MATERNAL EMPLOYMENT AND CHILD TEMPERAMENT

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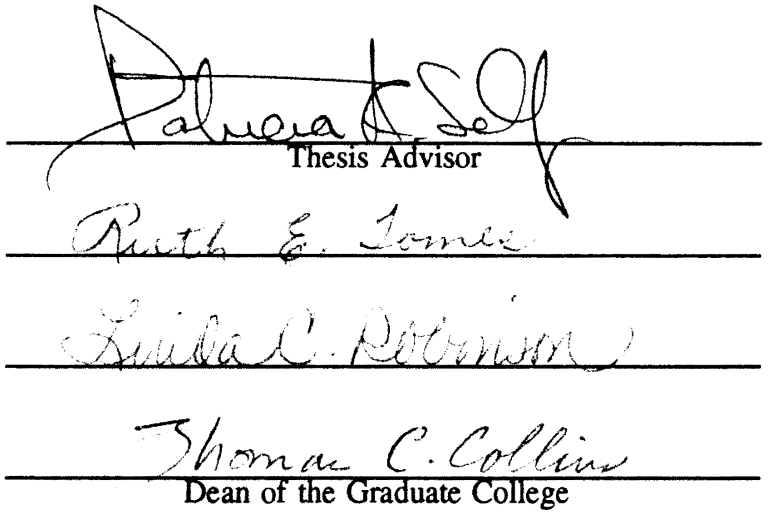

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PREFACE

This research examined the perception of children's temperament as it related to their mothers' employment status. Sixty-seven children, aged two to five years, were included in this study. Parents' responses to child behavior were collected via the Temperament Questionnaire in addition to demographic information about the family. Gender and age were expected to influence temperament ratings, measured by the Behavioral Style Questionnaire (McDevitt, & Carey, 1975) and the Toddler Temperament Scale (Fullard, McDevitt, & Carey, 1978). In addition, it was expected that the mothers who were employed and had their child enrolled in day-care center from a young age would view their children as having a more difficult temperament. As expected, age predicted significantly the 5 constellations of temperament and the temperamental dimensions (easy/difficult categories). Age predicted the temperamental categories of activity, withdrawal/approach and intensity, while mother's educational attainment in conjunction with age predicted activity and persistence of temperament scale. Maternal employment combined with age predicted threshold. With respect to activity, persistence, and threshold on the Temperament Scale, what these children were doing was related to age, maternal employment and mother's educational attainment.

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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

The U.S. Bureau of Labor Statistics figures (1988) indicated that 73% of the married mothers of school-age children and 57% of the married mothers of infants and pre-schoolers were employed in 1988. The rise in employment for mothers of very young children and the resulting increase in the use of child care have fostered an interest in research on maternal employment and child development.

Parents' perceptions of children are of interest from various research perspectives. Several studies have emphasized the effects on young children of various types of day care and of their mother's employment (Belsky & Steinberg, 1978). Bronfenbrenner, Alvarez, and Henderson (1984) investigated the possibility that mothers' employment outside the home influenced parents' perceptions of their young children. Bronfenbrenner et al. (1984) found that although employment status had a significant main effect on mothers' descriptions of their children, this effect was qualified by the interaction of employment status and gender of child. Full-time working mothers (35 or more hours per week) gave the least enthusiastic descriptions of their sons, whereas part-time employed mothers (5-34 hours per week) described their boys in terms more positive than "at-home" mothers (0-4 hours per week). Mothers' level of education was also significant to maternal perceptions of children. More educated mothers

expressed more favorable views of their children (Bronfenbrenner et al., 1984).

However, Greenberger and O'Neil (1992) found no evidence linking part-time employment with more positive maternal perceptions of sons. Maternal employment (interacting with mothers' level of education and child gender) was more strongly associated with fathers' and teachers' perceptions of children than with mothers' perceptions. Fathers perceived their 5-6-year-old children as having more problematic behaviors when mothers were currently employed full time; fathers and teachers viewed children's behavior as more problematic when less-educated mothers had been employed during more years of the child's lifetime. Though parents' perceptions of their children did not vary as a function of mothers' employment status, the authors suggested that teachers can detect differences in the behavior of children from different maternal employment status. Unfortunately, their study had limited generalizability because their sample consisted of middle-and upper-middle-class families based on financial resources for managing work and family roles. The present study attempts to compare maternal employment status, child's age, child's gender, mother's educational attainment, and child's age at entry with the child's behavior according to the mother's temperament report.

CHAPTER II

LITERATURE REVIEW

Temperament

History

The major theoretical issues on temperament involve behavioral genetic formulations (Buss and Plomin, 1975), socio-emotional functioning and psychobiology (Goldsmith and Campos, 1982) and bi-directional relations between organisms and their contexts that contribute to match or fit between temperament attributes and psychosocial demands (Thomas and Chess, 1977).

From the view of behavioral genetics, temperamental characteristics are early-emerging traits that have immutable and persistent influences on behavior due to their genetic basis (Plomin, 1983). Thus, this view suggests that there is high continuity across early development and temperament is a relatively strong predictor of later socio-emotional functioning.

Lerner and Lerner (1983) viewed that developmental significance of temperament lies in its impact on the social context of the child. The implications of a child's temperamental individuality for his or her personality development have been argued not to lie in any organismic association between particular features of temperament

and specific aspects of personality. Lerner and Lerner (1983) have suggested that temperament lies in the level of congruence, match, or "goodness of fit" between a particular aspect of temperament and the demands or presses of the psychosocial and physical context. They emphasized the demands of the organism's context must be understood to be part of the explanation of individual development, and that such demands varied across societies, cultures, and history.

From the social-ecological approach, McCartney and Galanopoulos (1988) argued that individual differences among developing persons must be considered (e.g. differences in age, sex, birth order, temperament, and effect of child care). The study of temperament suggests that individual differences in temperament may be linked to stress (Werner & Smith, 1982), quality of parent-child relations (Cronckenberg, 1981), adequacy of adjustment to changes in environmental settings (Thomas, Sillan & Mendez, 1974), and adaptive coping styles (Garmezy, 1981).

From a methodological view, alternative modes of assessing temperament in early development have emerged in reaction to critiques of the traditional reliance on parent-report questionnaires or interview. The interpretation of a parent-report questionnaire has been questioned, specifically because the adult's attributes have been found to correlate with their perceptions of the child's characteristics(Vaughn, Taraldson, Crichton, & Egeland, 1980). Thus, there are inconsistent findings from parent-report, self-report, and observer-rating procedures concerning the child's temperamental quality (Goldsmith, 1983).

Definition

Most current temperament theorists view child's temperament as a

"conceptualization" (Buss & Plomin, 1984; Chess & Thomas, 1984; Goldsmith, 1985; Lerner & Lerner, 1983). Temperament traits have been proposed by various investigators to include activity, attention span, distractibility, distress-proness, fearfulness, persistence, reactivity, sociability, and soothability (Buss & Plomin, 1984). Temperament dimensions are usually expected to be fairly stable and to have biological origins, with some qualifications. With regard to stability, the primary qualification is that stability should be evident within developmental periods, although not necessarily across periods of developmental transition or "behavioral shifts" (Goldsmith & Campos, 1982).

The study of temperament and its functional significance (Thomas, & Chess, 1957) had been the first systematic exploration of the active influence of the child's own characteristics on the parents, as well as on other influential persons in the child's environment. The data from the New York Longitudinal Study (NYLS) have confirmed their original hypothesis that the parent-child interaction is a two-way street: the child's behavioral style influences parental attitudes and practices, and the parents' attitudes and practices influence the child.

Thomas and Chess (1981) reported that their view of the parent-child relationship as mutually interactive stemmed in part from the lack of correspondence they observed between child-care practices of parents and the way those children developed. They concluded that "the course of development was determined not only by the differences in the family and extra-familial environment, but also by individual differences in the child himself, by the child's temperamental characteristics" (p. 234). The New York Longitudinal Study (NYLS) was begun in 1956. From the original study only

five subjects have been lost to the study. The families were of middle or upper-middle-class background, and almost all parents were born in the United States. In addition, to obtain a population of contrasting socioeconomic background, the second longitudinal study was begun in 1961. Ninety-five children of working-class Puerto Rican parents were included. The families were mostly intact and stable. Eighty-six percent lived in low-income public housing projects (Hertzig, Birch, Thomas, & Mendez, 1968).

Nine categories of temperament were established by an inductive content analysis of the parent interview protocols for the infancy periods. Item scoring was used, a three-point scale was established for each category, and the item scores were transformed into a weighted score for each category on each record. The nine categories of temperament and their definitions include:

(1) Activity level: the motor component present in a given child's functioning and the diurnal proportion of active and inactive periods. Protocol data on motility during bathing, eating, playing, dressing and handling, as well as information concerning the sleep-wake cycle, reaching, crawling and walking, are used in scoring this category.

(2) Rhythmicity (Regularity): the predictability and/or unpredictability in time of any function. It can be analyzed in relation to the sleep-wake cycle, hunger, feeding pattern, and elimination schedule.

(3) Approach or Withdrawal: the nature of the initial response to a new stimulus, be it a new food, new toy, or new person. Approach responses are positive, whether displayed by mood expression or motor activity. Withdrawal reactions are negative,

whether displayed by mood expression or motor activity.

(4) Adaptability: responses to new or altered situations. One is not concerned with the nature of the initial responses, but with the ease with which they are modified in desired directions.

(5) Threshold of Responsiveness: The intensity level of stimulation that is necessary to evoke a discernible response, irrespective of the specific form that the response may take or the sensory modality affected by stimulation. The behaviors utilized are those concerning reactions to sensory stimuli, environmental objects, and social contracts.

(6) Intensity of Reaction: the energy level of response, irrespective of its quality or direction.

(7) Quality of Mood: the amount of pleasant, joyful, and friendly behavior, as contrasted with unpleasant, crying, and unfriendly behavior.

(8) Distractibility: the effectiveness of extraneous environmental stimuli in interfering with or in altering the direction of the ongoing behavior.

(9) Persistence: Two categories, attention span and persistence, are included. Attention span concerns the length of time a particular activity is pursued by the child. Persistence refers to the continuation of an activity in the face of obstacles to the maintenance of the activity direction.

Three temperamental constellations of functional significance have been defined. The first group is characterized by regularity, positive approach responses to new stimuli, high adaptability to change, and mild or moderately intense mood. These children quickly develop regular sleep and feeding schedules, take to most new foods

easily, smile at strangers, adapt easily to a new school, accept most frustration with little fuss, and accept the rules of new games with no trouble. Such a youngster is called the Easy Child. This group comprised about 40 percent of the NYLS sample.

At the opposite end of the temperamental spectrum is the group with irregularity in biological functions, negative withdrawal responses to new stimuli, non-adaptability or slow adaptability to change, and intense mood expressions which are frequently negative. These children show irregular sleep and feeding schedules, slow acceptance of new foods, prolonged adjustment periods to new routines, people, or situations, and relatively frequent and loud periods of crying. Laughter is also characteristically loud. This is the Difficult Child. This group comprises about 10 percent of the NYLS sample.

The third temperamental constellation is marked by a combination of negative responses of mild intensity to new stimuli with slow adaptability after repeated contact. In contrast to the difficult children, these youngsters are characterized by mild intensity of reactions, whether positive or negative, and by less tendency to show irregularity of biological functions. The negative mild responses to new stimuli can be seen in the first encounter with the bath, a new food, a stranger, a new place or a new school situation. If given the opportunity to re-experience such new situations over time and without pressure, such a child gradually comes to show quiet and positive interest and involvement. A youngster with this characteristic sequence of response is referred to as the Slow-To-Warm-Up Child. About 15 percent of the NYLS sample falls into this category.

While the general consensus is that temperament refers to individual behavioral

differences, no universally accepted definition has emerged. Given the diversity of definitional criteria and lack of agreement on a definition, the common practice is to define this trait operationally, based on the instruments used to assess temperament.

Maternal Employment

The reviews on the effects of maternal employment on child development provided evidence to the long-standing concern that maternal employment might have adverse effects on children (Hoffman, 1979). Differences in social-emotional development and pro-social behavior in children may result from maternal employment and parental anxiety about their child as well as child care arrangements.

From the associations between family characteristics and use of child care, Vandell and Corasanti (1990) found that more extensive child care predicted that children would receive more negative ratings from parents and teachers, poorer academic grades and standardized test scores, and more negative sociometric nominations. Interaction effects between extensive infant care and exclusive maternal care were associated with more problematic functioning depending on parental marital status, social class, and child gender. However, they found no evidence of negative effects associated with part-time care. Low-quality care is more likely to be used by low-income families (Howes & Stewart, 1987, and Lamb, Hwang, Broberg, & Bookstein, 1988) and by families with authoritarian educational beliefs (McCartney, 1984). McCartney (1984) reported that employed mothers have less traditional views about child rearing. Maternal separation anxiety is associated with the type of child care arrangement (Hock, DeMeis, & McBride, 1988). McBride (1990) found

relationships between the components of quality of care and maternal separation anxiety. Mothers who expressed more general separation anxiety and anxiety about separation effects on their children had children in classrooms with lower adult-child ratios. Weinraub, Jaeger, and Hoffman (1988) showed that role satisfaction had different correlations for employed versus non-employed mothers. They found a relationship between the employed mothers' satisfaction with child care help and with the child's ability to cope, while the non-employed mothers' satisfaction was correlated with emotional supports.

Hock (1978, 1980) studied groups of employed and unemployed mothers when the infants were three months old. She found that mothers who resumed paid work within the infants' first trimester reported less infant distress at separation, were themselves less anxious about separation, and trusted supplementary caretakers more than did unemployed mothers. Career orientation was differentially correlated with other attitudes among working and nonworking mothers. Among employed mothers, the correlations were all negative. The higher the career orientation, the less the reported distress at separation, the less the mothers' anxiety about separation, and the less the mother's apprehension about other caretakers. These variables were positively correlated with career orientation among the unemployed mothers.

In her report (1980), Hock showed that working mothers were less likely to believe that they alone could meet their infants' needs adequately than unemployed mothers, and that unemployed mothers seemed to have a greater need for reassurance and guidance from others. The only behavioral difference related to maternal employment status was that the infants of unemployed mothers displayed more

resistant behavior toward the stranger in Ainsworth's Strange Situation (Ainsworth, Blehar, Waters, & Wall, 1978). However, there were no group differences in maternal behavior.

Hock (1980) subsequently compared the unemployed mothers with mothers who originally planned not to work but later changed their minds and decided to seek paid employment. Those who changed plans regarding employment were much less likely to have planned the pregnancy and were much more career oriented than were those who followed through on their decisions not to seek employment. Those who changed plans perceived infant distress as a personal affront and reported being more upset by their infants' fussiness than the unemployed mothers were. According to Hock (1980), from the baby's birth to three months of age, those who changed plans grew less positive in attitude toward the maternal role whereas the nonworkers tended to grow more positive. Those who changed plans perceived their babies as less dependent on their own unique care-giving characteristics.

Belsky's (1988) study showed that babies whose mothers worked full-time in their first year were disproportionately likely to be classified as insecurely attached at 12 months, compared with infants whose mothers did not work full-time (41% vs. 26%). Belsky focused on four studies: Barglow, Vaughn, and Molitor (1987), Belsky and Rovine (1988), Chase-Lansdale and Owen (1987), and Jacobson and Wille (1984). The difference was not significant for later-born children in the Barglow et al.'s (1987) study, and it was not significant at all in the Chase-Lansdale and Owen's (1987) study. Belsky (1988) included only studies using a standardized assessment procedure (Ainsworth's Strange Situation), and he combined subjects rather than significance

levels across studies. Belsky's (1988) findings were important and revealing, because researchers analyzing smaller data sets did not find difference between infants of employed and nonemployed mothers statistically significant.

Contrary to Belsky's study, day care appears to have no adverse effects on the child-mother attachment (Brookhart & Hock, 1976). Blehar (1974) reported divergent findings, suggesting that children who entered day care around two years of age were likely to avoid their mothers after a brief separation, whereas those who entered day care at three behaved angrily toward their mothers. However, Blanchard and Main (1979) suggested that Blehar (1974) had observed temporary adjustment difficulties right after enrollment rather than enduring effects. In all, the evidence suggests that day care generally does not have adverse effects on the development of young children, but these studies suggest the significance of maternal employment.

Greenberger and Goldberg (1989) found that employed mothers are more committed to their careers than are women who are not employed or who resume employment later. When predicting verbal intelligence, McCartney and Rosenthal (1990) found from the National Longitudinal Study of Youth that there were interactions between maternal employment and mother's education. Women who are employed and women who return to the work-force more quickly following the birth of their children are more likely to be black (as opposed to Hispanic or white) and to have higher family incomes (Garrett, Lubeck, & Wenk, 1991).

Comparing the mother-infant interactions involving employed and unemployed mothers of infants, Cohen (1978) reported no group differences during the first year of life. In the second year, however, she found that the nonworking mothers had more

positive interactions with their infants, who in turn vocalized more and had higher developmental quotients. However, it is not clear that the group differences can be attributed to maternal employment status. The study of maternal employment is further complicated because its effects may depend on the child's age when the mother becomes employed. Belsky (1988) has argued that maternal employment during infancy and early childhood is a more powerful influence on children's later development than subsequent maternal employment.

Lamb (1982) described that employed mothers with infants valued work more and parenthood less than did nonemployed mothers. Working mothers also reported less support from family and friends for their child-care plans. They reported marginally more help in child care from their husbands, whereas the fathers themselves reported that they provided substantially more help than did the husbands of the unemployed mothers. Satisfaction with parenthood was positively correlated with the value of parenthood and was negatively correlated with both the perceived value of work and resentment of the infant's intrusion. When employed mothers valued both parenthood and work, their infants tended to develop secure attachments, indicating that maternal employment did not necessarily result in insecure mother infant attachments. Lamb (1982) stated it was the perceived importance of parenthood that was critical.

In a study of the effects, comparing employed and unemployed mothers with preschool-aged children, Goldberg (1977) reported that employed and unemployed middle- class mothers spent equivalent amounts of time in one to one interaction with their children. This finding suggested that maternal employment did not necessarily reduce the amount of parent-child interaction and made it even more important to

explore further the qualitative factors mediating parental influences on their children's development.

Hock and DeMeis (1990) identified significant psychological factors that mediated the relation between employment, motherhood, and the mental health status of mothers of infants. The results indicated that women who preferred employment but remained at home reported higher levels of depressive symptomatology. Also, this study showed that homemakers who preferred employment held conflicting sets of beliefs about the maternal role, separation from their infants, careers, and employment.

Temperament, parental attitudes and child-bearing practices play a major role in the child-environment interaction. The effect of the child's specific temperament on the parent can take many directions, depending on the parent's personality structure, goals and expectations for the child, and socio-economic opportunities and constraints. The effect of the parents' attitudes and practices on the child can also be varied depending on the specific parental style of response and adaptation. Since the child's behavior might have been shaped in part by the mother's behavior, child's behavior cannot be assumed to be independent of care-giver behavior. Therefore, the correlations between that measure of temperament and maternal behavior would be open to the interpretation that the mother's behavior is influential rather than consequential in relations to child temperament.

There is substantial evidence that mothers who are satisfied with their lives, whether or not they are employed, have well adjusted children. However, there remains a substantial need for research designed to determine how maternal employment affects parental perceptions of young children.

CHAPTER III

HYPOTHESES

The current study seeks to examine maternal perception of preschool children's temperament and its relationship to the mothers' employment status.

There is considerable difficulty in trying to ascertain the effects of maternal employment on children. Mothers who are employed may differ a priori from mothers who are not employed. The evidence suggests that employed mothers have less traditional views about child rearing (McCartney, 1984), are less anxious about separating from their children (Hock, DeMeis, & McBride, 1988), and are more committed to their careers (Greenberger & Goldberg, 1989) than are women who are not employed or who resume employment later.

Belsky (1988) and others (Bogenschneider, 1990; Heyns & Catsambis, 1986; Vandell & Corasanti, 1990) argued that maternal employment during infancy and early childhood has a more powerful influence on children's later development than subsequent maternal employment.

Two conflicting hypotheses concerning the effects of maternal employment on the perception of children's temperament can be proposed. One is that employment contributes to cumulative stress on families, thereby resulting in negative perceptions of children's temperament when mothers are employed. An alternative hypothesis is

that the financial and emotional benefits associated with maternal employment are so substantial that children whose mothers are employed demonstrate better developmental progress than children whose mothers are not employed. Based on the literature review the following hypotheses were tested:

1. Child's age would significantly predict five constellations of child's temperament.
2. Child's gender would significantly predict five constellations of child's temperament.
3. Maternal employment status and mother's educational attainment would significantly predict five constellations of child's temperament.
4. Maternal employment status and educational attainment would significantly predict the nine categories on the Temperament Scale.
5. Age at entry would significantly predict the five constellations on the Temperament Scale.
6. Age at entry would significantly predict the nine categories on the Temperament Scale.

CHAPTER IV

METHODOLOGY

Subjects

Subjects for this study were 67 parents with their children (32 boys, 35 girls) aged 28 to 65 month olds (mean age, 49 months) from the Presbyterian Preschool, Child Development Lab. at Oklahoma State University, Rainbow Preschool, First Christian Preschool, and Will Rogers Preschool in Stillwater, Oklahoma. The original sample included 68 families who agreed to participate in the study. One family was excluded in the coding because the father completed the forms.

Procedures

A researcher explained the research project to the mother and obtained her written consent to participate. In addition to demographic information, the mother was asked to complete the BSQ (Behavioral Style Questionnaire, McDevitt & Carey, 1978) or TTS (Toddler Temperament Scale, Fullard, McDevitt, & Carey, 1984). The mean time for completion was about 20 minutes. The data for the standardization sample was scored and resulted in a category score for each temperament dimension. The scores were plotted on the profile sheet which had instructions on how to place the

child into one of the diagnostic categories described.

Measures

Temperament Questionnaires

The Behavioral Style Questionnaire (McDevitt & Carey, 1978) for three to five year old children and the Toddler Temperament Scale(Fullard, McDevitt, & Carey, 1978) for two year old children were used to measure child's basic personality-behavioral dimensions (temperaments) of children. The questionnaires are based on the conceptualization of Thomas et al. (1963) and standardized on 350 children in a pediatric practice. Test-retest reliability and alpha reliability are both satisfactory, 0.89 and 0.84, respectively.

Variables on BSQ and TTS are activity level, rhythmicity of body functions, approach, adaptability, intensity, mood, persistence (attention span), distractibility, and sensory threshold as described by Thomas et al. (1963). Thomas et al. (1968) described three constellations, easy, difficult, and slow-to warm-up, of temperament characteristics derived from combinations of the nine temperament variables. Four of these variables(approach, adaptability, intensity, and mood) were shown to be related by factor analysis. Rhythmicity was added on clinical grounds.

The three constellations are as follows. First, the easy child is rhythmic, high in initial approach and adaptability, mild in intensity, and positive in mood (33.1 % of the original NYLS sample). Second, the difficult child is arrhythmic, low in approach and adaptability, intense, and negative in mood (18.6% of the NYLS sample). Third, the slow-to-warm-up child is low in activity, approach, and adaptability, negative in

mood, variable in rhythmicity, and mild in intensity (16% of the NYLS sample). To fill out the remaining 32.3% of individuals who do not fall clearly into one of the above categories, Carey (1970) has designated the remaining subjects as intermediate high and intermediate low, based on the number of category scores falling on the difficult side of the mean. For this study, the questionnaires developed by Carey and his colleagues were selected because of their wide use, availability, norms, and the extensive research and clinical applications for which they had been used. At 36 to 60 months, the appropriate version was the Behavioral Style Questionnaire (BSQ) (McDevitt & Carey, 1978), and at 12 to 36 months, the appropriate version was the Toddler Temperament Scale (TTS, Fullard, McDevitt, & Carey, 1984). The Behavioral Style Questionnaire (BSQ) and the Toddler Temperament Scale (TTS) are included in Appendices A and B.

Demographic Parents' Questionnaire Regarding Background Information.

The purpose of the background information was to investigate the ecology of maternal employment. The main variables were maternal employment status, mother's education level, child's age at entry into child care, child's age and gender. The questionnaire is included in Appendix C.

CHAPTER V

RESULTS

The results are presented in the following order: preliminary analyses to examine the effect of age and gender on the perception of the child's temperament; primary analyses to examine employment status and mother's educational attainment on child's temperament.

Separate linear regression analyses were used to examine the predictability of temperament scores by age, gender, maternal employment status, the mother's education attainment, and age at entry. Since age did significantly predict several dependent variables, it was added into all other regression models. Gender was not included as a predictor, since it did not significantly predict the five constellations or the temperament dimensions.

Nine dimensions of temperament as specified by (McDevitt & Carey, 1978, and Fullard, McDevitt, & Carey, 1984) were used in the analyses: Activity, Rhythmicity, Approach/Withdrawal, Adaptability, Intensity, Mood, Persistence, Distractibility, and Threshold. The children's temperament scores were treated in two ways. First, the scores were treated as continuous in order to investigate the relations between this overall dimension of maternal perception of temperament and several variables. Dimensions of temperament were Activity, Rhythmicity,

Approach/Withdrawal, Adaptability, Intensity, and Mood. Second, the scores were categorized into five constellations: Easy, Intermediate Low, Slow to Warm Up, Intermediate High, and Difficult. According to scoring instructions from the profile sheet, definitions of diagnostic clusters used for individual scoring were as follows.

(1) A child whose scores were greater than the mean in no more than two of the difficult/easy categories (rhythmicity, approach, adaptability, intensity, and mood) but not greater than one standard deviation from the mean was categorized as "Easy".

(2) A child whose scores did not fall into these categories was categorized as "Intermediate-low".

(3) A child whose four or five scores were greater than the mean in the difficult/easy categories was categorized as "Slow-to-warm-up". However if either withdrawal or slow adaptability was greater than one standard deviation, activity might vary up to 3.93 (4.42 in TTS) and mood might vary down to 2.97 (2.58 in TTS).

(4) A child was categorized as "Intermediate-high" according to either of the following criteria: a) four or five scores were above the mean, and one score was greater than 1 standard deviation; b) two or three scores were above mean with two or three scores greater than one standard deviation in the easy/difficult categories.

(5) A child whose four or five scores, including intensity, were greater than the mean in the difficult/easy categories was categorized as "difficult" if two scores were greater than one standard deviation.

The scoring profile sheets for BSQ and TTS are included in Appendices D and E. Table 1 lists the means and standard deviations for the variables.

TABLE I

MEANS AND STANDARD DEVIATIONS FOR THE VARIABLES

Variables	Means	SD
Child Age (in months)	49.02	10.53
No of Employment Hours(per week)	20.62	17.41
No of Mother's Education (years)	16.04	2.09
Constellations of Temperament	2.73	1.47
Dimensions of Temperament	16.48	2.44
Each Category of Temperament		
Activity	3.65	0.58
Rhythmicity	3.11	0.76
Approach	3.13	0.89
Adaptability	2.78	0.72
Intensity	4.24	0.71
Mood	3.23	0.63
Persistence	2.98	0.65
Distractibility	3.67	0.68
Threshold	3.71	0.57

Preliminary Analyses

Data were analyzed for (a) age differences in the five constellations of temperament, the sum of scores in the easy/difficult dimensions, and the nine categories and (b) gender differences in the five constellations of temperament, the sum of scores in the easy/difficult dimensions, and the nine categories. Separate linear regression analyses were run for age and gender.

Age Differences

Age was treated as a continuous variable and did significantly predict the five constellations (approximate F=4.11, p=0.05), diagnostic dimensions (easy/difficult categories) (approximate F=6.73, p=0.01), and categories of approach (approximate F=4.40, p=0.04) and intensity (approximate F=9.91, p=0.002) of temperament. The influence of age in predicting five constellations, easy/difficult dimensions, and the nine categories was analyzed by simple linear regressions. Age was found to predict differences in the five constellations of temperament (adjusted r-square=0.05), the dimension of temperament (easy/difficult categories)(adjusted r-square=0.09), and the categories of activity (adjusted r-square=0.02), approach (adjusted r-square=0.06), and intensity (adjusted r-square= 0.13). The results are shown in Tables 2.

TABLE II

RESULTS OF LINEAR REGRESSION ANALYSES PREDICTING TEMPERAMENT BY AGE

Temperament	F	p>F	Adjusted r2
Constellations	4.11	0.05*	0.05
Dimensions	6.73	0.01**	0.09
Each Category of Temperament			
Activity	2.36	0.13	0.02
Approach	4.40	0.04*	0.06
Intensity	9.91	0.003**	0.13
Mood	2.14	0.14	0.02

* $p \leq .05$.
** $p \leq .01$.

Gender Differences

As an initial check for gender differences, linear regression analysis was used. Child's gender did not significantly predict either easy/difficult dimensions as a group (adjusted r-square=-0.008, p=0.50) or the five constellations of temperament (adjusted r-square=-0.007, p=0.49). Though it was not included in the hypotheses, gender did significantly predict two of the nine dimensions, distractibility (adjusted r-square=0.06, p=0.03) and threshold (r=0.08, p=0.01). The means and standard deviations for gender differences are shown in Table 3.

TABLE III

GENDER DIFFERENCES - MEANS AND STANDARD DEVIATIONS

	Boys		Girls	
Variables	Means	SD	Means	SD
Age	50.43	10.02	47.74	10.96
Age at Entry	18.96	15.40	26.72	13.68
Months at Day Care	24.53	14.35	18.03	14.00
Maternal Empl.	17.75	16.69	23.39	17.88
Educ. Attain.	15.93	2.35	16.14	1.85
Five Const. of Temp	2.59	1.43	2.86	1.52
Dimens. of Temp	16.70	2.67	16.28	2.23
Each Category of Temperament				
Activity	3.68	0.55	3.62	0.62
Rhythmicity	3.08	0.76	3.13	0.76
Approach	3.16	0.99	3.10	0.81
Adaptability	2.82	0.84	2.75	0.60
Intensity	4.31	0.64	4.17	0.78
Mood	3.33	0.71	3.13	0.56
Persistence	3.05	0.67	2.91	0.63
Distractibility	3.48	0.58	3.85	0.73
Threshold	3.53	0.56	3.87	0.53

Primary Analyses

Since age did significantly predict multiple variables, it was added into all other regression models. Data were analyzed for (a) maternal employment status in conjunction with child's age as predictors of the five constellations of temperament, the sum of scores in the easy/difficult dimensions, and the nine scores of each category, (b) mother's educational attainment in conjunction with child's age as predictors of the five constellations of the temperament, the sum of scores in the easy/difficult dimensions, and the nine scores of each dimension , and (c) age at entry as a predictor of the five constellations of temperament, the sum of scores in the easy/difficult dimensions, and the nine scores of each dimension.

Maternal Employment and Mother's Educational Attainment on the Five Constellations and Easy/Difficult Dimensions of Temperament

The number of hours per week each mother was employed as well as the number of years of school in conjunction with the age of the child were used to predict the 5 constellations and diagnostic dimensions of temperament. Non-significant predictability was found by the combined model, maternal employment (adjusted r-square=0.04), mother's educational attainment (adjusted r-square=0.04) of temperament. However, maternal employment status approached significant prediction for the threshold category (approximate F=2.74, p=0.10), and mother's educational attainment similarly approached prediction for activity (approximate F=3.68, p=0.06) and persistence (approximate F=3.52, p=0.07) dimensions of temperament. The results are shown in Table 4.

TABLE IV

RESULTS OF MULTIPLE LINEAR REGRESSION ANALYSES PREDICTING TEMPERAMENT

Maternal Employment in Conjunction with Age			
Outcome Variables	F	p>F	Adj.r2
Activity	2.19	0.14	0.06
Threshold	2.74	0.10+	0.03

Mothers' Educational Attainment in Conjunction with Age			
Outcome Variables	F	p>F	Adj.r2
Activity	3.68	0.06+	0.04
Persistence	3.52	0.07+	0.04

+ P ≤.10

Other Demographic Information and Five Constellations of Temperament and the Nine Categories

Age at entry did not significantly predict the five constellations of temperament (r=-.08, p>.5). In conjunction with age of child, there were also no significant findings regarding the nine categories. In specific variables, age of entry did not predict significantly.

A correlational matrix was generated to examine the relationship between temperament and child's gender, age, maternal employment status, mother's educational attainment, and age at entry. Correlations of children's temperament by

category with age yielded correlations which ranged from 0.04, the category of adaptability (r=0.04, N.S.) to 0.39, the category of intensity (r=0.39, p<.001). Threshold was significantly related to maternal employment (r=0.26, p=0.03), and activity (r=0.22, p=0.07) and persistence (r=0.29, p=0.02) were related to mother's educational attainment. The correlations are shown in Table 5.

TABLE V

CORRELATIONS AMONG AGE, MATERNAL EMPLOYMENT STATUS, MOTHER'S EDUCATIONAL ATTAINMENT, AND AGE AT ENTRY TO TEMPERAMENT

		Const	Dimen	Thres	Activ	Rhyth	Appro	Adapt	Inten	Mood	Persi	Distr
Age	(r)	0.25	0.32	-	-0.21	-	0.25	-	0.39	-	-	-
	(p)	0.04*	0.01**	-	0.10+	-	0.04*	-	0.001***	-	-	-
Empl.	(r)	-	-	0.26	-	-	-	-	-	-	-	-
	(p)	-	-	0.03*	-	-	-	-	-	-	-	-
Educ.	(r)	-	-	-	0.22	-	-	-	-	-	0.29	-
	(p)	-	-	-	0.07+	-	-	-	-	-	0.02*	-
Age at	(r)	-	-	-	-	-	-	-	-	-	-	-
Entry	(p)	-	-	-	-	-	-	-	-	-	-	-

+ $p \leq .10$.
* $p \leq .05$.
** $p \leq .01$.
*** $p \leq .001$.

CHAPTER VI

DISCUSSION

The purpose of this study was to identify whether maternal employment status can predict child temperament. Gender and age at entry were not good predictors of temperament. It was also found that age did significantly predict temperament, as well as several of the individual temperament dimensions; maternal employment did significantly predict one of the temperament dimensions; that of threshold, and mother's educational attainment did significantly predict another of the dimensions; that of persistence.

Of the relationships tested, age best predicted the differences in the five constellations of temperament and the dimension of temperament (easy/difficult categories). This predictability was hypothesized in Hypothesis 1. Given the age range of the children, it should be expected that age would be important. Between the ages of two and five, many important changes occur. Age appeared to be the most important factor in predictions the 5 constellations of temperament for these children. Age significantly predicted activity, approach/withdrawal and intensity of the nine temperament variables. It may be that older children are more active and independent, and younger children were more likely to watch the environment. Fagot and Hagan (1991) argued that the second year of life is the time when children are learning many

new skills and when parents are still experimenting with parenting styles. Parents may well use stereotypical responses when unsure of themselves. They found significant effects of age upon parent reactions to child behavior. In both samples 18-month-old children received more negative reactions than both 12-month-olds and 5-year-olds. Their data suggest that 18 months is a critical age, for the behaviors of 18-month-olds are starting to be responded to with direction and instruction, undoubtedly as a function of their increasing language skills. The current study showed that parents varied the perception of child's temperament according to the age of the child. Bates, Maslin, and Frankel (1985) found that maternal ratings of anxious and acting-out behavior problems at 3 years of age were predicted by earlier perceptions of temperament and activity management problems. They suggested that early mother perceptions were generally better predictors than direct observations of mother-child interactions.

Hypothesis 2 tested whether child's gender would significantly predict the perception of temperament. Although gender did not predict temperament significantly, gender did significantly predict distractibility and threshold of temperament variables. Crockenberg & Litman (1991) found that boys with employed mothers were more likely than boys with nonemployed mothers and than girls with employed mothers to engage in defiant behavior during the laboratory clean-up task. Bronfenbrenner et al., (1984) found employed mothers viewed their three year old boys more negatively while employed mothers view their three year old girls more positively than did other groups of mothers. No main effects of child's sex or mother's education were found in relation to child compliance and defiance

(Crockenberg, & Litman, 1990). However, Lytton and Romney (in press) found few consistent differences in examining the socialization differences of boys and girls. The results of Lytton and Romney as well as Maccoby and Jacklin (1974) confirmed that to look for sex-differentiated socialization in all parent-child reactions will not help to understand sex-role development or differences in boys and girls. The Lytton and Romney study suggested that age was a crucial variable in order to measure parent reactions and child behaviors. The present study support Lytton and Romney's finding.

The primary analyses, to test hypotheses 3 through 6, included age since it was a significant predictor in the preliminary analysis. In this study, the numbers of working hours per week were used for maternal employment status, and the numbers of years of formal schooling were used for mother's educational attainment.

Maternal employment status and mother's educational attainment did not significantly predict the five constellations of child's temperament as hypothesized in Hypothesis #3. In the past research, Bronfenbrenner, Alvarez, and Henderson (1984) investigated the possibility that mothers' employment outside the home influenced parents' perceptions of their young children. Bronfenbrenner et al. found that, although employment status had a significant main effect on mothers' descriptions of their children, this effect was qualified by the interaction of employment status and gender of child. Crockenberg and Litman (1991) found maternal employment adversely affected maternal behavior when satisfaction with social support or with the work role was low, but only in the laboratory. They found positive effects of employment on maternal behavior in the home. The present study did not support

either Bronfenbrenner's or Crockenberg's finding. Mother's perception of a child's temperament was not differentiated because of her employment.

Maternal employment status in conjunction with age did significantly predict threshold; and mother's educational attainment with age predicted significantly activity and persistence categories on the Temperament Scale as hypothesized in Hypothesis #4. Goldberg (1977) reported that employed and unemployed middle-class mothers spent equivalent amounts of time in one-to-one interaction with their children and suggested that maternal employment did not necessarily reduce the amount of parent-child interaction. It may be that educated mothers are encouraging children to be more active and curious, so children are better able to remain in a variety of activities. As a result, a persistent child can engage in activities without moving from one thing to another, and thus receive significant results.

Unexpectedly in this study, there were no differences for age at entry on five constellations of child's temperament as hypothesized in Hypothesis #5, and the nine categories on the Temperament Scale in Hypothesis #6. Though previous research (Vandell & Corasanti, 1990) reported that more extensive child care and exclusive maternal care predicted that children would receive more negative ratings, poorer academic grades and standardized test scores, and more negative sociometric nominations from parents and teachers, age at entry in this study did not predict parent's perception. Rather, months at day care did significantly predict intensity of temperament

The measure of temperament may not be sensitive enough to be influenced by the maternal employment status. A child with a mother working full-time may have

positive scores of rhythmicity, approach, adaptability and negative scores of intensity of easy/difficult dimensions on temperament. A child routinely exposed to mother-child separations as part of their child care experience may be more rhythmical and adaptable. As a result, behavior that actually reflects positive scores may be coded inappropriately as difficult categories (e.g. Rhythmicity, Approach, and Adaptability).

Measurement and the limited sample variability (highly educated mothers, mean=16.01 years) may have diminished the probability of finding relationships between specific temperament dimensions and maternal employment status. However, the categories of temperament and maternal employment status and educational attainment relationships found in this study may provide a basis for formulating further questions in this area. For instance, mothers' employment outside the home did not influence parents' perceptions of their young children. Rather, months at day care, the categories of activity, and intensity of temperament are predictive of difficultness of temperament. This present study is significant primarily because it focuses on the construct of temperament as a parent's perception in relationship to their maternal employment status. The argument that temperament serves to differentiate the parents' perception focused on their employment status has not previously been made.

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APPENDIXES

APPENDIX A

TODDLER TEMPERAMENT QUESTIONNAIRE

USING THE SCALE SHOWN BELOW, PLEASE MARK AN "X" IN THE SPACE THAT TELLS HOW OFTEN THE CHILD'S RECENT AND CURRENT BEHAVIOR HAS BEEN LIKE THE BEHAVIOR DESCRIBED BY EACH ITEM.

Almost never	Rarely	Usually does not	Usually does	Frequently	Almost always
1	2	3	4	5	6

1. The child gets sleepy at about the same time each evening (within 1/2 hour).	almost never	___	___	___	___	___	___	almost always
2. The child fidgets during quiet activities (story telling, looking at pictures).	almost never	___	___	___	___	___	___	almost always
3. The child takes feedings quietly with mild expression of likes and dislikes.	almost never	___	___	___	___	___	___	almost always
4. The child is pleasant (smiles, laughs) when first arriving in unfamiliar places.	almost never	___	___	___	___	___	___	almost always
5. A child's Initial reaction to seeing the doctor is acceptance.	almost never	___	___	___	___	___	___	almost always
6. The child pays attention to game with parent for only a minute or so.	almost never	___	___	___	___	___	___	almost always
7. The child's bowel movements come at different times from day to day (over one hour difference).	almost never	___	___	___	___	___	___	almost always
8. The child is fussy on waking up (frowns, complains, cries).	almost never	___	___	___	___	___	___	almost always
9. The child's initial reaction to a new baby sitter is rejection (crying, clinging to mother etc.)	almost never	___	___	___	___	___	___	almost always
10. The child reacts to a disliked food even if it is mixed with a preferred one.	almost never	___	___	___	___	___	___	almost always
11. The child accepts delays (for several minutes) for desired objects or activities (snacks, treats, gifts).	almost never	___	___	___	___	___	___	almost always
12. The child moves little (stays still) when being dressed.	almost never	___	___	___	___	___	___	almost always
13. The child continues an activity in spite of noises in the same room.	almost never	___	___	___	___	___	___	almost always
14. The child shows strong reactions (cries, stamps feet) to failure.	almost never	___	___	___	___	___	___	almost always
15. The child plays continuously for more than 10 minutes at a time with a favorite toy.	almost never	___	___	___	___	___	___	almost always
16. The child ignores the temperature of food, whether hot or cold.	almost never	___	___	___	___	___	___	almost always
17. The child varies from day to day in wanting a bottle or snack before bedtime at night.	almost never	___	___	___	___	___	___	almost always
18. The child sits still while waiting for food.	almost never	___	___	___	___	___	___	almost always

Almost never 1	Rarely 2	Usually does not 3	Usually does 4	Frequently 5	Almost always 6

19. The child is easily excited by praise (laughs, yells, jumps).	almost never	1	2	3	4	5	6	almost always
20. The child cries after a fall or bump.	almost never	1	2	3	4	5	6	almost always
21. The child approaches and plays with unfamiliar pets (small dogs, cats).	almost never	1	2	3	4	5	6	almost always
22. The child stops eating and looks up when a person walks by.	almost never	1	2	3	4	5	6	almost always
23. The child seems unaware of differences in taste of familiar liquids(type of milk, different juices).	almost never	1	2	3	4	5	6	almost always
24. The child moves about actively when he/she explores new places (runs, climbs or jumps).	almost never	1	2	3	4	5	6	almost always
25. The child fusses or whines when bottom cleaned after bowel movement.	almost never	1	2	3	4	5	6	almost always
26. The child smiles when played with by unfamiliar adults.	almost never	1	2	3	4	5	6	almost always
27. The child looks up from play when mother enters the room.	almost never	1	2	3	4	5	6	almost always
28. The child spends over an hour reading a book or looking at the pictures.	almost never	1	2	3	4	5	6	almost always
29. The child responds intensely (screams, yells)	almost never	1	2	3	4	5	6	almost always
30. The child eats about the same amount of solid food at meals from day to day.	almost never	1	2	3	4	5	6	almost always
31. The child remains pleasant when hungry and waiting for food to be prepared.	almost never	1	2	3	4	5	6	almost always
32. The child allows face washing without protest (squirming, turning away).	almost never	1	2	3	4	5	6	almost always
33. The amount of milk or juice the child takes at mealtime is unpredictable from meal to meal (over 2 oz. difference).	almost never	1	2	3	4	5	6	almost always
34. The child practices physical activities (climbing, jumping, pushing objects) for under 5 minutes.	almost never	1	2	3	4	5	6	almost always
35. The child vigorously resists additional food or milk when full (spits out, clamps mouth closed, bats at spoon, etc.)	almost never	1	2	3	4	5	6	almost always

Almost never 1	Rarely 2	Usually does not 3	Usually does 4	Frequently 5	Almost always 6

36. The child plays actively (bangs, throws, runs) with toys indoors.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
37. The child ignores voices when playing with a favorite toy.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
38. The child approaches (moves toward) new visitors at home.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
39. The child plays outside on hot or cold days without seeming to notice differences in temperature.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
40. The child continues playing with other children for under five minutes and then goes elsewhere.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
41. The child continues to look at a picture book in spite of distracting noises (car horns, doorbell).	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
42. The child wants a snack at a different time each day (over one hour difference).	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
43. The child is pleasant (smiles) when put down for nap or at night.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
44. The child takes several days to get used to (show usual behavior in) new situations away from parent(play group, day care center, sitter.)	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
45. The child speaks (or vocalizes) right away to unfamiliar adults.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
46. The child reacts strongly (cries or screams) when unable to complete a play activity.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
47. The child enjoys games with running and jumping over games done sitting down.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
48. The child notices wet clothing, and wants to be changed right away.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
49. The child is fussy or moody throughout a cold or an intestinal virus.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
50. The child ignores parent's first call while watching a favorite T.V. program.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
51. A child loses interest in a new toy or game within an hour.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
52. The child runs to get where he/she wants to go.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always

Almost never 1	Rarely 2	Usually does not 3	Usually does 4	Frequently 5	Almost always 6

53. For the first few minutes in a new place (store, home or vacation place) the child is wary (clings to mother, holds back).	almost never	___	___	___	___	___	___	almost always
54. The child takes daytime naps at differing times (over 1/2 hour difference) from day to day.	almost never	___	___	___	___	___	___	almost always
55. The child reacts mildly (frown or smile) when his/her play is interrupted by parent.	almost never	___	___	___	___	___	___	almost always
56. The child accepts being dressed and undressed without protest.	almost never	___	___	___	___	___	___	almost always
57. The child is outgoing with adult strangers outside the home.	almost never	___	___	___	___	___	___	almost always
58. The child runs ahead when walking with the parent.	almost never	___	___	___	___	___	___	almost always
59. The child's period of greatest physical activity comes at same time of day.	almost never	___	___	___	___	___	___	almost always
60. The child can be coaxed out of a forbidden activity.	almost never	___	___	___	___	___	___	almost always
61. The child stops play and watches when someone walks by.	almost never	___	___	___	___	___	___	almost always
62. The child goes back to the same activity after brief interruption (snack, trip to toilet).	almost never	___	___	___	___	___	___	almost always
63. The child laughs or smiles when meeting other children.	almost never	___	___	___	___	___	___	almost always
64. The child sits still while watching TV or listening to music.	almost never	___	___	___	___	___	___	almost always
65. The child will avoid repetition of mis-behavior if punished firmly once or twice.	almost never	___	___	___	___	___	___	almost always
66. The child continues to play with a toy in spite of sudden noises from outdoors (car horn, siren, etc.).	almost never	___	___	___	___	___	___	almost always
67. The child ignores dirt on himself/herself.	almost never	___	___	___	___	___	___	almost always
68. The child's time of waking in the morning varies greatly (by 1 hour or more) from day to day.	almost never	___	___	___	___	___	___	almost always
69. The child has moody or "off" days when he/she is fussy all day.	almost never	___	___	___	___	___	___	almost always

Almost never 1	Rarely 2.	Usually does not 3	Usually does 4	Frequently 5	Almost always 6

70. The child reacts mildly (frown or smile) when another child takes his/her toy.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
71. The child stays with a routine task (dressing, picking up toys) for 5 minutes or more.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
72. The child stops eating and looks when he/she hears an unusual noise (telephone, doorbell).	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
73. The child sits still (moves little) during procedures like hair brushing or nail cutting.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
74. The child shows much bodily movement (stomps, writhes, swings arms) when upset or crying.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
75. The child is pleasant (smiles, laughs) during face washing.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
76. The child's initial reaction at home to approach by strangers is acceptance (looks at, reaches out).	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
77. The child is hungry at dinner time.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
78. The child continues to get into forbidden areas or objects in spite of parents' repeated warnings.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
79. The child stops to examine new objects thoroughly (5 minutes or more).	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
80. The child ignores odors (cooking, smoke, perfume) whether pleasant or not.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
81. The child looks up from an activity when he/she hears the sounds of children playing.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
82. The child falls asleep at about the same length of time after being put to bed.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
83. The child greets babysitter loudly with much expression of feeling whether positive or negative.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
84. The child is moody for more than a few minutes when corrected or disciplined.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
85. The child sits still (little squirming) while traveling in car or stroller.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always
86. The child watches TV for under 10 minutes, then turns to another activity.	almost never	___:___:___:___:___:___ 1 2 3 4 5 6	almost always

Almost never	Rarely	Usually does not	Usually does	Frequently	Almost always
1	2	3	4	5	6

87. The child is shy (turns away or clings to mother) on meeting another child for the first time.	almost never	___	___	___	___	___	___	almost always
		1	2	3	4	5	6	
88. The child is still wary of strangers after 15 minutes.	almost never	___	___	___	___	___	___	almost always
		1	2	3	4	5	6	
89. The child frets or cries when first learning a new task (dressing self, picking up toys).	almost never	___	___	___	___	___	___	almost always
		1	2	3	4	5	6	
90. The child sits quietly in the bath.	almost never	___	___	___	___	___	___	almost always
		1	2	3	4	5	6	
91. The child practices a new skill (throwing, piling, drawing) for 10 minutes or more.	almost never	___	___	___	___	___	___	almost always
		1	2	3	4	5	6	
92. The child ignores differences in taste or consistency of familiar foods.	almost never	___	___	___	___	___	___	almost always
		1	2	3	4	5	6	
93. The child sleeps poorly (restless, wakeful) in new places for first 2 or 3 times.	almost never	___	___	___	___	___	___	almost always
		1	2	3	4	5	6	
94. The child fearful of being put down in an unfamiliar place (supermarket cart, new stroller, playpen) with parent present.	almost never	___	___	___	___	___	___	almost always
		1	2	3	4	5	6	
95. The child frowns or complains when left to play by self.	almost never	___	___	___	___	___	___	almost always
		1	2	3	4	5	6	
96. The child accepts within 10 minutes (feels at home, at ease) new surroundings (home, store, play area).	almost never	___	___	___	___	___	___	almost always
		1	2	3	4	5	6	
97. The child looks up from play when the telephone or doorbell rings.	almost never	___	___	___	___	___	___	almost always
		1	2	3	4	5	6	

APPENDIX B

BEHAVIORAL STYLE QUESTIONNAIRE

USING THE SCALE SHOWN BELOW, PLEASE MARK AN "X" IN THE SPACE THAT TELLS HOW OFTEN THE CHILD'S RECENT AND CURRENT BEHAVIOR HAS BEEN LIKE THE BEHAVIOR DESCRIBED BY EACH ITEM.

Almost never	Rarely	Usually does not	Usually does	Frequently	Almost always
1	2	3	4	5	6

1. The child is moody for more than a few minutes when corrected or disciplined.	almost never	___	___	___	___	___	___	almost always
2. The child seems not to hear when involved in a favorite activity.	almost never	___	___	___	___	___	___	almost always
3. The child can be coaxed out of a forbidden activity.	almost never	___	___	___	___	___	___	almost always
4. The child runs ahead when walking with the parent.	almost never	___	___	___	___	___	___	almost always
5. The child laughs or smiles while playing.	almost never	___	___	___	___	___	___	almost always
6. The child moves slowly when working on a project or activity.	almost never	___	___	___	___	___	___	almost always
7. The child responds intensely to disapproval.	almost never	___	___	___	___	___	___	almost always
8. The child need a period of adjustment to get used to changes in school or at home.	almost never	___	___	___	___	___	___	almost always
9. The child enjoys games that involves running or jumping.	almost never	___	___	___	___	___	___	almost always
10. The child is slow to adjust to changes in household rules.	almost never	___	___	___	___	___	___	almost always
11. The child has bowel movements at about the same time each day.	almost never	___	___	___	___	___	___	almost always
12. The child is willing to try new things.	almost never	___	___	___	___	___	___	almost always
13. The child sits calmly while watching TV or listening to music.	almost never	___	___	___	___	___	___	almost always
14. The child leaves or wants to leave the table during meals.	almost never	___	___	___	___	___	___	almost always
15. Changes in plans bother the child.	almost never	___	___	___	___	___	___	almost always
16. The child notices minor changes in mother's dress of appearances (clothing, hairstyle, etc.).	almost never	___	___	___	___	___	___	almost always
17. The child does not acknowledge a call to come in if involved in something.	almost never	___	___	___	___	___	___	almost always
18. The child responds to mild disapproval by the parent (a frown or shake of the head).	almost never	___	___	___	___	___	___	almost always
19. The child settles arguments with playmates within a few minutes.	almost never	___	___	___	___	___	___	almost always
20. The child shows strong reaction to things, both positive and negative.	almost never	___	___	___	___	___	___	almost always

Almost never 1	Rarely 2	Usually does not 3	Usually does 4	Frequently 5	Almost always 6

21. The child had trouble leaving the mother the first three days when he/she entered school.	almost never	1	2	3	4	5	6	almost always
22. The child picks up the nuances or subtleties of parental explanations (example: implied meanings).	almost never	1	2	3	4	5	6	almost always
23. The child falls asleep as soon as he/she is put to bed.	almost never	1	2	3	4	5	6	almost always
24. The child moves about actively when he/she explores new places.	almost never	1	2	3	4	5	6	almost always
25. The child likes to go to new places rather than familiar ones.	almost never	1	2	3	4	5	6	almost always
26. The child sits quietly while waiting.	almost never	1	2	3	4	5	6	almost always
27. The child spends over an hour reading a book or looking at the pictures.	almost never	1	2	3	4	5	6	almost always
28. The child learns new things <u>at his/her level</u> quickly and easily.	almost never	1	2	3	4	5	6	almost always
29. The child smiles or laughs when he/she meets new visitors at home.	almost never	1	2	3	4	5	6	almost always
30. The child is easily excited by praise.	almost never	1	2	3	4	5	6	almost always
31. The child is outgoing with strangers.	almost never	1	2	3	4	5	6	almost always
32. The child fidgets when he/she has to stay still.	almost never	1	2	3	4	5	6	almost always
33. The child says that he/she is "bored" with his/her toys and games.	almost never	1	2	3	4	5	6	almost always
34. The child is annoyed at interrupting play to comply with a parental request.	almost never	1	2	3	4	5	6	almost always
35. The child practices an activity until he/she masters it.	almost never	1	2	3	4	5	6	almost always
36. The child eats about the same amount at supper from day to day.	almost never	1	2	3	4	5	6	almost always
37. Unusual noises (sirens, thunder, etc.) interrupt the child's behavior.	almost never	1	2	3	4	5	6	almost always
38. The child complains when tired.	almost never	1	2	3	4	5	6	almost always
39. The child loses interest in a new toy or game the same day.	almost never	1	2	3	4	5	6	almost always
40. The child becomes engrossed in an interesting activity for an half hour or more.	almost never	1	2	3	4	5	6	almost always

Almost never 1	Rarely 2	Usually does not 3	Usually does 4	Frequently 5	Almost always 6

41. The child cries intensely when hurt.	almost never	___	___	___	___	___	___	almost always
42. The child reacts strongly to kidding or light-hearted comments.	almost never	___	___	___	___	___	___	almost always
43. The child approaches children his/her age that he/she doesn't know.	almost never	___	___	___	___	___	___	almost always
44. The child plays quietly with his/her toys and games.	almost never	___	___	___	___	___	___	almost always
45. The child is outwardly expressive of his/her emotions.	almost never	___	___	___	___	___	___	almost always
46. The child is enthusiastic when he/her masters an activity and wants to show everyone.	almost never	___	___	___	___	___	___	almost always
47. The child is sleepy at his/her bed-time.	almost never	___	___	___	___	___	___	almost always
48. The child stops an activity because something else catches his/her attention.	almost never	___	___	___	___	___	___	almost always
49. The child is hungry at dinner time.	almost never	___	___	___	___	___	___	almost always
50. The child holds back until sure of himself/herself.	almost never	___	___	___	___	___	___	almost always
51. The child looks up when someone walks past the door-way.	almost never	___	___	___	___	___	___	almost always
52. The child becomes upset if he/she misses a regular television program.	almost never	___	___	___	___	___	___	almost always
53. The child reacts strongly (cries or complains) to a disappointment or failure.	almost never	___	___	___	___	___	___	almost always
54. The child accepts new foods within one or two tries.	almost never	___	___	___	___	___	___	almost always
55. The child has difficulty getting used to new situations.	almost never	___	___	___	___	___	___	almost always
56. The child will avoid misbehavior if punished firmly once or twice.	almost never	___	___	___	___	___	___	almost always
57. The child is sensitive to noises (telephone, doorbell) and looks up right away.	almost never	___	___	___	___	___	___	almost always
58. The child prefers active outdoor play to quiet play inside.	almost never	___	___	___	___	___	___	almost always
59. The child dislikes milk or other drinks if not ice-cold.	almost never	___	___	___	___	___	___	almost always
60. The child notices differences or changes in the consistency of food.	almost never	___	___	___	___	___	___	almost always
61. The child adjusts easily to changes in his/her routines.	almost never	___	___	___	___	___	___	almost always

Almost never	Rarely	Usually does not	Usually does	Frequently	Almost always
1	2	3	4	5	6

62. The child eats about the same amount at breakfast from day to day.	almost never	1	2	3	4	5	6	almost always
63. The child seems to take setbacks in strides.	almost never	1	2	3	4	5	6	almost always
64. The child cries or whines when frustrated.	almost never	1	2	3	4	5	6	almost always
65. The child repeats behavior for which he/she has previously been punished.	almost never	1	2	3	4	5	6	almost always
66. The child looks up from playing when the telephone rings.	almost never	1	2	3	4	5	6	almost always
67. The child is willing to try new foods.	almost never	1	2	3	4	5	6	almost always
68. The child needs encouragement before he/she will try new things.	almost never	1	2	3	4	5	6	almost always
69. The child cries or whines when ill with a cold or upset stomach.	almost never	1	2	3	4	5	6	almost always
70. The child runs to get where he/she wants to go.	almost never	1	2	3	4	5	6	almost always
71. The child's attention drifts away or lapses when listening to parental instructions.	almost never	1	2	3	4	5	6	almost always
72. The child becomes angry with one of his/her playmates.	almost never	1	2	3	4	5	6	almost always
73. The child is reluctant to give up when trying to do a difficult task.	almost never	1	2	3	4	5	6	almost always
74. The child reacts to mild approval from the parent (a nod or smile).	almost never	1	2	3	4	5	6	almost always
75. The child requests "something to eat" between meals and regular snacks.	almost never	1	2	3	4	5	6	almost always
76. The child rushes to greet the parent or greets loudly after absence during the day.	almost never	1	2	3	4	5	6	almost always
77. The child looks up when he/she hears voices in the next room.	almost never	1	2	3	4	5	6	almost always
78. The child protests when denied a request by the parent.	almost never	1	2	3	4	5	6	almost always
79. The child ignores loud noises when reading or looking at pictures in a book.	almost never	1	2	3	4	5	6	almost always
80. The child dislikes a food that he/she had previously seemed to accept.	almost never	1	2	3	4	5	6	almost always
81. The child stops what he/she is doing and looks up when the parent enters the room.	almost never	1	2	3	4	5	6	almost always
82. The child cries for more than a few minutes when hurt.	almost never	1	2	3	4	5	6	almost always

Almost never 1	Rarely 2	Usually does not 3	Usually does 4	Frequently 5	Almost always 6

83. The child watches a long (1 hour or more) TV program without getting up to do something else.	almost never	___	___	___	___	___	___	almost always
84. The child spontaneously wakes up at the usual time on weekends and holidays.	almost never	___	___	___	___	___	___	almost always
85. The child responds to sounds or noises unrelated to his/her activity.	almost never	___	___	___	___	___	___	almost always
86. The child avoids new guests or visitors.	almost never	___	___	___	___	___	___	almost always
87. The child fidgets when a story is being read to him/her.	almost never	___	___	___	___	___	___	almost always
88. The child becomes upset or cries over minor falls or bumps.	almost never	___	___	___	___	___	___	almost always
89. The child interrupts an activity to listen to conversation in a nearby room.	almost never	___	___	___	___	___	___	almost always
90. The child is unwilling to leave a play activity that he/she has not completed.	almost never	___	___	___	___	___	___	almost always
91. The child is able to fall asleep when there is conversation in a nearby room.	almost never	___	___	___	___	___	___	almost always
92. The child becomes highly excited when presented with a new toy or game.	almost never	___	___	___	___	___	___	almost always
93. The child pays attention from start to finish when the parent tries to explain something to him/her.	almost never	___	___	___	___	___	___	almost always
94. The child speaks so quickly that it is sometimes difficult to understand him/her.	almost never	___	___	___	___	___	___	almost always
95. The child wants to leave the table during meals to answer the doorbell or phone.	almost never	___	___	___	___	___	___	almost always
96. The child complains of events in school or with playmates that day.	almost never	___	___	___	___	___	___	almost always
97. The child frowns when asked to do a chore by the parent.	almost never	___	___	___	___	___	___	almost always
98. The child tends to hold back in new situations.	almost never	___	___	___	___	___	___	almost always
99. The child laughs hard while watching television cartoons or comedy.	almost never	___	___	___	___	___	___	almost always
100. The child has "off" days when he/she is moody or cranky.	almost never	___	___	___	___	___	___	almost always

APPENDIX C

DEMOGRAPHIC INFORMATION QUESTIONNAIRE

Background Information

Child Name _____ ID (will be assigned)

1. Who currently lives in your household? (Please list yourself on the first line.)

	Sex	Relation to you	Birth date (Mo/Day/Yr)	Occupation
1)	M F	Myself	_____	_____
2)	M F	_____	_____	_____
3)	M F	_____	_____	_____
4)	M F	_____	_____	_____
5)	M F	_____	_____	_____
6)	M F	_____	_____	_____

2. Is your child enrolled in a day care center (List your child's day care history)? Has she/he been in other child care centers? If yes,

	Name of Center	Age of Entry	How long enrolled
1)	_____	_____	_____
2)	_____	_____	_____
3)	_____	_____	_____

If no, who is your primary care giver? When was the first outside of home care giver? How long?

Who _____ When _____ How long _____
Who _____ When _____ How long _____

3. Your current household dollar income per month before taxes:
___ 0-499 ___ 500- 999 ___1000-1499 ___1500-1999
___2000-2499 ___2500-2999 ___3000-3499 ___3500-4000
___4000-4499 ___4500-4999 ___5000-5499 ___5500-5999
___6000-6499 ___6500-6999 ___7000 Plus

4. How long have you lived with the child (please mark only one)
___ child's entire life ___ 4-5 years ___ 3-4 years
___ 1-2 years ___ 6 months to 1 year ___ less than 6 months

5. Race/Ethnicity:
___ Asian ___ Black ___ Hispanic ___Native American (Tribe _____) ___ White
___ Other (specify)

6. What is the highest level of education you have completed?
___ less than high school graduate (last grade completed? ____)
___ GED
___ high school graduate
___ attended vocational/technical school
___ attended college, did not graduate
___ college graduate
___ graduate education or professional training

7. Marital status:
___ Never married ___ Married ___Previously married

8. What is your current employment status: (please check all that apply)
___ working, part-time ___ retired
___ working, full-time ___ student
___ unemployed, looking for work ___ homemaker
___ unemployed, not looking for work ___ other (Please specify)
( )

9. Which do you prefer, working or staying at home?
Working ( ) Staying at home ( )
If you are working, how many hours are you working a week? ____Hrs/wk

10. How satisfied are you with your job?

Very satisfied ( ) Somewhat satisfied ( ) Not satisfied at all ( )

11. How satisfied are you with child care arrangements?

Very satisfied ( ) Somewhat Satisfied ( ) Not satisfied at all ( )

12. Which best describes how often you spend time with your child
Daily ____
Once a week or less ____
2 to 3 times a week ____
5-15 min. 15-30 min. 30-60 min. over 1hr.

Reading	_____	_____	_____	_____
Playing ball	_____	_____	_____	_____
T.V.	_____	_____	_____	_____
Singing	_____	_____	_____	_____
Painting	_____	_____	_____	_____
Teaching	_____	_____	_____	_____
Talking	_____	_____	_____	_____

13. Please describe your child daily schedule.

14. How do you spend the weekend with your children?

APPENDIX D

TODDLER TEMPERAMENT SCALE - PROFILE SHEET

Name of child _____ Date of rating _____

Age at rating: _____ Years _____months _____days. Sex _____

Category score from Scoring Sheet

_____ _____ _____ _____ _____ _____ _____ _____ _____

Profile: Place mark in appropriate box below:

	Activity	Rhythm	App/with	Adapt.	Intens.	Mood	Persist	Distrac	Thresh
1SD	high 4.85	arry 3.55	with 3.95	slow 3.83	inten 4.88	nega 3.55	low 3.57	high 4.93	low 5.30
M	3.99	2.78	2.91	3.04	4.06	2.90	2.82	4.20	4.43
-1SD	3.13	2.01	1.87	2.25	3.24	2.25	2.07	3.47	3.56
	low	very rhyth.	app.	very adapt.	mild	positive	high per	non-distrac	high

Diagnostic clusters:

Easy		rhythm.	app.	adapt.	mild	positive			
Diff		arrythm.	withdr.	slowly adapt.	intense	negative			
STWU	low		withdr.	slowly adapt.	mild	negative			

Definition of diagnostic clusters used for individual scoring:
Easy - Scores greater than mean in no more than two of difficult/easy categories (rhythmicity, approach, adaptability, intensity, & mood) and neither greater than one standard deviation.

Difficult - 4 or 5 scores greater than mean in difficult/easy categories (rhythmicity, approach, adaptability, intensity, & mood). These must include intensity and two scores must be greater than 1 standard deviation)

Slow-to-warm-up - as defined above, but if either withdrawal or slow adaptability is greater than 1 standard deviation, activity may vary up to 4.42 and mood may vary down to 2.58.

Intermediate - all others. Intermediate high - 4 or 5 diff/easy categories above mean with one > 1 standard deviation, or 2 or 3 above mean with 2 or 3 > 1 standard deviation. Intermediate low - all other intermediates.

This child's diagnostic cluster _____ Date of scoring _____

Comments: Scorer _____

APPENDIX E

BEHAVIORAL STYLE QUESTIONNAIRE - PROFILE SHEET

Name of child _____ Date of rating _____

Age at rating: _____ Years _____months _____days. Sex _____

Category score from Scoring Sheet

_____ _____ _____ _____ _____ _____ _____ _____ _____

Profile: Place mark in appropriate box below:

	Activity	Rhythm	App/With	Adapt.	Intens.	Mood	Persist	Distract	Thresh
1SD	high 4.31	arryth. 3.43	withdr. 3.93	slowly 3.27	intense 5.17	negative 3.99	low 3.56	high 4.70	low 4.58
M	3.56	2.75	2.99	2.55	4.52	3.31	2.87	3.89	3.98
-1SD	2.81	2.07	2.05	1.83	3.87	2.63	2.18	3.08	3.38
1	low	very rhyth.	app.	very adapt.	mild	positive	high persis	low distract	high

Diagnostic clusters:

Easy		rhytm.	app.	adapt.	mild	positive			
Diff		arrythm.	withdr.	slowly adapt.	intense	negative			
STWU	low		withdr.	slowly adapt.	mild	negative			

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This child's diagnostic cluster _____ Date of scoring _____

Comments: Scorer _____

VITA

Kyung-Ohk Hah Jhun

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Master of Science

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Biographical:

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