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Maternal Employment: Exploring the Relationship Between Maternal Stress, Child Factors and Daily Routines

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A Thesis

in

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ABSTRACT

Maternal Employment: Exploring the Relationship Between Maternal Stress, Child Factors and Daily Routines

Salima Jiwa

The present study was designed to examine the relationship between working mothers' stress level and two child characteristics, gender and temperament, in addition to the daily routines of the mothers, in an attempt to ascertain why working mothers are stressed. Studies of maternal employment have demonstrated that working mothers are exposed to the numerous, often conflicting roles of being a wife, a mother, and an employee (Apter, 1993, Greenhaus & Beutell, 1985; LeMesurier, 1995). These opposing roles usually result in role conflict or role overload, which in turn leads to stress (Greenhaus & Parasuraman, 1986). The reasons for the increased stress levels of working mothers, however have not been clearly identified. Gender and child temperament are two factors that may be linked to the stress working mother experiences (Alvarez, 1985; Hoffman, 1984). Furthermore, preliminary evidence suggests that it is possible that certain daily rituals of a working mother with a child in day care may be related to the elevated stress levels (LeMesurier, 1995). Fifty-seven parents of three to five-year-old children in community and corporate day care centres in the greater metropolitan Montreal and Toronto areas participated in this study. Demographic information was obtained through telephone interviews along with information related to maternal employment. Level of parental stress was assessed (Abidin, 1986) and information about child temperament (Buss & Plomin, 1984) was obtained from parents and teachers. Parents also completed the Going to Day care and Getting Home survey (Jacobs & Jiwa, 1996). Working mothers were not found to be highly stressed and no differences were found between the parenting stress levels of mother of boys and mothers of girls.

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Ecological Perspective

The last three decades of the twentieth century have witnessed a remarkable increase in the number of women who have entered the work force. This scenario has become the norm for most families and is likely continue to be the way of life in the next millennium. Maternal employment does not occur in isolation, but rather effects and is affected by various systems. These can be categorized as either internal systems or external systems. The internal strains that impact on working mothers include: the goals and the expectations she sets for herself (Apter, 1993), self-identity dilemmas, role-cycling issues, and problems of work and role overload (Skinner, 1980). The external systems that play a significant role in the functioning of working mothers are the work force, day care, family and child. Although these aforementioned systems have been independently identified throughout literature, they do not operate in isolation. In fact, within these systems, associated processes take place that jointly impact upon the functioning and well-being of the mother (Bronfenbrenner, 1986).

A study of the maternal employment literature reveals that many researchers have failed to examine the relationship between these external systems and how they relate to one another and to the mother in particular. An example of this restrictive point of view is illustrated by the review of day care studies by Belsky and Steinberg (1978). They found that researchers limited themselves almost exclusively to the direct effect day care had on the child, while neglecting the powerful influences day care can have upon the functioning of the mother. Crouter (1984), in her examination of family and work, noted that researchers have restricted their focus to work's impact on the family and have failed to examine the influences the family exerts on the workplace. "Presumably, men and women

do not shed their family roles, relationships and experiences the moment they don work shirts, hard hats, or business suits" (Crouter, 1984, p.426).

In order to thoroughly comprehend the issues that arise as a result of being a working mother, an holistic theoretical perspective is necessary. The ecological perspective examines the multi-directional influences of the child, home, work, and day care characterized as mesosytems, on the mother, rather than exclusively focusing upon their independent effects (Bronfenbrenner, 1979; Belsky & Steinberg, 1978). Mesosystems are defined as those systems, individuals, or environments that have direct influences upon an individual's daily functioning. For instance, an immediate family member, such as a husband, is considered a member of the mesosystem, because presumably he has daily contact with his wife, while a distant relative would not be classified as a member of the mesosystem. The ecological perspective examines both the impact these members have on the individual, as well as the influences these persons have upon one another.

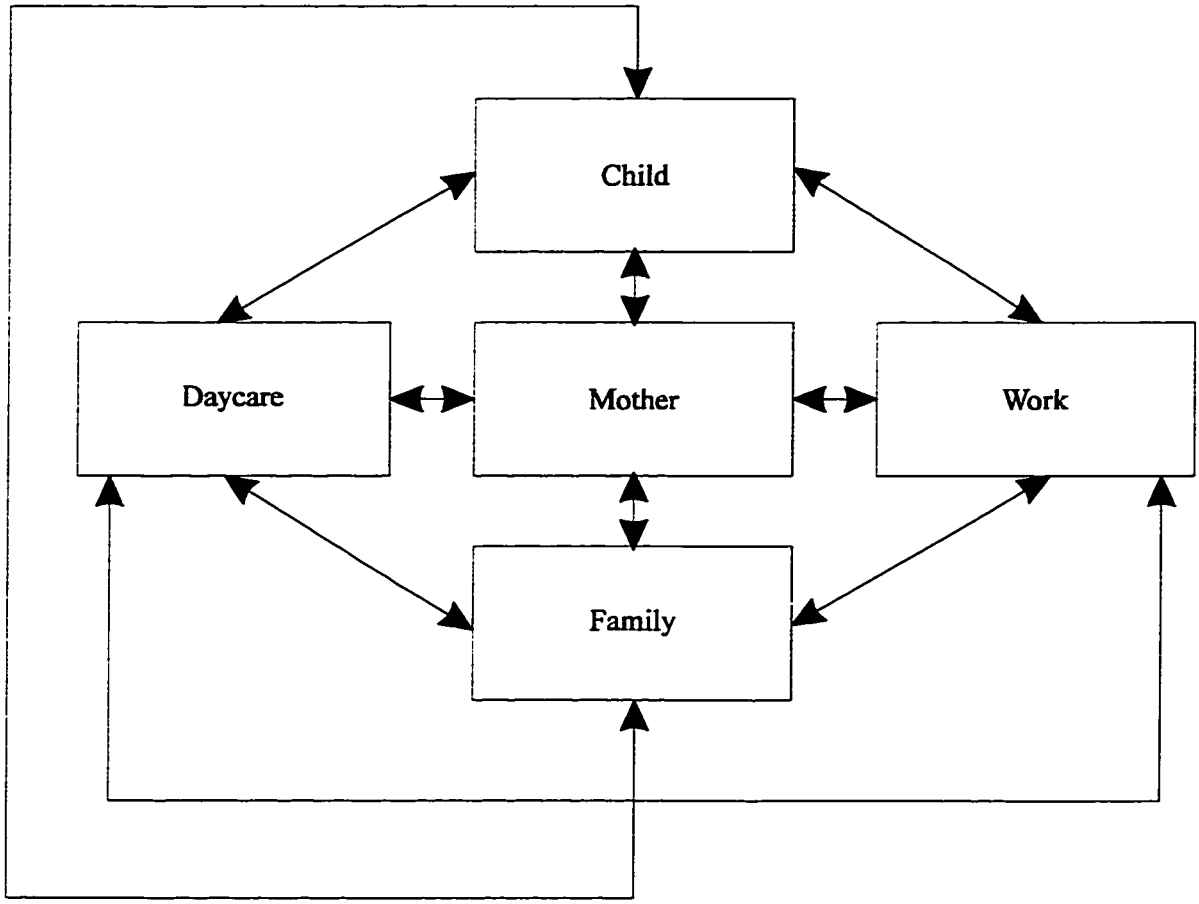
The ecological approach to studying various systems (i.e. mother) and the influences placed upon them by other systems (i.e. child, work, day care) provides a complete and realistic illustration of the processes that are impacting the systems. In an attempt to better understand the ecological perspective, consider the example of a working mother with a three-year-old child. Being employed may necessitate the family to procure child care outside the home, such as group/centre day care. The centre chosen will probably have certain regulations that parents must comply with, such as specific drop-off and pick-up times. On certain occasions, unexpected events such as a project deadline, may arise at work that prevents the mother from complying with the centre's rules. Therefore, the occurrence at work (meeting the deadline) has an impact on the day care (mother late and educator having to remain behind), the child (child becomes anxious), and even the home (no dinner prepared).

Involvement within several settings (work, home and day care), establishes a series relationships among these environments, and as a consequence the settings may exert influences upon one another (McMillian, 1990). For instance, a project deadline may result in a late evening for the entire family, which prevents the child from getting enough sleep and further delays the family in the morning. This, in turn, significantly influences what occurs at both the day care and workplace. Consequently, events that occur in the home will affect the events taking place at the day care and workplace.

The ecological developmental model proposed by Bronfenbrenner (1986) provides a comprehensive conceptual framework for studying maternal employment and the issues that arise as a result. The inclusion of all of the critical operating elements, namely the mother, child, family and all other related environments, such as the day care and workplace illustrates the complexity of the multifaceted situation (Figure 1).

In studying any mesosystem, examination of all of the influential mesosystems is necessary in order to fully comprehend the relationships and issues. It is for this reason that this perspective has been presented and utilized in the present study. However, the demands of investigating all of possible mesosystems are beyond the scope of this study. The ecological perspective does provide a sound theoretical model for studies examining a number of the mesosytems, as is the situation in this case.

Figure 1. Ecological perspective depicting working mothers



Women in the Work Force

The dramatic increase in the labour force participation of women since World War II has been the topic of interest for society, specifically families, employers, researchers and policy makers during the last three decades (Belsky, 1984; Statistics Canada, 1993). A closer examination of employment statistics indicate that women comprise half of the workers in Canada (Statistics Canada, 1991). In 1951, only 24.1 percent of Canadian women participated in the labour force, whereas, in 1990, over 58 percent worked outside the home (Lero, Goleman, Pence, Brokman, & Nuttall, 1992). It is estimated that by the year 2000, 88 percent of women between the age of twenty-five and thirty-four will be in the paid labour force (Statistics Canada, 1989).

Consideration of women with young children reveals that generally, mothers are more likely to work than are other women (Belsky, 1984). Employment patterns of working mothers indicate that the most significant increase has been among mothers of preschool children (Eggebeen, 1988). The labour force participation of women with young children calls for a closer examination of the reasons why so many mothers are in the work force.

Women return to the work force after having children as a result of a number of circumstances. Maternal characteristics have been of particular interest to researchers in this area. In examining maternal employment and young children's adjustment, Belsky and Eggebeen (1991) reported that certain characteristics of the mothers themselves were consistently related to employment patterns. They found that mothers who were not employed during the first three years of their child's life were most likely to have given birth while they were teenagers, to have the fewest years of education, to have never been married at the time of their child's birth, to have contributed the least to the family's income, to have attended church more frequently, to have low self-esteem, to have scored

the lowest on measures of intelligence, and to have held the most traditional attitudes toward gender roles. Maternal employment groups were also found to differ with respect to household composition and economic resources. Mothers were more likely to be employed across the child's first three years of life when there were more people living in the home and when more working adults were present.

Bebbington's (1973) study of women in dual-career families found that they differed from traditionally domestic women with respect to a number of circumstances, some of which are comparable to Belsky and Eggebeen's (1991) study detailed above. The women in dual-career families were the only or eldest child in their family, lived in a childhood family setting with no other adults, had work-oriented mothers, experienced tension in their relationship with their father, faced prolonged separation from their parents during childhood and were of a relatively high social class as gauged by their father's occupation. Although none of the women in the study had an early childhood history with all of these features, all experienced at least four of the six. These women were highly qualified university graduates who tended more than traditional women, as in Belsky and Eggebeen's (1991) study, to subscribe to the idea of women having careers. Likewise, in a more recent study, working mothers scored higher on a mental aptitude test and were more highly educated compared to women who were not employed (Vandell & Ramanan, 1992).

The characteristics of working mothers are as diverse as those of working men and are the result of life circumstances and personal characteristics. The influx of women in the work force thus far has been the consequence of a number of circumstances, including, but not limited to, economic reasons and the desire for a career (Belsky, 1984; Belsky & Steinberg, 1978; Carlson, 1990). Economic reasons stem from inflation, the increase in the divorce rate, and the increase of single parents (Belsky; Carlson; Elman & Gilbert, 1984). Belsky and Eggebeen (1991) in their study of the effects of early and extensive

maternal employment, reported that children whose mothers were not employed in their children's first three years of life were disproportionately concentrated in the lowest income groups and were more likely to be in poverty. On the other hand, children of mothers who initiated employment during the first year of the child's life were more likely to be in the highest income brackets and the least likely to be in poverty. Comparably, in an examination of low-income families, researchers found there to be less poverty among families with working mothers than in families in which mothers did not work (Vandell & Ramanan, 1992). These studies suggest that economics may be one substantial reason why women return to the work force after having children.

Personal desires for a career have also been the cause for many women to return to the work force (Taylor & Spencer, 1988). Elman and Gilbert (1984) in examining married professional women with children, noted that these "professionally educated women who are married and have young children are neither pressured nor expected by society to pursue their professional interests full-time" (p.324). In fact, the authors noted that these women were married to professional men who could probably support their families without the additional income. This study supports the notion that financial necessity is not the sole reason women choose to work. Similarly, over fifty-percent of the university professional women surveyed by Taylor and Spencer (1988) were categorized as family-accommodated, meaning that they chose to balance the demands of their home and family with the responsibilities of their career. These studies indicate that lifestyle commitments are increasingly being determined by both family and career.

The desire to continue one's career also propels some women to return to the work force. Many more women are delaying childbirth in order to enter traditionally male-dominated professions such as engineering, medicine, and law (O'Connell & Bloom, 1987). It appears that few women are willing to forego all of the hard work that they have invested in establishing their career, in order to raise a family.

> Many (women) interrupt their careers for just a short time to care for their children. They may switch from full-time to part-time work for a few years to maintain their jobs and keep their skills from depreciating. Only a small number of women leave their jobs permanently to concentrate on raising a family (O'Connell & Bloom, p.8).

For some of the couples in Bebbington's (1973) study, the dual-career family pattern was taken for granted virtually from the start of the relationship, but by the birth of the first child, many women renounced their aspirations for a full-time job. For those women who have the choice of combining family and career, they generally find their multiple roles satisfying and fulfilling (Elman & Gilbert, 1984; Taylor & Spencer, 1988).

The reasons for the increase in the number of working mothers of young children are numerous. However, the issues and concerns that arise as a result of working outside the home are similar for women who return to the work force because of economic circumstances as well as for women who want to pursue or maintain their career. Regardless of the characteristics of the women or the circumstances that lead them into the labour force, the demands placed on the working mother inevitably lead to demands and strains that often result in role conflict or role strain.

Role Conflict and Role Strain

Women who take on the responsibilities of both work and family are typically required to juggle the role of parent, spouse and employee. Work-family conflict is often provoked when the pressures from these two environments are incompatible (Greenhaus & Beutell, 1985). The demands placed on the working mother by one environment, can conflict with the simultaneous demands from another environment (Greenhaus & Beutell). The pressure results from demands that are interdependent and often leads to conflicts in time, energy, commitment and other resources. These conflicts are commonly referred to

as role conflict, role strain, inter-role conflict or role overload (Holahan & Gilbert, 1979; Ventura, 1987; Voydanoff & Kelly, 1984). Role overload results "when the total prescribed activities of one or more roles are greater than an individual can handle adequately or comfortably" (Voydanoff & Kelly, p. 881). The term "role interference" has also been identified and occurs when responsibilities conflict or when an individual is required to do two or more incongruous things at the same time.

Three types of work-family conflicts have been identified by Greenhaus and Beutell (1985). Time-based conflicts occur when the time demands of one role interfere with participation in another role, as illustrated in the earlier example of a project deadline which prevents a working mother from picking up her child from day care on time. The second conflict, strain-based conflict, results when the stress symptoms produced in one role overflow into the other roles. For instance, a sick child will probably cause a working parent to be worried and stressed and possibly unable to concentrate at work. Lastly, behaviour-based conflicts result when behaviors that are functional in one role are dysfunctional in the other. An example of this type of conflict would be breast-feeding. A mother can breast feed her child at home without being judged and reprimanded. However this sort of act may be frowned upon or even forbidden at her place of employment.

Working mothers are most likely to experience the first two conflicts, particularly time-based conflicts. In a study designed to assess the degree of responsibility experienced by both men and women, Googins and Burden (1987) found that male parent employees spent more hours on the job than females, however, female parent employees spent more hours on home chores and child care activities. Further analysis of these hours revealed that women spent considerably greater time on the combined duties of home and job than men with families. Additionally, married men reported that having an employed wife did not influence the amount of time they spent on home chores or child care

activities. The researchers concluded that "the apparent inequity in family and home life responsibilities may be an important factor in explaining significant differences in workplace-family role strain" (p. 297) experienced by men and women. Moreover, the researchers determined that generally, women in all categories report higher levels of role strain than men, with married female parents exhibiting the highest levels of role strain.

The struggle to meet the demands of home and work is consistently seen in studies examining mothers who choose to return to work, as well as those who return because of economic reasons. Bebbington (1973) investigated the function of stress in the establishment of the dual-career family. Dual-career families were defined as those families in which both husband and wife had employment careers while simultaneously raising a family of one or more children. Analyses of the various reasons of why families chose this particular lifestyle revealed that even parents who did have the option of working faced conflicts between tasks in their domestic environment and employment domain. Elman and Gilbert (1984) in their study noted that most of the women with preschool children reported a moderate level of role conflict despite having the choice to work. Similarly, almost thirty-percent of the working mothers in Alvarez's (1985) study reported direct conflicts between work and familial roles and responsibilities.

Alpert and Culbertson (1987) studied women in dual-career families and women who did not work outside their home. They found that dual-career women reported significantly more hassles than women who did not pursue a career. Specifically, dual-career women identified demands from work, family, achievement, and individual concerns. This study reaffirms the phenomenon that working mothers are faced with excess responsibilities as a result of taking on the additional role of employee and that this role often results in conflicts between work and home.

While there has been an increase in the number of women in the work force, the responsibilities at home have not decreased proportionately. There is evidence in the literature that suggests that working mothers are receiving more assistance with household and child care responsibilities from their spouses than ever before (e.g. Darling-Fisher & Tiedje, 1990). However, the majority of women continue to bear the bulk of household responsibilities. For instance, Ventura (1987) investigated the stresses experienced by both mothers and fathers during the third postpartum month. Mothers reported having to juggle parenting responsibilities with work and home schedules as struggles they confronted daily, while fathers described their roles as largely having to deal with career and work demands.

In a study investigating the impact of maternal employment on fathers' participation in child care, Darling-Fisher and Tiedje (1990) also found mothers to consistently provide more child care than fathers. However, fathers did report being involved in a few child care activities. The two routines in which fathers participated least across all levels of involvement were the physical care of the child and getting up at night to attend to the needy child. Fathers were chiefly involved in teaching their children skills and playing with their children. The authors concluded that fathers tend to be more active in play activities with their child than in providing direct care. Notwithstanding their increased involvement in the work force, women continue to carry the majority of child care responsibilities, while fathers take on the secondary roles associated with parenting and child care, further evidence of the inequities in responsibilities experienced by working mothers.

Holahan and Gilbert (1979) compared the degree of stress reported by dual-career parents (with at least one child) with dual-career couples (with no children). The study also compared the two groups on a number of measures, including role conflict, self-esteem, spousal support, and life satisfaction variables. Strikingly different correctional

patterns emerged between these two groups on the role conflict measure. For the nonparent couple group, high role conflict was associated with variables related to internal concerns related to career pursuit, such as low career commitment and aspiration levels and working fewer hours. For the parent group high role conflict reflected the demands of having and raising children. The addition of the parent role complicated the life situation of the couple, "making the dual-career pursuit more difficult to maintain" (p.465).

Furthermore, mothers and fathers were not found to significantly differ in the amount of conflict they experienced as a result of family or work demands. However parents in general experienced greater role conflict because of the addition of the parental responsibilities in addition to career commitments. At first glance this finding appears to be nonsensical and contradictory to present day findings, which indicate that mothers experience greater role strain than fathers. However, a careful examination of the characteristics of the sample reveals several viable factors for this atypical finding. Firstly, the male and female participants of this study were similar with respect to variables related to career investment, both reporting high levels of career committment and aspirations. Secondly, the sample was pro-feminist, with liberal attitudes toward the roles of women. Furthermore, the investigators found the level of spouse's emotional support for career pursuit to be high, with no difference between the support experienced by either men or women. Consideration of the characteristics of this sample provides a rationale for the discrepancy between the present study and similar studies with less atypical subjects. However, it is noteworthy and valuable to call attention to the greater role strain experienced by couples who are parents versus those who are not.

A significant finding of the Holahan and Gilbert (1979) study was that high career aspirations were negatively correlated with role conflict for men and positively correlated for women. Although there were no significant differences between fathers and mothers in the amount of role conflict they experienced, the study does uphold traditional

viewpoints which demonstrate that working women experience greater role conflict when they engage in employment outside of their home, as compared to men.

The aforementioned studies support research findings which found that working mothers in the job market were faced with greater role conflict than men. The consequence of role strain and conflict faced by the majority of working mothers inevitably leads to stress (Elman, 1984; Googins 1987; Darling-Fisher & Tiedje, 1990).

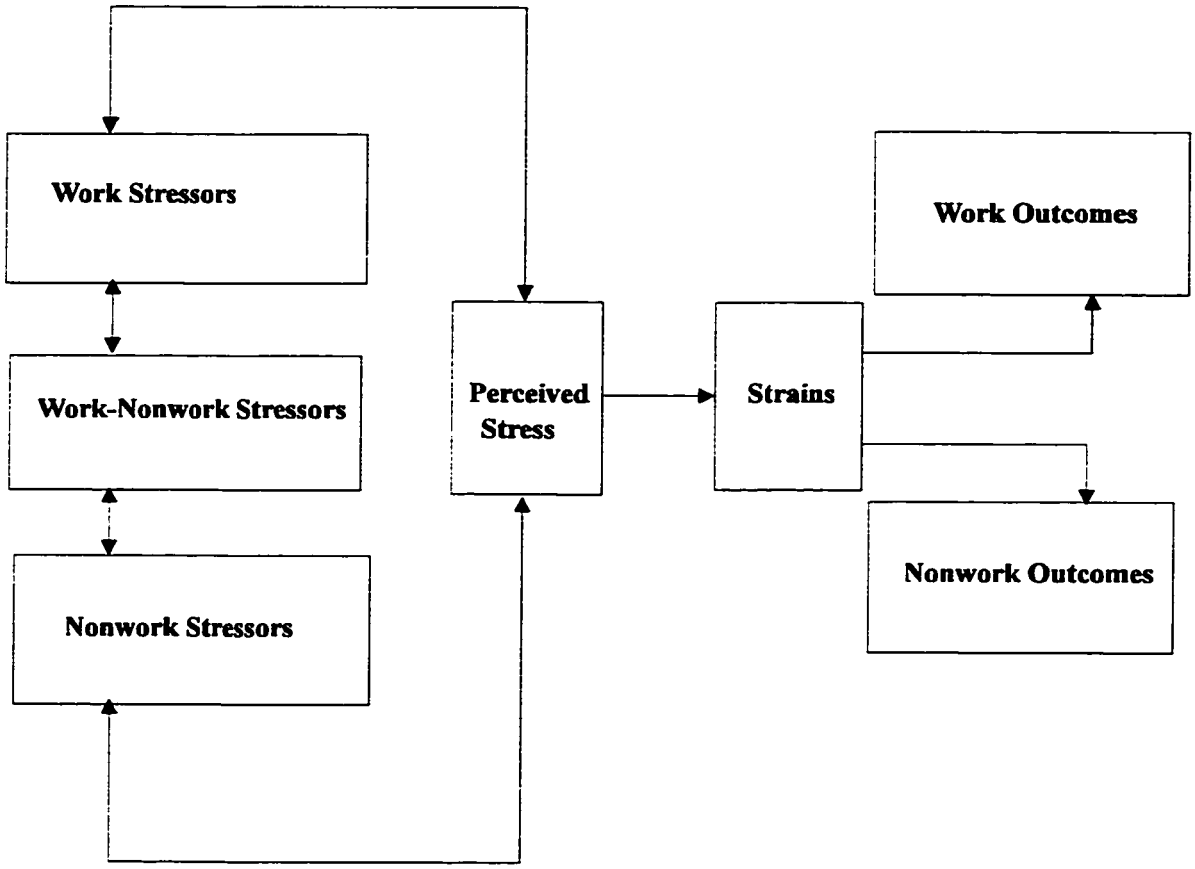
Stress

The role conflict and role strain experienced by working mothers can be related to their high levels of stress (Hoffman, 1984), which in turn can also be associated with adverse consequences at home and at the workplace (Greenhaus & Parasuaman, 1986) and possibly at the day care. The research in the area of stress finds working mothers to be the most stressed compared to other women, particularly because of the responsibilities of childrearing and home duties (i.e. Adessky; 1996; Skinner, 1980). Stress denotes the psychological state experienced when an individual encounters demands, constraints and/or opportunities that have important but uncertain outcomes. Stressors are the environmental situations or events potentially capable of producing the state of stress, whereas strains are the symptoms of stress. Outcomes are the result of strain that have consequences for both work and non-work domains (Greeenhaus & Parasuaman; Voydanoff & Kelly, 1984).

The relationship between stress and employment has been extensively investigated in the literature (e.g. Greenhaus & Beutell, 1985; Greenhaus & Parasuraman, 1986; Skinner, 1980). Greenhaus and Parasuraman examined the intersection of work and non-work roles as related to stress and proposed an integrative framework for understanding

the relationships among stressors, strain, and stressful work and non-work domains. Figure 2. is an extrapolation of their proposed model of the sources and consequences of work-non-work stress. In this model, stress can result from stressors that arise in the work environment (e.g. work overload), the non-work domain (e.g. child care), and the interface of work and non-work domains (e.g. work-non-work time conflicts).

Figure 2. Extrapolated proposed model of the interaction between work-non-work stress (Greenhaus & Beutell, 1985)



Greenhaus and Parasuraman (1986) have identified three potential links between stress and strain at the intersection of work and non-work domains. First, there are the additive influences of the stressors in the two domains. The total amount of stress experienced by a working mother is a function of both work and non-work stressors. "The greater the number of stressful domains encountered, and the more extensive the stressors within each domain, the greater the degree of stress and strain experienced" (Greenhaus & Parasuraman, p.43). Crouter (1984), in an exploratory study examining the overlap between family and work demands, reported that working mothers with young children were more likely to report high levels of spillover, compared to mothers of older children or fathers.

The second connection between work and non-work environments is the spillover that results when stressors and strains in one domain provoke stress in another. This can happen with emotional and/or physical interference, ultimately sustaining or increasing the stress experienced (Greenhaus & Parasuraman,1986). Hendrix, Ovalle, and Troxler (1985) found that home and family relationships had indirect control on job stress through their impact on life stress (as cited in Greenhaus & Parasuraman). Similarly, Crouter's (1984) study revealed that family life had an impact on work life. Those individuals who reported no effects of family tended to be young unmarried individuals with no children at home. Neal, Chapman, Ingersoll-Dayton, and Emlen (1993) found that the younger the child, the greater the probability that an employee would experience both caregiving stress and difficulty in combining work and family.

The final link between work and non-work domain(s) is the potential of interactive effects of two or more domains. Work-non-work conflicts due to multiple role pressures have been identified as a chief source of strain, particularly for working women (Greenhaus & Parasuraman, 1986). The stress of work-non-work conflicts is partly contingent upon the relative importance of the work and non-work roles. For instance,

the more equally committed a working mother is to her work and non-work responsibilities, the greater number of psychological and physical conflicts she will experience as a result of the incompatible demands from the two domains (Greenhaus & Parasuraman).

> The greatest threat to women's well-being is no longer the isolation and tedium of being a housewife. Women are now threatened by the stress of imbalance as they try to live and to work in a society which traditionally separates private and public lives, and which prevents women from doing both...(Apter, 1993, p.198).

Stress has conventionally been thought of as a negative psychological state with negative consequences. However, there is evidence that illustrates some positive outcomes that can be derived from involvement in activities or environments that may be stressful (Alvarez, 1985; Bebbington, 1973; Ventura, 1987). The sample in the Alvarez (1985) study reported a number of benefits of employment, despite being stressful. For instance, over 60 percent of working mothers reported enjoying the personal interactions inherent in their work, and almost half of the mothers expressed gaining a sense of autonomy. Interestingly, the reasons why mothers sought employment was a powerful indicator of their perceptions of working. For instance, mothers who worked because of financial necessity, reported being less satisfied with their job and experienced greater conflicts between the demands of employment and their familial roles.

The negative consequences of stress have been well documented. They include a host of both psychological and physical consequences. The mothers in Ventura's (1987) study reported stresses associated with managing work and caring for their new baby as

influential forces that made them more vulnerable to psychological distress and dissatisfaction.

The adverse affects of stress are manifested in a number of ways. Inequitable family responsibility and high levels of workplace-family role strain may be related to decreased levels of physical and emotional well-being (Googins & Burden, 1987). The negative consequences of stress not only manifest themselves in individuals, but also adversely impact the work environment and productivity therein. A conference on work, stress and individual well-being reported that efficiency and profit, absence and turnover, strikes and grievances and other such measures directly influenced the effectiveness and well-being of the organization as a living system (Kahn, 1981).

Studies of work, stress and health reviewed at the conference revealed that stress was associated with a wide array of physical illness, including gastric ulcer, cancer, and cardiovascular diseases. Psychiatric illnesses which were associated with stress included depression (Apter, 1994), anxiety states, alcoholism, drug abuse, and sleep disorders. Stress has also been shown to decrease the effectiveness of the immune system. Psychological and physical problems experienced by a working mother are typically the result of the demands placed on her from her family, workplace, society, herself and her child(ren).

The daily demands of the upkeep and functioning of the home are, to a greater extent, responsibilities placed on the mother. House cleaning and laundry, and taking care of family members continue to be the obligation of the majority of women, along with cooking and caring for their children (Neal et al., 1993). Furthermore, additional household requirements result from being a spouse. Ventura (1987) identified three categories of stress associated with fulfilling the spousal role. Marital conflicts, lack of spousal support and thirdly, poor sexual relations with spouses were evidenced by couples

in the study. Lack of spousal support was demonstrated in responses ranging from anger to escaping the situation. Poor sexual relations were reported only by mothers and were often associated with feelings of fatigue and lack of time to be alone with her partner.

Stressors also arise from the work domain due to the pressures associated with developing and sustaining a career. In order to advance professionally, a high level of commitment, dedication, and time for the profession are critical. "Professionals are expected to pursue their work in a certain and very rigid way, which often means the work becomes an all-consuming activity" (Arfken, 1985, p.9). Studies suggest that if individuals want to succeed in the work force, they must be at the cutting edge, which often requires them to accommodate their schedules to their jobs more so than to their families (Hughes & Galinsky, 1988). "Whether individuals are career- oriented or job-oriented often influences the amount of time they spend in parenting activities" (Gilbert & Hanson, 1983, p.206).

Within dual-career families stress will also result when the developmental sequence of one spouse's career conflicts with that of the other. To cite an instance, if both spouses in a dual-career family are striving for professional growth, they will probably have to sacrifice their commitments to their home life, such as starting a family. A number of couples in Bebbington's study (1973) of dual-career families "felt a need to avoid having more than one of the three areas of engagement, husband's career, wife's career, and family rearing, actually in transition at any one time" (p. 535). For this reason, several of the dual-career couples delayed starting a family until they had established their careers.

Societal expectations can significantly contribute to the stress experienced by working women, but particularly so for working mothers. "Society creates definite expectations, responsibilities, and demands for these three (professional, wife, and mother) primary roles" (Arfken, 1985, p.10). The culture in which a mother lives, sets the

standards associated with the enactment of the maternal role (Hock, DeMeis, & McBride, 1988; Arfken). Bebbington (1973) succinctly captured the stress placed upon women by society:

> Discrepancies between personal norms and social norms may be a particular source of stress to the wife in a dual-career family because of the emphasis placed on the maternal and homemaking role as a wife's function by our society (p.534).

North American cultural norms continue to support the view that mothers are the primary caretakers of their children and families, and therefore should stay at home to care for their children and attend to their home responsibilities (Hock et al., 1988). Regardless of the needs of the mother, whether they be social, emotional, or financial, there is an expectation that she will stay home and care for her young child. "Although the majority of mothers now hold paying jobs, many Americans are ambivalent, even critical, of employed mothers" (Hock et al., p.195). "Society has expected a woman in this role (mother) to be accommodating and mindful of placing the needs of her children first" (Arfken, 1985, p.10). Society's expectations of mothers, despite contemporary lifestyles, continue to contribute to the increased stress levels experienced by working mothers.

Another common source of strain faced by a working mother results from the pressures and expectations she places upon herself. The stress a mother experiences is partly the result of her own standards and goals, both those that are stated and unstated (Arfken, 1985). Perceptions of parental role responsibilities among working people have been studied by Gilbert and Hanson (1983). In this study two samples of parents were sent a survey as part of the procedure in the development of the *Perceptions of Parental Role Scales*. Following the development of the scales and necessary refinements, and after

reliability of each scale was calculated, three kinds of comparisons were made: (a) by gender, (b) by work orientation, and (c) by background variables.

Comparisons between males and females indicated that women and men differed in their ratings of parental role responsibilities, with men's ratings being lower than women's ratings on all thirteen scales (Gilbert & Hanson, 1983). These scales included childrearing responsibilities, such as promoting the child's cognitive development, assuring the development of social skills, physical health, norms and values, personal hygiene and survival skills, along with meeting the child's emotional and child care needs. Similarly Bernard (1974) suggested that men have an easier time combining the responsibilities of professional career and parenting because less is expected of them with regard to familial responsibilities (as cited in Skinner, 1980). These findings provide an illustration of the views mothers and fathers have of their roles at home. The fact that women's duties overwhelmingly outnumber those of men, provides evidence of how often women are required to push themselves in an attempt to fulfill all of the demands of their numerous roles.

Both the perceptions women have of their roles and the reality of the demands of those responsibilities, particularly that of parenting, contribute to the stress a working parent experiences. Many demands arise as a result of being a working parent. First there is a need to find and secure adequate child care (Elman et al., 1984; Googins & Burden, 1987; Ventura, 1987). Most of the mothers in Ventura's study "reported stress over the high cost of day care, concerns about the qualifications of the infant care provider, and the lack of facilities for respite or 'drop-in' infant care" (p. 27). These parents also expressed being torn between providing safe and adequate infant care and having to work. Dyck's (1988) qualitative study found that the working women in her study "had sometimes tried several options before finding what they considered satisfactory care for their children" (p.12).

The lack of adequate child care facilities often prevents mothers from re-entering the work force. A 1982 U.S. Census Bureau survey asked non-working mothers if they would look for work if child care were available to them at a "reasonable cost". The census revealed that approximately thirteen-percent of mothers of young children would work if they had access to child care that was reasonably priced (O'Connell & Bloom, 1987). Furthermore, it was estimated that twenty-four percent of single mothers could return to the labour force if adequate and affordable child care facilities were accessible.

A second source of parental stress results from daily parenting responsibilities. LeMesurier's (1995) study examined the relationship between type of day care arrangement and maternal stress, maternal guilt and maternal separation anxiety and reported that most mothers found that being a parent of a preschooler was stressful. LeMesurier noted that routines were important to maintain, but scheduling was often difficult for these parents. It may be that mothers in both corporate and community day care centres experienced increased stress as a result of getting their child ready in the morning, trying to help their child to leave the day care, and dressing the child.

Other responsibilities associated with raising a child can be summarized as assuring the healthy growth and development of the child. These responsibilities are the same whether a mother works outside of the home or whether she is at home. However, with the increased number of roles assumed by a working mother who works outside of her home, the time available to devote to each responsibility decreases, which in turn increases the likelihood of her experiencing role overload and consequently stress.

Thirty-five percent of mothers and twenty-percent of fathers in Ventura's (1987) study indicated that an infant's fussy behaviour was extremely stressful. Mothers discussed feeling guilty, helpless and angry when caring for their needy child. One mother experienced ill feelings because she could not attend to her child all the time, while another

"felt 'horrible and frustrated' when she could not make her ill baby feel better" (p. 27). Studies of various child characteristics suggest that working mothers may experience additional stress depending upon the characteristics of their child (Belsky, 1988; Ventura, 1987). For instance, Hellstrom's (1994) study found mothers of boys to be more stressed than mothers of girls. LeMesurier's (1995) analyses of Hellstrom's findings suggest that the aggressive behaviours of boys may be the primary reason why mothers of boys were found to be more stressed than mothers of girls. Furthermore, it was suggested that the stress experienced by these working mothers may be related to feelings of anxiety about their sons' aggressive behaviours, once again suggesting that specific child factors, particularly child gender and temperament may contribute to higher levels of stress in working mothers.

Child Factors

Child Gender

The stress placed on the working mother by her child can be taxing depending on the nature of the child (Belsky, 1988; Adessky, 1996, Hellstrom, 1994; LeMesurier, 1995; Ventura, 1987). A number of child characteristics have been examined throughout the early childhood and elementary education research. Gender differences, in particular, have received attention (Hinde, Tamplin, & Barrett, 1993; Hoffman, 1984; Hoffman, Levy-Shiff, & Ushpiz, 1993; Wardle, 1991). Maternal employment has been found to have different consequences depending upon the gender of the child. For example, Bronfenbrenner and Crouter (1982) in their review of the maternal employment literature declared that a child's gender was the single most critical variable to demonstrate the differential effects that maternal employment could have on young children. In this review they cited evidence that employment outside of the home tends to have healthy consequences for daughters. The positive outcomes include admiration for their mothers, positive attitudes of the female role, and increased autonomy.

However, working mothers' perceptions of their sons have cited as being negative (Bronfenbrenner & Crouter, 1982; Alvarez, 1985). For instance, Bronfenbrenner , Henderson, Alvarez and Cohran (1982) asked 150 families to provide complete descriptions of their children. Full-time working mothers provided the least flattering descriptions of their sons and the most favourable descriptors of their daughters. Similarly, the mothers in Alvarez's (1985) study gave more positive ratings of their daughters than did mothers of sons. To cite an example, full-time working mothers described their sons as being demanding and non-compliant, while daughters were described as having good looks, being affectionate, caring, helpful, and good. Furthermore, those working mothers who were the most highly educated described their daughters as more independent and intelligent, than did mothers of boys. Hellstrom's (1994) study examining the relationship among a number of variables including maternal attachment, found that boys in the day care sample were rated by their caregivers as being more aggressive than girls, as assessed by the Vandell and Corasaniti Rating Scale (1990).

In a study examining gender differences in four-year-olds, Hinde, Tamplin and Barrett (1993) studied preschool-age children based on observations at home and in day care. From the home observations, the researchers found that girls tended to give a higher proportion of answers to their mothers and to give friendlier responses than boys. At home, boys were more aggressive with their younger siblings than girls. At day care, boys controlled their peers more than girls did. Boys also received stronger controls from their teachers than did the girls. During adult-child interactions, girls interacted more frequently and were more friendly toward their teachers, in comparison to boys. These findings although not consistent in direction across all data sets, provide an illustration of some of the typical behaviours of boys and girls at home and at day care. They also suggest that parental responses to and perceptions of girls and boys may be different because of the distinct behaviours displayed by boys and girls. It appears as though girls

have more positive relations with their peers and adults than do boys, and as a result adults view girls more favorably. The researchers speculated that boys may be less able to cope with stressors such as non-maternal care compared to girls and offered this as a possible rationale for the different behaviour exhibited (Belsky, Lerner, & Spanier, 1984, p.261).

In a study designed to investigated stressful life events and elementary school children's adjustment, Hoffman, Levy-Shiff and Ushpiz (1993) randomly selected fourth-, fifth-, and sixth-graders in Israel and assessed their anxiety, their aggressive and submissive withdrawal patterns and stressful life events. Stressful life events were found to be more strongly associated with the behaviour of boys than girls. The boys evidenced heightened maladjustment following individual crises and disturbances, while for the girls, variations in stress were not associated with changes in adjustment. This study provides further evidence that boys may not be able to cope with life changes as well as girls, one of which may be nonmaternal care.

In their 1985 study of the characteristics of 3- to 4-year-olds, Hinde, Stevenson-Hinde and Tamplin found that at approximately three and a half-years of age, boys were more dependent and expressed more intense emotions than girls. However they found no significant gender differences at four and a half-years of age. The more negative ratings of sons compared to daughters provided by the mothers in Alvarez's et al. study (e.g., "demanding" and "noncompliant") suggests that other child factors, such as child temperament, in addition to gender, may be predictive of the stress experienced by working mothers.

LeMesurier's (1995) study examining a number of variables including maternal stress found that mothers of boys reported significantly higher levels of stress as assessed by the Parental Stress Index (PSI, Abidin , 1983) compared to mothers of girls. LeMesurier suggested that one of the reasons why boys may have been rated more

negatively by parents and teachers may be due to the fact that boys are typically more rambunctious and outgoing than girls. Hellstrom's (1994) findings which surveyed the same sample as LeMesurier indicated that boys were rated by their educators as significantly higher on the aggression factor of the social competence measure of the Vandell and Corasaniti Rating scale than girls. Therefore, it is possible that the mothers of the boys in LeMesurier and Hellstrom's sample received the negative feedback from the educators, which in turn could have been related to their elevated stress levels, and may have resulted in their more negative ratings of their sons than daughters. The aggressive-type of behaviour, which is generally related to a child's temperament, can be viewed as more taxing upon the parent and may result in a more stressed mother.

The discrepancies in parental ratings of boys and girls can be categorized into three rationales. The first reason as presented by Bronfenbrenner and Crouter (1982), suggests that parents have different expectations of their sons and daughters and thus may not tolerate certain behaviours exhibited their sons, while the same behaviour from daughters may be considered typical; one example would be crying. It has long been accepted that crying when exhibited by girls is normal, while boys who cry are characterized as 'sissies'.

Second, researchers have suggested that parental expectations may not be what differentiates boys from girls, but rather, boys may be more vulnerable to environmental disruptions and therefore react differently than girls to the same life circumstances (Crockenberg & Litman, 1991; Hoffman, Levy-Shiff & Ushpiz 1993). As noted earlier, it may be that boys may not be able to adjust as well as girls can, to nonmaternal care and to the demands of going to day care. Third, researchers propose that boys tend to be more active and less compliant than girls (Alvarez, 1985; Hoffman, 1984). Additional research is needed to determine what factors influence a mother's perception of her child. It is speculated that the level of activity and the type of behaviour exhibited will adversely

influence how a mother perceives her child and consequently these perceptions will lead to increased stress levels.

The research literature overwhelmingly demonstrates that boys are more active and aggressive than girls (e.g. Belsky, Lerner, & Spanier, 1984). However, what is unclear is whether temperament plays a role in the increased stress levels experienced by working mothers.

Child Temperament

Child temperament has not been studied extensively in conjunction with maternal employment, however it is a phenomenon that psychologists have been debating over for years. The first temperament theory recorded was proposed by Diamond in the late 1950's. Diamond's ideas were put forth in a text entitled Personality and Temperament (Diamond, 1957) and emphasized the constitutional origins of personality. He identified four temperaments shared by all primates, fearfulness, aggressiveness, affiliativeness, and impulsiveness. However he provided no evidence of these traits in humans nor did he introduce how these traits could be measured. Furthermore, the 1950's were dominated by environmental theories, and therefore Diamond's ideas were ignored and have not been further explored.

The definition of temperament that is currently employed by temperament researchers in this area has been defined by Allport (1961) as:

> the characteristic phenomena of an individual's emotional nature, including his susceptibility to emotional stimulation, his customary strength and speed of response, the quality of his prevailing mood, and all the peculiarities of fluctuation and intensity of mood, these phenomena being

regarded as dependent upon constitutional make-up and therefore largely hereditary in origin (p.34 as cited in Buss & Plomin, 1984).

Theories of Temperament

Three dominant theories of temperament have evolved since Diamond (1957) introduced his ideas. All three theories have adopted Allport's (1961) definition of temperament (Buss & Plomin, 1984). The first theory introduced after Diamond's was put forth by environmentalists. This perspective placed great emphasis on cultural influences, and dismissed the possibility of built-in tendencies and the relevance of animal behaviour for the understanding of human personality. Thomas and Chess (1963) were the founders of the second temperament theory known as the 'pediatric approach'. Their emphasis was on behavioral style, or what was termed the how of one's behaviour. The third temperament perspective was proposed by behavioral geneticists and combined elements of the two aforementioned theories. This perspective emphasizes the evolutionary heritage or what is known as inherited personality traits that appear early in life (Buss and Plomin, 1977).

Although researchers have studied temperament for decades, there is very little consensus concerning the nature of the concept (Goldsmith & Rieser-Danner, 1990). For instance, there is great debate as to the boundary of temperament. Specifically, there is disagreement as to which traits make up an individual's temperament. Another point of divergence is the dimensions researchers consider to be temperament. There is agreement that activity level and emotionality are traits associated with temperament, however no other dimensions have been agreed upon (Goldsmith & Rieser-Danner, 1990).

However, there are, some points of agreement among most temperament researchers. First, temperament is not a trait in itself, but rather a term which encompasses a group of related traits, such as irritability and activity level. The second

point of consensus among some researchers is that temperamental dimensions, such as activity level, reflect behavioral tendencies, rather than particular types of behaviour (Goldsmith & Rieser-Danner, 1990). For example, a difficult child may be very active, however difficult children will not all act in a typical manner, such as hitting another child. A third communality is the emphasis on the biological causes of temperament. Lastly, temperament researchers agree that temperament refers to individual differences rather than general characteristics of a particular specie (Goldsmith & Rieser-Danner, 1990).

Genetics

The origins of individual differences in childhood are not clear for temperament (Emde et al.,1992). The genetic model asserts that individual differences in temperament have genetic and prenatal environmental origins. It has been difficult to summarize genetic studies of temperament because many traits have been studied, with no standard measures (Emde et al.). Studies comparing identical and fraternal twins have found that across a wide range of temperament traits, including activity level, sociability and persistence, identical twins are more similar than fraternal twins across various age groups, suggesting that temperament is a hereditary or genetic trait (Buss et al. 1973; Campos, Caplovitz, Lamb, Goldsmith & Steinberg, 1983; Scarr & Kidd, 1983).

Buss and Plomin's (1975) original study of child temperament explored four temperament traits which met Allport's (1961) definition: emotionality (level of arousal), activity (amount of response output), sociability (tendency to approach others), and impulsivity (quickness of response). Their goal was to provide evidence that the four traits are heritable. Mothers of 127 white, same-sex twins (monozygotic and dizygotic) completed a temperament questionnaire about their children. There were significantly higher correlations for monozygotic (identical) twins than for dizygotic (fraternal) twins in all (emotionality, activity and sociability) but one comparison. The exception being for

impulsivity in girls, in which case the correlation was substantially higher for dizygotic twins, compared to the correlations for the fraternal twins, indicating that there was no genetic component for girls as measured by this study. A possible explanation for this finding as identified by the researchers was that mothers may have been more upset by their daughters' impulsive behaviour and tended to equate it with emotionality, while expecting and accepting impulsivity in their sons. The results of this study also demonstrated stronger hereditability for boys than for girls. Overall, Buss and Plomin's (1975) findings strongly suggest a genetic component in the four temperaments.

In a series of similar studies of temperamental differences of twins, Plomin, Willerman and Loehlin (1976) obtained ratings from parents on the emotionality, activity, sociability, and impulsivity traits (EASI) (Buss & Plomin, 1975). Their study of identical and fraternal twins revealed very high heritability for the EASI temperamental traits for the identical twins, once again providing evidence that genetics does play a role in determining temperament. In a longitudinal twin study of two-hundred pairs of twins, Emde et al. (1992) also found that individual differences among people were, in part, due to heritable influences, particularly for the temperament trait.

In an attempt to study infant temperament and genetics, Saudino and Eaton (1991) used parental ratings and motion detectors to study the motor activity level of sixty infant twin pairs. Motor activity was chosen as the unit of study because it had been found to be a core dimension of most temperament theories. For most variables examined (i.e. weight, height, parent-rated activity and motor development) the twins showed some degree of similarity. Furthermore, objective assessments revealed previous findings of genetic influences on a number of characteristics, including temperament. In particular, identical twins were significantly more similar than fraternal twins.

Although different scales were used to assess temperament across these various studies, there is agreement of an heredity effect.

Environment

Researchers who believe that temperament is strongly related to an individual's genetic makeup do not dismiss the value or contribution of environmental factors (Buss et al, 1973; Emde et al., 1992). Moreover, researchers have noted that the genetic differences may be an overestimation of true differences, and furthermore, suggest that heredity plays a modest role in the development of temperamental traits (Emde, et al. 1992). For instance, Scarr, Webber, Weinberg and Wittig (1981) administered a number of personality tests to almost two-hundred adolescents adopted during infancy and to their adoptive families. A control group of adolescents raised by their biological parents were also tested. Comparisons between the experimental and control groups revealed that heredity contributes very minimally to the temperament of individuals.

The Buss et al. (1973) study of the inheritance of temperament, as cited earlier, found that the four temperaments, emotionality, activity, sociability and impulsivity were highly heritable. However, the researchers also noted that environmental influences do operate by making twins more alike for all four temperament traits. For instance, environmental influences were found to act in opposition on the twins for the emotionality trait. In particular, the extreme case for impulsivity among boys was too great to be explained by genetics alone, strongly implying that socialization altered the data to some degree.

Age trends provide further evidence for the role of the environment. In the Buss et al. (1973) study, correlations for emotionality for both kinds of twins increased from early to later childhood, suggesting that environmental influences were pushing the twins to be similar. On the other hand, correlations for activity and sociability decreased from

early to late childhood, once again demonstrating that environmental influences were causing divergence between the twins.

Other studies suggest that environmental influences, including family influences, such as parental expectations and behaviour may also contribute to children's temperament. Alessandri and Lewis (1993) examined the evaluative behaviour of parents toward their young children and the relationship between parental evaluative comments and their children's emotional behaviour, specifically pride and shame. Thirty intact Caucasian families and their three-year-old children were videotaped during three problem-solving situations. The findings indicated that the more positive evaluative statements (i.e. "nice job") made by the parents, the less shame children exhibited. Likewise when parents used specific negative evaluations (i.e. "you're not good at puzzles"), both girls and boys manifested more shame, suggesting that environmental influences, in this particular case parental comments, do contribute to how children behave.

Hinde, Stevenson-Hinde et al. (1985) also reported that other influences such as sibling groups and age of the child were related to temperament of the children studied, suggesting a possible environmental influence. For instance, shy firstborns, unlike second-borns, tended to be seldom alone or with an adult. Similarly, Schachter and Stone (1985) examined differences between siblings as rated by their mothers, and found that first and second-born siblings were rated as opposites, despite the fact that they shared a similar genetic background. The authors noted that "genetics cannot explain previous or present findings on deidentification, at least so long as no one demonstrates that the first pair of children in the family is genetically more disparate than other pairs" (p.1342).

The nature-nurture phenomenon surfaces when examining temperament, as it does in other issues. Genetics appears to be a strong predictor of child temperament.

However, environmental circumstances also play an important role. It is not an either or situation, but rather a circumstance which is influenced by both genetics and environmental stimuli.

> One cannot assess the relative impact of heredity or environment in behavioral domains because everyone must have both a viable gene complement and an environment in which the genes can be expressed (Scarr & Weinberg, 1983, p.260).

Two Major Theories of Temperament

Currently two temperament theories dominate the field, Thomas and Chess' (1977) pediatric approach and Buss and Plomin's (1984) EAS theory. According to Thomas and Chess, temperament refers to the ***how*** of the behaviour. It concerns the ***way*** in which an individual behaves (i.e. quickly, aggressively, patiently). Thomas and Chess (1977) have equated temperament with the term ***behavioral style***. Simply phrased, temperament is the descriptor or adjective used to describe behaviour, while the term behaviour is related to a specific action.

Thomas and Chess (1977) contributed significantly to the study of temperament with the first systematic classification system of temperament. In a 1956 longitudinal study which took place over six years, known as the New York Longitudinal Study (NYLS), 141 children and their families were studied intensively. The children came from middle or upper-middle-class families whose parents were chiefly born in the United States. Eighty-five families were predominantly Jewish (78 percent), while the remainder were Catholic (seven percent) and Protestant (15 percent). The parents served as the primary source of data about their child's behaviour in infancy. As the children grew older, teacher interviews, various psychometric tests, direct observations of the children and interviews with them were conducted to collect additional data.

Thomas and Chess (1977) have defined nine categories of temperament: Activity, Rythmicity, Adaptability, Approach/withdrawal, Threshold, Intensity, Mood, Distractibility, and Persistence. Each category was scored by receiving a rating on a three-point scale, leading to three temperamentally different categories of children (Thomas & Chess, 1977). The first, identified as the "Easy Child" classifies a child who exhibits regularity, has a positive approach to new stimuli, is highly adaptable to change, and has mild to moderate intense moods that are predominantly positive (Thomas & Chess). The Easy Child quickly develops regular sleep and feeding schedules, enjoys most foods, smiles at strangers, adapts to new environments easily, accepts most frustrations with little fuss, and accepts the rules of new games without too much trouble. Overall, the Easy Child is usually a joy to his/her parents and teachers. Forty-percent of the NYLS sample were categorized under this heading.

At the other end of the temperament continuum is the child to whom Thomas and Chess (1977) refer as the "Difficult Child". The Difficult Child has irregular biological functions, exhibits negative responses to new stimuli, is slow to adapt to change, and has intense mood expressions which are frequently negative. This child has irregular sleep and feeding schedules, is slow to accept new foods, has prolonged adjustment periods to new routines, people, or situations, and displays frequent and loud periods of crying. Ten percent of the NYLS sample was identified as Difficult.

The third temperamental constellation falls somewhere in the middle of the temperament continuum, and has been identified as the Slow-To-Warm-Up Child. This child is characterized as having intense reactions, whether positive or negative, and better regularity of his/her biological functions, compared to the Difficult Child. During exposure to new stimuli, this child may exhibit mild responses. However, if provided with additional experiences, this youngster will gradually adapt and come to view

experiences with positive interest and involvement. Approximately 15 percent of children in the longitudinal study were labeled as Slow-To-Warm-Up.

Thomas and Chess (1977) developed two questionnaires. The first is known as the Parent Temperament Questionnaire For Children 3-7 years of age and the second is the Teacher Temperament Questionnaire For Children 3-7 years of age. Both have been used extensively by parents, teachers and pediatricians as a tool for assessing temperament in children. Numerous studies have also adopted these scales and as a result, it is highly standardized.

Other temperament scales have been developed within Thomas and Chess' (1977) framework. For instance, William Carey (1970, 1972) developed a short parent questionnaire entitled the Carey Questionnaire to assess temperament primarily during infancy. However, this instrument has been proven to be psychometrically inadequate on a number of grounds (Goldsmith & Rieser-Danner, 1990). Carey and McDevitt (1978) subsequently revised the Carey Questionnaire and it is now known as the Revised Infant Temperament Questionnaire (RITQ) and the Behavioral Style Questionnaire (BSQ).

Although Thomas and Chess' (1977) theory of temperament and scales have been widely used and are important in the evolution of the temperament literature, some very critical concerns have been raised about the validity of the nine dimensions and of the technique Thomas and Chess adopted when developing their scales. Specifically, the nine NYLS dimensions were originally defined from parental records of early infant behaviour and the fact that these same behaviours are used to determine temperament later in life assumes that the same dimensions are predictive in later developmental periods or that these dimensions are the best representatives of later temperament (Goldsmith & Rieser-Danner, 1990). Furthermore, studies have found that of the nine NYLS dimensions, only Attention Span/Persistence and Distractibility have emerged as clear, unequivocal factors

of temperament (Buss & Plomin, 1984). Buss and Plomin performed extensive factor analyses of the NYLS categories and found "no empirical basis for the nine distinct temperaments formulated by the NYLS group" (p.24) and as a result called into question the theoretical assumptions which underlie the NYLS approach.

Other problems have also been associated with the NYLS approach. The definition adopted by Thomas and Chess (1977) of temperament as behavioral style has been applicable to only some of the NYLS dimensions, such as Intensity. Categories such as Approach/Withdrawal are actually descriptions of the content behaviour (Goldsmith & Rieser-Danner, 1990). "Another problem is that the use of categories to describe general patterns of temperament results in a loss of valuable information" (Goldsmith & Rieser-Danner, p.254).

Buss and Plomin (1977/1984) have also done extensive work done in the area of temperament. However, their approach to the study is based upon inherited personality traits that appear within the first year of life and remain stable over time. Buss and Plomin's current temperament theory (1984) consists of three categories of temperament, unlike the nine identified by Thomas and Chess (1977). They are: emotionality, activity, and sociability (EAS). Emotionality is defined as strong arousal in response to environmental stimuli, such as distress in early infancy and fear and anger during the first years of life (Goldsmith & Rieser-Danner, 1990). Activity is the preferred level of activity and its temp, while sociability is identified as the preference for being with others (Goldsmith & Rieser-Danner). The original scale, known as EASI, was modified by dropping the impulsivity scale after Buss and Plomin reviewed the evidence on the inheritance of impulsivity and concluded that it was mixed. Furthermore, the multiple components of impulsivity posed a serious problem in identifying exactly what it is. Based on their 1984 definition of temperament, Buss and Plomin expressed concern about

accepting impulsivity as a temperament and therefore dropped impulsivity from their temperament scale.

In an attempt to assess the relationship between the Thomas and Chess' (1977) temperaments with the EASI temperaments (Buss & Plomin, 1975), Rowe and Plomin (1977) statistically assessed each scale separately and mutually. Six items were devised to tap each of the nine temperaments suggested by the NYLS. The twenty items of the short form of the EASI Temperament Survey (Buss & Plomin, 1975) were combined randomly with questions from the NYLS survey to create a questionnaire with 74 items. The items were rated from 1 ("not at all like the child") to 5 ("a lot like the child"). Ninety-one mothers of twins completed the questionnaire for each child. Seven interpretable factors emerged from the NYLS items: reaction to food, attention span-persistence, sociability, stubbornness, sleep rhythmicity, reactivity, and soothability. They accounted for 63 percent of the common variance and 40 percent of the total variance. The analysis also revealed that the approach-withdrawal adaptability, and threshold-of-responsiveness temperaments of the NYLS survey are not factorially distinct. However, it is important to note that the researchers did not use the original scale, as they did with the EASI, but rather devised a modified NYLS scale. This alteration may be partially responsible for their findings.

Rowe and Plomin (1977) conducted a series of additional analyses. With respect to the EASI items, each of the twenty items was analyzed separately. The four factors accounted for 93 percent of the common variance and 53 percent of the total variance, indicating that the EASI temperaments are factorially distinct. Correlations between the NYLS items and the EASI items were also performed. Overall, the two systems shared considerable variance. For example, emotionality in the EASI scale related to reaction to food, stubbornness, reactivity, and soothability in the NYLS scale. Impulsivity on the EASI scale correlated with attention span/persistence, stubbornness, reactivity, and

soothability in the NYLS scale. The two scales were unique to their individual scales with respect to activity in the EASI scale and sleep rhythmicity in the NYLS scale.

Rowe and Plomin (1977) further analyzed each temperament trait of the NYLS and EASI scales to determine joint categories and from this analysis developed the Colorado Childhood Temperament Inventory. Six factors emerged from both scales and constitute the new scale: sociability, emotionality, activity, attention span, reaction to food and soothability. The six factors accounted for 56 percent of the common variance and 36 percent of the total variance.

Research indicates that the EAS scale for assessing temperament is a sound psychometric tool available to temperament researchers (Goldsmith & Rieser-Danner, 1990). Although Buss and Plomin (1984) placed great emphasis on role of genetics, they did not dismiss environmental influences. Furthermore, the three elements of their scale, namely emotionality, arousal, and sociability have been extensively defined, evaluated and validated. Moreover, the three elements consistently fit the criteria outlined by Buss and Plomin (1985) specifically early appearance, genetic influence, and stability.

Studies of child temperament have chiefly focused on the reports of parents. These studies have been criticized for their subjective ratings and biases (Thomas, Chess & Korn, 1982; Saudino & Eaton, 1991). For instance, in the Saudino and Eaton study of the role of genetics, parental ratings were compared to objective measures of each child's behaviour. The results indicated some bias on the part of parents. Hinde, Stevenson-Hinde and Tamplin (1985) assesed the behaviour characteristics of three- to four-year-old children. Behavioral style, usually referred to as temperamental characteristics (Hinde et al.; Thomas & Chess, 1977) was assessed in the children's home and preschool. The semi-structured parental interviews assessed each child's behavioral style as categorized by Thomas and Chess. These results demonstrated that child characteristics assessed from

maternal interviews were associated with maternal mood scores. Although studies have shown that parental ratings are subjective evaluations of children's behaviours, a greater problem arises when one considers adopting another assessment procedure. That is, beyond the toddler stage, only questionnaire and interview techniques have been constructed to assess child temperament. The most viable solution is to recommended to investigators and evaluators of research to "be prepared to accept the likelihood that caregiver characteristics influence temperament reports to some degree" (Goldsmith & Rieser-Danner, 1990, p. 248).

In an attempt to overcome some of the biases associated with parental ratings, researchers have utilized teacher ratings to assess children's temperament (e.g. Mobley & Pullis, 1991; Thomas & Chess, 1977; Buss & Plomin, 1984). Using a short form of the Teacher Temperament Questionnaire originally developed by Thomas and Chess (1977), preschool teachers assessed each child. Other scales were also used (e.g. Rochester Adaptive Behavioral Inventory) to assess behaviour and socialization problems. The results of this study indicated that teacher ratings were closely related to child temperament characteristics, suggesting that teacher ratings may provide an objective means of assessing temperament. Two rationales may account for this finding. First, it may be due to the fact that educators have experience with many children and that these interactions and experiences provide them with realistic expectations of children, whereas parents have limited exposure to a variety of children. Second, the emotional space educators have from the children, unlike parents, may prevent their judgment from being clouded. This is not to say that teachers are emotionless, but rather that they are able to make observations and judgments without being emotionally tied to the children, as parents are likely to be. However, it is a well known fact that not all behaviours occur in the preschool and therefore, teacher ratings are limited to the behaviours observed in the preschools.

Numerous studies have utilized and compared parent and teacher temperament ratings. Jewuwan, Lester and Kostelnik (1993) set out to examine the relationship between parental perceptions of temperament and children's adjustment to preschool, as well as the similarities between parent perceptions and teacher perceptions of children's temperament. Parents and teachers completed the Colorado Childhood Temperament Inventory (CCTI) developed by Rowe and Plomin (1977). Pearson correlations revealed some degree of correspondence among the ratings of teachers, mothers and fathers on three of the five scales (sociability, emotionality, and activity level). There was a modest correlation between mothers' ratings of soothability and teachers' ratings. Both mothers and fathers rated their children similarly on attention span/persistence. However, neither parent's score was correlated with the teacher's assessment of attention span/persistence, which could be the consequence of the teacher having to attend to numerous children, whereas parents only attend to one or a few children, depending on the size of their family.

Hinde, Stevenson-Hinde et al. (1985) also correlated parent and teacher ratings of children using observations and semi-structured interviews at home and school, and later classified the behaviours according to Thomas and Chess' (1977) framework. Their findings suggest that parents and teachers can be objective evaluators. Thomas, Chess and Korn (1982) reported modest correlations between parent reports of child temperament and observed ratings, however the researchers felt that the correlations could be increased with the aid of questionnaires or interviews emphasizing descriptors and ratings of specific objective behaviour.

Field and Greenberg (1982) explored temperament ratings by parents and teachers of infants, toddlers and preschool children. Using a number of scales, including the Revised Infant Temperament Questionnaire (Carey & McDevitt, 1978), the Toddler Temperament Scale (Fullard, McDevitt, & Carey, 1979) and the Behavioral Style Questionnaire (McDevitt & Carey, 1978) parents and teachers assessed sixteen infants and

33 toddlers/preschools. There were significant correlations and significant interrater coefficients both within and across temperament dimensions. Convergence of parent and teacher ratings were greater at the toddler/preschool stage than during infancy. Although the sample size was relatively small in this study, it does provide support for previous findings that contend that parent and teacher ratings are useful tools of assessment.

Billman and McDevitt (1980) compared parent and observer ratings of temperament with their observations of the children. Assessment tools included observations of peer interactions in the nursery school along with parent ratings on the Behavioral Style Questionnaire (McDevitt & Carey, 1978) and teacher ratings on the Teacher Temperament Questionnaire for 3-7-year-olds (Thomas & Chess, 1977). They found significant agreement among parents and teacher ratings of temperament. Interestingly, the authors acknowledged that although moderate to high correlations should be expected among the home and school environments, the agreements should not be expected to approach unity, particularly if the concept of child-environment is to have any significance. Variation in settings should be expected and therefore identical behavior should not be anticipated. What is critical is that the similarity in temperamental characteristics is enough to justify the use of the concept in explaining behaviour in both settings.

It is critical to keep in mind that assessment tools, such as Buss and Plomin's (1984) scale are generally completed by non-trained individuals, and therefore the perceptions and experiences of the raters will greatly influence the way they rate the child. Although this does pose some problems in terms of objectivity, valuable information can be derived from such tools. For example, these scales can greatly aid studies that examine caregiver issues, such as maternal stress. A person who perceives his/her child to be difficult to handle will more than likely experience more stress than another person who perceives the same child to be easy, irrespective of the actual temperament of the child.

The study of child temperament is currently limited to parent and teacher questionnaires (Goldsmith & Rieser-Danner, 1990). Although biases do result, these instruments provide valuable information pertaining to the study of temperament. In exploring the reasons why mothers are stressed, it is valuable to probe child characteristics such as child gender and child temperament for probable rationales.

Summary

The ecological perspective of development examines maternal employment by taking into account all of the systems influencing families. This model provides a comprehensive view of the systems functioning on the working mother, namely the workplace, day care, home and child(ren).

The dramatic increase of women in the work force since the Second World War, has not witnessed a proportionate decrease in the roles and responsibilities originally fulfilled by homemakers, such as household chores and child care. These continue to be the responsibility of the working mother. While there is some evidence that men are starting to take on some of the roles originally deemed as women's work, most women bear the majority of the responsibilities of home, while also fulfilling the demands of a career. These responsibilities are very demanding and often lead to role strain or role conflict.

The consequence of role conflict is stress. In many cases stress is exhibited negatively in the form of decreased physical and mental well-being. In today's society, the demands of work and family in addition to child characteristics, specifically child gender and temperament can exacerbate or diminish the stress faced by employed mothers. Furthermore, certain daily routines of a working mother who utilizes day care may also be related to the increased stress levels she experiences. An understanding and appreciation of the numerous demands placed upon women and the relationship between these

variables may provide educators and employers with a better understanding of the demands of parenting a child, while being employed full-time. This increased knowledge may lead to more flexible work schedules and may result in more realistic expectations among all parties concerned.

Present Study

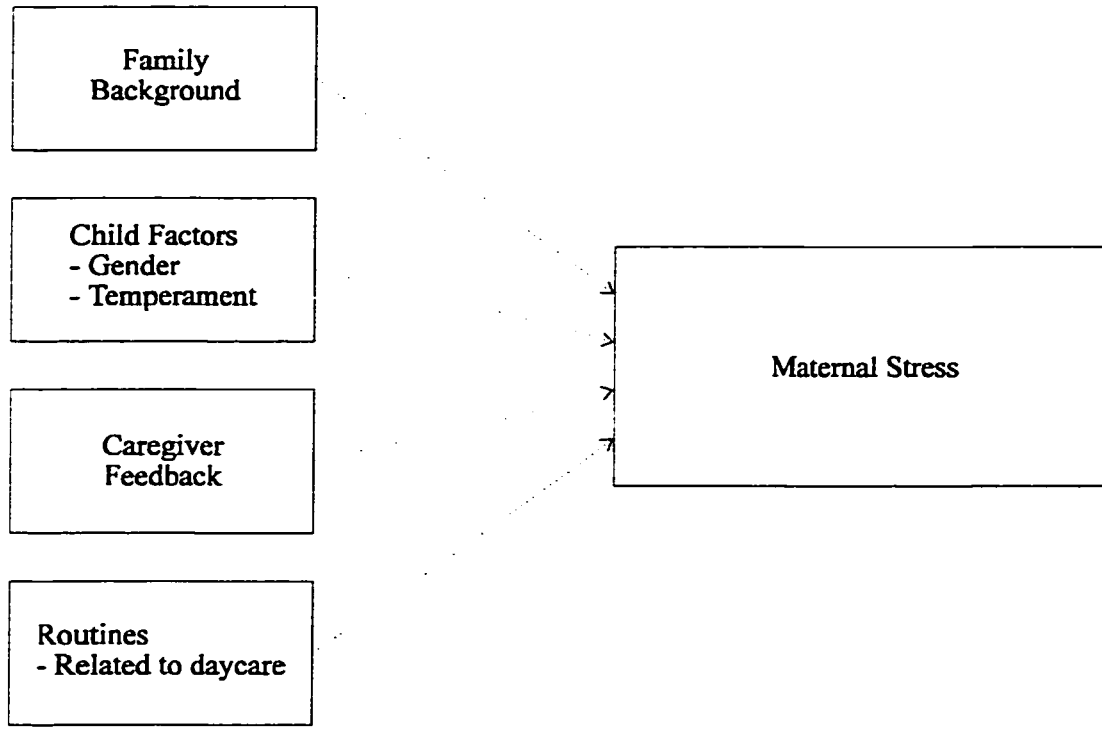
The purpose of the present study was to explore the relationship between maternal stress, child gender and temperament, and the daily routines of working mothers. Figure 3. provides an overview of the variables that were investigated.

The study examined two child factors in particular: gender and temperament, and how they were related to maternal stress. The stress experienced by a working mother may be related to the characteristics of her child, as was detected by LeMesurier (1995). LeMesurier was unable to determine the reasons why the mothers of boys in her sample experienced greater levels of stress compared to the mothers of girls. Examination of LeMesurier's work suggests that a working mother with a child in day care may possibly be stressed because of the difficulty she experiences in scheduling all of the daily rituals and routines associated with having a child in day care. Moreover, Hellstrom's (1994) findings, which surveyed the same sample, found educators to rate the boys as more aggressive than they rated girls, which suggests that these mothers of boys may have heard more negative comments from their child's educator, compared to mothers of girls. This may have been related to their higher stress levels.

In an attempt to explore these issues, this study examined the relationship between:

1. Mother's stress level and child gender.
2. Mother's stress level and child temperament.
3. The daily routines of working mothers and their stress level.
4. The daily routines of a working mother and her child's gender.
5. The daily routines of a working mother and her child's temperament.

Figure 3. Variables under investigation which may relate to maternal stress levels.



Method

Subjects

The sample for this study included fifty-seven working mothers who utilized either corporate (n=42) or community (n=15) day care centres in the greater metropolitan Montreal and Toronto areas. These parents came from twelve centres in the two cities. Their children ranged in age from three to five years, with a mean age of 52 months. There were thirty-four boys and twenty-three girls in this study.

Procedure

Initially the directors of community and corporate day care centres in the greater metropolitan Montreal and Toronto areas were contacted by telephone and provided with a description of the study. Directors who indicated a willingness to participate were sent a letter detailing the study and their role in this study, namely to distribute parent letters and packages and to have the teachers complete one questionnaire for each participating child (APPENDIX A). In addition to the letter to the director, envelops containing letters and consent forms for parents were also enclosed in the package to the directors. The letter to the directors asked them to distribute the letters and consent forms to the parents of three to five year-old children. The letter to the parents described the study and detailed participation requirements. Those parents who indicated an interest in participating completed the consent form (APPENDIX A).

After receiving the signed consent forms from interested mothers, a unique three digit subject identification number was assigned to each participant. Each mother was then sent a parent package containing the three parent questionnaires, via the day care directors. Each package contained the EAS Temperament Survey for Children: Parental Ratings (Buss & Plomin, 1984) (APPENDIX B), the Parental Stress Index (Abidin, 1986)

(APPENDIX C), and the Going to Day care and Getting Home Survey developed by Jacobs and Jiwa (1996) (APPENDIX D).

Teachers of children whose mothers had indicated a willingness to participate received a teacher package. They were asked to complete one questionnaire (EAS Temperament Survey for Children: Teacher Ratings, Buss & Plomin, 1984) (APPENDIX C) pertaining to each child in the study.

Demographic Information

All fifty-seven parents completed the three questionnaires and were interviewed by telephone by the author to collect information pertaining to each family's demographics, their child's day care history, and to explore some of the issues that arise as a result of being a working mother. The complete interview schedule can be found in APPENDIX E. Table 1a provides a summary of the descriptive statistics for the total sample, and Table 1b provides a summary of the descriptive statistics for the Montreal and Toronto samples. Table 2 provides a summary of the frequency statistics for the total sample.

Table 1a

Descriptive Statistics for Total Sample

Variable	M	SD	Range	M (boys)	M (gir
Age in months	52.01	9.34	36-67	52.62	51.2
Age of first group experience	13.23	9.57	3-40	14.91	10.7
Duration of first experience	28.68	15.99	1-60	27.74	30.0
Number of child care changes	0.60	0.90	0-3	0.56	0.65
Number of months in present setting	29.68	15.00	4-60	30.47	28.5
Number of hours in present setting	35.93	7.58	16-40	35.77	36.1
Socio-economic Status	52.58	11.74	22-66	50.85	55.1

Table 1b

Breakdown of Descriptive Statistics for Montreal and Toronto

Variable	M	SD	Range	Montreal (n=46)	Toront (n=11
Age in months	52.01	9.34	36-67	51.53	52.26
Age of first group experience	13.23	9.57	3-40	14.91	13.56
Duration of first experience	28.68	15.99	1-60	28.70	28.20
Number of child care changes	0.60	0.90	0-3	0.62	0.61
Number of months in present setting	29.68	15.00	4-60	29.85	29.20
Number of hours in present setting	35.93	7.58	16-40	36.20	35.98
Socio-economic Status	52.58	11.74	22-66	52.40	53.01

Table 2

Frequency Statistics for Total Sample

Variable	Boys	Girls
Number of siblings		
0	10	10
1	20	13
2	3	0
3	1	0
Number of siblings in same day care		
0 or not applicable	21	18
1	13	5
Marital status of mother		
Married	25	18
Separated	3	1
Divorce	6	4
Household income		
Single	8	5
Double	26	18
Mother's occupation		
Clerical	4	2
Technical	1	2
Minor Professional	8	5
Administration	7	1
Major Professional	10	13
Mother's highest level of education completed		
High school	3	0
College	6	4
Undergraduate	18	12
Graduate	7	7
Reason mother returned to work		
Financial	18	11
To keep job	2	3
To pursue career	7	3
Enjoy working	3	6
Not a stay at home mom	2	0

Approximately seventy-five percent of the mothers in this sample were either married or lived in a common-law situation with two paychecks coming into the household. The remaining twenty-five percent were single income families as a result of parents being either separated (seven percent) or divorced (eighteen percent). The socio-economic status was calculated using the Hollingshead Four Factor Index (Hollingshead, 1975) (APPENDIX G), which takes into account maternal education and employment, and if applicable paternal education and employment. The mean socio-economic status was calculated to be 52.58, out of a possible high score of 66. Families of girls (M=55.13) had a socio-economic status of approximately five points higher than families of boys (M=50.85).

Over eighty-eight percent of the mothers surveyed indicated that their child had started day care by two-years of age (Table 3). Boys (M=14.91) started day care an average of four months later than girls (M=10.74) (Table 1). Approximately sixty-one percent (n=35) of the children had only been in one day care, while the remaining thirty-nine percent (n=22) changed day care arrangements up to three times. Seventy-five percent of the sample were in day care for about forty hours a week, while the remaining children were in day care for sixteen hours (n=3), twenty-four hours (n=9) and thirty-two hours a week (n=2).

Table 3

Age at First Group Experience

Age	n	%
0-6 months	18	32%
7-12 months	18	32%
13-18 months	8	14%
19-24 months	6	10%
25-36 months	6	10%
40 months	1	2%

Sixty-five percent (n=37) of the children in this study had siblings (Table 2). Fifty-eight percent (n=33) had one sibling, five-percent had two siblings (n=3) and one child had more than two siblings. Almost fifty percent of these siblings attended the same day care as the child in question.

Of the forty-four fathers for whom data were collected (thirteen families did not have a father/spouse living in the same household), over fifty-six percent had at least some undergraduate training, with twenty-six percent having a graduate degree. Approximately fifty-six percent of fathers held either technical, minor professional, administrative or major professional employment positions. Ninety-five percent of mothers had some form of post-secondary education. Specifically, eighteen-percent had least a college education, fifty-two percent had attained an undergraduate degree, while twenty-five percent had a graduate school degree. Mothers were chiefly employed in either a minor professional position (22.8%), an administrative position (14.0%), or a major professional position (40.4%). Over seventy-five percent of the sample was English speaking, while eleven-percent of the sample was French speaking, and more than eight percent were bilingual.

Measures

Parenting Stress Index (Abidin, 1986 APPENDIX C)

Maternal stress was assessed using the Parenting Stress Index (Abidin, 1986). The survey consisted of 101 Likert-type questions for which parents responded on a 5-point scale ranging from 1 (strongly disagree) through to 5 (strongly agree). This questionnaire was designed with many of the items in reverse direction, for the purpose of disrupting acquiescence response sets. These questions addressed a number of issues that focused on issues related to parenting, including parental feelings, expectations of parenthood,

relationships and changes experienced by the parent since having a child, and other related topics.

Once data from the survey were collected, the 101 questions were collapsed into two groups, a Child Domain and a Parent Domain. The Child Domain consisted of six subgroups: 'Adaptability' (e.g. My child gets upset easily over the smallest things), 'Acceptability' (e.g. My child is not able to do as much as I expected), 'Demandingness' (e.g. My child is always hanging on to me), 'Mood' (e.g. My child generally wakes up in a bad mood), 'Distractibility/hyperactivity' (e.g. My child is so active that it exhausts me) and 'Reinforces parent' (My child smiles at me much less than I expected).

The Parent Domain is composed of seven sub-groups. 'Depression' was made up of nine items and included questions such as, 'There are quite a few things that bother me about my life'. 'Attachment' was composed of seven questions, such as 'Sometimes my child does things that bother me just to be mean', and thirteen items made up the 'Restrictions of role' category which requested parental responses to comments such as 'Most of my life is spent doing things for my child'. The four remaining categories were 'Sense of competence' (e.g. I can't make decisions without help), 'Social isolation' (e.g. I feel alone and without friends), 'Relationship with spouse' (e.g. Since having my last child, I have had less interest in sex) and 'Parent health' (Physically, I feel good most of the time).

The total Parental Stress Score was calculated by adding all of the items in both the Child and Parent domains. Abidin (1986) computed reliability scores for each subscale, each domain, and the total score based on a sample of thirty mothers drawn from the normative sample. The PSI was re-administered within a three month interval. Pearson correlations for the Child Domain were .63 and .91 for the Parent Domain. The

correlation for the Total score was .96, demonstrating good stability of scores for this time period.

The alpha coefficients for the subscales of the Child Domain ranged from .62 to .70 and .55 to .80 for the categories within the Parent Domain. High reliability coefficients (.89 and .93 for the Child and Parent Domains respectively) were calculated, thereby suggesting high internal consistency.

Abidin (1990) included clinical interpretations for the Total Stress Score, the Child and Parent Domain scores, as well as interpretations of high scores for each of the subscores in both the Child and Parent domains. Examples of different family situations (e.g. hyperactive child, abused child) were also detailed. Recommendations for intervention were also provided in the manual.

Going to Day Care and Getting Home (Jacobs & Jiwa, 1996, APPENDIX D)

The Going to Day Care and Getting Home survey was developed after examining LeMesurier's (1995) and Hellstrom's (1994) sample and findings. LeMesurier's study investigating the relationship between type of day care arrangement and maternal stress, maternal guilt and maternal separation anxiety, noted that scheduling all of the necessary routines into the day of a working mother with a child in day care was difficult for the mothers. Hellstrom's study using the same sample as LeMesurier, noted that educators rated boys as significantly more aggressive than they rated girls, which suggested that the mothers of boys may have received more negative feedback from the educators, than the mothers of girls, which may also be related to their higher stress levels. Furthermore, discussions with parents suggested that the type of feedback parents received from educators could be related to their elevated stress levels.

In an attempt to better understand what contributed to these inflated stress levels, the Going to Day Care and Getting Home (1996) survey was developed. Examination of the literature and discussions with parents and child care workers provided the basic elements of the scale. Two similar forms of the questionnaire were developed, one for parents who traveled by car and the other for parents who used public transportation.

This questionnaire took approximately five minutes to complete. Twenty questions made up this Likert-type scale which asked the participants to rate each aspect of their day care related routine on a scale of 1 (very easy) to 6 (very difficult). Parents rated events such as 'Getting the child to eat breakfast', 'Traveling to the day care' and 'Getting the child to leave the day care'. Four additional questions at the end of the survey asked parents about their contact with their child's educator. Specifically, parents were asked about who initiated the contact (parent or teacher), the frequency of the contact, and how often the educator's comments about the child were positive and negative.

EAS Temperament Scales, Buss & Plomin, 1984 (APPENDIX B)

The present study set out to determine if child temperament played a role in the increased levels of stress experienced by working mothers (LeMesurier, 1995). The philosophy adopted by a researcher will inevitably determine the scale(s) he/she selects when studying temperament (Goldsmith & Rieser-Danner, 1990). Goldsmith & Rieser-Danner provide a succinct overview of how to select a scale, measurement issues and other related topics concerning the assessment of temperament. They guide the reader in selecting an appropriate assessment tool, taking into consideration the age of the children under investigation, the availability of time, the data collection technique and the philosophy adopted by the researcher.

Consideration of the aforementioned factors lead to the selection of Buss and Plomin's (1984) EAS scales for this study. Specifically, their tool has been widely

standardized, has been supported with empirical evidence, is more general and easier to administer because of its short length (Goldsmith & Rieser-Danner, 1990), and consists of a teacher scale which corresponds to the parent scale. Two forms of the EAS scales were employed in the current study, both the parent and teacher versions. Buss and Plomin based their philosophy upon three premises, early appearance, heritability and stability over time. The acronym EAS represents emotionality, activity, and sociability/shyness. Initially their scale was entitled EASI, but after extensive research and review of the data, little evidence existed which showed impulsivity to be heritable trait, a basic assumption of Buss and Plomin's philosophy. Furthermore, "the multiple components of impulsivity pose a serious problem in stating precisely what this trait is" (p. 87). Therefore, the authors dropped Impulsivity from their scale.

In the original scale, sociability and shyness were combined into one category, labeled as sociability. However, Buss and Plomin (1984) found evidence that the two categories were independent. They defined sociability as "the tendency to affiliate with others and to prefer being with others" (p. 77), while shyness "refers to one's behavior when with people who are casual acquaintances or strangers" (p. 77). As a result, their current scale contains both a shyness and sociability category.

Both the parent and teacher versions of the scale consisted of twenty Likert-type questions which each parent and educator responded to on a 5-point scale ranging from 1 (not characteristic or typical of the child) to 5 (very characteristic or typical of the child). The twenty questions probed each of the four specific factors: emotionality (e.g. child cries easily), activity (e.g. child is very energetic), sociability (e.g. child likes to be with people) and shyness (e.g. child tends to be shy). As was in the PSI, some of the questions in both forms were reversed for the purpose of disrupting acquiescence response sets.

Buss and Plomin (1984) performed test-retest reliability calculations for thirty-one children with the average age of 3.6 years. Correlations after a one week interval were .72 for emotionality, .80 for activity, and .58 for sociability/shyness. Buss and Plomin considered the first two to be adequate, but raised questions as to the stability of the sociability/shyness scales. The three scales were also intercorrelated for 182 children ranging in age from one to nine years.

Working Mothers Demographic Questionnaire (Jacobs & Jiwa, 1996) (APPENDIX E)

The Working Mothers Demographic Questionnaire was a modified interview schedule which was adapted from Jacobs' (1989) Background Information Questionnaire, that was developed in order to collect demographic information about families and data about their child care history. In addition, the Working Mothers Demographic Questionnaire probed issues related to being a working mother. Specifically mothers were questioned about the reason they returned to the labour force, what they liked and disliked about their job, about the most stressful aspect of their day, about the most enjoyable aspect of their day, and about their child's response to being in day care.

Working Mothers Demographic Questionnaire was administered over the telephone and took approximately ten minutes. For the present study, ten test-retest interviews were conducted. Test-retest correlations were calculated to be over ninety-five percent. All responses were reviewed and coded. A sample of the Working Mothers Demographic Questionnaire is located in APPENDIX E.

Hollingshead Four Factor Index (Hollingshead, 1975, APPENDIX F)

Socioeconomic status was computed for each subject based on information derived from the Working Mothers Demographic Questionnaire (Jacobs & Jiwa, 1996) using the Hollingshead Four Factor Index (Hollingshead, 1975). The index takes into account four

factors in order to calculate socioeconomic status, maternal education, maternal employment, paternal education and lastly paternal employment. APPENDIX F details how socioeconomic status is calculated. The scale is easily modified to calculate the socioeconomic status for families in which paternal information (or maternal) is unavailable. This scale was initially devised by taking into consideration the educational system in the United States, however it has been appropriately modified for use in Canadian studies.

RESULTS

Parental Stress Index

Fifty-seven working mothers of three to five-year-old children participated in this study. The study was designed to examine a number of issues related to being a working mother with a child in day care. Specifically, the study examined whether the roles and responsibilities of a working mother, the daily routine of a working mother, child temperament, and child gender, were related to the stress a working mother experiences. Maternal stress was assessed using the Parental Stress Index (Abidin, 1984). Results of the two domains and the Total Stress Scale are detailed in Table 4. Overall parental stress scores fell within the normal range in all three scales. Abidin has defined the normal range of scores for the Total Scale to be between 180 and 245, for the Child Domain a high score would be anything above 122, and in the Parent Domain a high score would be a score of 153 or higher.

Parents of both girls and boys in the present study were found to rate high on the subscale 'Child Reinforces Parent' ($\underline{M}$=12.39). Abidin (1984) reports a high score in this subscale to be above 12. Table 5 breaks down the mean scores for mothers of boys and girls on each of the PSI categories. Analyses were conducted between the variable gender and the Child Domain subscale 'Child Reinforces Parent', which was found to be a high score. No significant differences were found between the boys and girls on this variable.

Single mothers (divorced or separated) were compared to married mothers on all three PSI dimensions. No significant differences were evident on the Child or Parent Domain or on the Total PSI score. A series of one-way analyses were performed to determine whether the stress levels of mothers significantly differed depending on whether they utilized corporate (n=45) day care facilities or community (n=12) type services. Once again, no significant differences emerged.

Table 4

Summary of Parental Stress Index Findings

Child Domain			Parent Domain		
Category	M	SD	Category	M	SD
Adaptability	26.30	4.03	Attachment	14.18	3.01
Mood	10.49	1.94	Restrictions of Role	17.88	4.39
Reinforces Parent	12.39[a]	2.34	Depression	18.79	5.43
Distractibility	23.32	5.33	Relationship to Spouse	18.42	4.90
Acceptability	11.33	3.28	Social Isolation	13.25	3.96
Demandingness	23.18	3.38	Parent Health	13.77	2.04
			Sense of Competence	24.53	3.88
Total	107.00	14.85	Total	120.81	19.17
Total PSI Score	227.81	30.16			

[a] A high score as identified by Abidin (1990)

Table 5

Breakdown of Parental Stress Index Findings for Boys and Girls

Category	M (boys)	M (girls)
Child Domain		
Adaptability	26.35	26.22
Mood	10.26	10.82
Reinforces Parent	12.41[a]	12.35[a]
Distractibility/Hyperactivity	23.18	23.52
Acceptability	11.53	11.04
Demandingness	22.85	23.65
Parent Domain		
Attachment	14.73	13.35
Restrictions of Role	18.38	17.13
Depression	19.91	17.13
Relationship to Spouse	18.96	17.91
Social Isolation	13.26	13.21
Parent Health	13.26	14.52
Sense of Competence	25.35	23.30
Total	106.59	107.61
Total PSI Score	230.27	224.17

[a] A high score as identified by Abidin (1990)

Working Mothers Demographic Survey

In an attempt to ascertain potential sources of stress, two data collecting techniques were used. Firstly, mothers were directly asked in the telephone interview about a number of issues that related to being a working mother, and specifically about the sources of stress in their life. Table 6 provides the results of the main questions posed.

It was anticipated that the reason working mothers chose to return to the work force after the birth of their child may be related to heighten stress levels. In an attempt to ascertain the motivation for their return, mothers were simply asked about why they returned to work after the birth of their child. Approximately fifty-one percent of mothers indicated that they did so for financial reasons. Eighteen-percent of working mothers returned to their job in order to pursue their career, and almost sixteen-percent indicated they returned because they enjoyed their work. Seven-percent of mothers returned in order to keep their job.

A one-way ANOVA was conducted to ascertain whether there was a significant difference between any of the reasons mothers provided and any of the three PSI variables (Child and Parent domain and Total PSI score). Table 7 shows the result of this analysis.

The findings indicated that indeed at least one significant difference existed between the reasons mothers provided and each of the three PSI scores. However, these analyses did not highlight where the difference(s) existed. Post-hoc multiple comparisons were then conducted to determine which response or sets of responses were significantly different. The analysis did not reveal any specific significant differences, perhaps because cell sizes were too small.

Table 6

Working Mothers Demographic Survey Findings

Issue	n	%
The reason mother returned to work		
Financial	29	50.9
To keep job	5	8.8
To pursue her career	10	17.5
Mother enjoys working	9	15.8
Other	4	7.1
Total	57	100.0
What mother likes about her job.		
The work	25	43.9
The flexibility	10	17.5
The people	14	24.6
Other	8	14
Total	57	100.0
What mother dislikes about her job		
The hours	19	33.3
The stress	5	8.8
Work-related issues	7	12.3
Office politics	4	7.0
The people	3	5.3
Nothing Specific	13	22.8
Other	6	10.5
Total	100	100.0

The most stressful aspect of the day		
The morning routine	22	38.6
Arriving late	3	5.3
Job related issues	10	17.5
Dinner Time	13	22.8
Juggling roles	4	7.0
Other	5	8.8
Total	57	100.0
The most enjoyable aspect of the day		
Picking up child	19	33.3
Time with the family	23	40.4
Work	5	8.8
Being with people	6	10.5
Other	4	7.0
Total	100	100.0
Feelings about working		
Enjoys it	33	57.8
Prefers part-time work	14	24.6
Prefers being at home	5	8.8
Mixed feelings	3	5.3
Other	2	3.5
Total	57	100.0

Table 7

One-way Analyses of Variance Between the Reasons Mothers Returned to Work and Three PSI Scores

Source	Sum of Squares	df	Mean Square	F	p
Total for Parent Domain by Reason					
Between Groups	4273.53	5	854.71		
				2.64	.03*
Within Groups	16176.47	50	323.53		
Total for Child Domain by Reason					
Between Groups	2951.75	5	590.35		
				3.28	.01*
Within Groups	8997.11	50	179.94		
Total PSI Score by Reason					
Between Groups	11667.62	5	2333.52		
				2.97	.02*
Within Groups	39191.24	50	783.82		

* $p < .05$

Therefore, further analyses were conducted by collapsing the rationales provided by the mothers into two distinct groups, those mothers who returned to work for financial reasons (i.e. needed income, to keep job) and mothers who returned for professional reasons (i.e. pursue career, enjoyed working, not a stay at home mother). Fifty-six of the fifty-seven mothers fit into one of these two categories. The one parent who returned because of both financial and professional reasons was not included in this particular analyses. Once again one-way ANOVAs were conducted between the two general reasons why parents returned to work and three PSI scores, to determine whether mothers who returned to work for professional reasons were significantly different on any of the three PSI scores, from mothers who returned for financial reasons. The analyses revealed no significant differences between the two groups on any of the PSI scores.

The Working Mothers Demographic Survey also probed a series of issues related to the feelings mothers had about working. Almost sixty-percent of the mothers indicated that they enjoyed working outside of their home. Twenty-five percent of the mothers surveyed indicated that they would prefer part-time work, while almost nine-percent wanted to be at home full-time. Five-percent of mothers had mixed feelings about working, while four-percent felt that working was a nice break.

When asked about their likes and dislikes about working, forty-four percent of the parents sampled indicated that they enjoyed the work they were involved in, while eighteen-percent appreciated the flexibility of their jobs. Almost twenty-five percent of mothers enjoyed working because of the people they had to deal with on a daily basis. With respect to their dislikes, one-third of the sample mentioned the hours they worked. Twelve percent of mothers did not like the office politics and five percent did not like the people they had to deal with on a daily basis. About twenty-three percent of mothers did not have any complaints about their jobs.

During the telephone interview mothers were also questioned about what they found to be the most stressful aspect of their day and what they found to be the most enjoyable. Almost forty-percent of mothers responded that the morning routine with their child was the most stressful part of their day and twenty-three percent of mothers indicated that dinner time, especially making supper, was stressful. Eighteen percent of mothers experienced stress as a result of their job. When questioned about the most enjoyable aspect of their day, almost seventy-four percent of the mothers looked forward to picking up their child at the end of the day (n=19) or spending time with the family (n=23). The remaining mothers enjoyed working (n=5), being alone (n=3), being with people (n=6), and nothing specific (n=1).

Going to Day Care and Getting Home

In another attempt to explore the reasons why working mothers may experience stress, the specific daily routines of the mother and child were investigated to determine whether certain aspects of the day were more demanding than others. The Going to Day Care and Getting Home survey was developed and utilized as a quick assessment tool. Both versions of the form (traveling by car and public transportation) were used in this study. Most mothers (n= 48) traveled to the day care and work by car, while nine mothers used public transportation.

The morning routines appeared to be the most demanding for these working women. Waking up the child, getting the child dressed, getting the child to brush their teeth and eat breakfast, as well as getting the child's school things ready, getting outdoor clothes on the child and getting into the car or public conveyance, proved to be the most demanding routines for working mothers. Two afternoon routines, getting the child ready to leave for home and getting the child to leave the day care were also rated as more difficult than the other routines. Table 8 provides a summary of these findings.

Analyses of variance were conducted to determine whether there were significant differences between the responses of mothers of boys versus mothers of girls with regards to all of the daily morning routines. The analyses revealed no significant differences. When questioned about their contact with their child's educator, all parents reported receiving feedback, solicited by the parent (26%) and offered by the educator (21%). The remaining parents (53%) reported that feedback and comments were solicited by both themselves and the educator. Many parents (39%) rarely or never received negative feedback from their child's educator. Half of the parents (54%) reported receiving negative feedback about their child less than once a week. Four-percent of parents reported that feedback was negative twice a week, while another four-percent of mothers reported that feedback about their child's behaviour was negative three times a week. On average parents received negative feedback from their child's educator less than once a week.

When negative feedback was examined with respect to child gender, mothers of boys reported receiving negative feedback almost once a week (.90), while mothers of girls reported receiving negative feedback about once every two weeks (.58). Further analyses of variance were conducted to determine whether the negative feedback received by parents of boys was statistically more than the negative feedback received by mothers of girls. No significant differences were noted.

All parents reported hearing positive remarks about their child at least once a week. On average parents heard positive comments 2.5 times a week. Mothers of boys heard the same amount of positive feedback as the mothers of girls (2.5 times a week).

Table 8

Findings of the Getting to Day Care and Getting Home Survey

Routine	M	SD
Waking up child	2.63	1.26
Getting child dressed	3.18	1.14
Getting child to brush teeth	2.81	1.30
Getting child to eat breakfast	2.70	1.34
Getting school things together	2.74	1.11
Getting outdoor clothes on child	2.70	1.05
Getting child into transportation	2.40	0.98
Traveling to day care	2.04	0.98
Getting child out of transportation	1.72	0.77
Getting child into day care	1.81	0.81
Getting child undressed	2.16	0.80
Getting child into classroom	2.09	1.11
Getting child ready for home	2.68	1.06
Getting child to leave day care	2.68	1.20
Getting child into transportation	2.14	0.95
Traveling home	2.21	1.11

The morning routines were analyzed in a series of one-way analyses of variance calculations with the three PSI scores (Child Domain, Parent Domain and Total Stress Score) to determine whether any of the routines were statistically different on these three scales. No significant differences were detected.

Child Temperament- Parent and Teacher Ratings

Child temperament was assesed by both mothers and teachers in an attempt to determine whether certain temperament traits were related to the levels of maternal stress. Table 9 provides the means and standard deviations of the subjects in the present sample and the means and standard deviations of Buss and Plomin's (1984) sample. Appendix G provides the same data for Boer and Westenberg's Dutch Sample.

Parents rated their children within the normal range and similarly to Buss and Plomin's (1984) original study on all three dimensions, emotionality, activity, and sociability. Data on sociability was unavailable from Buss and Plomin's original study.

The data were further analyzed to determine whether significant differences existed between the boys and girls on the four dimensions rated by parents (Table 10). Boys and girls were found to significantly differ in two of the temperament dimensions. Specifically, mothers of girls rated their daughters as significantly more sociable and more shy, than mothers of boys.

The three Parental Stress Index scores were also correlated with each of the child four temperament dimensions rated by mothers, in an attempt to ascertain whether a relationship exists between any of the child temperament dimensions and maternal stress. No significant correlation were computed.

Table 9

EAS Scores Present Sample

	M	SD
Emotionality	3.11	0.45
Activity	3.72	0.38
Sociability	2.45	0.49
Shyness	2.49	0.88

Note. n=57 (mean age=4.1 years)

EAS Scores 1984 Original Sample

	M	SD
Emotionality	3.0	0.80
Activity	4.0	0.70
Sociability	-	-
Shyness	2.5	1.02

Note. n=182 (mean age=3.6 years)

Table 10

Parents' EAS Temperament Ratings

	Boys		Girls		
Temperament Dimension	M	SD	M	SD	p
Emotionality	3.18	0.43	3.00	0.46	0.14
Activity	3.77	0.35	3.64	0.42	0.30
Sociability	2.34	0.51	2.60	0.44	0.05*
Shyness	2.19	0.87	2.93	1.72	0.01*

*p< .05

Educators were also asked to rate each of the four temperament traits using Buss and Plomin's (1984) EAS temperament scale for teachers. Educators rated children's shyness ($\bar{x}$=2.55, SD=0.84) similar to both parent ratings in this study and the original study. The mean score for sociability was 3.95 (SD=0.77) and activity was 3.86 (SD=0.872). The mean score for emotionality as rated by the educators rated was 2.88 (SD=0.62). Further analyses were conducted between child gender and the four temperament traits rated by the educators (Table 11). Significant differences were found between boys and girls on the sociability scale. Specifically, educators rated girls as significantly more sociable than boys. Furthermore, boys and girls were rated significantly differently on the emotionality scale, with boys scoring higher.

Correlations were computed between parental and teacher temperament ratings on all four dimensions. Parent and teacher responses were not significantly correlated on any of the four dimensions. One-way analyses of variance revealed significant differences between parent and teacher ratings on two dimensions, activity (p=0.05) and shyness (p=0.00).

Table 11

Teachers' EAS Temperament Ratings

	Boys		Girls		
Temperament Dimension	M	SD	M	SD	p
Emotionality	3.11	1.14	2.49	1.97	0.03*
Activity	3.84	0.86	3.88	0.91	0.54
Sociability	3.79	078	4.22	0.67	0.03*
Shyness	2.50	0.88	2.64	0.78	0.54

*$p < .05$

DISCUSSION

The purpose of the present study was to explore the reasons why working mothers experienced heightened stress levels as noted in previous studies compared to other women and compared to men (LeMesurier, 1995; Ventura, 1987). The potential stressors explored were the daily routines of mothers with children in day care, child temperament and child gender. Overall, the mothers in the present study were not found to be highly stressed, as rated on the Parental Stress Index, on the Child or Parent Domain, or on the Total Stress Score of the PSI (Abidin, 1986). Unlike LeMesurier's (1996) study which found mothers of boys to be more stressed than mothers of girls, the present study did not find significant differences between the mothers of boys and the mothers of girls on the PSI. Furthermore, exploration of the relationship between maternal stress and child temperament revealed no significant findings.

The daily routines of mothers with children in day care were also examined to determine whether certain routines were more stressful. Although no significant findings emerged between specific routines and parental stress levels, mothers did report that the morning routines were particularly more difficult. Two afternoon routines, getting the child ready to leave the day care (dressing etc.) and getting the child to leave the day care, were also demanding for the mothers in this sample. Daily routines were also explored in terms of child's gender to ascertain whether boys or girls were more demanding. No significant differences were found between the girls' and boys' daily demands of their mothers. The final analyses examined the daily demands and child temperament to determine if a relationship existed with any of the daily routines.

Major Findings

Child Factors

Child Sex

Analyses revealed no significant differences between the mothers of boys and the mothers of girls on either of the two PSI domains, or the Total score. Unlike LeMesurier's (1995) study, which found that mothers of boys tended to be more stressed than the mothers of girls, the present study found no such difference. However, mothers scored above the high score, as identified by Abidin (1984) on the subscale 'Child Reinforces Parent'. Abidin identified child and parent characteristics which were common for a high score in each subscale. A parent who earned a high score in the subscale 'Child Reinforces Parent':

> does not experience her child as a source of positive reinforcement. The interactions between parent and child fail to produce good feelings by the parent about herself. In fact, the parent may feel rejected by the child. The absence of reinforcement from the child threatens the parent-child bond and therefore high scores are obtained on this scale (Abidin, 1990, p.61).

Child Temperament

Mothers' temperament ratings of their children showed significant gender differences in the shyness and sociability scales. Specifically, girls were rated as more shy and more sociable than the boys. Shyness has been defined as an individual's behaviour when he/she is with strangers or casual acquaintances (Buss & Plomin, 1984). Buss and Plomin define sociable people as those who seek to be with others, prefer the presence of people, and respond to people.

Caregiver Feedback

The present study's findings indicate that mothers rated their daughters as more sociable than did mothers of boys. Furthermore, mothers of boys reported hearing more negative comments about their sons from the educators than mothers of girls heard about their daughters. These findings are repeatedly seen in studies, such as Alvarez's (1985). Mothers in Alvarez's study provided favourable descriptions of their daughters such as affectionate, caring, and helpful, while boys were described as being non-compliant and demanding. Hinde et al. (1993) similarly reported that the girls in their sample initiated more interactions and were more friendly. The present study supports previous literature that repeatedly shows girls to be seen in a more favourable light than boys. Furthermore, researchers have previously documented that girls may be better able than boys to cope with nonmaternal care and the demands of going to daycare (Crockenberg & Litman, 1991), and therefore are rated more positively.

Daily Routines

LeMesurier (1995) reported that the daily routines of a working mother are important to maintain, but that scheduling all of the events is often difficult. The present study explored specific routines of working mothers with children in day care, and found that some daily routines, particularly the morning routines before leaving the home, and the afternoon routines of leaving the day care were particularly difficult for mothers. Furthermore, the Working Women's Background Information Questionnaire (Jacobs & Jiwa, 1996) also asked mothers were asked "what is the most stressful aspect of your day?". Interestingly, mothers once again reported that the morning routines with their child were very stressful. Most mothers were stressed as a result of being rushed in the morning and consequently being late for work.

Overall, the mothers in the present study were well educated and professional working women who did not experience their children as a source of positive reinforcement, and found their sons to be less sociable and less shy than their daughters. Furthermore, they reported hearing more negative feedback about their sons than their daughters, and indicated that the morning routines with both their sons and daughters and two afternoon routines, were particularly taxing. However, despite these findings, the mothers in this study scored within the normal range on the Parenting Stress Index. Several plausible explanations exist for this finding, which can be grouped into three categories: child factors, maternal factors and environmental factors.

Child Factors

First, the mothers in the present sample initiated child care services soon after their child's first birthday (M=13.2 months), indicating that on average, the children in this study had been in day care for over three years prior to this study. Therefore, most of the mothers were probably very accustomed to the routine and schedule of going to day care and to work. Furthermore, the children themselves would have adjusted to day care life long before this study began, resulting in mothers reporting fewer daily hassles and consequently less stress. Comments from mothers such as "(day care) is part of life" and "it's normal that mommy works, for him day care is normal", "it's all she knows", "she's fine with that (day care), and "it's become second nature for her" support the fact that these older children, compared to LeMesurier's (1995) younger sample, were accustomed to the day care routine.

Second, the children studied were all about four years-old, and unlike toddlers, infants, or the younger sample of preschoolers in LeMesurier's (1995), did not require as much care and attention and were probably able to do more for themselves, resulting in fewer demands placed on the working mother. For instance, if a child were able to dress

him/herself, feed him/herself and dress in their outside clothes without assistance, then less would be required of the mother. Fewer demands would result in lower stress levels. Therefore, the older age of this group of children and their ability to do more for themselves, could have been the buffer that prevented this sample of mothers from being stressed. This finding is consistent with the Neil et al. (1993) study which found that the younger the child, the greater the probability that an employee would experience increased stress.

A third reason for the lower stress levels compared to LeMesurier's (1995) sample, relates to the children themselves. Specifically, the boys in this study started day care four months later than the girls. Crokenberg and Litman (1991) suggested that boys may not be able to cope as well as girls can with nonmaternal care. Therefore, it may be that these extra months provided the boys with a little extra time to mature before experiencing nonmaternal care.

Maternal Factors

Another plausible explanation for the lack of significant findings may be attributable to the mothers themselves. As noted earlier, most mothers (95%) had some level of post-secondary education, and over seventy-five percent held professional jobs. The knowledge and experience of these women may have prepared them for the stresses of a dual-role lifestyle and as a result they may have been able to balance their various roles without experiencing high levels of stress. These factors may lead the mothers to have realistic expectations of their children.

Second, the fact that one-third of the mothers in the study had at least one older child suggests that these mothers may have had the know-how of how to deal with demands of raising children. Lastly, the lack of high parenting stress levels may have been related to how mothers felt about working. When surveyed by the Working Mothers

Background Information Questionnaire, almost sixty-percent of the mothers in present study indicted that they enjoyed working, while only nine-percent desired to be at home full-time. Furthermore, when asked about what they liked about their job, mothers provided responses which ranged from the work itself (44%) to the people (25%). When asked about their dislikes, almost twenty-five percent of the mothers did not have a complaint. Only a few mothers (12%) did not enjoy the work they were involved in. Therefore, lack of high stress levels may related to the fact that these working mothers enjoyed their jobs and experienced very few negative feelings as a result of working.

Environmental Factors

The findings of this study suggest that one of the coping mechanisms which mothers used to keep their stress levels low was the day care. It may have been that day care was a service that allowed the mothers to have their child cared for while they worked, but in addition, it may also have provided them with a break from their child. Further investigation is needed to determine if, in fact, mothers use day care as a support system for dealing with a demanding child.

Second, the social support networks of mothers may have provided them with emotional support or physical support (i.e. babysitting) that acted as a buffer against high levels of stress. Significant others, including spouses and family members and friends may have assisted the mother in fulfilling the demands of her various roles. Examining the social support network of mothers was beyond the scope of this study, however, it would be an interesting variable to examine in future studies.

Lastly, environmental factors also include the climate. The fact that the data for this study were collected during the Spring suggests that most of the routines associated with day care life would have been well established for both the mother and the child by the time data were being collected. Furthermore, the demands of winter (i.e. traveling,

dressing the child, weather) were coming to an end by the time this study began, and as a result, many of the frustrations and stresses associated with winter would have ceased by this time of year.

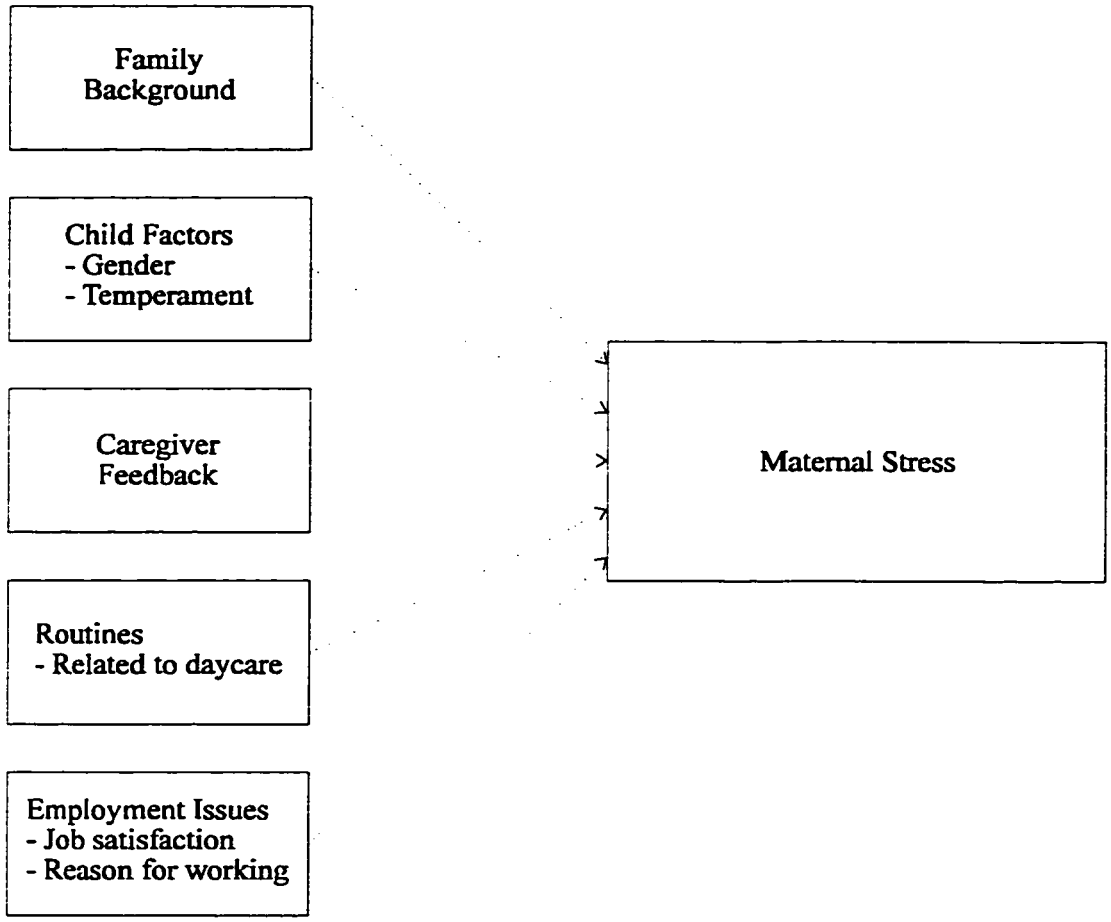
Employment Issues

The findings of this study suggested that employment factors may be important variables to consider when studying working mothers. Figure 4, which depicts the addition of this variable, is proposed for researchers who want to replicate this study from a more thorough perspective. The addition of employment factors, including examination of job satisfaction, reasons for working, and feelings about working, provides a more holistic and ecological perspective when studying working mothers. Employment issues provide rich information about influences that impact on working mothers and that either diminish or exacerbate their stress levels.

Recommendations

In light of the findings of this study, namely, that mothers found the morning routines demanding, several plausible recommendations are proposed to assist mothers in coping with their many roles and responsibilities. One idea is for employers to adopt and implement flexible work hours. This would reduce some of the time constraints experienced by working mothers, which could possibly reduce the stress they experience. According to the ecological perspective, this would not only reduce the demands placed on the mother, but in addition, it would result in a healthier and happier employee and therefore, reduce absenteeism and increase work productivity.

Figure 4. Additional factors that may relate to maternal stress levels.



The most feasible solution recommended to reduce some of the demands associated with the daily routines is to teach the child to do certain things for him/herself and to educate day care employees and work supervisors about the morning hassles that are associated with having a child in day care.

Limitations

Certain limitations of this study preclude it from being generalizable. Firstly, the sample size was relatively small, and this limited the generalizability of the study. Secondly, there was an uneven split between those mothers who used on-site day care and those who used community centres. This same problem presented itself when comparisons were made between boys and girls. There were almost twice as many boys as girls, which resulted in very small sample sizes in some analyses. This was particularly apparent when attempts were made to compare these different samples on several of the variables.

A third limitation of the present study was that the mothers were generally well educated and therefore may not have been representative of the general population. They may also have been older mothers. This could have resulted in mature mothers with realistic expectations, compared to younger, more inexperienced mothers. It would be interesting to study mothers with different educational backgrounds and occupations to determine if these variables contribute to elevated stress levels. It may very well be that mothers who have some post-secondary education are better informed about parenting and may be better able to deal with their different and varied roles. Related to this issue, is the age of the mother. In the present study did not collect information about the age of the mothers was not collected and therefore, analyses taking into consideration the age of the mother could not be conducted. The relationship between age, experience and stress levels would be interesting to explore.

Future Studies

The results of the present study, or lack there of, suggest that it would be advantageous if future studies were to examine parents of children of different age groups and varied child care histories. Specifically, logic suggests that mothers with infants will probably experience higher levels of stress because of the demands of an infant, compared to mothers of preschoolers. Furthermore, the amount of time a child has spent in care outside the home may provide both mother and child with experiences and rituals that result in a less anxious and stressed parent. Therefore, a similar study might be conducted that examines parents and children who have had different amounts and types child care experiences.

Another important variable to explore would be the social support network of working mothers. As noted earlier, the lack of high stress levels may in fact be due to the support systems the mother has in place. For instance, a single mother with no support would probably experience heightened stress levels compared to a married mother with an extended family who provides respite care.

Finally, the fact that the data for this study were collected during the Spring suggests that most of the routines associated with day care life would be well established for both the mother and the child by the spring. Furthermore, the demands of winter (i.e. traveling, dressing the child, weather) were coming to an end by the time data were collected, and as a result, many of the frustrations and stresses would have decreased markedly by this time of year. A similar study conducted at various times of the year would prove to be an interesting comparison.

Conclusions

Overall, the working mothers in this study were not found to be highly stressed and no differences were found between the parenting stress levels of mothers of boys and mothers of girls. Furthermore, no relationship was detected between child temperament and parental stress levels. However, there was a difference in how mothers rated their children on the temperament scale. Specifically mothers and educators rated girls as being more sociable and shy than they rated boys. Additionally, mothers of boys reported hearing more negative feedback from the educators than did mothers of girls. These finding have been demonstrated in other studies which have found girls to interact more positively and more frequently with adults (Alvarez, 1985).

Both mothers of boys and mothers of girls did report that the morning routines with their children and two afternoon routines were particularly more demanding. However, despite this, many of the mothers reported enjoying their work. The fact that the children in this study were older than those in other studies (i.e. LeMesurier, 1995) and the fact that the mothers were well educated professional women, suggests that these variables may be related to whether or not a working mother will experience higher stress levels.

It is proposed that mothers of younger children and younger mothers may experience more stress because of their limited experience. A cross-sectional study examining mothers of various ages and of children of various ages would address the issue of whether working mothers are all coping fairly well, or whether experience as a parent acts as a buffer against the high levels of stress.

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APPENDICES

APPENDIX A

Letters of Consent

February 19, 1995

Dear Director,

As discussed in our telephone conversation of , this letter will provide you with details of the Concordia University study proposed by members of the university Education Department. The purpose of this study is to learn about working mothers and their children. We wish to gain some knowledge about the different issues that arise as a result of being a working mother with a preschool child who attends day care. The purpose of this study is to explore the behaviour of preschool children in day care and the effect this has on the working mother. We anticipate beginning the research in March 1996.

For this study we require children between the ages of three and five, who have attended day care for at least one year. Parents will be asked to complete three questionnaires and answer questions in a brief telephone interview. Teachers will be asked to complete one short questionnaire for each child. The daily routines of the children and teachers will not be interrupted in any way.

All of the information obtained from this research project will remain confidential and all participants will be free to withdraw from the study at any time. We are interested in overall findings and not individual differences. A report of the findings will be sent to you at the end of the study. Your centre's involvement in this research will help contribute to the increasing knowledge regarding early childhood development and working mothers. Should you have any questions do not hesitate to contact Salima Jiwa at 848-2045 or Professor Ellen Jacobs at 848-2016.

Sincerely,

Salima Jiwa
Research Coordinator

Ellen Jacobs
Professor,
Concordia University

February 19, 1995

Dear Parent,

Members of the Education Department of Concordia University are conducting a research project on working mothers and their children. We wish to gain some knowledge about the different issues that arise as a result of being a working mother with a preschool child in day care.

For this study we require mothers of children between the ages of three to five, to respond to a brief telephone interview and two brief questionnaires related to various issues about raising a preschool child. You will be asked to answer questions pertaining to you and your child's daily routine, such as "rate how easy it is to get your child dressed in the morning."

Your child's teacher will also be asked to complete one short questionnaire pertaining to your child. All information obtained from this research will remain confidential. We are interested in overall findings and not individual differences.

Your involvement in this research would be greatly appreciated as it will contribute to the increasing knowledge regarding early childhood development and working mothers. If at any time you wish to withdraw from the study, you are free to do so. Should you have any questions do not hesitate to contact Salima at 848-2045 or Professor Ellen Jacobs at 848-2016. Thank you very much for your cooperation.

Sincerely,

Salima Jiwa
Research Coordinator

Ellen Jacobs
Professor,
Concordia University

CONSENT FORM TO PARTICIPATE IN RESEARCH

This is to state that I agree to participate in the research being conducted by Salima Jiwa and Professor Ellen Jacobs of the Education Department at Concordia University.

I HAVE CAREFULLY STUDIED THE ABOVE AND UNDERSTAND THIS AGREEMENT.
I FREELY CONSENT AND AGREE TO PARTICIPATE IN THIS STUDY.

NAME (please print) _____

TELEPHONE NUMBER _____

SIGNATURE _____

DATE _____

APPENDIX B

EAS Temperament Scales (Buss & Plomin, 1984)

Parent Temperament Questionnaire

Subject # _____

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 (not characteristic or typical of your child)	2	3	4	5 (very characteristic typical of your ch
1.	Child tends to be shy.	1	2	3	4	5
2	When with other children, this child seems to be having a good time.	1	2	3	4	5
3.	Child cries easily.	1	2	3	4	5
4.	At recess, child is always on the go.	1	2	3	4	5
5.	Child tends to be somewhat emotional.	1	2	3	4	5
6.	When child moves about, s/he usually moves slowly.	1	2	3	4	5
7.	Child makes friends easily.	1	2	3	4	5
8.	Child is full of vigor when s/he arrives in the classroom in the morning.	1	2	3	4	5
9.	Child likes to be with people.	1	2	3	4	5
10.	Child often fusses or cries.	1	2	3	4	5
11.	Child likes to chat with neighbours.	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 prefers to do things alone.	1	2	3	4	5
16.	Child gets upset easily.	1	2	3	4	5
17.	Child prefers quiet, inactive games to more active ones.	1	2	3	4	5
18.	Child tends to be a loner.	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

Teacher Questionnaire

Subject # _____ **Child** _____

Rate each of the items for your student on a scale of 1 (not characteristic or typical of the child to 5 (very characteristic or typical of the child). If you have not had the experience of observin the child in any of the following situations, please mark "not observed."

		1 (not characteristic or typical of child)	2	3	4	5 (very characteristic or typical of child)
1.	Child tends to be shy.	1	2	3	4	5
2	When with other children, this child seems to be having a good time.	1	2	3	4	5
3.	Child cries easily.	1	2	3	4	5
4.	At recess, child is always on the go.	1	2	3	4	5
5.	Child tends to be somewhat emotional.	1	2	3	4	5
6.	When child moves about, s/he usually moves slowly.	1	2	3	4	5
7.	Child makes friends easily.	1	2	3	4	5
8.	Child is full of vigor when s/he arrives in the classroom in the morning.	1	2	3	4	5
9.	Child likes to be with people.	1	2	3	4	5
10.	Child often fusses or cries.	1	2	3	4	5
11.	Child likes to chat with neighbours.	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 prefers to do things alone.	1	2	3	4	5
16.	Child gets upset easily.	1	2	3	4	5
17.	Child prefers quiet, inactive games to more active ones.	1	2	3	4	5
18.	Child tends to be a loner.	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

APPENDIX C

Parental Stress Index (Abidin, 1984)

In answering the following questions, please think about the child participating in this study.

The following questions ask you to mark an answer which best describes your feelings. While you may not find an answer w exactly states your feelings, please mark the answer which comes closest to describing how you feel. Your first reaction to question should be your answer.

Please mark the degree to which you agree or disagree with the following statements by filling in the number which best m how you feel.

	QUESTIONS	STRONGLY DISAGREE	DISAGREE	NOT SURE	AGREE
1	When my child wants something, my child usually keeps trying to get it.	1	2	3	4
2	My child is so active that it exhausts me.	1	2	3	4
3	My child appears disorganized and is easily distracted.	1	2	3	4
4	Compared to most, my child has more difficulty concentrating and paying attention.	1	2	3	4
5	My child will often stay occupied with a toy for more than 10 minutes.	1	2	3	4
6	My child wanders away much more than I expected.	1	2	3	4
7	My child is much more active than I expected.	1	2	3	4
8	My child squirms and kicks a great deal when being dressed or bathed.	1	2	3	4
9	My child can be easily distracted from wanting something.	1	2	3	4
10	My child rarely does something for me that makes me feel good.	1	2	3	4
11	Most times I feel that my child likes me and wants to be close to me.	1	2	3	4
12	Sometimes I feel my child doesn't like me and doesn't want to be close to me.	1	2	3	4
13	My child smiles at me much less than I expected.	1	2	3	4
14	When I do things for my child I get the feeling that my efforts are not appreciated very much.	1	2	3	4
15	Which statement best describes your child.: 1. almost always likes to play with me. 2. sometimes likes to play with me. 4. usually doesn't like to play with me. 5. almost never likes to play with me.				
16	My child cries and fusses: 1. much less than I expected. 2. less than I expected. 3. about as much as I expected. 4. much more than I expected. 5. it seems almost constant.				
17	My child seems to cry and fuss more often than most children.	1	2	3	4
18	When playing my child doesn't often giggle or laugh.	1	2	3	4
19	My child generally wakes up in a bad mood.	1	2	3	4
20	I feel that my child is very moody and easily upset.	1	2	3	4
21	My child looks a little different than I expected and it bothers me at times.	1	2	3	4
22	In some areas my child seems to have forgotten past learning and has gone back to doing things characteristic of younger children.	1	2	3	4
23	My child doesn't seem to learn as quickly as most children.	1	2	3	4

	QUESTIONS	STRONGLY DISAGREE	DISAGREE	NOT SURE	AGREE
24	My child doesn't seem to smile as much as most children.	1	2	3	4
25	My child does a few things which bother me a great deal.	1	2	3	4
26	My child is not able to do as much as I expected.	1	2	3	4
27	My child does not like to be cuddled or touched very much.	1	2	3	4
28	When my child came home from the hospital, I had doubtful feelings about my ability to handle being a parent.	1	2	3	4
29	Being a parent is harder than I thought it would be.	1	2	3	4
30	I feel capable and on top of things when I am caring for my child.	1	2	3	4
31	Compared to the average child, my child has a great deal of difficulty in getting used to changes in schedules or changes around the house.	1	2	3	4
32	My child reacts very strongly when something happens that my child doesn't like.	1	2	3	4
33	Leaving my child with a baby-sitter is usually a problem.	1	2	3	4
34	My child gets upset easily over the smallest things.	1	2	3	4
35	My child easily notices and overreacts to loud sounds and bright lights.	1	2	3	4
36	My child's sleeping or eating schedule was much harder to establish than I expected.	1	2	3	4
37	My child usually avoids a new toy for a while before beginning to play with it.	1	2	3	4
38	It takes a long time and is very hard for my child to get used to new things.	1	2	3	4
39	My child doesn't seem comfortable when meeting strangers.	1	2	3	4
40	When upset my child is: 1. easy to calm down. 2. somewhat harder to calm down than I expected. 4. very difficult to calm down. 5. nothing I do helps to calm my child.				
41	I found that getting my child to do something or stop doing something is: 1. much harder than I expected. 2. somewhat harder than I expected. 3. about as hard as I expected. 4. somewhat easier than expected. 5. much easier than expected.				
42	Think carefully and count the number of things which your child does that bothers you. For example: dawdles, refuses to listen, overactive, cries, interrupts, fights, whines, etc. Please fill in the number which includes the number of things you counted. 1. 1 - 3 2. 4 - 5 3. 6 - 7 4. 8 - 9 5. 10+				
43	When my child cries it usually lasts: 1. less than 2 minutes. 2. 2 - 5 minutes 3. 5 - 10 minutes. 4. 10 - 15 minutes. 5. more than 15 minutes.				
44	There are some things my child does that really bother me a lot.	1	2	3	4
45	My child has had more health problems than I expected.	1	2	3	4
46	As my child has grown and become more independent, I find myself more worried that my child will get hurt or into trouble.	1	2	3	4

	QUESTIONS	STRONGLY DISAGREE	DISAGREE	NOT SURE	AGREE
47	My child turned out to be more a problem than I expected.	1	2	3	4
48	My child seems to be much harder to care for than most.	1	2	3	4
49	My child is always hanging on to me.	1	2	3	4
50	My child makes more demands on me than most children.	1	2	3	4
51	I can't make decisions without help.	1	2	3	4
52	I have had many more problems raising children than I expected.	1	2	3	4
53	I enjoy being a parent.	1	2	3	4
54	I feel that I am successful most of the time when I try to get my child to do or not to do something.	1	2	3	4
55	Since I brought my last child home from the hospital, I find that I am not able to take care of this child as well as I thought I could. I need help.	1	2	3	4
56	I often have the feeling that I cannot handle things very well.	1	2	3	4
57	When I think about my self as a parent I believe: 1. I can handle everything that happens. 2. I can handle most things pretty well. 3. sometimes I have doubts, but find that I handle most things without any problems. 4. I have some doubts about being able to handle things. 5. I don't think I handle things very well at all.	1	2	3	4
58	I feel that I am : 1. very good parent. 2. a better than average parent. 3 an average parent. 4. a person who has some trouble being a parent. 5. not very good at being a parent.				
61	How easy is it for you to understand what your child wants or needs? 1. very easy. 2. easy. 3. somewhat difficult. 4. it is very hard. 5. I usually can't figure out what the problem is.				
62	It takes a long time for parents to develop close, warm feelings for their children.	1	2	3	4
63	I expected to have closer and warmer feelings for my child than I do and this bothers me.	1	2	3	4
64	Sometimes my child does things that bother me just to be mean.	1	2	3	4
65	When I was young, I never felt comfortable holding or taking care of children.	1	2	3	4
66	My child knows I am his or her parent and wants me more than other people.	1	2	3	4
67	The number of children I have now is too many.	1	2	3	4
68	Most of my life is spent doing things for my child.	1	2	3	4
69	I find myself giving up more of my life to meet my children's needs than I ever expected.	1	2	3	4
70	I feel trapped by my responsibilities as a parent.	1	2	3	4
71	I often feel that my child's needs control my life.	1	2	3	4
72	Since having this child I have been able to do new and different things.	1	2	3	4
73	Since having a child I feel that I am almost never able to do things that I like to do.	1	2	3	4
74	It is hard to find a place in our home where I can go be by myself.	1	2	3	4

	QUESTIONS	STRONGLY DISAGREE	DISAGREE	NOT SURE	AGREE
75	When I think about the kind of parent I am, I often feel guilty or bad about myself.	1	2	3	4
76	I am unhappy about the last purchase of clothing I made for myself.	1	2	3	4
77	When my child misbehaves or fusses too much I feel responsible, as if I didn't do something right.	1	2	3	4
78	I feel everytime my child does something wrong it is really my fault.	1	2	3	4
79	I often feel guilty about the way I feel towards my child.	1	2	3	4
80	There are quite a few things that bother me about my life.	1	2	3	4
81	I felt sadder and more depressed than I expected after leaving the hospital with my baby.	1	2	3	4
82	I wind up feeling guilty when I get angry at my child and this bothers me.	1	2	3	4
83	After my child had been home from the hospital for about a month, I noticed that I was feeling more sad and depressed than I expected.	1	2	3	4
84	Since having my child, my spouse (or male/female friend) has not given me as much help as I expected.	1	2	3	4
85	Having a child has caused more problems than I expected in my relationship with my spouse (or male/female friend).	1	2	3	4
86	Since having a child my spouse (or male/female friend) and I don't do as many things together.	1	2	3	4
87	Since having a child my spouse (or male/female friend) and I don't spend as much time together as a family as I expected.	1	2	3	4
88	Since having my last child, I have had less interest in sex.	1	2	3	4
89	Having a child seems to have increased the number of problems we have had with the in-laws and relatives.	1	2	3	4
90	Having children has been much more expensive than I expected.	1	2	3	4
91	I feel alone without friends.	1	2	3	4
92	When I go to a party I usually expect not to enjoy myself.	1	2	3	4
93	I am not as interested in people as I used to be.	1	2	3	4
94	I often have the feeling that other people my own age don't particularly like my company.	1	2	3	4
95	When I run into a problem taking care of my children I have a lot of people to whom I can talk to get help or advice.	1	2	3	4
96	Since having children I have a lot fewer chances to see my friends and to make new friends.	1	2	3	4
97	During the past six months I have been sicker than usual or have had more aches and pains than I normally do.	1	2	3	4
98	Physically, I feel good most of the time.	1	2	3	4
99	Having a child has caused changes in the way I sleep.	1	2	3	4
100	I don't enjoy things as I used to.	1	2	3	4
101	Since I've had my child: 1. I have been sick a great deal. 2. I haven't felt as good. 4. I haven't noticed any change in my health. 5. I have been healthier.				

APPENDIX D

Going To Day care and Getting Home Survey (Jacobs & Jiwa, 1996)

GOING TO DAY CARE AND GETTING HOME - BY CAR

Subject # _____

Please rate the following daily events on a scale of one (very easy) to six (very difficult). Ratings should be based on typical days.

Event	Very Easy	Easy	Somewhat Easy	Somewhat Difficult	Difficult	V Di
Waking up my child	1	2	3	4	5	
Getting my child dressed	1	2	3	4	5	
Getting my child to brush teeth	1	2	3	4	5	
Getting my child to eat breakfast	1	2	3	4	5	
Getting school things together	1	2	3	4	5	
Getting outdoor clothes on my child	1	2	3	4	5	
Getting my child into the car	1	2	3	4	5	
Driving to the day care	1	2	3	4	5	
Getting my child out of car	1	2	3	4	5	
Getting things out of car	1	2	3	4	5	
Getting my child into day care	1	2	3	4	5	
Getting my child undressed	1	2	3	4	5	
Getting my child into classroom	1	2	3	4	5	
Getting my child ready for home	1	2	3	4	5	
Getting my child to leave day care	1	2	3	4	5	
Getting my child into car	1	2	3	4	5	
Driving home	1	2	3	4	5	

Caregiver Feedback

Do you get feedback from your child's educator (circle)? yes no

Who solicits the feedback (circle)? educator parent

How often do you get feedback (check one)?

once a week _____
twice a week _____
three times a week _____
more than three times a week _____

How often is the feedback positive (check one)?

once a week _____
twice a week _____
three times a week _____
more than three times a week _____

How often is the feedback negative (check one)?

once a week _____
twice a week _____
three times a week _____
more than three times a week _____

GOING TO DAY CARE AND GETTING HOME - BY METRO/BUS

Subject # _____

Please rate the following daily events on a scale of one (very easy) to six (very difficult). Ratings should be based on typical days.

Event	Very Easy	Easy	Somewhat Easy	Somewhat Difficult	Difficult	Ve Diffi
Waking up my child	1	2	3	4	5	6
Getting my child dressed	1	2	3	4	5	6
Getting my child to brush teeth	1	2	3	4	5	6
Getting my child to eat breakfast	1	2	3	4	5	6
Getting school things together	1	2	3	4	5	6
Getting outdoor clothes on my child	1	2	3	4	5	6
Getting my child to the bus/metro	1	2	3	4	5	6
Getting my child onto the bus/metro	1	2	3	4	5	6
Traveling to the day care on the bus/metro	1	2	3	4	5	6
Getting my child out of bus/metro	1	2	3	4	5	6
Getting my child into the day care	1	2	3	4	5	6
Getting my child undressed	1	2	3	4	5	6
Getting my child into classroom	1	2	3	4	5	6
Getting my child ready for home	1	2	3	4	5	6
Getting my child to leave day care	1	2	3	4	5	6
Getting my child to the bus/metro	1	2	3	4	5	6
Traveling home on the bus/metro	1	2	3	4	5	6
Getting my child off the bus/metro	1	2	3	4	5	6
Getting my child home	1	2	3	4	5	6

Caregiver Feedback

Do you get feedback from your child's educator (circle)? yes no

Who solicits the feedback (circle)? educator parent

How often do you get feedback (check one)?

- once a week _____
- twice a week _____
- three times a week _____
- more than three times a week _____

How often is the feedback positive (check one)?

- once a week _____
- twice a week _____
- three times a week _____
- more than three times a week _____

How often is the feedback negative (check one)?

- once a week _____
- twice a week _____
- three times a week _____
- more than three times a week _____

APPENDIX E

Working Mothers Demographic Survey (Jacobs & Jiwa, 1996)

PARENTAL BACKGROUND INFORMATION QUESTIONNAIRE

Subject #: _____

Child's Name: _____

Date of Birth: _____

Mother's Name: _____

Child Care Centre: _____

Interviewer: _____

Date of Interview: _____

1. What are your present child care arrangements for your child?

_____
_____
_____
_____

2. How does your child feel about the day care?

_____

3. How old was your child when he/she first experienced care outside of the home? _

4. What was this experience? _____

5. Can you please describe to me all of the previous child care arrangements you have had for your child, starting with his/her first group experience?

Age in months at onset	Length of time in arrangement	Type of arrangement	Number of children in group	Number of caregivers

Now, I would just like to ask you a few other questions.

6. What prompted you to return to work after the birth of your child?

_____

_____

6 a. How old was your child when you first started working outside of the home? Was this your very first job after your child was born?

_____

_____

6 b. What child care arrangements did you have for your child at that time?

_____

_____

7. How do you feel now about working outside of your home?

_____

_____

8. How has your child responded to the fact that you work and he/she attends day care?

_____

_____

9. Are there things about your job that you particularly like or dislike?

LIKE: _____

DISLIKE: _____

10. What do you find most stressful about your day?

_____

_____

11. What is the most enjoyable aspect of your day?

_____

_____

I have some questions pertaining to the rest of your family.

12. Who else besides you and (name of child) lives with you?

Husband/companion? _____

Other children? Name_____ Age _____

Name _____ Age _____

Name _____ Age _____

Do any of these children attend the same day care or a similar one?

_____

_____

13. What is your employment? _____

What are your responsibilities? _____

14. What type of employment does your husband/companion have?_____

What are his primary responsibilities?_____

15. What is the highest level of education you have reached to date? Please specify.

Primary _____ CEGEP _____

High school _____ University _____

16. What is the highest level of education your husband has reached to date? Please specify.

Primary _____ CEGEP _____

High school _____ University _____

17. What is the language most spoken at home?_____

18. What is your mother tongue? _____

19. What is your husband's mother tongue?_____

APPENDIX F

Hollingshead Four Factor Index of Social Status (1975)

Hollingshead Four Factor Index of Social Status (1975)

Highest level of education completed (ED)

1= less than 7th grade

2=junior high (grade 7, 8/ Secondary 1, 2)

3=partial high school (grade 9, 10/ Secondary 3, 4)

4=high school graduate (grade 11, 12 / Secondary 5)

5= partial college (minimum 1 year/finished college/specialized training)

6=standard university graduation (i.e. B.A)

7=graduate professional training (graduate degree)

FED = father's highest level of education

MED = mother's highest level of education

FOCC = father's occupation

MOCC = mother's occupation

Calculating Socioeconomic Status (SES)

For single income families:

SES=(OCC x 5) + (Ed x 3)

For two income families:

SES= [(FOCC x 5) + (FED x 3) + (MOCC x 5) + (MED x 3)]/ 2

APPENDIX G

Means and Standard Deviations for EAS Temperament Survey

(Original & Dutch Sample)

Table 12

EAS Scores Boer & Westenberg's Dutch Sample

	M	SD
Emotionality	3.00	0.82
Activity	3.50	0.78
Sociability	3.50	0.74
Shyness	2.40	0.88

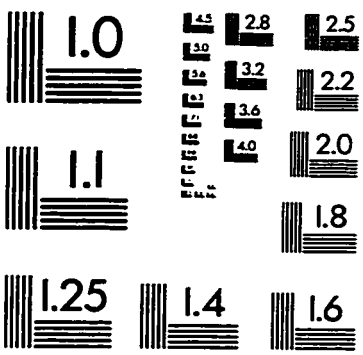
Note. n=189 (mean age=6.4 years)

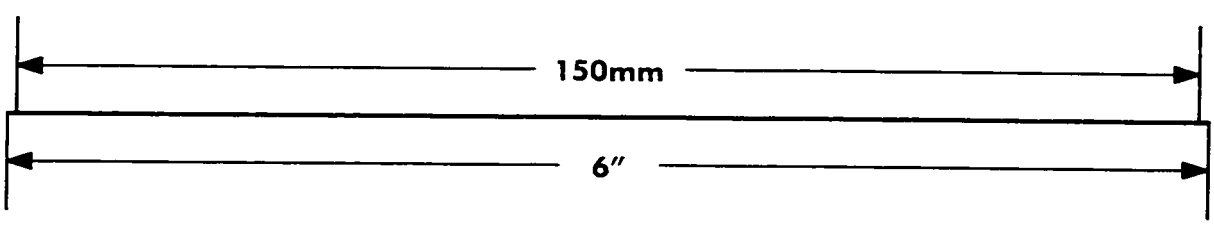
EAS Scores Buss & Plomin's Original Sample

	M	SD
Emotionality	3.0	0.80
Activity	4.0	0.70
Sociability	-	-
Shyness	2.5	1.02

Note. n=182 (mean age=3.6 years)

TEST TARGET (QA-3)





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