eds.), The development and treatment of childhood aggression (pp. 93-120). Hillsdale, N.J.: Lawrence Erlbaum Associates.

Bates, J. E., Marvinney, D., Kelly, T., Dodge, K. A., Bennett, D. S., & Pettit, G. S. (1994). Child-care history and kindergarten adjustment. Developmental Psychology, 30, 690-700.

Baydar, N. & Brooks-Gunn, J. (1991). Effects of maternal employment and child care arrangements on preschoolers' cognitive and behavioural outcomes: Evidence from the children of the National Longitudinal Survey of Youth. Developmental Psychology, 27, 932-945.

Belsky, J. (1988). The "effects" of infant day care reconsidered. Early Childhood Research Quarterly, 3, 235-272.

Belsky, J. (1986). Infant day care: A cause for concern? Zero to Three, 6, 1-9.

Belsky, J. (1984). The determinants of parenting: A process model. Child Development, 55, 83-96.

Belsky, J. & Eggebeen, D. (1991). Early and extensive maternal employment and young children's socioemotional development: Children of the National Longitudinal Survey of Youth. Journal of Marriage and the Family, 53, 1083-1110.

Beneson, J. F. (1993). Greater preference among females than males for dyadic interactions in early childhood. Child Development, 64, 544-555.

Block, J. H. (1978). Another look at sex differentiation in the socialization behaviors of mothers and fathers. In J. A. Sherman & F. L. Denmark (Eds.) The psychology of women: future directions of research. New York: Psychological Dimensions, Inc.

Block, J. H. (1983). Differential premises arising from differential socialization of the sexes: Some conjectures. Child Development, 54, 1335-1354.

Boer, F., & Westenberg, P. M. (1994). The factor structure of the Buss and Plomin EAS temperament survey (parental ratings) in a Dutch sample of elementary school children. Journal of Personality Assessment, 62, 537-551.

Boivin, M., & Begin, G. (1986). Temporal reliability and validity of three sociometric status assessments with young children. Canadian Journal of Behavioural Science, 18, 167-172.

Bowlby, J. (1969). Attachment. New York: Basic Books.

Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research perspectives. Developmental Psychology, 22, 723-742.

Bronfenbrenner, U. (1979). The ecology of human development. Cambridge, MA: Harvard University Press.

Bronfenbrenner, U. (1943). A constant frame for sociometric reserach. Sociometry, 6, 363-397.

Bronfenbrenner, U., Alvarez, N. F., & Henderson, C. R. (1984). Working and watching: Maternal employment status and parents' perceptions of their three-year-old children. Child Development, 55, 1362-1378.

Bronfenbrenner, U. & Crouter, A. C. (1982). Work and family through time and space. In S. B. Kamerman & C. D. Hayes (Eds.), Families that work: Children in a changing world. (pp. 39-83). Washington, DC: National Academy Press.

Buss, A. H., & Plomin, R. (1984). Temperament: Early developing personality traits. Hillsdale, NJ: Erlbaum.

Buss, A. H., & Plomin, R. (1975). A temperament theory of personality development. New York: Wiley.

Cairns, R. B., Cairns, B. D. (1984). Predicting aggressive patterns in girls and boys: A developmental study. Aggressive Behavior, 10, 227-242.

Cameron, J. (1978). Parental treatment, children's temperament, and the risk of childhood behavioral problems: II. Initial temperament, parental attitudes, and the incidence and form of behavioral problems. American Journal of Orthopsychiatry, 48, 140-147.

Carlson, C., & Chang, S. (1993). Biological and family predictors of children's peer relationships: Test of a model. Poster Presented at Society for Research in Child Development. New Orleans, LA.

Clarke-Stewart, A. (1988). The "effects of infant daycare reconsidered": Risks for parents, children, and researchers. Early Childhood Research Quarterly, 3, 293-318.

Clarke-Stewart, K. A. & Fein, G. (1983). Early childhood programs. In M.M. Maith and J.J. Campos (Eds.), Handbook of child psychology: Vol. 2. Infancy and developmental psychobiology (pp. 917-999). New York: Wiley.

Cochran, M. M. & Brassard, J. A. (1979). Child development and personal social networks. Child Development, 50, 601-616.

Cohen, J., & Cohen, P. (1983). Applied multiple regression/correlation analysis for the behavioral sciences. 2nd ed. Hillsdale, NJ: Lawrence Erlbaum Associates.

Cohen, S., Kamack, T., & Mermelstein, R. (1983). A global measure of perceived stress. Journal of Health and Social Behavior, 24, 385-396.

Coie, J. D., Dodge, K. A., (1988). Multiple sources of data on social behavior and social status in the school: A cross-age comparison. Child Development, 59, 815-829.

Colletta, N. D. (1979). Social support and the risk of maternal rejection by adolescent mothers. Journal of Psychology, 109, 191-197.

Cowen, E. L., Wyman, P. A., & Work, W. C. (1992). Similarity of parent and child self-views in stress-affected and stress resilient urban families. International Journal of Child and Adolescent Psychiatry, 55, 193-197.

Crnic, K. A., Greenberg, M. T. (1990). Minor parenting stresses with young children. Child Development, 61, 1628-1637.

Crockenberg, S. B. (1988). Stress and role satisfaction experienced by employed and nonemployed mothers with young children. Lifestyles: Family and Economic Issues, 9, 97-110.

Crockenberg & Litman (1991). Effects of maternal employment on maternal and two year old child behavior. Child Development, 62, 930-953.

Dekovic, M., & Janssens, J. M. (1992). Parents' child-rearing style and child's sociometric status. Developmental Psychology, 28, 925-932.

Delongis, A., Folkman, S., & Lazarus, P. S. (1988). The impact of daily stress on health and mood: Psychological and social resources mediators. Journal of Personality and Social Psychology, 54, 486-495.

Desai, S., Michael, R. T., & Chase-Lansdale, P. (1990). The home environment: A mechanism through which employment affects child development. Paper presented at the meeting of the Population Association of America, Toronto, Canada.

Dishion, T. J. (1990). The family ecology of boys' peer relations in middle childhood. Child Development, 61, 874-892.

Dumas, J. E. (1986). Indirect influence of maternal social contacts on mother-child interactions: A setting event analysis. Journal of Abnormal Child Psychology, 14, 205-216.

Easterbrooks, A. M. & Goldberg, W. A. (1985). Effects of early maternal employment on toddlers, mothers, and fathers. Developmental Psychology, 21, 774-783.

Field, T., Masi, W., Goldstein, S., Perry, S., & Parl, S. (1988). Infant day care facilitates preschool social behavior. Early Childhood Research Quarterly, 3, 341-359.

Garmezy, N., Masten, A. S., & Tellegen, A. (1984). The study of stress and competence in children: A building block for developing psychopathology. Child Development, 55, 97-111.

Goldberg, W. A., & Easterbrooks, M. A. (1988). Maternal employment when children are toddlers and kindergarteners. In A. E. Gottfried & A. W. Gottfried (Eds.), Maternal employment and children's development: Logitudinal research, (pp. 121-154). New York: Plenum.

Goldsmith, H. H., Buss, A. H., Plomin, R., Rothbart, M. K., Thomas, A., Chess, S., Hinde, R. A., & McCall, R. B. (1987). Roundtable: What is temperament? Four approaches. Child Development, 58, 505-529.

Goode, W. J. (1960). A theory of strain. American Sociological Review, 25, 483-496.

Gottfried, A. E. & Gottfried, A. W. (1988). Maternal employment and children's development. New York: Plenum.

Greenberger, E., & Goldberg, W. A. (1989). Work, parenting, and the socialization of children. Developmental Psychology, 25, 22-35.

Gunnarsson, L. (1978). Children in day care and family care in Sweden, Research Bulletin No. 21, Gothenberg, Sweden: University of Gothenberg.

Hart, C. H., DeWolf, D. M., Wozniak, P., & Burts, D. C. (1992). Maternal and paternal disciplinary styles: Relations with preschoolers' playground behavioral orientations and peer status. Child Development, 63, 493-503.

Hart, C. H., Ladd, G. W., & Burleson, B. R. (1990). Children's expectations of the outcomes of social strategies: Relations with sociometric status and maternal disciplinary styles. Child Development, 61, 127-137.

Hartup, W. W. (1983). Peer relations. In P. H. Mussen (Ed.), Handbook of child development, 4, New York: Wiley. pp. 103-196.

Hartup, W. W., & Moore, S. G. (1990). Early peer relations: Developmental significance and prognostic implications. Early Childhood Research Quarterly, 5, 1-17.

Haskins, R. (1985). Public school aggression among children with varying day care experience. Child Development, 56, 689-703.

Hoffman, L. W.(1961). Effects of maternal employment on the child. Child Development, 32, 187-197.

Hoffman, L. W. (1989). Effects of maternal employment in the two-parent family. American Psychologist, 44, 283-292.

Hoffman, L. W. (1984). Maternal employment and the young child. In M. Perlmutter (Ed.), Parent-child interaction and parent-child relations in child development. The Minnesota symposia on child psychology, 17, (pp. 101-128). Hillsdale, NJ: Erlbaum.

Hofferth, S. C., & Phillips, D. A. (1987). Child care in the United States, 1970 to 1995. Journal of Marriage and the Family, 49, 559-571.

Hollingshead, A. (1975). Four Factor Index of Social Position, New Haven, CT.

Holloway, S. D. & Reichhart-Erickson, M. (1988). The relationship of daycare quality to children's free-play behavior and social problem solving skills. Early Childhood Research Quarterly, 3, 39-53.

Howes, C. (1990). Can the age of entry into child care and the quality of child care predict adjustment in kindergarten? Developmental Psychology, 26, 292-303.

Howes, C., Olenick, M. (1986). Family and child care influences on toddler compliance. Child Development, 57, 202-216.

Howes, C., Olenick, M., & Der-Kiureghian, T. (1987). After school child care in an elementary school: Social development and continuity and complementarity of programs. The Elementary School Journal, 88, 93-103.

Hymel, S., & Rubin, K. H. (1985). Children with peer relationship and social skills problems: Conceptual, methodological, and development issues. In G. J. Whitehurst (Ed.), Annals of Child Development, Vol. 2, (pp. 251-297). Greenwich, CT: JAL Press.

Jacobs, E. V., & White, D. R. (1994). The relationship of child care quality and play to social behaviour in kindergarten. In H. Goelman and E. V. Jacobs (Eds.), Children's Play in Day Care Settings. New York: State University Press.

Jacobs, E. V., White, D. R., Baillargeon, M., & Betsalel-Presser, R. (1995). Peer relations among children attending school-age child-care programs. In K. Covell (Ed.), Readings in Child Development. Scarborough, ON: Nelson Canada.

Kennedy, S. H. (1992). Relationship of maternal beliefs and child-rearing strategies to social competence in preschool children. Child Study Journal, 22, 39-60.

Kessler, R., & McRae, J. (1982). The effects of wives' employment on the mental health of men and women. American Sociological Review, 47, 216-227.

Kochanska, G., Kuczynski, L., & Radke-Yarrow, M. (1989). Correspondence between mothers' self-reported and observed child-rearing practices. Child Development, 60, 56-63.

Kontos, S.J. (1991). Child care quality, family background and children's development. Early Childhood Research Quarterly, 6, 249-262.

Kuzela, A, Becker-Hahn, N., & Weinraub, M. (1991). Maternal employment status and maternal role satisfaction as predictors of preschool adjustment. Poster Presented at the Society for Research in Child Development, Seattle, WA.

Ladd, G. W. (1992). Themes and theories: Perspective on processes in family-peer relationships. In R. D. Parke & G. W. Ladd (Eds.) Family-peer relationships: Models of linkage. (pp.1-34). Hillsdale, NJ: Lawrence Erlbaum Associates.

Lee, C. L., & Bates, J. E. (1985). Mother-child interaction at age two years and perceived difficult temperament. Child Development, 56, 1314-1325.

Lennon, M. C., & Rosenfeld, S. (1992). Women and mental health: The interaction of job and family conditions. Journal of Health and Social Behavior, 33, 316-327.

Lerner, J. V. & Galambos, N. L., (1985). Maternal role satisfaction, mother-child interaction and child temperament: A process model. Developmental Psychology, 21, 1157-1164.

Lero, D. S., Goelman, H., Pence, A. R., Brockman, L. M., & Nuttal, S. (1992). The Canadian National Child Care Study: Parental work patterns and child care needs. Ottawa, ON: Statistics Canada.

Loeber, R. & Dishion, T. (1983). Early predictors of male delinquency: A review. Psychological Bulletin, 94, 68-99.

Lytton, H. (1990). Child and parent effects in boys' conduct disorder: A reinterpretation. Developmental Psychology, 26, 683-697.

Maccoby, E. A., & Jacklin, N. (1983). Gender segregation in childhood. In E. H. Reese (Ed.), Advances in child development and behaviour, 20, (pp. 239-287). New York: Academic Press.

Maccoby, E. E., & Jacklin, C. M. (1985). The psychology of sex differences. Stanford, CA: Stanford University.

Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of the family: Parent-child interaction. In E. M. Hetherington (Ed.), P. H. Mussen (series Ed.) Handbook of Child Psychology, Vol 4. Socialization, personality and social development (pp. 1-102). New York: Wiley.

McBride, A. B. (1991). The challenges of multiple roles: The interface between work and family when children are young. Prevention in Human Services, 9, 143-156.

McBride, A. B. (1990). Mental health effects of women's multiple roles. American Psychologist, 45, 381-384.

McCartney, K., & Rosenthal, S. (1991). Maternal employment should be studied within social ecologies. Journal of Marriage and the Family, 53, 1103-1107.

McCartney, K., Scarr, S., Phillips, D., Grajek, S., & Schwarz, J. C. (1982). Environmental differences among day care centers and their effects on children's development. In E. F. Zigler and E. W. Gordon (Eds.), Day Care, scientific and social policy issues. (ch.6) Boston: Auburn House.

Milich, R., Landau, S., Kilby, G., & Whitten, P. (1982). Preschool peer perceptions of the behavior of hyperactive and aggressive children. Journal of Abnormal Child Psychology, 10, 497-510.

Moorehouse, M. J. (1991). Linking maternal employment patterns to mother-child activities and children's school competence. Developmental Psychology, 27, 295-303.

Newcomb, A. F., Bukowski, W. M., & Pattee, L. (1993). Children's peer relations: A controversial, and average sociometric status. Psychological Bulletin, 113, 99-128.

Olson, S. L., & Brodfeld, P. L. (1991). Assessment of peer rejection and externalizing behavior problems in preschool boys: A short-term longitudinal study. Journal of Abnormal Child Psychology, 19, 493-503.

Olweus, D. (1980). Familial and tempermental determinants of aggressive behavior in adolescent boys: A causal analysis. Developmental Psychology, 16, 644-660.

Parker, J. G. & Asher, S. R. (1987). Peer relations and later personal adjustment: Are low accepted children at risk? Psychological Bulletin, 102, 357-389.

Patterson, C. J., Cohn, D. A., & Kao, B. T. (1989). Maternal warmth as a protective factor against risks associated with peer rejection among children. Development and Psychopathology, 1, 21-38.

Patterson, G. R. (1986). Performance models for antisocial boys. American Psychologist, 41, 432-444.

Patterson, G. R. (1983). Stress: A change agent for family process. In N. Garmezy & M. Rutter (Eds.), Stress, coping, and development in children (pp. 235-264). New York: McGraw-Hill.

Patterson, G. R. (1982). Coercive Family Processes. Eugene, OR: Castalia Publishing Co.

Peery, J. C., Jensen, L., Adam, G. R. (1985). The relationship between parents' attitudes toward child rearing and the sociometric status of their preschool children. The Journal of Psychology, 119, 567-574.

Petit, G. S., & Bates, J. E. (1989). Family interaction patterns and children's behavior problems from infancy to 4 years. Developmental Psychology, 25, 413-420.

Phillips, D., & Howes, C. (1987). Indicators of quality in child care: Review of the research. In D. Phillips (Ed.), Quality in child care: What does the research tell us? (pp. 1-20). Washington, D.C.: National Association for the Education of Young Children.

Phillips, D., McCartney, K., & Scarr, S.(1987). Child-quality and children's social development. Developmental Psychology, 23, 537-544.

Phillips, D., McCartney, K., Scarr, S., & Howes, C. (1986). Selective review of infant day care research: A cause for concern. Zero to Three, 7, 537-543.

Powell, D. R. (1980). Personal social networks as a focus for primary prevention of child mistreatment. Infant Mental Health Journal, 1, 232-239.

Quay, H. (1986). Conduct disorders. In H. Quay & J. Werry (Eds.) Psychopathological disorders of childhood 3rd ed. New York: Wiley & Sons.

Radke-Yarrow, M., Zahn-Waxler, C., & Chapman, M. (1983). Children's prosocial dispositions and behavior. In E. M. Hetherington (Ed.), P. H. Mussen (Series Ed.), Handbook of child psychology: Vol 4. Socialization, personality, and social development. (pp. 775-912). New York: Wiley.

Reid, J. B. & Patterson, G. R. (1989). The development of antisocial behaviour patterns in childhood and adolescence. European Journal of Personality, 3, 107-119.

Reid, M. & Landsman-Ramey, S. (1991). Dialogues about Families. Unpublished manuscript. University of Washington, Seattle, WA.

Rubenstein, J., Howes, C., & Boyle, P. (1981). A two-year follow-up of infants in community-based day care. Journal of Child Psychology and Psychiatry, 22, 209-218.

Rubin, K. H., Bukowski, W., & Parker, J. G. (in press). Peer interaction, relationships, and groups. In E. M. Hetherington (Ed.), Handbook of child psychology. New York: Wiley.

Rubin, K. H., Coplan, R. J., Fox, N. A., Calkins, S. D. (1995). Emotionality, emotion regulation and preschoolers' social adaptation. Special Issue: Emotions in developmental psychopathology. Development and Psychopathology, 7, 49-62.

Rubin, K. H., LeMare, L. J., & Lollis, S. (1989). Social withdrawal in childhood: Developmental pathways to peer rejection. In S. R. Asher & J. D. Coie (Eds.) Peer rejection in childhood. (217-252). NY: Cambridge University Press.

Serbin, L. A., Schwartzman, A. E., Moskowitz, D. S., Ledingham, J. E. (1991). Aggressive, withdrawn, and aggressive/withdrawn children in adolescence: Into the next generation. In D. J. Pepler & K. H. Rubin (Eds.) The development and treatment of childhood aggression. Hillsdale, NJ: Lawrence Erlbaum Press.

Shonkoff, J. (1985). Social support and vulnerability to stress: A pediatric perspective. Pediatric Annals, 14, 550-554.

Sroufe, L. A. (1983). Infant-caregiver attachment and patterns of adaptation in preschool: The roots of maladaptation and competence. In M. Perlmutter (Ed.) Minnesota symposium in child psychology Vol. 16. (pp. 31-78). Hillsdale, NJ: Erlbaum Press.

Stuckey, M. R., McGhee, P. E., & Bell, N. J. (1982). Parent-child interaction: The influence of maternal employment. Developmental Psychology, 18, 635-644.

Travillion, K. & Snyder, J. (1993). The role of maternal discipline and involvement in peer rejection and neglect. Journal of Applied Developmental Psychology, 14, 37-57.

Vandell, D. L., & Corasaniti, M. A. (1988). The relation between third graders after-school care and social, academic and emotional functioning. Child Development, 59, 868-875.

Vandell, D. L., & Corasaniti, M. A. (1990). Variations in early child care: Do they predict subsequent social, emotional and cognitive differences? Early Childhood Research Quarterly, 5, 555-572.

Vandell, D. L., Henderson, V.K., Wilson, K.S. (1988). A longitudinal study of children with varying quality daycare experiences. Child Development, 59, 1286-1292.

Vandell, D. L., & Ramanan, J. (1992). Effcts of early and recent maternal employment on children from low-income families. Child Development, 63, 938-949.

Van Den Boom, D. C., & Hoeksma, J. B. (1994). The effect of infant irritability on mother-infant interaction: A growth curve analysis. Developmental Psychology, 30, 581-590.

Vlietstra, A. G. (1981). Full-versus half-day preschool attendance: Effects in young children as assessed by teacher ratings and behavioral observations. Child Development, 52, 603-610.

Volling, B., Braungart, J., Nuss, J., & Feagans, L., (1990, May). The effects on infant daycare on children's social behavior: An examination of within-group differences. Paper presented at the International Conference on Infant Studies, Montreal, QC.

Walker, L. O., & Best, M. A. (1991). Well-being of mothers with infant children: A preliminary comparison of employed women and homemakers. Women and Health, 17, 71.

Webster-Stratton, C. (1990). Stress: A potential disruptor of parent perceptions and family interactions. Journal of Clinical Child Psychology, 19, 302-312.

White, D. R. (1995). Child care services and kindergarten: Selection, quality, and continuity. Executive Summary. Concordia University, Montreal, Canada.

White, D. R., Marchessault, K., Bouchard, C., Lacroix, D. (1995). Quels sont les changements qui se produisent à la fin de l'année scolaire dans le comportment social de l'enfant de maternelle qui fréquente le SAMS? In R. Betsalel-Presser, D.R. White, M. Baillargeon, E. V. Jacobs (Eds.) Services de Garde et maternelle: Sélection, qualité et continuité. Rapport soumis à la Caisse d'aide aux projets en matière de garde des enfants Ministère du developpement des ressources humaines, Canada, 81-90.

Yarrow, M., Scott, P., de Leeuw, L. & Heinig, C. (1962). Childrearing in families of working and nonworking mothers. Sociometry, 25, 122-140.

Younnis, J. (1980). Parents and peers in social development: A Sullivanian-Piaget perspective. Chicago: University of Chicago Press.

Appendix A

Letter To Parents

Concordia
UNIVERSITY

March, 1993

Dear Parent(s),

We are writing to ask you and your child to participate in a study designed to examine the social behavior of children in various after school care settings. We are interested in examining the influence that different aspects of children's lives, such as child care arrangements (past and current) and families, may have on children's social behavior, relations with their peers, and adjustment to the kindergarten classroom.

This project is part of a larger research program which involves several investigators and universities including Université de Montreal, Université Laval and Concordia University. The research project has been funded by the Canadian and Quebec Governments in an effort to learn more about the effects of different types of child care arrangements on children.

Please find enclosed a letter of information describing what will be required of you and your child if you agree to participate. The success of our study depends on having as many children as possible participate. Thus, we would appreciate your consent to your child's participation even if you choose not to do so. Children usually enjoy the sessions with the researchers. We would like parent participation as well. Once you have read and understood the requirements of the study, please indicate on the attached consent form whether or not you and/or your child are interested in participating in the research project. Please return the consent form in the self-addressed envelope to your child's kindergarten teacher as soon as possible.

If you have any questions concerning the project please feel free to contact Rhonda Adessky, M.A. at 848-7563 or Lynn Kratzer, Ph.D. at 848-2257 or leave a message a Concordia University's White Lab (848-2256) specify the person with whom you wish to speak and we will return your call.

We thank you for your time and interest in our project.

Sincerely,

R. Adessky
Rhonda Adessky, M.A.

Donna White
Donna White, Ph.D.
Research Director

1455, de Maisonneuve Blvd W
Montreal, Quebec H3G 1M8

Letter of Information to the Parents

The past decade has seen the highest rate of mothers joining the work force. Maternal employment has created the need for parents to place their children in out of home child care. Many questions about the effects of nonparental child care (especially day care) have arisen. We are interested in studying the effects of after school child care on children's development as well as learning more about how parents manage their careers and their family responsibilities.

The purpose of this study is to investigate the influence of child care, and families on children's social behavior and classroom adjustment. The project involves the participation of children, parents and teachers. Below is a description of the procedure.

The children participating in this project will meet individually with a research assistant on 3 occasions for approximately 15-20 minutes each. The first session will focus on the children's relationship with classmates. Children will be shown photographs of their classmates and asked how much they like to play with each child and with whom they most like and least like to play. The photographs will be taken prior to individual testing of the children. At the end of the research the children will be given their photo to take home. In the other two sessions, we will interview children about how they think about themselves, their families, and other important people in their lives (e.g., friends, caregivers).

Please note that in order to effectively assess children's social relations participation of all the children in the class is desirable. The success of our study depends on your willingness to allow your child to participate. These procedures have been used extensively in research and show no negative consequences to the children. In fact, most children find taking part in such activities very enjoyable and like the special attention they receive. All information on the children is strictly confidential and your child is free to stop participating in the study at any time.

Classroom teachers and after school care educators (for those children who attend the after school care program) will be asked to fill out a questionnaire on the child's social behavior.

We will also conduct a brief phone interview with you, at your convenience, to obtain information about your child's past and current child care arrangements and family background information. In addition, we will mail you some questionnaires regarding your interaction styles with your child, your child's behavior, your attitudes toward maternal employment, and any stress or role strain you may experience. The questionnaires should take approximately one hour to complete. We are interested in learning more about how todays families manage the tasks of parenting and working. Your experience is extremely valuable to a better understanding of these issues. All information is strictly confidential. Results are always reported on group differences. Your participation in this research will be greatly appreciated. We will send you an overall summary of the results once the project has been completed. In appreciation for participation, we will purchase

a gift that your child's teacher has suggested would be beneficial for the class (e.g., new books, educational games).

Please indicate on the attached consent form whether or not you and/or your child will participate in the project. If you do not choose to participate in a phone interview or fill out questionnaires, we would still greatly appreciate your child's participation in the classroom portion of the study along with his or her classmates.

Please return the consent form in the self-addressed envelope to your child's kindergarten teacher as soon as possible.

PARENT CONSENT FORM

Please read and sign the following:

I have read the letter describing the research project that will be conducted at my child's school. I understand that children will be interviewed on an individual basis on 3 occasions for approximately 15 minutes each about their relations with their classmates and how they think about themselves, their f..milies, and other important people in their lives. I also know that the classroom teachers and after school care educators (if they are enroled in the after school care program) will fill out a behavior questionnaire on my child. I know that there are no risks to my child and that he or she may withdraw from the study at any time. I understand that all information about my child and all participants in this study is confidential, and that no identifying information will be given in reporting the results of this research.

I also understand that my child may participate in this study (as described above) but I do not have to participate in the study (ie. fill out questionnaires, participate in a telephone interview).

On the next page we ask for your child's participation and then your participation. Please fill in both sections, whether or not you agree to participate in the study.

Concordia
UNIVERSITY

Consent Form

PLEASE RETURN THIS FORM IN THE ENCLOSED ENVELOPE

CHILD PARTICIPATION

_____ Yes, I have given my child permission to participate

_____ No, I do not give my child permission to participate

My child's name and date of birth

_____

(please print)

Please sign and print your name here:

(sign) _____ Date_____

print) _____ Phone Number:_____

PARENT PARTICIPATION

_____ Yes, I agree to participate in a telephone interview and to fill in some parental questionnaires.

_____ No, I do not agree to participate in a telephone interview and to fill in some parental questionnaires.

Please sign and print your name here:

(sign) _____

(print) _____

1455, de Maisonneuve Blvd. W.
Montreal, Quebec H3G 1M8

Appendix B

Frequency Table of Family Demographic Information

Frequency Table of Family Demographic Information (N = 224)

Variable	Level	Frequency	Percent
Gender of Child	Male	137	55.9
	Female	108	44.1
Marital Status	Two Parent	202	90.2
	One Parent	22	9.8
Mother's Education[a]	Elementary	9	4.0
	High School	50	22.4
	College	89	39.9
	University	62	27.8
	Graduate Degree	13	5.8
Father's Education[a]	Elementary	10	4.9
	High School	40	19.6
	College	46	22.5
	University	74	36.3
	Graduate Degree	34	16.7

[a] Based on Hollingshead Four Factor Index

Hollingshead Four Factor Index (Hollingshead, 1975) is based on the premise that social status is a multidimensional concept. The four factors are education, occupation, marital status and number of parents working. If only one parent is employed, his or her scores is used. If both parents are working, the scale takes into account the average of the two parents education and occupation. Occupation is keyed to the approximate 450 occupational titles and codes of the 1970 United States Census, and is graded on a 9 point scale. The education factor is based on the number of years of school achievement and continues to be scored on a 7-point scale ranging from less than 7th grade to graduate or professional training.

Mother's Occupation[a]	home-maker	118	52.9
	unskilled work	6	2.7
	semiskilled work	3	1.3
	skilled work	8	3.6
	clerical or sales work	17	7.6
	semiprofessional or small business	24	10.8
	manager	22	9.4
	administrator or medium business	23	10.3
	higher executive or large business or major professional	3	1.3
Father's Occupation[a]	menial work or unemployed	6	2.9
	unskilled work	3	1.5
	semiskilled work	4	2.0
	skilled work	17	8.3
	clerical or sales work	19	9.3
	semiprofessional or small business	27	13.2
	manager	48	23.5
	administrator or medium business	40	19.6
	higher executive or large business or major professional	40	19.6
# Hours Mother is Currently Employed	0 = None	118	52.9
	7-25 = Part-Time	46	20.6
	29-50 = Full-Time	59	26.5

[a] Based on Hollingshead Four Factor Index

Appendix C

Univariate Correlations for Parental Education Occupation and SES

	Mother's Education	Mother's Occupation	Father's Education	Father's Occupation
Mother's Occupation	.28**			
Father's Education	.46**	.04		
Father's Occupation	.41**	-.02	.69**	
SES	.53**	.04	.77**	.92**

**p < .01

Appendix D

Univariate Correlations for Preschool Child Care Variables

	Number of Different Types of Care	Age of Alternative Care	Age of First Group
Age of First Alternative Care	-.64**		
Age of First Group Experience	-.34**	.31**	
Amount of Time In Group Daycare	.38**	-.31**	-.60**

**p < .01

Appendix E

Frequencies and Percentages of Current Child Care Arrangements by Maternal Employment and Child Gender

	Nonemployed	Employed	Boys	Girls
Homecare	113 (98%)	57 (54%)	94 (75%)	78 (79%)
Sitter Care	1 (.8%)	20 (19%)	14 (11%)	7 (7%)
School-Based Group Care	1 (.8%)	16 (15%)	10 (8%)	7 (7%)
Family Daycare	0 (0%)	3 (3%)	1 (1%)	2 (2%)
Relative Care	1 (.8%)	9 (9%)	5 (4%)	5 (5%)

Appendix F

Measures

Background Information Questionnaire

General Instructions:

1) Be sure to account for the child care arrangements for each year of the child's life.

2) Once you have collected all the child care arrangement information, you should be able to account for:
-# months in group care
-# of different types of care arrangements
-# of changes in care arrangements
-age of entry into first group experience

3) Once you have completed the interview, briefly repeat back the information to the parent to check if it is accurate.

4) Indicate on the front page if the father is willing to fill out questionnaires by writing in big letters SEND 2 COPIES

5) Please write on the top of each interview ME if mom is employed (we may send additional questionnaires to employed moms only) and if she is the only adult living at home

CHILD'S ID #: _____

PARENT'S ID #: _____

TELEPHONE #: _____

SCHOOL NAME: _____

INTERVIEWER'S NAME: _____ **DATE:** _____

CHECKLIST:

____ After school care arrangements

____ Previous child care arrangements

____ Age of entry into first group setting

____ Information on family/siblings

____ Marital status

____ Language spoken at home

____ Occupation/education of mother/father

Child Care Arrangements:

Until what time is your child at school each day? _____175_

Does he/she attend an extended kindergarten program? _____
If yes, how many days/week? _____ Hours/day? _____

Are you currently employed/student? _____
If yes, How many hours/week? _____

1. What type of care arrangements do you have now?
Ask about **morning (before school), lunch, after school** arrangemants

	Days/Week	Hrs/Day	Why chosen
__ after school program (on school premises)	_____	_____	_____
__ day care center	_____	_____	_____
__ home to mother/ father	_____	_____	_____
__ home to sitter/ relative	_____	_____	_____
__ sitter's home	_____	_____	_____
__ family day care	_____	_____	_____
__ extracurricular activities	_____	_____	_____
__ other	_____	_____	_____

2. How satisfied are you with these arrangements? _____
(Please rate this on a scale of 1 to 10 where 1 is not at all satisfied and 10 is extremely satisfied)

3. How long have you had this particular set of arrangements? ____

4. What type of arrangement(s) did you have before this one? (Be sure to cover each year)

Type	Child's Age (in months)	Days/Wk	Hrs/Day	Satisf (1-10)	Hrs Empl/ hrs away	Why Chosen

5. What age was your child's first group experience? _____
(group experience is defined as a **group day care centre** or a **formal classroom experience** ie. nursery, pre-kindergarten, kindergarten)

6. How many different group experiences has your child had? _____
write down BOTH the a) # of different classes within each setting (e.g. nursery from 3-4; 4-5) and b) across settings (e.g. day care 2-3, nursery 3-4, kindergarten from 5-6).

FAMILY:

Now I'm going to ask you a couple of questions concerning the rest of your family.

1) Who else besides (name of child) lives with you?

Your partner? _____ (Husband/Boyfriend?)

Other children? _____

IF YES: what are their names and ages and gender?

1. _____

2. _____

3. _____

4. _____

Other? _____

2) Do any of your other children attend the same after school program or day care centre or as (name of child)? _____

3) Is English the langauge you most often speak at home? _____

If NO: what is your mother tongue? _____

What is your partner's mother tongue? _____

Employment Information:

1) What is your occupation? _____

(If they do not work ask if/what they did before the child was born) _____ _____

2) What are your major duties/functions? _____

3) How many hours a week do you work? _____

4) How old was your child when you first began work? _____

5) When you first began work was it part-time or full-time? _____

6) In the last 5 years have you always worked part/full time? _____

7) When did you change from part to full (or ft to pt) time? _____

8) What are your **reasons** for working/staying at home? 178

(Let them come up with response. If they can't, use probes. i.e.: opportunity to be out of the house, child related issues, financial, personal self-esteem, job/career advancement, opportunity to be with other adults).

9a) **For EMPLOYED MOMS:** If you were completely free to choose, would you rather stay at home, work the same as you are now, work more, work less? _____

9b) **For NONEMPLOYED MOMS:** If you were completely free to choose, would you rather stay at home, work part-time, work full-time? ___

10) What is your partner's occupation? _____

11) What are his/her major duties/functions _____

Education Information:

1) What is your level of education (ie., the highest grade/level you completed in school)?

Elementary? (specify) _____
High School? (specify) _____
CEGEP/ Technical College? (specify) _____
University? (specify) _____

2) What is your partner's level of education?

Elementary? (specify) _____
High School? (specify) _____
CEGEP/ Technical College? (specify) _____
University? (specify) _____

Do you think your partner would be willing to fill in the questionnaires? We would like to get input from fathers as well. (Tell them that Dad must complete consent form and fill out questionnaires separately from mom).
We'll be sending home some questionnaires with your child. Could you please complete them and send them back in the enclosed envelope to your child's teacher as soon as possible.

If we conduct a follow-up study, can we call you back some time in the future to further discuss your experience with child care? ___

THANK YOU FOR YOUR TIME. WE REALLY APPRECIATE YOUR HELP.

Subject # _____ Mother/Father (please circle)

Perceived Stress Scale

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try and count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

For each question choose from the following alternatives:

0 = Never

1 = Almost Never

2 = Sometimes

3 = Fairly Often

4 = Very Often

1. In the last month, how often have you been upset because of something that happened unexpectedly?	0	1	2	3	4
2. In the last month, how often have you felt that you were unable to control the important things in your life?	0	1	2	3	4
3. In the last month, how often have you felt irritated and "stressed"?	0	1	2	3	4
4. In the last month, how often have you dealt successfully with irritating life hassles?	0	1	2	3	4
5. In the last month, how often have you felt that you were effectively coping with important changes that were going on in your life?	0	1	2	3	4
6. In the last month, how often have you felt confident about your ability to handle your personal problems?	0	1	2	3	4

7. In the last month, how often have you felt confident that things were going your way?	0	1	2	3	4
8. In the last month, how often have you felt that you could not cope with all the things that you had to do?	0	1	2	3	4
9. In the last month, how often have you been able to control irritations in your life?	0	1	2	3	4
10. In the last month, how often have you felt on top of things?	0	1	2	3	4
11. In the last month, how often have you been angered because of things that happened that were outside of your control?	0	1	2	3	4
12. In the last month, how often have you found yourself thinking about things that had to be accomplished?	0	1	2	3	4
13. In the last month, how often have you been able to control the way you spend your time?	0	1	2	3	4
14. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	0	1	2	3	4

Subject # _____ Mother/Father (please circle)

THE HASSLES SCALE

Hassles are irritants - things that annoy or bother you; they can make you upset or angry. Some hassles occur on a fairly regular basis and others are relatively rare. Some have only a slight effect, others have a strong effect. This questionnaire lists things that can be hassles in day-to-day life.

Directions: Please think about how much of a hassle each item was for you in the past two weeks. Please indicate how much of a hassles the item was by circling the appropriate number.

0 = None
1 = Somewhat
2 = Quite a bit
3 = A great deal
N/A = Not applicable

0 1 2 3 N/A	1. Your child(ren)
0 1 2 3 N/A	2. Your parents or parent-in-law
0 1 2 3 N/A	3. Other relative(s)
0 1 2 3 N/A	4. Your spouse
0 1 2 3 N/A	5. Time spent with family
0 1 2 3 N/A	6. Health or well-being of a family member
0 1 2 3 N/A	7. Sex
0 1 2 3 N/A	8. Intimacy
0 1 2 3 N/A	9. Family-related obligations
0 1 2 3 N/A	10. Your friend(s)
0 1 2 3 N/A	11. Fellow workers
0 1 2 3 N/A	12. Clients, customers, patients, etc.
0 1 2 3 N/A	13. Your supervisor or employer
0 1 2 3 N/A	14. The nature of your work
0 1 2 3 N/A	15. Your work load
0 1 2 3 N/A	16. Your job security
0 1 2 3 N/A	17. Meeting deadlines or goals on the job
0 1 2 3 N/A	18. Enough money for necessities (e.g., food, clothing, housing, health care, taxes, insurance)
0 1 2 3 N/A	19. Enough money for education
0 1 2 3 N/A	20. Enough money for emergencies
0 1 2 3 N/A	21. Enough money for extras (e.g., entertainment, recreation, vacations)
0 1 2 3 N/A	22. Financial care for someone who doesn't live with you

0	1	2	3	N/A	23. Investments
0	1	2	3	N/A	24. Your smoking
0	1	2	3	N/A	25. Your drinking
0	1	2	3	N/A	26. Mood-altering drugs
0	1	2	3	N/A	27. Your physical appearance
0	1	2	3	N/A	28. Contraception
0	1	2	3	N/A	29. Exercise(s)
0	1	2	3	N/A	30. Your medical care
0	1	2	3	N/A	31. Your health
0	1	2	3	N/A	32. Your physical abilities
0	1	2	3	N/A	33. The weather
0	1	2	3	N/A	34. News events
0	1	2	3	N/A	35. Your environment (e.g., quality of air, noise, level, greenery)
0	1	2	3	N/A	36. Political issues
0	1	2	3	N/A	37. Your neighborhood (e.g., neighbors, setting)
0	1	2	3	N/A	38. Conserving (gas, electricity, water, etc.)
0	1	2	3	N/A	39. Pets
0	1	2	3	N/A	40. Cooking
0	1	2	3	N/A	41. Housework
0	1	2	3	N/A	42. Home repairs
0	1	2	3	N/A	43. Yardwork
0	1	2	3	N/A	44. Car maintenance
0	1	2	3	N/A	45 Taking care of paperwork (e.g., paying bills, filling out forms)
0	1	2	3	N/A	46. Home entertainment (e.g., TV, music, reading)
0	1	2	3	N/A	47. Amount of free time
0	1	2	3	N/A	48. Recreation and entertainment outside the home (e.g., movie, sports, eating out, walking)
0	1	2	3	N/A	49. Eating (at home)
0	1	2	3	N/A	50. Church or community organization
0	1	2	3	N/A	51. Legal matters
0	1	2	3	N/A	52. Being organized
0	1	2	3	N/A	53. Social commitments

Subject #:_____ Mother/Father (please circle)

EMOTIONAL SUPPORT

Please indicate how helpful each source is to you in providing emotional support--that is, in listening to you, reassuring you, and showing you that they care.

Please use the 5-point rating scale, with a "1" indicating the source is not helpful to you in this way and a "5" meaning that the source is extremely helpful. Please mark N/A if the source is not applicable to you as a means of support.

1	2	3	4	5
is not helpful	a little bit	moderately helpful	very helpful	extremely helpful

Source of Help		How Helpful?
(1)	Spouse/Partner	_____
(2)	Child's biological father, if not current spouse/partner	_____
(3)	Child's grandparents (mother's side)	_____
(4)	Child's Grandparents (father's side)	_____
(5)	Other relatives	_____
(6)	Close friends	_____
(7)	Co-workers	_____
(8)	Church/temple	_____
(9)	Teachers	_____
(10)	Doctors	_____
(11)	Counselors (psychologists, social workers)	_____
(12)	Books	_____
(13)	Community or Governmental programs (like Birth to Age 3 Clinics, co-op preschools)	_____
(14)	Other (specify:_____)	_____

Subject # _____ Mother/Father (please circle)

Questionnaire on Parental Attitudes

The following statements represent matters of interest and concern to parents. Not all parents feel the same way about them. Please read each statement carefully and circle the number at the left which most closely reflects YOUR degree of agreement or disagreement. If you have more than one child, please answer according to the child of kindergarten age.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

(Circle One)

W 1 2 3 4 5 6 (1) I respect my child's opinions and encourage him/her to express them.

W 1 2 3 4 5 6 (2) I encourage my child always to do his/her best.

1 2 3 4 5 6 (3) I put the wishes of my mate before the wishes of my child.

1 2 3 4 5 6 (4) I help my child when he/she is being teased by his/her friends.

1 2 3 4 5 6 (5) I often feel angry with my child.

H 1 2 3 4 5 6 (6) I punish my child by putting him/her off somewhere by him/herself for a while.

1 2 3 4 5 6 (7) I watch closely what my child eats and when he/she eats.

1 2 3 4 5 6 (8) I wish my spouse were more interested in our children.

W 1 2 3 4 5 6 (9) I feel my child should be given comfort and understanding when he/she is upset.

1 2 3 4 5 6 (10) I try and keep my child away from children or families who have different ideas or values from our own.

1 2 3 4 5 6 (11) I try to stop my child from playing rough games or doing things where he/she might get hurt.

H 1 2 3 4 5 6 (12) I believe physical punishment to be the best way of disciplining my child.

W 1 2 3 4 5 6 (13) I believe that my child should be seen and not heard.

1 2 3 4 5 6 (14) I sometimes forget the promises I have made to my child.

W 1 2 3 4 5 6 (15) I express affection by hugging, kissing and holding my child.

W 1 2 3 4 5 6 (16) I find some of my greatest satisfactions in my child.

W 1 2 3 4 5 6 (17) I prefer that my child not try things if there is a chance that he/she will fail.

1 2 3 4 5 6 (18) I wish my child did not have to grow up so fast.

W 1 2 3 4 5 6 (19) I feel my child should have time to think, daydream and even loaf sometimes.

1 2 3 4 5 6 (20) I find it difficult to punish my child.

1 2 3 4 5 6 (21) I let my child make many decisions for him/herself.

1 2 3 4 5 6 (22) I worry about the bad and sad things that can happen to my child as he/she grows up.

W 1 2 3 4 5 6 (23) I do not allow my child to get angry with me.

1 2 3 4 5 6 (24) I feel my child is a bit of a disappointment to me.

1 2 3 4 5 6 (25) I expect a great deal of my child.

1 2 3 4 5 6 (26) I am easy going and relaxed with my child.

1 2 3 4 5 6 (27) I give up some of my own interests because of my child.

1 2 3 4 5 6 (28) I tend to spoil my child.

W 1 2 3 4 5 6 (29) I talk it over and reason with my child when he/she misbehaves.

1 2 3 4 5 6 (30) I trust my child to behave as he/she would, even when I am not with him/her.

W 1 2 3 4 5 6 (31) I joke and play with my child.

	1	2	3	4	5	6	(32) I give my child a good many duties and family responsibilities.
W	1	2	3	4	5	6	(33) My child and I have warm, intimate times together.
	1	2	3	4	5	6	(34) I have strict, well-established rules for my child.
W	1	2	3	4	5	6	(35) I think I should let my child take many chances as he/she grows up and tries new things.
W	1	2	3	4	5	6	(36) I encourage my child to be curious, to explore and question things.
	1	2	3	4	5	6	(37) I sometimes feel I am too involved with my child.
H	1	2	3	4	5	6	(38) I threaten punishment more often than I actually give it.
W	1	2	3	4	5	6	(39) I believe in praising my child when he/she is good and think that it gets better results than punishing when he/she is bad.
W	1	2	3	4	5	6	(40) I make sure that my child knows that I appreciate what he/she tries to accomplish.
W	1	2	3	4	5	6	(41) I encourage my child to talk about his troubles.
H	1	2	3	4	5	6	(42) I teach my child to keep control of his/her feelings at all times.
	1	2	3	4	5	6	(43) I try to keep my child from fighting.
	1	2	3	4	5	6	(44) I dread answering my child's questions about sex.
H	1	2	3	4	5	6	(45) When I am angry with my child, I let him/her know it.
	1	2	3	4	5	6	(46) I punish my child by taking away a privilege he/she otherwise would have had.
	1	2	3	4	5	6	(47) I give my child extra privileges when he/she behaves well.
W	1	2	3	4	5	6	(48) I enjoy having the house full of children.

W 1 2 3 4 5 6 (49) I believe that too much affection and tenderness can harm or weaken my child.

H 1 2 3 4 5 6 (50) I believe that scolding and criticism makes my child improve.

W 1 2 3 4 5 6 (51) I believe my child should be aware of how much I sacrifice for him/her.

1 2 3 4 5 6 (52) I worry about the health of my child.

H 1 2 3 4 5 6 (53) I feel that there is a good deal of conflict between my child and me.

1 2 3 4 5 6 (54) I do not allow my child to question my decisions.

1 2 3 4 5 6 (55) I like to have some time to myself away from my child.

H 1 2 3 4 5 6 (56) I let my child know how ashamed and disappointed I am when he/she misbehaves.

W 1 2 3 4 5 6 (57) I encourage my child to be independent of me.

1 2 3 4 5 6 (58) I make sure I know where my child is and what he/she is doing.

W 1 2 3 4 5 6 (59) I find it interesting and educational to be with my child for long periods.

W 1 2 3 4 5 6 (60) I instruct my child not to get dirty while he/she is playing.

1 2 3 4 5 6 (61) I think jealousy and quarreling between my children should be punished.

H 1 2 3 4 5 6 (62) I think my child must learn early not to cry.

H 1 2 3 4 5 6 (63) I control my child by warning him/her about the bad things that can happen to him/her.

1 2 3 4 5 6 (64) I don't think my child should be given sexual information before he/she can understand everything.

1 2 3 4 5 6 (65) I believe it is unwise to let my children play a lot by themselves without supervision from grown-ups.

Subject # _____ Mother/Father (please circle)

The EAS Temperament Survey for Children

Please rate each of the items for your child on a scale of 1 (**not characteristic or typical of your child**) to 5 (**very characteristic or typical of your child**)

1. Child tends to be shy	1	2	3	4	5
2. Child cries easily	1	2	3	4	5
3. Child likes to be with people	1	2	3	4	5
4. Child is always on the go	1	2	3	4	5
5. Child prefers playing with others rather than alone	1	2	3	4	5
6. Child tends to be somewhat emotional	1	2	3	4	5
7. When child moves about, he or she usually moves slowly	1	2	3	4	5
8. Child makes friends easily	1	2	3	4	5
9. Child is off and running as soon as he or she wakes up in the morning	1	2	3	4	5
10. Child finds people more stimulating than anything else	1	2	3	4	5
11. Child often fusses and cries	1	2	3	4	5
12. Child is very sociable	1	2	3	4	5
13. Child is very energetic	1	2	3	4	5
14. Child takes a long time to warm up to strangers	1	2	3	4	5
15. Child gets upset easily	1	2	3	4	5
16. Child is somewhat of a loner	1	2	3	4	5
17. Child prefers quiet, inactive games to more active ones.	1	2	3	4	5
18. When alone, child feels isolated	1	2	3	4	5
19. Child reacts intensely when upset	1	2	3	4	5
20. Child is very friendly with strangers	1	2	3	4	5

Vandell's Teacher Rating Scale

Child's Name: _____ **Sex:** _____
School: _____ **Class:** _____
Teacher's Code: _____ **Date:** _____

Rating Instructions

The following items deal with this child's behavior at school. Please circle the number which best represents your observations and impressions of this child during the past month.

Example

Plays alone 1 2 3 4 5 plays with other children

If this child almost always plays alone, you would circle 1. If the child typically plays alone, circle 2. If his or her play is fairly balanced between being alone and being with others, circle 3. Circle 4 if he or she typically plays with others. Circle 5 if his or her play time is almost always spent with other children.

Please proceed by completing the following items.

1	teases other children.	1	2	3	4	5	does not tease other children.
2.	waits to be approached by other classmates	1	2	3	4	5	initiates interactions with classmates.
3.	is easily distracted from schoolwork.	1	2	3	4	5	concentrates during class.
4.	is secretive about his or her activities	1	2	3	4	5	is open and honest with others.
5.	is defiant in the classroom.	1	2	3	4	5	is cooperative and compliant in the classroom.
6.	smiles.	1	2	3	4	5	frowns or grimaces.
7.	does not share toys, games, or materials.	1	2	3	4	5	shares toys, games, materials.
8.	plays with other children.	1	2	3	4	5	plays alone.
9	does not verbally threaten other children	1	2	3	4	5	verbally threatens other children.
10	is alert	1	2	3	4	5	is "tuned out".
11.	is not helpful to other children.	1	2	3	4	5	is helpful to other children.
12.	solves conflict situations on his/her own.	1	2	3	4	5	appeals to teacher for help in conflict situations.
13.	does not listen to other children when they are speaking to him or her	1	2	3	4	5	listens to other children when they are speaking to him or her.
14.	is fearful or afraid of new things.	1	2	3	4	5	is not fearful or afraid of new things.

15.	shows interest and participates.	1	2	3	4	5	is apathetic and withdrawn
16	does not hit, kick, bite other children	1	2	3	4	5	hits, kicks, bites other children
17	ignores overtures from other children.	1	2	3	4	5	accepts approaches by other children
18	is independent of teacher.	1	2	3	4	5	seeks to be near teacher
19.	respects others' property	1	2	3	4	5	destroys others' property
20.	talks to other children.	1	2	3	4	5	does not talk to other children
21.	does not keep on trying when playing in games.	1	2	3	4	5	keeps on trying when playing games
22.	is unhappy and discontented	1	2	3	4	5	is content and happy
23.	does not fight with other children.	1	2	3	4	5	fights with other children
24	take turns using materials or toys.	1	2	3	4	5	does not take turns using materials or toys
25.	does not respect rules	1	2	3	4	5	respects rules
26.	tattles on other children.	1	2	3	4	5	does not tattle on other children
27	is extroverted	1	2	3	4	5	is introverted
28.	is quick at mastering new subjects.	1	2	3	4	5	is slow at mastering new subjects
29	continues working until a task is completed	1	2	3	4	5	quits working on a task as soon as problems arise
30.	is very disorganized	1	2	3	4	5	is very organized
31.	resists changes in activity	1	2	3	4	5	moves easily from one activity to another
32	is difficult to discipline	1	2	3	4	5	is easy to discipline
33.	is disliked by other children.	1	2	3	4	5	is not disliked by others
34.	has confidence in him or herself.	1	2	3	4	5	is easily hurt by other people's comments
35.	does not bother others	1	2	3	4	5	bothers others
36.	angers easily.	1	2	3	4	5	does not anger easily
37.	has lots of friends	1	2	3	4	5	has few friends
38.	is liked by others.	1	2	3	4	5	is not liked by others
39.	is not noticed a lot by other children.	1	2	3	4	5	is noticed by others
40.	others avoid him/her.	1	2	3	4	5	others do not avoid him/her
41.	accepts suggestions by the teacher.	1	2	3	4	5	rejects suggestions by the teacher
42.	is rejected by other children.	1	2	3	4	5	is accepted by other children
43	is not chosen as a playmate.	1	2	3	4	5	is often chosen as a playmate
44.	is invited to play with others.	1	2	3	4	5	is not invited to play with others

Appendix G

Means, Standard Deviations and Alpha Levels for EAS Temperament Survey of Original and Dutch Samples

Buss and Plomin's Original Sample (N = 182)

Mean age = 3.6 years

Variable	M	SD	Alpha Level
Shyness	2.5	1.02	.88
Sociability	-	-	-
Emotionality	3.0	.80	.80
Activity	4.0	.70	.82

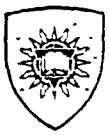
Boer and Westenberg's Dutch Sample (N = 189)

Mean age = 6.4 years

Variable	M	SD	Alpha Level
Shyness	2.4	.88	.81
Sociability	3.5	.74	.74
Emotionality	3.0	.82	.79
Activity	3.5	.78	.74

Appendix H

Letter to Schoolboards



Concordia
UNIVERSITY

January 4, 1993

Mr. William Corrigan
Director of Educational Services
Lakeshore School Board
257 Beaconsfield Blvd.
Beaconsfield, Quebec
H9W 4A5

Dear Mr. Corrigan,

We are writing to request permission to conduct a research project investigating the relationship among family, child, and child care variables and how these factors are related to the social behavior and classroom adjustment of Kindergarten children. This project is part of a larger research program which involves several investigators including Dr. Raquel Presser (Université de Montreal), Dr. Madeleine Baillergeon (Université Laval), Professor Ellen Jacobs (Concordia University), and our team headed by Dr. Donna White (Concordia University). The research project has been funded by Health and Welfare Canada Child Care Initiatives Fund.

We are interested in the rapid growth of school age child care facilities and the integration of these facilities with educational programs. Information about the effects of prolonged group care or multiple group settings on child development is scarce. This project is designed to provide information about the social behavior and peer relations of children in different after school care settings (e.g., homecare, sittercare, and after school day care). We will examine how parental employment status, parent-child interaction styles, and previous child care arrangements influence children's social development and adjustment to the kindergarten program. Additionally, we will collect information about the types of after school child care arrangements parents use, why parents select particular child care arrangements, and their satisfaction with their choices. Our project will provide important information that will aid in the planning of school age child care and should be of benefit to children, families, and educators.

We are interested in including Kindergarten children from English schools for this phase of the project. We would like to begin data collection in February 1993. Our presence in each school will not exceed three weeks. Data collection should be completed by May 1993.

1455, de Maisonneuve Blvd. W.
Montreal, Quebec H3G 1M8

Please find enclosed a detailed outline of the study, a description of the measures to be used and a copy of the parent information letter and consent form.

If you have any questions about the research project please contact Rhonda Adessky, M.A. at 848-7563 or Lynn Kratzer, Ph.D. at 848-2257. As well, a message can be left at any time at Concordia University's White Lab 848-2256.

We thank you for your time and interest in our project.

Sincerely,

R. Adessky

Rhonda Adessky, M.A.

Lynn Kratzer

Lynn Kratzer, Ph.D.

Donna White

Donna White, Ph.D.
Research Director

Appendix I

Anova Source Tables

	df	F
Perceived Stress		
Main Effects		
Employment (A)	1	3.66
Group (B)	1	.13
Gender (C)	1	8.35**
2-Way Interactions		
A x B	1	.94
A x C	1	.12
B X C	1	1.60
3-Way Interactions		
A x B X C	1	.74
Error	177	
Daily Hassles		
Main Effects		
Employment (A)	1	9.16**
Group (B)	1	.54
Gender (C)	1	4.29
2-Way Interactions		
A x B	1	.66
A x C	1	.02
B X C	1	1.64
3-Way Interactions		
A x B X C	1	1.41
Error	179	

*p < .025
**p < .01

	df	F
Role Satisfaction		
Main Effects		
Employment (A)	1	3.15
Group (B)	1	.15
Gender (C)	1	9.47**
2-Way Interactions		
A x B	1	.86
A x C	1	.32
B X C	1	1.56
3-Way Interactions		
A x B X C	1	.03
Error	170	
Emotional Support		
Main Effects		
Employment (A)	1	2.84
Group (B)	1	.09
Gender (C)	1	.50
2-Way Interactions		
A x B	1	.72
A x C	1	3.41
B X C	1	.01
3-Way Interactions		
A x B X C	1	.02
Error	175	

*p < .025
**p < .01

	df	F
Maternal Warmth		
Main Effects		
Employment (A)	1	.76
Group (B)	1	.00
Gender (C)	1	.49
2-Way Interactions		
A x B	1	.96
A x C	1	1.69
B X C	1	.58
3-Way Interactions		
A x B X C	1	.58
Error	178	
Maternal Harshness		
Main Effects		
Employment (A)	1	.05
Group (B)	1	.07
Gender (C)	1	.09
2-Way Interactions		
A x B	1	.02
A x C	1	1.71
B X C	1	1.58
3-Way Interactions		
A x B X C	1	.03
Error	178	

*p < .025
**p < .01

	df	F
Emotionality		
Main Effects		
Employment (A)	1	.09
Group (B)	1	.46
Gender (C)	1	.35
2-Way Interactions		
A x B	1	1.05
A x C	1	.46
B X C	1	.39
3-Way Interactions		
A x B X C	1	.33
Error	178	
Sociability		
Main Effects		
Employment (A)	1	.52
Group (B)	1	.52
Gender (C)	1	.36
2-Way Interactions		
A x B	1	.18
A x C	1	2.72
B X C	1	.55
3-Way Interactions		
A x B X C	1	.58
Error	178	

*p < .025
**p < .01

	df	F
Shyness		
Main Effects		
Employment (A)	1	2.69
Group (B)	1	.71
Gender (C)	1	2.37
2-Way Interactions		
A x B	1	1.09
A x C	1	.32
B X C	1	2.48
3-Way Interactions		
A x B X C	1	.39
Error	178	
Activity		
Main Effects		
Employment (A)	1	1.42
Group (B)	1	.04
Gender (C)	1	.00
2-Way Interactions		
A x B	1	.61
A x C	1	.34
B X C	1	.02
3-Way Interactions		
A x B X C	1	1.23
Error	178	

*p < .025
**p < .01

	df	F
Aggression		
Main Effects		
Employment (A)	1	4.16
Group (B)	1	4.86*
Gender (C)	1	25.58**
2-Way Interactions		
A x B	1	.14
A x C	1	1.42
B X C	1	5.51**
3-Way Interactions		
A x B X C	1	.97
Error	178	
Popularity		
Main Effects		
Employment (A)	1	1.49
Group (B)	1	3.19
Gender (C)	1	7.92**
2-Way Interactions		
A x B	1	.06
A x C	1	.25
B X C	1	5.83**
3-Way Interactions		
A x B X C	1	.12
Error	178	

*p < .025
**p < .01

Appendix J

Hierarchical Multiple Regression Analyses Using Emotional Temperament and Parenting Styles to Predict Aggression and Popularity

Summary of Hierarchical Multiple Regression Analysis for Emotionality and Harshness Predicting Aggression

Variable	B	SE B	Beta
Step 1			
Emotionality	.05	.04	.11
Step 2			
Harshness	1.33	.13	.14
Step 3			
Emotionality x Harshness	.09	.05	.63

Note. R^2 = .01 for step 1, p < ns; Change R^2 = .02 for step 2, p < ns;
Change R^2 = .01 for step 3, p < ns

Summary of Hierarchical Multiple Regression Analysis for Emotionality and Warmth Predicting Aggression

Variable	B	SE B	Beta
Step 1			
Emotionality	.05	.04	.11
Step 2			
Warmth	-.29	.10	-.21**
Step 3			
Emotionality x Warmth	-.08	.10	-.80

Note. R^2 = .01 for step 1, p < ns; Change R^2 = .04 for step 2, p < 001;
Change R^2 = .00 for step 3, p < ns

**p < .001

Summary of Hierarchical Multiple Regression Analysis for Emotionality and Harshness Predicting Popularity

Variable	B	SE B	Beta
Step 1			
Emotionality	-.03	.03	-.09
Step 2			
Harshness	.00	.04	.01
Step 3			
Emotionality x Harshness	-.06	.04	-.51

Note. R^2 = .01 for step 1, p < ns; Change R^2 = .00 for step 2, p < ns;
Change R^2 = .01 for step 3, p < ns

Summary of Hierarchical Multiple Regression Analysis for Emotionality and Warmth Predicting Popularity

Variable	B	SE B	Beta
Step 1			
Emotionality	-.03	.03	-.09
Step 2			
Warmth	.16	.08	.14
Step 3			
Emotionality x Warmth	.05	.09	.60

Note. R^2 = .01 for step 1, p < ns; Change R^2 = .01 for step 2, p < ns;
Change R^2 = .00 for step 3, p < ns

**p < .001