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Maternal Employment, Family Relations And Selected Personality, School-Related and Social-Development Characteristics of Children

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SUMMARY

In the past decade, the proportion of mothers entering the labor force while they have children living at home has increased greatly. Despite the theoretical relevance of maternal employment to the development of an adequate theory of personality development and the immediate applied value of data related to the impact of maternal employment on the development of children, adequate research on the relations between maternal employment and developmental characteristics of children has begun only recently. The present research represents a contribution to the small but accumulating body of research literature related to maternal employment and development of children.

Four hypotheses were tested: (1) there is no relationship between maternal employment and the children's perceptions of family relationships; (2) there is no relationship between maternal employment and selected personality characteristics of the children; (3) there is no relationship between maternal employment and school-related variables of the children; and (4) there is no relationship between maternal employment and selected social-relationship characteristics of the children. Five measures of maternal employment were used. These were the number of months the mothers were employed during five periods in the children's lives: from the time the children were between 1 and 3 years of age; 4 and 6 years of age; 1 and 6 years of age; during the past 30 months; and during the entire lives of the children. The various dependent variables measured in this investigation were grouped under the four main areas specified in the hypotheses.

Questionnaire data related to the dependent variables were obtained from virtually all seventh- and eleventh-grade children in the public schools of Cedar Rapids, Iowa, in May 1959. Data for the maternal-employment variables and family structural and status variables were obtained from approximately 91 percent of the parents of these children. Tests of the hypotheses were restricted to white children living with both of their biological parents who were in first marriages only. All analyses were conducted separately for four subsamples of children who met these requirements. The four subsamples included 386 seventh-grade boys, 285 eleventh-grade boys, 356 seventh-grade girls and 246 eleventh-grade girls.

The statistical tests for the significance of the relationships among the five maternal-employment variables and each of the four sets of dependent variables

provided no basis for rejecting the four general null hypotheses.

Further analyses based on the sizes and directions of differences in family-relationship items between children whose mothers had been employed and those whose mothers had not been employed strongly supported retaining the maternal employment-family relations null hypotheses for three of the four subsamples. There was a slight indication that, relative to the other three subsamples, the seventh-grade girls whose mothers had been employed perceived their relations with their parents less favorably than corresponding girls whose mothers had not been employed.

Other findings of this investigation included descriptions of family and spousal correlates of maternal employment. Employment rates appeared to be slightly greater among the mothers of the seventh-grade children than among the mothers of the eleventh-grade children. Also, among the mothers of the eleventh-grade children slight inverse and statistically significant relationships were observed among four of the maternal-employment variables and the ages of the mothers. None of these relations was significant for the mothers of the seventh-grade children. Other data suggested that the employed mothers of the seventh-grade children had more regular employment histories than the employed mothers of the eleventh-grade children.

Maternal employment did not appear to be related to the sex of the children involved. The proportions of mothers employed during any of the five periods were curvilinearly related to the educational status of their husbands. Greatest employment was found among women married to men who had some high school. Lower rates were observed among women married to men with both lower and higher levels of education. Slight inverse relations were observed between the number of months of maternal employment during each of the five periods and family social-status levels.

The employed mothers worked about 40 hours per week, on the average, during the week of the investigation. In about half of the families where the mother was employed, both parents were at work when the child came home after school.

Employment rates and mean hours worked per week were greater among mothers who were family heads than among the mothers involved in first marriages or remarriages.

Maternal Employment, Family Relations and Selected Personality, School-Related and Social-Development Characteristics of Children¹

BY LEE G. BURCHINAL²

One of the most striking indications of the dynamic character of the American family system has been recent and large-scale increases in the employment of married women. In the spring of 1958, 31 percent of all married women in the United States were in the labor force. This represents an increase of 82 percent from 1940 when 17 percent of all married women were in the labor force (8).

When the proportion of women who had any work experience during the year is taken as the criterion of employment, the percentages are still higher. About 58 percent of the single women 14 years of age and older, 42 percent of married women with their spouses present and 47 percent of the women with some other marriage status reported some work experience during 1958 (9, p. 16).

These increases in employment of wives have not been confined to the urban population. In 1958, 24 percent of the farm wives were in the labor force. Twenty-six percent of all women aged 14 or older having a farm residence in 1958 were employed: 10 percent in agriculture and 16 percent in nonagricultural work. The percentage of farm wives in agriculture declined 21.5 from 1950 to 1958; the percentage in nonagricultural jobs increased 14 percent during the same period (57, 62, p. 19).

Employment of wives has not been confined to those without children. In April 1948, 11 percent of the mothers who had children under 6 and who were living with their husbands were in the labor force. The labor-force participation for wives in this category was 18 percent in March 1958, which represented an increase of 64 percent over the 10-year period. The employment rate of wives who were living with their husbands and who had children between the ages of 6 and 17 only was 26 percent in April 1948. The rate of employment for these wives increased approximately 25 percent to March 1958. On the same date, 35 percent of the wives living with their husbands and having no children were employed (8,12).

In March 1958, 33 percent of all women ever married were employed. Thirty-six percent of all women

ever married who had no children under 18 were employed; 41 percent who had children 6 to 17 were employed; and 20 percent who had children under 6 were employed. Similar percentages for April 1948 were 30, 31 and 13 percent, respectively, for these categories. Smaller increases in employment rates have occurred among married women whose husbands are absent or among women who are widowed or divorced. In April 1948, 35 percent of these women who had no husbands and had no children were in the labor force compared with 37 percent in March 1958. Among these other women ever married who had children between 6 to 17 only, 64 percent were employed in April 1948, and 66 percent were employed in March 1958. The same proportion, 45 percent, of the other women ever married who had children under 6 were employed in April 1948 and March 1958 (8, 12).

These data indicate that employment rates among married women have increased sharply within the last decade. The largest increases appear to have occurred among women who had preschool and school-age children. There are no grounds for expecting a reversal of these trends in the immediate future. The employment rate among wives and mothers will remain constant or increase because of: (1) continued high levels of education among women, (2) younger ages at marriage, (3) younger ages of mothers at the time of the birth of their last child, (4) increased equalitarian ideology between sexes, (5) less sex differentiation of labor in household and family roles between husbands and wives and (6) the desire of the wives to contribute to the family income in order to obtain a higher level of living, as well as the feeling of worth which the woman derives from outside employment.

On the latter point, it is important to appreciate the contribution to the family income made by the working wife despite the attempts of some popular writers to minimize her economic contribution to the family. Among almost 38 million husband-wife families, the median income was \$4,973 in 1956. In the 10 million families in which both husbands and wives worked, the median income was \$5,957. The latter figure was considerably above the \$4,645 median income for families in which the wife did not work. Thirty-six percent of the families with working wives had incomes of

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\$7,000 or more, compared with 21 percent of those without working wives (62, p. 56).

For these reasons, it is not surprising to find that the Department of Labor predicts that the number of women workers in the present decade will increase at nearly twice the rate for men. By 1970, it is estimated that there will be about 30 million women workers, 6 million more than in 1960—an increase of about 25 percent, compared with an increase of about 15 percent for men. Except for teen-age girls and women over 65, at least two out of every five women in 1970 will be in the labor force. The predicted percentages of employment for women of various age groupings—45 percent for women 20 to 24, 38 percent for women 25 to 34, 46 percent for women 35 to 44 and 55 percent for women 45 to 54—will include a large percentage of mothers of school-age and pre-school children (58, p. 7).

THE PROBLEM

Increased employment among mothers brings attention to questions associated with relationships between the employment of mothers and the personality and social development of the children. Answers to these questions are important at the theoretical level for assessing the necessity of a close and continuous mother-child relationship for the normal personal and social development of children. Research on this question is also important from an applied frame of reference. Frequently, it is assumed that the absence of mothers from their homes and the consequent separation from their children has detrimental effects upon their children. For instance, Bossard suggests that children of mothers who are employed are generally lonely, feel neglected, rationalize their antisocial behavior and frequently exploit the lack of parental control (4, pp. 282-86).

Although adequate empirical data are lacking to support this view, the working mother is exposed to these ideas and probably suffers some degree of apprehension and guilt over her acceptance of the dual role of homemaker-mother and wage-earner. A portion of a letter received from one of the working mothers who was included in the present sample illustrates the apprehensions of one working mother:

"How do the children of working mothers compare with those whose mothers do not work insofar as self-reliance and responsibility are concerned? Are school grades up or down if the mother has little time to devote to 'helping' the youngster? When the mother works, does the child feel the family is less of a unit—does he feel more on his own? How many youngsters of working mothers are assigned and must carry out certain areas of housework which ordinarily the mother would do? How many personal services can be expected of the working mother?"

These are questions I have asked myself many times. Because I must work in order that we have a home, am I cheating my son or daughter? Myself?"

At the present time adequate research findings are insufficient to answer these questions. Research is needed to provide a basis for answering questions such as these. This research will contribute both to our theoretical and to our applied understanding of situations related to the employment of mothers.

Such research is extremely important in view of the trend toward increasing employment of married women.

OBJECTIVES

The present investigation was undertaken in an effort to provide some data on relations between maternal employment and the personal and social development characteristics of children. Specifically, the objectives of this investigation were to estimate what relationships exist among indexes of maternal employment, taken from different periods of the life of the child, and the personal and family characteristics of the mothers, the children's perceptions of their relations with their parents, the emotional characteristics of the children, the school achievement and school adjustment of the children and their social development.

REVIEW OF LITERATURE

At least three major areas of research related to employment of mothers can be identified. These include: (a) attitudes toward employment of mothers; (b) relations between employment of wives and husband-wife relationships, family decision-making processes, family division of labor and related family variables; and (c) relations between employment of mothers and personal and social developmental characteristics of children. While the third area includes the specific focus for the present report, a brief review of research results in the other two areas is relevant to consideration of the third area and the subsequent formulation of hypotheses.

ATTITUDES TOWARD EMPLOYMENT OF WIVES AND MOTHERS

Behavior is the most valid index of various subjective states which include concepts as attitudes or values. The fact that an increasing proportion of mothers is entering the labor force is evidence that norms stressing homemaking and child care as the only appropriate roles for married women are becoming weaker. This does not mean present norms for roles of married women call for dual homemaking and child-care roles and employment roles. The meager research data on attitudes toward the employment of wives and mothers suggest that present homemaking and occupational roles for married women are in a state of change. Role conflicts associated with the employment of married women are going to remain in the American social structure for the immediate future.

The conclusions of one study based on white women in a small Georgia community indicated that the homemakers "have moved away from the traditional concept that a married woman's place is exclusively in the home but they still feel deeply that the mother of preschool and grade school children should seek employment only when circumstances are such that it becomes necessary" (17, p. 252).

Data are also available on attitudes toward employment of married women from employed married women and full-time homemakers—and the husbands

of each group—living in a rural Pennsylvania community. Nolan and Tuttle (40) found that 66 percent of the full-time homemakers who were interviewed disapproved of mothers holding jobs. Eighty-one percent of these women thought their husbands would disapprove also. It is probably significant that the employed women overestimated the extent of community or spousal approval of their employment.

Two studies of youth populations bear on attitudes toward employment of married women. Payne (48) observed that among eighth- and twelfth-grade Georgia students, boys were opposed to having their wives work after marriage, but the majority of the girls were expecting to work after their marriage. Empey reports that 80 percent of a sample of female college students preferred marriage over career. Approximately two-thirds of both sexes reported that the woman's most important duty was to have a family; the remainder would consider the combination of marriage and a career. The girls, however, were more advanced than boys in their occupational choice in career planning, which was interpreted as providing greater support than the verbal responses for the expectation of dual roles on the part of the girls (11). Results from a study based on a national sample of women indicated that household tasks as well as work experiences provide feelings of worth for married women (60, p. 365).

The studies just reviewed provide far too little data to permit broad generalizations about attitudes toward employment of mothers. Some generalizations may be tentatively suggested: (1) attitudes toward employment of mothers vary with the reasons for employment; (2) employment is generally viewed unfavorably when young children are involved; (3) attitudes of women toward employment after marriage are more favorable than those of men; and (4) homemaking roles, however, are not being rejected—satisfactions and feelings of worth are derived from household work and family activities by a majority of women, whether they are employed or are full-time homemakers.

Carefully reasoned discussions of the issues involved in the employment of married women are also available (20, 32, 59, 61). The activities of the Woman's Bureau, Department of Labor, in behalf of single and married women were presented in a recent article (34).

Concern about employment of married women has not been limited to professional or scholarly publications. Hatch and Hatch (22) have presented a timely review of the degree to which articles in three leading magazines appealing to working women present a constructive approach to the recognition and solution of problems of the married woman with regular paid employment outside the home. In the 1956-57 issues of *Mademoiselle*, *Charm* and *Glamour* 35 articles were found which dealt principally with the problems of married working women. The Hatches came to the conclusion that these articles, designed to aid the working wife to perceive the nature of her problems and offer her constructive solutions, were very limited, tended to assume that every problem could be ameliorated by the applications of labor-saving techniques and determination and avoided realistic

treatment of the profound conflicts which were involved.

If employment of mothers is associated with alterations in the husband-wife relationships which contribute to less satisfying marital relations for the wife, the husband, or both, these marital relationship changes may be reflected in greater strain in parent-child relationships. If so, these changes should be expected to have a negative influence on the developmental characteristics of the children. For some families, employment of mothers may be associated with positive changes in marital roles and parent-child relationships. In these families, employment of mothers would be associated with positive influences on the developmental characteristics of the children. Because of the possibility of these linkages, the available research on the relations between employment of mothers and marital role variables is reviewed briefly as a basis for reviewing the research literature which is directly relevant to the present investigation.

RELATIONS BETWEEN MATERNAL EMPLOYMENT AND MARITAL ROLES

The results of three studies consistently point to alterations in husband-wife roles when the wife takes employment outside the home (3, 25, 40). Employment of wives was associated with increased roles in family decision-making and in their power relationship vis-a-vis their husbands. Husbands of the employed wives participated more frequently in household tasks. Data from a recent study (26) are in agreement with the generalization that husbands of employed wives participated more frequently in household tasks, but Hoffman questions previous findings related to employment of wives and consequent changes in the family power relationships.

At least three studies are available which attempted to test the effect of maternal employment on the marital satisfaction of husbands and wives. Gianopoulos and Mitchell (16) found that conflicts centered on economic dominance were greater among couples where the husbands disapproved of their wives' employment. Further, among couples where the husbands disapproved, the husbands and wives were less able to agree on points of marital conflict. No significant differences were observed between the couples where the husbands approved of their wives' employment and couples where the wife was not employed.

Locke and Mackeprang (36) found no statistically significant differences between the marital satisfaction scores of employed and nonemployed wives, between the husbands of employed and nonemployed wives, or between similar differences for divorced couples. Also, Nye (45) failed to discover a significant difference between levels of marital happiness or satisfaction among employed and nonemployed wives. However, a statistically significant greater amount of conflict was reported by employed wives than by nonemployed wives. This conclusion was supported by independent data obtained from adolescents. Adolescents whose mothers were employed perceived greater conflict between their mothers and

fathers than adolescents whose mothers were not employed.

Other data analyzed in the context of the present project and previously reported by Burchinal and Lovell (7) are relevant to the relation between maternal employment and husband-wife relationships.³ The sample was divided into high, middle and low status levels, based on the husband's occupation, and each status level was further stratified on the basis of the work experience of the mother—whether she had any employment during the preschool years of any of her children or any employment experience during the school years of her children or whether she had never been employed since the birth of her children. Families were originally selected on the basis of having a child in the fourth, fifth or sixth grade.

All differences in marital conflict mean scores, measured by the Parent Attitude Research Instrument, the PARI (52), between employed and nonemployed mothers within the three status levels and the total sample for both employment periods were nonsignificant. Similar comparisons were made for the husbands of employed and nonemployed wives. Only one of the 16 tests produced a significant difference in marital conflict mean scores. This occurred between high-status husbands in relation to employment of wives while they had school-aged children. Other comparisons based on PARI scores indicated that husbands whose wives were employed tended to perceive themselves as being less dominant than husbands whose wives were not employed. The wives in the two groups were not substantially different in regard to variables described as: seclusion of the mother, rejection of homemaking and dependency of the mother.

One other study by Nye (43) focused on the adjustment of employed and nonemployed mothers to their children. When careful controls on related variables were used, generally nonsignificant results were obtained for differences in adjustment to children between employed and nonemployed mothers. The several significant differences on items and most of the nonsignificant differences on 10 items and a scale measuring adjustment to children were in the direction of more favorable attitudes by the employed mothers.

Portions of the findings of the Burchinal-Lovell investigation, however, were at variance with findings reported by Nye. One or both of the parents in families where a mother was or had been employed reported greater emphasis on developing independence in their children, yet more frequently endorsed using measures which encourage child dependence upon adults—namely, strictness, harsh punishment and emphasis on parental dominance—than was found for parents in families where mothers were not or have not been employed. Also, the employed mothers reported greater irritability in their relations with their children.

With this review of findings related to employment of wives and mothers on the broader structure of

family-relationship variables, attention is now turned to the studies of relations between maternal employment and developmental characteristics of children.

RELATIONS BETWEEN MATERNAL EMPLOYMENT AND DEVELOPMENTAL CHARACTERISTICS OF CHILDREN

There is much more said than known concerning the possible "effects" of maternal employment on the personal and social developmental characteristics of children. Writing in 1943, in the context of the war separation of fathers from their families and during a period of increasing employment of mothers, Keliher (29) advised teachers to expect the following from children when their mothers were employed: coming to school late, being less well-groomed than the other children, being less adequately fed at home as a result of having to prepare their own breakfasts, generally obtaining an inadequate diet, being less able to concentrate and displaying greater anxiety symptoms—being more jittery, chewing paper more frequently and going to the toilet more frequently than children whose mothers were not employed. Almost a dozen years later, Bossard (4) expressed similar views. The conditions suggested by Bossard, reviewed earlier in this report, would indicate that adjustment problems of children of employed mothers are serious and require considerable attention. On the other hand, Komarovsky (32, pp. 166-207) has suggested conditions which are conducive to family welfare if the mother is employed. These include the approval by the father of the mother's employment, the employment of the mother for short hours and high pay and the availability of a suitable mother-substitute. When these conditions are present, which is probably a rare occurrence, Komarovsky sees no reason why the development of children should be adversely affected by the employment of the mother. Presumably, if some or all of these conditions are not present, deleterious effects should be observed in the personal and social development of children.

Popular writers make different assumptions regarding the relations between the employment of mothers and development of the children. Quoting from the study by Hatch and Hatch: "Each of the four articles dealing with children exclusively as they form a part of the problem of the woman who wishes to carry on her job is highly defensive in favor of the working mother" (22, p. 150). The authors of these articles generally assert that working mothers can take care of their children as well and provide as much personal affection as a full-time homemaker and mother.

With this contrast between professional pessimism regarding the relations between maternal employment and personal development of children and the optimism of popular writers, we turn now to the research literature available on the question. The available research on relations between maternal employment and the development of children can be grouped into four areas: juvenile delinquency, family relations, school achievement and school relations, and the personality and emotional characteristics of children.

³ See Appendix B: Analyses of relations between maternal employment and marital and parental roles cited in the review of literature.

Delinquency is used as an index of general social adjustment to the community social system. A positive relationship between employment of mothers and juvenile delinquency is widely assumed. There is, however, slight empirical support for this generalization. The Gluecks (18) found no difference in rates of regular employment of mothers between delinquent children and children in a nondelinquent control group, but the group of delinquent boys contained a larger proportion of mothers who worked occasionally. The occasionally employed mothers had a history of delinquency themselves, and many of them were married to men who were not emotionally stable and who had poor work habits. The Gluecks' study indicated that the quality of child supervision was related more closely to delinquency than was the employment status of the mother. Small but consistently greater delinquency rates among children whose mothers were employed than among children whose mothers were not employed have been reported in two studies by Nye (44, 46). While results of the two Nye studies suggest a slight relationship between maternal employment and delinquency, the crucial variable in Gluecks' analyses, the adequacy of the supervision of the child, was not controlled.

Control on this variable is important, not only on the basis of the knowledge gained from the Gluecks' study, but also on the basis of information now available concerning substitute care arrangements for children of working mothers (33).

Several studies report relations between maternal employment and family-relationship variables as perceived by the children. In one study (13), adolescent girls whose mothers worked full-time were compared with girls whose mothers were not employed. A greater proportion of the girls whose mothers were employed than those whose mothers were not indicated various types of family-relationship problems.

Since the two groups of girls were not matched in any way on other variables, especially family socio-economic status, these data cannot be interpreted as indicating poor adjustment to family relations among girls whose mothers are employed as compared with other girls. A pair of studies by Nye, both with controls on possible intervening variables, point to an opposite conclusion. One study (42) reported that parent-adolescent adjustment was better in families when the mothers worked part-time than it was in families when the mothers worked full-time or were not employed at all. In another study (44) the data failed to support the idea that working mothers are less interested in their children than those not working or that the children's affectional attitudes toward their mothers are related to the employment status of the mothers.

Generally nonsignificant differences in school grades or school behavioral characteristics have been observed between children of working mothers and children of nonworking mothers. One study, based on children referred to the school guidance department, reported that, in comparison with other children, the children of working mothers were younger, and proportionately fewer were referred for academic difficulties and more for withdrawal tendencies (51). Again, no controls were utilized in the analyses, and

it is difficult to determine whether the employment of the mothers is behind the problems which appear in this small sample or whether both the problems and, in some cases, the employment of mothers are related to other factors.

Nye (44) obtained data related to the educational achievement of children whose mothers were in the labor force and of those whose mothers were not employed. When 13 subsamples were used for control of analyses, none of the differences in grade points was statistically significant. The majority of the nonsignificant differences favored the children of the employed mothers.

Teachers' ratings on childrens' academic achievement, relations between ability and achievement, acceptance by their peers, acceptance of the teacher's supervision, and evidence of home training were used by Nolan and Tuttle (40, p. 30) to assess effects of maternal employment upon the children. Each rating was scored on a four-point continuum, and mean scores were derived separately for children aged 6 to 11 and for children 12 years of age or over. Among the younger children, none of the five sets of mean differences between children whose mothers were employed and those whose mothers were not was statistically significant. Three of the five differences were in favor of the children whose mothers were employed. For the older children, differences in academic achievement and acceptance by their peers were statistically significant and slightly higher for children from homes with employed mothers, but the differences were small. The other three nonsignificant differences were also in favor of the children of employed mothers.

Data are also available pertaining to differences in personality and emotional characteristics of children whose mothers have been employed and those whose mothers have not been employed. One of the first investigations of this hypothesis, based upon 100 children whose mothers were employed and an equal-sized control group, reached the conclusion that differences between the two groups of children were small. Mathews concluded that the child whose mother is employed ". . . is not a sad, oppressed, unhappy child, suffering greatly . . . because his mother works" (39, p. 136).

Hand (21) used three measures of personality adjustment for children—the California Test of Personality, ratings by teachers and choices by classmates—to define two categories of children: those who were well adjusted and those who were maladjusted. When the adjustment dichotomy was cross-classified with the employment status of the mothers, small and inconsistent differences in proportions of adjusted boys or girls were found in relation to the employment status of their mothers. Significance tests of the differences were not reported, and no controls were used in the analyses. Data from this study offer no basis for asserting that employment of mothers is related to maladjustment of children.

Nye (44) included a neurotic-symptoms scale in his study of the employment status of mothers and the adjustment of adolescent children. The scale was taken as a measure of anxiety related to psychosomatic symptoms. Only one of the 13 matched sub-

sample tests involving children from intact families whose mothers were employed and whose mothers were not employed was statistically significant. This single statistically significant result was interpreted by Nye as a chance result.

Nonsignificant differences in behavioral systems related to a dependence-independence continuum were observed in a carefully designed matched-pairs study utilizing kindergarten children, half of whom came from homes where mothers had been employed for at least 6 months and half of whom came from homes where mothers were not employed (54).

The results of a well-designed study by Hoffman (27) are at variance with the results reported by Matthews, Hand, Nye and Seigel. Hoffman found that personality characteristics of the children of employed mothers were different from characteristics of control children whose mothers were not employed. Among the children whose mothers were employed, differences in the children's characteristics also appeared to be linked to the mother's satisfaction with her work.

The finding that the children of employed mothers were lower in intellectual performance did not agree with the comparable results from the Nye or Nolan and Tuttle investigations.

The lack of clarity in the empirical findings related to the problem under study provided little guidance in developing generalizations regarding relations between maternal employment and the personal and social development of children or for the formulation of a theoretical frame for deriving hypotheses to guide the present investigation.

THEORY AND HYPOTHESES

The alleged detrimental influences of maternal employment upon the personality and social development of children are a reflection of value orientations of American society concerning the roles of mothers in relation to their young children and of postulates derived from psychoanalytic theory. Popularization of one of the basic tenets of psychoanalytic theory, the crucial importance of continuous mother-child relations during infancy and the early childhood for the sound development of children, is reflected in the concern over employment of mothers having young children. Studies related to maternal deprivation are sometimes used to predict negative "effects" on the child's personality and social development when his mother is employed, especially if employment occurs during his first 7 years of life. Research by Spitz (56), Bowlby (5), Anna Freud (14) and Goldfarb (19) has been summarized by Maccoby (38). Her summary indicates that:

1. Some young children, when separated from their parents for extended periods, display withdrawing, depressed or apathetic behavioral characteristics. After being united with their parents, they do not necessarily recover at once from their trauma, but remain excessively dependent and suffer sleep disturbance.

2. However, children also vary greatly in their reaction to separation trauma.

3. Infants under 1 year show few effects from separation. It appears that children between 1 and 3 years are most vulnerable.

The simple analogy from extreme maternal deprivation which was present in these studies to situations involving part-time or full-time employment of mothers, when substitute care is provided, is deceptive. Unless the child is grossly neglected both at home during the hours when his mother is with him and by other family members and also in the substitute care arrangements, he is not likely to be exposed to the degree of maternal deprivation experienced by the institutionalized children observed by Spitz, Bowlby, Anna Freud or Goldfarb. Nor would he be likely to undergo the kind of deterioration observed among these institutionalized children.

Experience in other cultures indicates that child-care functions can be handled in a wide variety of manners, as noted by Kenkel (31, pp. 38-183). The child-care arrangements in the Israeli Kibbutz (49, 50, 55) demonstrate that the mother-child relationship may be severed at a young age and, provided adequate substitute care arrangements are available, the children apparently suffer no detrimental effects. Maccoby (38) notes that in Okinawa, young children are generally cared for by a guardian or adolescent girl while the mother goes to work in the fields. The fact that the babies seldom cry when their mothers leave for work suggests that young children easily adjust to care-taking arrangements divided between their mother and some regular substitute. The decline in the reported objections of children to the employment of their mothers from the time of initial employment to the time of the interviews, reported by Nolan and Tuttle (40), supports this contention. Other research suggests that a multiple-mothering experience during infancy does not necessarily lead to later retardation or distortion of personality development among school-age children (1, 15).

HYPOTHESES

Because of the paucity of empirical data and the lack of consistency among available findings on relations between maternal employment and personal and social development of children and, further, because of the conflicting theoretical bases for predicting the effects of maternal employment on the personal and social development of children, four general null hypotheses were developed for the present investigation:

1. There is no relationship between maternal employment and children's perceptions of family relationships.

2. There is no relationship between maternal employment and selected personality characteristics of the children.

3. There is no relationship between maternal employment and school-related variables of the children.

4. There is no relationship between maternal employment and selected social-relationship characteristics of the children.

DEFINITION OF VARIABLES

The independent variable in this study is the employment status of the mother. Instead of classifying

the working status of mothers as full-time or part-time versus the full-time homemaker as has been done in previous studies, five measures of maternal employment are used. These measures are based on the number of months a mother worked during selected periods in the life of her child. Theoretical formulations characteristic of the psychoanalytic and maternal-deprivation frames of reference emphasize the importance of the mother-child relationships during the early years of the child's life. From the psychoanalytic frame of reference, separation of the mother from the child during the first several years is generally considered more damaging in terms of the subsequent growth and development of the child than similar separation during later periods of life. For instance, while Bartemeier (2) recognizes that the relationship between the employment of mothers and adjustment of their children hinges on the adequacy of substitute care which is provided, he maintains that the child needs the consistent relationship with one person during the first 2 or 3 years of life if the child is to develop properly. Good substitute care is better than poor maternal care, but good substitute care cannot fulfill the role of a good mother. Under the age of 3, separation is strongly questioned.

In an effort to test this hypothesis, the length of maternal employment was measured separately for the first 3, second 3 and first 6 years of the children's lives. Employment during the past 30 months was used as the contemporary measure of the independent variable. Thirty months was used because data were collected during the month of June, 1959, and nearly 6 months had passed for that year. The 2 preceding years were included in the contemporary measure to obtain a range for this variable. The total months employed during the life of the child was the fifth operational form of the maternal employment variable.

Two limitations were recognized in developing these measures of maternal employment, but little could have been done to eliminate either of them. It was not possible to differentiate between regular versus sporadic employment or between full-time and part-time employment because of the recall features involved in obtaining maternal-employment data for the first three measures and for the entire-life measure of the independent variable. Mothers were asked only for the total months they were employed for each year from the year the child was born to the month of the investigation. Data presented later indicate that mothers worked close to 40 hours per week, on the average, during the week in which they completed the questionnaires. This would seem to indicate that the part-time versus full-time employment question is not critical for the present sample. No control was imposed for the regularity of employment during the five selected periods.

For convenience, the dependent measures are defined, and operational forms are described at appropriate points in the sections of the report dealing with the findings.

METHODOLOGY

Families were first selected on the basis of the chil-

dren because the children were readily available in school. Two grade levels, seventh and eleventh, were used in an attempt to determine whether the dependent variables were associated with the maternal employment variables in two developmental stages—the earlier and later periods of adolescence. The second largest metropolitan area in Iowa, Cedar Rapids, was chosen as the locale for the investigation for three reasons: (a) sample selection in one metropolitan area was desirable in terms of economy features as contrasted to a sample drawn from a larger geographical area; (b) Cedar Rapids contains the widest diversification of industry in any Iowa metropolitan area and provides employment for women over a wide range of occupations; and (c) the Cedar Rapids school system was willing to cooperate in the investigation.

Practically 100 percent of all students in two grades completed the questionnaires from which data for most of the dependent variables used were taken. Students also provided the name, address and phone number of their parents or guardian on a small card which was attached to the questionnaire. The card bore a code number which was also stamped on the questionnaire. On the basis of the information provided on these cards, a 3-page questionnaire containing, among other things, questions about the parents' marital histories, educational levels, current occupations and a detailed table for the employment history of the mother, was mailed to each of the families. After the usual follow-up letters and supplemental interviews with families who had not returned the questionnaires, 91 percent of the original 1,824 parental questionnaires were completed. The number of cases in the samples for which data are reported in this discussion is less than the number of questionnaires originally completed because of the deletion of some of the children's or parents' questionnaires after careful editing and the imposition of several control variables.

Several controls were used in all analyses. These included the grade level and sex of the child. Non-white families and families in which the child was not living with both of his biological parents were also deleted from the samples. Each of these variables, age, sex, race and parental marital status is known to be related either to the dependent or the independent variables or both.

Socio-economic status is another variable which needs to be considered as a possible control variable. Sewell and Haller (53) and Burchinal (6) report bibliographies of studies which document associations of socio-economic measures with types of variables used as dependent variables in this investigation. Family socio-economic status is also related to the employment of wives and mothers (8). In the present study, the Hollingshead (28) two-factor social status index and the educational levels of the husbands are used to estimate the social status of the families. The relation between these variables and other status variables with the five maternal-employment indexes are presented in the next section. On the basis of the results of various analyses, decisions were made on the necessity for controlling on socio-economic status in testing the hypotheses.

Percentage distributions and chi-square tests of significance are used for testing differences among discrete forms of data. Correlation techniques are employed for estimating relationships among maternal-employment indexes and the dependent variables which are in continuous form. Two-tailed tests are employed throughout. The 5-percent level is used as the criterion of significance.

The number of cases used in the various analyses will vary because of missing data on parental or children's variables on some items. This is especially true on the correlation tables, because the correlation coefficients among the independent and dependent variables were obtained in matrixes of varying sizes in order to make efficient use of the IBM 650. If data were missing on one or more variables for any case, the case had to be rejected from the analyses. Only a small number of cases were deleted on the various runs, and for no runs did the percentages exceed more than 5 percent of the total.

The findings of this investigation are organized into five areas. Four of the areas pertain to data used to test the four null hypotheses. The fifth area of findings, presented in the section which follows immediately, presents descriptive information about factors which may be related to employment of mothers.

FACTORS RELATED TO MATERNAL EMPLOYMENT

This first area of findings is based on an examination of some characteristics of the mothers and of the families which may be related to maternal employment in populations studied. Because the questionnaire was mailed to parents, its size was kept to a minimum. Hence, the present discussion is limited in relation to possible correlates of employment of mothers during the five selected periods.

SEX OF THE CHILD

There was no basis for expecting the maternal employment rates for four of the five periods to differ substantially in relation to the sex of the child. Employment was considered only in relation to the child who was the original sample unit. Older or younger children of the same or opposite sex who may have been present in the home during any of the five periods would confound the present results based upon just one child in the family. However, one might have expected maternal employment to be greater during the last 30 months among families having an eleventh-grade girl. This hypothesis is based upon the traditional male-female division of labor in the house-

hold and the ability of the older girl to become a part-time or substitute homemaker. Among families having seventh-grade children, a slightly larger percentage of mothers employed during the last 30 months had boys,* while the opposite was true among families having eleventh-grade children. Other results shown in table 1 indicated that all five employment rates were slightly higher, ranging from a difference of 2.1 percent to 4.7 percent, for mothers having seventh-grade boys than for mothers having seventh-grade girls. On the other hand, all percentages for employment were slightly higher among mothers having eleventh-grade daughters, ranging from 1.1 to 7.1 percent, than among mothers having eleventh-grade sons.

The five differences for either grade-level sample are not independent statistical tests. As will be shown later, the independent variables are moderately to highly intercorrelated. Hence, the similarity of the small differences observed for all periods is a function of the intercorrelation among the five variables. The smallness of the differences for the one theoretically meaningful comparison in the sex difference of the children, maternal employment during the last 30 months, 4.3 percent and in the expected direction, indicated that the sex of the child could be ignored in considering the variables related to the employment of the mothers in the present sample. This decision was supported by the fact that all of the differences in proportions given in table 1 were non-significant at the 5-percent level.

GRADE LEVEL OF THE CHILD

Because of the large increases in employment of mothers having school-aged children only, the present grade level of the child, seventh or eleventh, may not be related to the employment of the mothers. However, large samples of families having a seventh-grade child as contrasted with those having an eleventh-grade child are probably different in some ways which are related to maternal employment rates. The families in the latter sample are probably older, and consequently, might be different in ways which are correlated with this age difference.

Data in table 2 show some of the similarities and differences in parental and family characteristics of the two samples.

The parents of the eleventh-grade children were 4 years older, on the average, than the parents of the seventh-grade children. Two other factors, both of which were correlated with parental age—number of children at home under 18 years of age and the age of the oldest child—were also significantly different between the two samples. The seventh-grade children

TABLE 1. PERCENTAGES OF MOTHERS EMPLOYED DURING THE FIVE PERIODS OF THE CHILDREN'S LIVES BY THE GRADE LEVELS AND THE SEX OF THE CHILDREN.

Maternal employment during given periods in the child's life	Seventh grade			Eleventh grade		
	Boys	Girls	Difference ^a	Boys	Girls	Difference ^a
	N=386	N=356		N=285	N=246	
1 to 3 years	14.0	11.2	2.8	13.0	14.1	-1.1
4 to 6 years	25.0	20.3	4.7	11.6	13.5	-1.9
1 to 6 years	27.9	24.5	3.4	18.3	19.6	-1.3
Last 30 months	43.3	39.3	4.0	42.9	47.2	-4.3
Entire life of the child	29.2	27.1	2.1	29.1	36.2	-7.1

^aAll percentage differences for rates of employment as relative to the sex of the child within each grade level were nonsignificant at the 5-percent level.

TABLE 2. MEANS AND TESTS OF SIGNIFICANCE FOR SELECTED PARENTAL AND FAMILY CHARACTERISTICS OF THE SEVENTH- AND ELEVENTH-GRADE SAMPLES.

Parental or family characteristic	Seventh-grade sample	Eleventh-grade sample	t
N ^a	688	484	
Age of father	42.0	46.0	11.6
Age of mother	39.2	43.2	13.3
Occupation of father ^b	4.1	3.9	1.8
Education of father ^b	3.9	3.9	0.3
Education of mother ^b	3.8	3.2	0.8
Social-status score ^b	3.3	3.2	0.8
Number children at home under 18	2.7	2.2	6.0
Age of oldest child	13.6	16.5	40.9

^aThe numbers of cases for the two grade samples are less than those in table 1 because the data above were obtained from correlation analyses and some cases were deleted because of missing data on either the above variables or other variables reported in table 5.
^bBased on coded scores derived from the Hollingshead technique for measuring social status (28).

came from families having close to three children at home under 18, while the eleventh-grade children came from families having close to two children on the average. The oldest child in the families having an eleventh-grade child was about 3 years older on the average than the oldest child in families having a seventh-grade child. Otherwise, the two samples were not significantly different with respect to the educational levels of the parents, the present occupational levels of the fathers or a social-status score based on the education and occupation of the father (28). The significant differences which were observed indicated the necessity of controlling the grade-level variable.

Employment rates of mothers for the five periods by the grade level of their children at the present time are shown in the total column of table 3. Thirteen percent of the mothers in the two samples were employed at least 1 month during the first 3 years of their children's lives. A significantly greater proportion, 22 percent, of the mothers of the seventh-grade children, compared with 13 percent of the mothers of the eleventh-grade children, were employed during the second 3-year period, $t = 11.909$, $P < 0.01$.

Twenty-six percent of the mothers of the seventh-grade children were employed during the first 6 years of the children's lives, compared with 19 percent of the mothers of the eleventh-grade children, $t = 8.215$,

$P < 0.01$. Forty-five percent of the mothers of the eleventh-grade children, compared with 41 percent of the mothers of the seventh-grade children, were employed during the past 30 months—not a statistically significantly greater percentage. A direct comparison of percentages of mothers of the seventh- and eleventh-grade children who had at least 1 month of employment during the total lives of their children cannot be made because the latter group had, on the average, about 4 years longer for possible participation in the labor force than the former. Despite this time advantage, the percentages for having been employed during their children's lives were not significantly different for the two groups of mothers.

For both samples, the lowest percentages of employment occurred during the children's preschool years and the highest rates during the past 30 months. These data would appear to indicate that employment of mothers during the later preschool years of their children's lives was greater among the mothers of the seventh-grade children and that the total percentages of these women who will have had any employment will be greater by the time their children are in eleventh grade than for the present samples of mothers having eleventh-grade children.

FAMILY SOCIAL-STATUS LEVEL

In table 3, the percentages of mothers reporting any employment during the five selected periods are shown by the educational level of the father. The education of the father is used as a measure of the social status of the family. Hollingshead's scores would have been the most appropriate measure had the analyses been made in relation to current employment or only for employment during the past 30 months, but these scores were not considered to be appropriate measures in relation to maternal employment during the first 3, second 3 or first 6 years of the children's lives because of the occurrence of social mobility—upward or downward. For this same reason, it was not thought that the Hollingshead scores would be appropriate measures of the family social status for the entire-life period. The educational level of the father should be more stable than his

TABLE 3. PERCENTAGES OF MOTHERS REPORTING ANY EMPLOYMENT DURING THE FIVE PERIODS IN THEIR CHILDREN'S LIVES BY THE GRADE LEVELS OF THE CHILDREN AND BY THE EDUCATIONAL LEVELS OF THE FATHERS.

Maternal employment during given periods in the child's life	Fathers' educational levels						
	Total	Post-graduate	College graduate	Some college	High school graduate	Some high school	9 years or less
	Seventh-grade sample						
N	742	60	73	122	247	105	135
1 to 3 years	13	13	3	12	12	19	14
4 to 6 years	22	10	6	22	26	34	19
1 to 6 years	26	17	7	27	31	36	24
Last 30 months	41	25	20	39	46	50	45
Entire life of child ^a	28	13	8	29	33	39	28
Eleventh-grade sample							
N	531	38	55	88	174	81	95
1 to 3 years	13	5	6	12	19	17	8
4 to 6 years	13	3	9	12	16	16	9
1 to 6 years	19	8	11	18	23	24	17
Last 30 months	45	16	33	43	51	53	47
Entire life of child ^a	32	10	14	22	41	46	34

^aAlthough they do not appear correct, percentages are lower for the "entire life of the child" period than for the "last 30 months" period because a larger coding interval was used for the "entire life period;" the lowest interval included 0 to 16 months for the seventh-grade sample and 0 to 20 months for the eleventh-grade sample. For the other four variables, it was possible to identify mothers who had at least 1 month of work experience, shown by the percentages above, but for the "entire life" variable percentages reflect employment exceeding the two lower limits described in this footnote.

occupational status. Therefore, this measure was used as a control for family social status.

Maternal employment during any of the periods was related to the educational level of the fathers as shown by the percentages of mothers ever employed (table 3) and by the mean months employed (table 4). Among the families having a seventh-grade child, wives of college graduates had the lowest rates of employment during any period, even lower than wives of men who had post-graduate training. Employment rates for the latter were lower than for all other wives, except during the 1- to 3-year period when a tie for the lowest percentage occurred between women married to men with lower levels of education. When only the wives married to men in the four lower educational levels were considered, a similar pattern held for employment rates during all five periods: Employment rates were highest among the women married to men who had some high school and decreased among wives married to men with greater or lesser levels of education. The single highest rate of employment, one-half of all mothers, occurred for the period of the last 30 months among wives married to men who had some high school.

The relation between the education of the father and any maternal employment was somewhat different among mothers of the eleventh-grade children, although the curvilinear pattern was still evident. Least employment experience was observed among the older wives whose husbands had some post-college education. Employment rates were generally lower among wives whose husbands had some college in comparison to women whose husbands were high school graduates or those whose education was below this level. Three exceptions occurred. For the first two employment periods, employment rates were one-half and one-third greater among the women whose husbands had some college than among the women whose husbands had 9 or fewer years of education. Employment was 1 percent greater among the former than the latter for the first 6-year period. Employment rates were relatively similar among the women whose husbands had graduated from high school and among women whose husbands had some high school. Rates of employment were greater among both of these categories of women than among the women married to men with the lowest level of education.

The mean number of months employed during the five periods are shown in table 4. None of the mean differences for the first four periods between the total

mean months employed for the seventh- and eleventh-grade samples was statistically significant. The mean difference for the entire-life period was not tested because of the differences in opportunity for employment. Although the mothers of the eleventh-grade sample had, on the average, 4 years greater opportunity for employment during the entire lives of their children, these mothers who had ever been employed averaged only about 2.5 months greater employment than the ever-employed mothers who had seventh-grade children.

Among the mothers having children in the seventh-grade sample who had worked at least 1 month during the five periods, the lowest means were found for women married to men with a post-high school educational level—with exception of the mean for the total-life period. The means tended to rise for women married to men who were high school graduates or who had some high school and to remain at the same level or drop slightly for women married to men who had 9 years of education or less.

This curvilinear pattern was also observed for the first-3-years, first-6-years and past-30-months periods for mothers having a child in the eleventh-grade sample. For the other two variables, the two extreme categories of mothers—those married to men with the highest and lowest levels of formal education—had the highest means, and the two middle categories of mothers had similar and lower means.

Correlation coefficients for the relations between the months employed during the five intervals and the social-status indexes of the families, the husbands' and wives' educational levels, the husbands' occupational levels and the Hollingshead social-status scores are presented in table 5 as another method of examining relationships among family social-status indexes and maternal employment. Since low values on all the status indexes just mentioned reflect higher status and since months of employment were coded directly, a positive correlation indicates an inverse relationship between the variables.

Among the families having a seventh-grade child, significant but low relationships were observed between each of the status measures and maternal employment during each of the five periods. Nonsignificant coefficients were observed for the relations between each of the status measures and maternal employment during the first 3, second 3 and first 6 years of the children's lives among families having an eleventh-grade child. The relationships between the education of the wife and maternal employment re-

TABLE 4. MEAN MONTHS OF EMPLOYMENT OF MOTHERS WHO WERE EMPLOYED DURING THE FIVE PERIODS IN THEIR CHILDREN'S LIVES BY THE GRADE LEVELS OF THE CHILDREN AND THE EDUCATIONAL LEVELS OF THE FATHERS.

Maternal employment during given periods in the child's life	Fathers' educational levels				
	Total	Beyond high school	High school graduate	Some high school	Nine years or less
	Seventh-grade sample				
1 to 3 years	17.2	14.5	16.3	20.1	18.9
4 to 6 years	18.5	15.2	17.4	22.8	20.0
1 to 6 years	24.7	19.7	22.6	32.5	27.2
Last 30 months	21.2	18.2	22.2	21.3	21.8
Entire life of child	57.1	48.9	45.9	64.0	58.6
	Eleventh-grade sample				
1 to 3 years	16.2	13.3	17.3	17.6	13.5
4 to 6 years	17.4	17.5	16.0	16.7	22.5
1 to 6 years	23.9	22.1	25.9	25.5	19.5
Last 30 months	21.5	18.0	22.3	23.5	23.2
Entire life of child	59.6	60.8	59.5	56.6	63.7

TABLE 5. CORRELATION COEFFICIENTS AMONG MATERNAL-EMPLOYMENT VARIABLES AND AMONG THESE VARIABLES AND CERTAIN SPOUSAL AND FAMILY VARIABLES BY THE GRADE LEVELS OF THE CHILDREN.

Maternal employment during given periods in the child's life	Maternal employment variables						Spousal variables					Family variables	
	4 to 6 years	1 to 6 years	Last 30 months	Entire life	Husband's age	Wife's age	Husband's education	Wife's education	Husband's occupation	Husband's status score	Number of children under 18	Age of oldest child	
							Seventh-grade sample	Eleventh-grade sample					
1 to 3 years	58 ^a	84 ^a	31 ^a	70 ^a	01	-03	10 ^a	09 ^a	10 ^a	10 ^a	-03	01	
4 to 6 years		92 ^a	46 ^a	87 ^a	01	-03	13 ^a	11 ^a	12 ^a	12 ^a	-09 ^a	01	
Last 30 months			45 ^a	80 ^a	01	-04	13 ^a	09 ^a	12 ^a	13 ^a	-01	01	
Entire life of child				63 ^a	01	-04	15 ^a	09 ^a	16 ^a	17 ^a	-12 ^a	07	
Entire life of child					01	-03	14 ^a	12 ^a	12 ^a	14 ^a	-10	03	
* N=688; r ≥ 0.09, P ≤ 0.05; r ≥ 0.12, P ≤ 0.01.													
1 to 3 years		88 ^a	12 ^a	56 ^a	-09 ^a	-15 ^a	03	01	01	04	-01	-04	
4 to 6 years	57 ^a	89 ^a	24 ^a	72 ^a	-03	-11 ^a	03	-03	00	03	-03	-03	
Last 30 months			20 ^a	71 ^a	-07	-15 ^a	04	-03	01	04	-01	01	
Entire life of child				55 ^a	-01	-06	19 ^a	08	21 ^a	23 ^a	-13 ^a	04	
Entire life of child					-01	-09 ^a	13 ^a	03	09 ^a	13 ^a	-12 ^a	08	
* N=484; r ≥ 0.09, P ≤ 0.05; r ≥ 0.12, P ≤ 0.01.													
1 to 3 years		85 ^a	23 ^a	65 ^a	-04	-08 ^a	07 ^a	05	07 ^a	07 ^a	-02	00	
4 to 6 years	57 ^a	91 ^a	37 ^a	81 ^a	-04	-09 ^a	10 ^a	06 ^a	08 ^a	09 ^a	-05	-07 ^a	
Last 30 months			35 ^a	82 ^a	-05	-10 ^a	09 ^a	06 ^a	08 ^a	10 ^a	-04	05	
Entire life of child				61 ^a	-02	-03	16 ^a	09 ^a	18 ^a	19 ^a	-13 ^a	08 ^a	
Entire life of child					00	-05	14 ^a	09 ^a	11 ^a	13 ^a	-10 ^a	04	
* N=1,172; r ≥ 0.06, P ≤ 0.05; r ≥ 0.08, P ≤ 0.01.													
aDecimals for correlation coefficients have been omitted.													

mained nonsignificant for the past-30-months and entire-life periods. Low, but significant coefficients were observed for the relations between the education of the husbands, the occupation of the husbands, and the social-status scores and maternal employment during the last two periods. Results for the total sample reflected the mixed effects of relationships observed for the two subsamples.

The surprising feature of the results presented in table 5 was the low level of association between the social-status indexes and the extent of maternal employment during the five selected periods. The somewhat curvilinear pattern of results presented in tables 3 and 4 suggests that the use of zero-order correlation analyses may not be appropriate for estimating these relationships. Correlation ratio coefficients were calculated for the relations between the Hollingshead social-status scores and maternal employment during the past 30 months and for the relations between the levels of the fathers' education and the five maternal employment indexes in order to determine whether the zero-order coefficients significantly underestimated the relationships. These correlation ratio coefficients are listed in table 6.

TABLE 6. CORRELATION RATIOS FOR RELATIONS BETWEEN THE EDUCATIONAL LEVELS OF FATHERS AND THE FIVE MATERNAL-EMPLOYMENT VARIABLES BY THE GRADE LEVEL OF THE CHILDREN INVOLVED.^a

Maternal employment during given periods in the child's life	Seventh-grade sample N = 688	Eleventh-grade sample N = 484
1 to 3 years	.13 ^b	.08
4 to 6 years	.16	.08
1 to 6 years	.14	.26
Last 30 months	.18	.23
Entire life of the child	.17	.19

^aThe results are for N_{xy} where x was the education level of the father and y was the maternal-employment variable.

^bDecimals for correlation coefficients have been omitted.

Only one of the 10 correlation ratios differed significantly from the zero-order correlations for estimating the relationships between the educational levels of the husbands and the employment of the wives. For the eleventh-grade sample, the zero-order correlation for relations between the educational levels of the husbands and the employment of their wives during the first 6 years of the child's life was 0.04. The correlation ratio for this relationship was 0.26. The significance of the difference between the two estimates was F = 9.170, P < 0.01. It is particularly noteworthy that the low inverse relationships between the educational level of the fathers and the employment of mothers during the past 30 months remained unchanged when the correlation ratio test was applied. Also, correlation ratios between the Hollingshead social-status scores and maternal employment during the past 30 months were not significantly different from the product-moment correlations for these relationships in the two samples. The product-moment correlations were 0.17 and 0.23 for the seventh- and eleventh-grade samples, respectively. Correlation ratios were 0.24 for each sample.

Other social-status-related variables, the husbands' occupational levels and the Hollingshead scores, generally showed low and barely significant relationships with maternal employment during the five periods.

Highest relationships were observed for employment activity during the past 30 months.

Greater association was observed between the educational levels of the mothers and maternal employment for the seventh-grade sample than for the eleventh-grade sample. For the latter sample, all results were nonsignificant.

For the total sample, generally low and barely significant relationships were observed among the four status-related variables and the maternal-employment variables.

EMPLOYMENT AND OTHER FAMILY VARIABLES

Other correlation coefficients reported in table 5 provide estimates of relationships among the maternal-employment indexes and the age levels of the parents, number of children at home under 18 and the age of the oldest child. None of the correlations was significant for rates of employment in any of the five periods and the age levels of the fathers or mothers of the seventh-grade children. Only one correlation, in relation to employment during the first 3 years was significantly related to the age of the husband in the families having an eleventh-grade child. All correlations for relations between maternal employment indexes and ages of mothers having eleventh-grade children were negative, and all but the relationships for the past 30 months were significant. These data indicated that among the mothers having an eleventh-grade child, the younger mothers were slightly more likely to be employed and, if employed, to be so for a greater number of months during four of the five selected periods.

All correlations between the number of children at home under 18 years of age and rates of employment during each of the five periods were negative. However, only the relations involving the past-30-months variable are valid estimates because family size probably was not stable during the other four periods. For both the seventh- and eleventh-grade samples, a slight inverse relationship was observed between the degree of maternal employment during the past 30 months and the number of children under 18 at home.

None of the correlations including the only theoretically meaningful relationships between maternal employment during the last 30 months and the age of the oldest child at home was significant for the relations between the maternal employment variables and the present age of the oldest child at home.

INTERRELATIONS AMONG THE MATERNAL-EMPLOYMENT VARIABLES

One other set of data is given in table 5—the interrelationships among the maternal-employment variables. Almost identical correlations between employment variables during the first 3 and second 3 years of children's lives were observed in the two samples. Correlations between these two variables and maternal employment during the first 6 years of life are high because the latter variable is simply the sum of the former two variables. For the other relationships, between maternal employment during the last 30 months, and each of the earlier three maternal-

employment variables and between maternal employment during the entire life of the child and the preceding four variables, the coefficients were uniformly higher for the mothers of the seventh-grade children as compared with the mothers of the eleventh-grade children. These findings suggest that the mothers of the seventh-grade children, who tend to be younger than the mothers of the eleventh-grade children, appear to have greater continuity in their work histories than the mothers of the eleventh-grade children.

NUMBER OF HOURS PER WEEK EMPLOYED

Hours per week of employment was asked only for the present job which the mothers held. The means in table 7 indicated that regardless of the status levels of their husbands, the mothers were employed about 40 hours per week. There was a slight inverse relationship between the mean number of hours worked per week and the status of the families for both samples.

TABLE 7. MEAN HOURS THE MOTHERS WORKED DURING THE WEEK OF THE INVESTIGATION BY THE STATUS LEVELS OF THE HUSBANDS AND GRADE LEVELS OF THE CHILDREN.

Samples	Husbands' status levels ^a							
	Total		High status		Middle status		Low status	
	N	Mean	N	Mean	N	Mean	N	Mean
Seventh grade . . .	248	39.8	26	37.0	80	38.6	142	41.0
Eleventh grade . . .	202	40.2	16	37.6	75	40.2	111	40.6
Total	450	40.0	42	37.2	155	39.4	253	40.8

^aStatus levels were based on the Hollingshead two-factor index (28); high status includes classes 1 and 2, middle status class 3 and low status classes 4 and 5.

HOURS DURING THE DAY THE MOTHERS WERE EMPLOYED

In table 8, the times of the day when the mothers were away from home are provided by the status levels of their husbands. Approximately 83 percent of the mothers of the seventh-grade children and 89 percent of the mothers of the eleventh-grade children worked through the regular daylight hours, leaving home in the morning and returning home in the late afternoon or evening. Otherwise, there was no specific concentration of working hours in any status level for either sample.

THE PARENTS' WORKING HOURS IN RELATION TO THE CHILD'S RETURN FROM SCHOOL

A four-point code, presented in table 9, was developed for combining the working hours of the parents in relation to the time the child returned from school. In both samples, for the majority of the children whose mothers were employed, neither parent was home when the child returned from school. Also in both samples, the least frequent occurrence of this condition appeared among the low-status families and the greatest occurrence was observed among the high-status families. Presence of fathers but not of mothers, at the time the child returned from school, was much greater among the low-status families than middle-status families and was completely lacking among the high-status families.

In contrast to these results, practically all of the children whose mothers were not employed reported

TABLE 8. PERCENTAGES OF MOTHERS WHO WERE EMPLOYED DURING VARIOUS PERIODS OF THE DAY BY THE GRADE LEVEL OF THEIR CHILDREN AND STATUS LEVELS OF THE FATHERS.^a

Mothers' working hours	Total		High status		Middle status		Low status	
	N	Percent	N	Percent	N	Percent	N	Percent
Seventh-grade sample								
Leaves 5:30 to 9 a.m., returns 3 to 6 p.m.	205	82.8	21	80.8	70	87.5	114	80.3
Leaves 12 to 5 p.m., returns 7 to 12 p.m.	13	5.2	1	3.8	4	5.0	8	5.6
Leaves 2 to 7 p.m., returns 12:30 to 12 a.m.	12	4.8			1	1.2	11	7.7
Works at home, leaves only on appointments	9	3.6	3	11.6	3	3.8	3	2.1
Rotating shifts, alternate days, parts of several days and away from home overnight	9	3.6	1	3.8	2	2.5	6	4.2
Total	248	100.0	26	100.0	80	100.0	142	100.0
Eleventh-grade sample								
Leaves 5:30 to 9 a.m., returns 3 to 6 p.m.	179	88.6	15	93.8	64	85.3	100	90.1
Leaves 12 to 5 p.m., returns 7 to 12 p.m.	14	6.9	1	6.2	5	6.7	8	7.2
Leaves 2 to 7 p.m., returns 12:30 to 12 a.m.	2	1.0			1	1.3	1	0.9
Works at home, leaves only on appointments	2	1.0			2	2.7		
Rotating shifts, alternate days, parts of several days and away from home overnight	5	2.5			3	4.0	2	1.8
Total	202	100.0	16	100.0	75	100.0	111	100.0

^aSee table 7 for the definitions of the status levels.

TABLE 9. PERCENTAGES FOR THE COMBINED WORKING HOURS OF BOTH PARENTS IN RELATION TO THE TIME THE CHILD RETURNED FROM SCHOOL BY THE GRADE LEVELS OF THE CHILDREN AND THE STATUS LEVELS OF THE FATHERS.^a

Parents' working hours	Total		High status		Middle status		Low status	
	N	Percent	N	Percent	N	Percent	N	Percent
Seventh-grade sample								
Parents' working hours such that the wife is home before the children return from school	62	25.0	7	26.9	27	33.8	28	19.7
Parents' working hours such that neither are home when the children return from school	137	55.3	19	73.1	47	58.7	71	50.0
Parents' working hours such that the husband is home before the children return from school	41	16.5			6	7.5	35	24.7
Parents' working hours are varied such that at least part of the time neither is home when the children return from school	8	3.2					8	5.6
Total	248	100.0	26	100.0	80	100.0	142	100.0
Eleventh-grade sample								
Parents' working hours such that the wife is home before the children return from school	45	22.2	4	25.0	16	21.3	25	22.5
Parents' working hours such that neither are home when the children return from school	118	58.5	12	75.0	50	66.7	56	50.5
Parents' working hours such that the husband is home before the children return from school	36	17.8			8	10.7	28	25.2
Parents' working hours are varied such that at least part of the time neither is at home when the children return from school	3	1.5			1	1.3	2	1.8
Total	202	100.0	16	100.0	75	100.0	111	100.0

^aSee table 7 for the definition of the social-status levels.

that their mothers were generally at home when they returned from school. Among the 12 cells based on the four grade-sex samples which were stratified by the three status levels, the percentages of children reporting that their mothers were generally at home when they returned from school ranged from 93 to 99 percent. The median was 96 percent.

SINGLE MOTHERS, REMARRIED PARENTS AND MATERNAL EMPLOYMENT

In 69 percent of the 131 families having a mother present but not having a husband present, the mothers were employed at the time of the survey. This compared with 36 percent of the mothers whose husbands were present and who were involved in primary marriages and with 35 percent for mothers living with their husbands but where one or both parties had remarried. There were 206 families characterized by remarriages in the sample. Hours of present employment were slightly greater for the single mothers (44 hours a week, on the average) than for the mothers involved in a remarriage (42 hours per week, on the average) or for the mothers who were involved in the primary marriages (about 40 hours per week, on the average).

Among the mothers involved in remarriages, the mean hours worked per week increased from 40 for the mothers in high-status families, to 43 for the middle-status families and 45 for the low-status families. Similar data cannot be reported for the single mothers because the status variable was based upon the

husbands' levels of education and the prestige levels of their jobs.

Among the 95 single mothers who provided sufficiently detailed information on departure and return times for their work, 73 percent were not home from work by the time the children returned home from school; 9 percent were home part of the time; and 18 percent were generally home from work by this time.

Eighty-six percent of the single mothers and 79 percent of the mothers involved in a remarriage worked during the hours of morning and afternoon.

In 50 percent of the families in which either the husband or wife was remarried and the mother was employed, neither the father nor mother was at home when the child returned from school. The mother was home from work by the time the child returned in approximately 26 percent of the families and the father in approximately 20 percent of the families. The remaining 4 percent of the families were accounted for by working conditions which varied such that one parent was home at least part of the time when the child returned from school.

MATERNAL EMPLOYMENT AND CHILDREN'S PERCEPTIONS OF RELATIONS WITH THEIR PARENTS

Data are presented in this section to test the hypothesis that there is no relationship among the ma-

ternal-employment variables and the children's perceptions of their family relationships.

Two types of data were used to test this hypothesis. One set of data consisted of scores measuring the children's acceptance of their parents and the children's perceptions of the temperments of their parents (46). When Nye's weights were used, none of the scores was scalable in terms of the reproducibility criterion. The 16 reproducibility coefficients resulting from analyses based on the four grade and sex samples for the four sets of scores ranged from 0.71 to 0.80. The median value was 0.78. Because of the low reproducibility coefficients, these data were not used to test the hypothesis.

The other type of data used to test the first null hypothesis consisted of separate item responses related to questions about children's perceptions of their relations with their parents. The items are shown in tables 10 and 11.

MATERNAL EMPLOYMENT DURING THE PAST 30 MONTHS AND THE CHILDREN'S PERCEPTIONS OF FAMILY RELATIONSHIPS

Among the five maternal employment variables, employment during the past 30 months could be most meaningfully related to the children's present perceptions of their relationships with their parents. Therefore, analyses were conducted first for the relationships between maternal employment during this period and the children's perceptions of their family relationships. Family status is controlled in these analyses.

Only percentages are listed in tables 10 and 11. The number of cases upon which the percentages are based are omitted for brevity and clarity in the table construction. Since data were missing for some cases on some items, the number of cell frequencies for any comparison varied slightly.

Differences between the minimum cell frequencies and maximum cell frequencies for cells reported in table 10 ranged from zero to 11. The median difference was only one. Because the cell frequencies varied only slightly, the cell frequencies are not reported for each cell frequency but are available in table A-1 in Appendix A.

Tables 10 and 11 report three categories of data, all of which are related to the assessment of family relations. In table 10, all items pertain to the children's perceptions of their general relations with their parents. Items in table 11 include more specific items: The first set of items refers to parental involvement in the children's school work and activities; the second set of items refers to work and economic relations between the children and their parents.

A separate operational hypothesis could have been formulated for each item taken as a dependent variable in relation to the maternal-employment variable. Such a procedure would be unduly repetitious. Instead, each of the first two sets of items is taken as a whole for testing the null hypothesis. The third set of data, related to jobs at home and allowances, is provided for general informational purposes.

The same procedure was followed in each set of

analyses. Differences in percentages for each item between the children whose mothers were not employed during the past 30 months and those whose mothers had worked at least 1 month in this interval were first determined. The grade levels and sex of the children and their fathers' social status were controlled in all comparisons. Chi-square tests for the significance of the differences were computed. Also, the direction and the magnitude of differences were studied regardless of the significance levels of the differences. Decisions regarding the acceptance or rejection of null hypotheses were based on both of these methods of analysis.

A minus difference in the tables indicates that the percentage for the children whose mothers had been employed was lower than the corresponding percentage for the children whose mother had not been employed. Since all percentages represent the proportion of children providing "favorable" responses, the minus difference is interpreted as indicating less favorable parent-child relations among the children whose mothers had been employed. On the other hand, positive differences are interpreted as indicating more favorable relations among parents and children in families in which mothers had not been employed.

In table 10, only 6 of the 144 differences were significant at the 5-percent level. All differences were negative, indicating less favorable relations among children and parents in families in which the mothers had been employed. On the basis of the criterion of statistical significance, these few significant results provide no basis for rejecting the general null hypothesis. However, differences may have been predominantly in one direction, or most of the larger differences were in one direction. This was tested by tabulating the number of positive and negative differences for the 12 items by the six subsamples. Among the seventh-grade boys from high, middle and low status families, percentages of negative differences for the 12 items were 42, 53 and 33, respectively. Corresponding percentages for negative differences among the 12 sets of responses for the other three status subsamples were: for the eleventh-grade boys, 58, 42 and 33, respectively; seventh-grade girls, 92, 58, 42, respectively; and eleventh-grade girls, 57, 50 and 67, respectively. Clearly, the proportion of positive or negative differences for the seventh- and eleventh-grade boys did not depart greatly from a chance basis. These data provided no basis for rejecting the null hypothesis for the two samples of boys. A majority of the differences were negative in the two subsamples of girls, but only the differences in responses between the girls from high-status homes in the seventh-grade sample probably departed from a chance level.

The first four items in table 11 were also used to test the first null hypothesis. Only 3 of the 48 percentage differences were statistically significant. Positive differences predominated in three of the four grade and sex samples. Only the results for the seventh-grade girls showed a majority of negative differences—83 percent, compared with 42 percent for seventh-grade boys and 33 percent for eleventh-grade boys and eleventh-grade girls. All the differences for the high-status seventh-grade girls were negative, as

TABLE 10. PERCENTAGES OF INDICATED RESPONSES TO GENERAL FAMILY RELATIONS ITEMS BY THE EMPLOYMENT STATUS OF THEIR MOTHERS, THE STATUS LEVELS OF THEIR FATHERS, AND THE GRADE AND SEX OF THE CHILDREN.

Indicated responses to items	High status			Middle status			Low status		
	Not employed	Employed	Difference	Not employed	Employed	Difference	Not employed	Employed	Difference
"Usually" or "always" talks problems over with father									
7-B ^a	55	59	4	44	49	5	48	40	-8
11-B	18	17	-1	21	16	-5	20	22	2
7-C	46	16	-30 ^o	23	26	3	20	21	1
11-G	24	14	-10	16	5	-11	4	16	12
"Usually" or "always" talks problems over with mother									
7-B	63	59	-4	61	64	3	58	48	-10
11-B	38	31	-7	33	36	3	34	33	-1
7-C	76	63	-13	78	70	-8	71	74	3
11-G	56	54	-2	69	60	-9	60	53	-7
"Most of the time" mother tries to understand what you like to do									
7-B	67	76	9	74	70	-4	73	63	-10
11-B	77	77	0	54	60	6	57	68	11
7-C	89	63	-26 ^o	77	77	0	76	77	1
11-G	76	86	10	75	85	10	76	63	-13
"Most of the time" father tries to understand what you like to do									
7-B	79	76	-3	66	75	9	54	60	6
11-B	62	69	7	51	49	-2	43	48	5
7-C	84	53	-31 ^o	64	51	-13	54	52	-2
11-G	71	64	-7	58	52	-6	38	40	2
"Most of the time" mother lets you do the things you like to do									
7-B	62	59	-3	61	62	1	48	57	9
11-B	77	92	15	72	78	6	72	73	1
7-C	76	74	-2	67	67	0	66	57	-9
11-G	82	79	-3	84	92	8	88	81	-7
"Most of the time" father lets you do the things you like to do									
7-B	56	59	3	42	57	15	44	52	8
11-B	59	85	26	69	70	1	54	73	19
7-C	71	68	-3	74	58	-16	53	58	5
11-G	71	64	-7	69	75	6	54	68	14
Mother "nags and scolds" "not much" or "not at all"									
7-B	65	65	0	70	68	-2	60	62	2
11-B	64	62	-2	67	62	-5	61	63	2
7-C	73	56	-17	64	60	-4	64	65	1
11-G	64	71	7	55	68	13	60	55	-5
Father "nags and scolds" "not much" or "not at all"									
7-B	70	71	1	70	58	-12	59	65	6
11-B	59	54	-5	70	62	-8	59	61	2
7-C	87	68	-19	75	60	-15	68	65	-3
11-G	82	79	-3	78	72	-6	70	63	-7
"Seldom" or "ever" told to keep still when you try to argue with your mother									
7-B	32	24	-8	23	28	5	22	23	1
11-B	49	54	5	49	51	2	54	47	-7
7-C	38	42	4	32	28	-4	24	36	12
11-G	68	50	-18	53	60	7	60	37	-23 ^o
"Seldom" or "never" told to keep still when you try to argue with your father									
7-B	32	24	-8	25	26	1	21	22	1
11-B	46	42	-4	49	54	5	54	46	-8
7-C	43	37	-6	33	30	-3	23	29	4
11-G	64	57	-7	53	50	-3	42	45	3
Mother "seldom" or "never" too busy to pay attention to you									
7-B	82	82	0	85	83	-2	74	76	2
11-B	87	77	-10	85	82	-3	89	72	-17
7-C	94	84	-10	80	81	1	80	78	-2
11-G	87	93	6	88	80	-8	86	64	-22 ^o
Father "seldom" or "never" too busy to pay attention to you									
7-B	75	82	7	73	74	1	71	67	-4
11-B	74	62	-12	69	76	7	69	73	4
7-C	87	63	-24 ^o	77	79	2	68	67	-1
11-G	70	79	9	62	75	13	70	66	-4

^oDifferences significant at the 5-percent level on the basis of a 1-degree-of-freedom chi-square test.

^a7-B and 11-B refer to seventh- and eleventh-grade boys, respectively; 7-G and 11-G to seventh- and eleventh-grade girls, respectively.

TABLE 11. PERCENTAGES OF INDICATED RESPONSES TO ADDITIONAL FAMILY-RELATIONS ITEMS BY THE EMPLOYMENT STATUS OF THEIR MOTHERS DURING THE PAST 30 MONTHS, THE STATUS LEVELS OF THE FATHERS, AND THE GRADE LEVELS AND SEX OF THE CHILDREN.

Indicated responses to items	High status			Middle status			Low status		
	Not employed	Employed	Difference	Not employed	Employed	Difference	Not employed	Employed	Difference
Mother "often" takes an interest in school work									
7-B ^a	47	82	35°	52	43	-9	40	45	5
11-B	44	46	2	26	32	6	13	15	2
7-G	73	67	-6	60	40	-20	50	31	-19°
11-G	47	43	-4	32	36	4	18	21	3
Father "often" takes an interest in school work									
7-B	57	82	25	68	71	3	60	67	7
11-B	59	46	-13	43	51	8	32	41	9
7-G	82	78	-4	70	64	-6	70	52	-18°
11-G	73	57	-16	50	58	8	57	41	-16
Mother "usually" or "almost always" attends school programs in which the child takes part									
7-B	58	65	7	64	53	-11	45	45	0
11-B	46	46	0	43	36	-7	29	32	3
7-G	86	83	-3	65	69	4	55	50	-5
11-G	78	86	8	48	56	8	61	56	-5
Father "usually" or "almost always" attends school programs in which the child takes part									
7-B	37	35	-2	49	34	-15	23	19	-4
11-B	46	38	-8	43	34	-9	18	22	4
7-G	69	67	-2	39	36	-3	26	28	2
11-G	67	86	19	33	40	7	26	35	9
Parents have regular jobs for you to do at home									
7-B	88	82	-6	83	85	2	83	78	-5
11-B	72	75	3	57	69	12	74	70	-4
7-G	93	84	-9	74	86	12	87	81	-6
11-G	82	43	-39°	66	72	6	74	86	12
If regular jobs required, work at home required by parents is "about the right amount"									
7-B	82	86	4	69	80	11	74	70	-4
11-B	61	67	6	46	50	4	64	63	-1
7-G	73	88	15	62	70	8	64	73	9
11-G	72	50	-22	75	62	-13	53	72	19
Parents give allowance									
7-B	88	76	-12	70	72	2	51	60	9
11-B	69	46	-23	46	36	-10	30	30	0
7-G	84	84	0	69	81	12	56	73	17
11-G	82	43	-39°	31	60	29°	36	45	9
If allowance given, must earn the allowance by working around the home									
7-B	67	46	-21	60	84	24	79	80	1
11-B	50	33	-17	39	44	5	42	61	19
7-G	50	56	6	74	68	-6	55	63	8
11-G	32	50	18	45	42	-3	37	57	20

°Differences significant at the 5-percent level on the basis of a 1-degree-of-freedom chi-square test.

^a7-B and 11-B refer to seventh- and eleventh-grade boys, respectively; 7-G and 11-G to seventh- and eleventh-grade girls, respectively.

were three of the four differences between the two categories of middle- and low-status girls.

The other four items in table 11 related to arrangements for work around the house and for providing the children with money. These items were not used to test the hypothesis but might be of value in providing some information about possible differences in the involvement of children around the home as a reflection of the employment of the mother. Only the responses to two items, regularity of work and providing an allowance, could be tested for statistical significance. Responses to the other two items could not be tested for significance because the cell frequencies were too small to permit chi-square analyses. This occurred because only the children who answered the preceding item affirmatively were instructed to answer these items.

Only 1 of the 12 differences was significant for the item asking about regular jobs at home. Two differences were statistically significant for the question pertaining to allowances. All of the significant differences involved eleventh-grade girls. Two of the differences were negative, and one was positive. Six of the 12 differences for the first item and 4 of the 12 differences for the second item were negative. Taken together, these data suggest that the proportion of children having regular jobs at home or being provided allowances was not related to the employment of their mothers during the past 30 months. Furthermore, there appeared to be no relationship between the employment status of the mothers during the past 30 months and the reports of the children regarding the proper amount of work required of them at home or the necessity for them to earn their allowances.

SUMMARY OF RESULTS BASED ON THE PAST-30-MONTHS MEASUREMENT OF MATERNAL EMPLOYMENT

The chi-square tests on differences among responses to questions pertaining to family relationships between children whose mothers had been and had not been employed during the past 30 months provided no basis for rejecting the null hypothesis for the relationships between maternal employment and the children's perceptions of their relations with their parents. This was true for all four grade and sex subsamples. Examination of the sizes and directions of the differences in responses for the two sets of items confirmed this conclusion for the seventh- and eleventh-grade boys and for the eleventh-grade girls. There were indications that the seventh-grade girls whose mothers had been employed, particularly those from high-status families, tended to perceive their relations with their parents in a less favorable manner than corresponding girls whose mothers had not been employed. This conclusion also applied to the set of item responses regarding parents' involvements in the girls' school work and school activities.

Maternal employment did not appear to be related to the children's reports of the degree to which they had regular jobs at home, their feeling about the legitimacy of the amount of work they were required to do, whether they were provided an allowance or whether they had to earn the allowance by working at home.

There appeared to be little interaction between the status levels of the children's families, the employment status of their mothers, and the children's responses to the items listed in tables 10 and 11. Either the positive or negative differences presented a near random pattern within each of the three status subsamples in any grade and sex sample, or as in the case of the seventh-grade girls, negative differences predominated in relation to the items used to test the hypothesis.

Since these results indicated that family-status level was not highly related to the differences in responses between the two categories of children, the relations among the other four maternal employment variables and the past-30-months variable and the dependent family-relationship variables listed in tables 10 and 11 were obtained without the control of the family social-status level.

RELATIONS AMONG ALL THE MATERNAL-EMPLOYMENT VARIABLES AND THE FAMILY-RELATIONSHIP VARIABLES

Previously, it was pointed out that the most theoretically meaningful relationships between the maternal-employment variables and the dependent family-relationship variables were those involving only the past-30-months maternal-employment variable. Nevertheless, because some insights might be gained on relationship between maternal employment and family relationships of children, the other four relationships were tested as well. The five maternal-employment variables were related to the children's responses to the 12 items without any control on family social-status level as a further test of the first hypothesis. These results are shown in table 12. Missing data on some family-relationship items caused the number of cases for some percentages to vary slightly. Maximum and minimum cell frequencies for table 12 are provided in table A-2 in Appendix A.

Twenty-two of the 240 differences were statistically significant at the 5-percent level. All but three of these differences were negative. The significant differences were scattered among all four grade and sex samples—two for seventh-grade boys, five for eleventh-grade boys, seven for seventh-grade girls and eight for eleventh-grade girls—and among all five independent variables, four for the 1-to-3-year period, one for the 4-to-6-year period, four for the 1-to-6-year period, nine for the past 30 months and four for the entire-life period.

There was little concentration of significant differences for any of the family-relationship items. Three significant differences, all negative, were observed for differences in responses between the two categories of eleventh-grade girls for the item related to their fathers' attempts to understand what the girls wanted to do. Three significant differences, again all negative, were also observed for eleventh-grade girls in relation to the frequency of being told to "keep still" when they argued with their mothers. Three sets of two significant differences from among the five maternal-employment variables occurred between seventh-grade girls for the item asking about how much their fathers "nag and scold" them, both

TABLE 12. PERCENTAGES OF INDICATED RESPONSES TO GENERAL FAMILY RELATIONSHIP ITEMS BY THE EMPLOYMENT STATUS OF THEIR MOTHERS DURING THE FIVE SELECTED PERIODS AND BY THE SEX AND GRADE LEVELS OF THE CHILDREN.

Indicated responses to items and period of maternal employment in the child's life	Boys						Girls					
	Seventh grade			Eleventh grade			Seventh grade			Eleventh grade		
	Not employed	Employed	Difference	Not employed	Employed	Difference	Not employed	Employed	Difference	Not employed	Employed	Difference
"Usually" or "always" talks problem over with father												
1 to 3 years	48	38	-10	21	14	-7	26	18	-8	12	21	9
4 to 6 years	48	43	-5	19	23	4	27	19	-8	13	15	2
1 to 6 years	28	18	-10	20	18	-2	49	42	-7	12	19	7
Last 30 months	48	44	-4	20	20	0	28	17	-11°	15	12	-3
Entire life of the child	49	37	-12	20	20	0	28	19	-9	14	12	-2
"Usually" or "always" talks problem over with mother												
1 to 3 years	58	50	-8	37	22	-15	74	60	-14	58	62	4
4 to 6 years	58	54	-4	36	19	-17	74	70	-4	58	58	0
1 to 6 years	75	68	-7	38	21	-17°	58	53	-5	57	67	10
Last 30 months	60	54	-6	34	36	2	75	70	-5	61	58	-3
Entire life of the child	60	50	-10	35	34	-1	75	68	-7	59	58	-1
"Most of the time" mother tries to understand what you like to do												
1 to 3 years	70	73	3	62	70	8	80	58	-22°	77	61	-16
4 to 6 years	71	68	-3	36	36	0	78	75	-3	37	52	15
1 to 6 years	80	70	-10	63	65	2	70	69	-1	75	73	-3
Last 30 months	72	67	-5	61	67	6	80	74	-6	76	74	-2
Entire life of the child	71	67	-4	62	68	6	79	72	-7	78	70	-8
"Most of the time" father tries to understand what you like to do												
1 to 3 years	67	64	-3	51	64	13	60	58	-2	55	32	-23°
4 to 6 years	67	63	-4	35	44	9	62	53	-9	53	64	11
1 to 6 years	62	53	-9	52	53	1	67	64	-3	55	38	-17°
Last 30 months	65	67	2	50	56	6	65	52	-13°	56	48	-8
Entire life of the child	68	61	-7	50	59	9	63	53	-10	58	42	-16°
"Most of the time" mother lets you do the things you like												
1 to 3 years	58	59	1	72	92	20°	67	60	-7	86	79	-7
4 to 6 years	58	57	-1	39	28	-11	68	60	-8	27	33	6
1 to 6 years	68	61	-7	72	77	5	58	57	-1	85	83	-2
Last 30 months	57	59	2	74	76	2	68	63	-5	85	85	0
Entire life of the child	57	60	3	75	74	-1	68	61	-7	85	85	0
"Most of the time" father lets you do the things you like												
1 to 3 years	50	53	3	64	80	16	62	58	-4	68	65	-3
4 to 6 years	52	46	-6	21	30	9	62	62	0	19	21	2
1 to 6 years	62	60	-2	63	78	15	51	48	-3	68	60	-8
Last 30 months	47	54	7	61	72	11°	63	60	-3	64	70	6
Entire life of the child	48	56	7	63	72	9	62	62	0	66	70	4
Mother nags and scolds "not much" or "not at all"												
1 to 3 years	66	49	-17°	64	65	1	66	55	-11	62	53	-9
4 to 6 years	65	61	-4	37	33	-4	64	66	2	25	27	2
1 to 6 years	65	63	-2	64	64	0	65	62	-3	62	56	-6
Last 30 months	64	64	0	64	63	-1	66	62	-4	60	62	2
Entire life of the child	65	63	-2	62	68	6	64	66	-2	62	58	-4
Father nags and scolds "not much" or "not at all"												
1 to 3 years	65	61	-4	61	69	8	72	58	-14	72	76	4
4 to 6 years	65	61	-4	27	12	-15	73	60	-13	15	18	3
1 to 6 years	73	63	-10	61	69	8	65	63	-2	73	71	-2
Last 30 months	66	63	-3	64	41	-23°	76	64	-12°	76	68	-8
Entire life of the child	66	60	-6	61	65	4	75	59	-16°	74	68	-6
"Seldom" or "never" told to keep still when arguing with mother												
1 to 3 years	26	26	0	50	54	4	32	29	-3	56	46	-10
4 to 6 years	25	29	4	50	52	2	33	27	-6	57	36	-21°
1 to 6 years	24	30	6	50	50	0	34	28	-6	57	43	-14
Last 30 months	25	24	-1	50	52	2	30	34	4	61	47	-14°
Entire life of the child	26	22	-4	50	51	1	30	36	6	60	44	-16°

TABLE 12. Continued.

"Seldom" or "never" told to keep still when arguing with father	25	24	-1	49	49	0	34	17	-17	51	48	-3
1 to 3 years	25	24	-1	49	49	4	34	17	-17	51	48	-3
4 to 6 years	25	24	-1	49	49	4	34	23	-11	52	39	-13
Last 30 months	25	25	0	50	49	-1	35	22	-13 ^a	53	40	-13
Entire life of the child	25	24	-1	50	50	0	12	30	18 ^a	54	48	-6
Mother "seldom" or "never" too busy to pay attention	25	26	1	49	50	1	30	34	4	54	46	-8
1 to 3 years	80	80	0	83	78	5	82	76	-6	81	79	-2
4 to 6 years	80	80	0	84	76	8	81	86	6	96	97	1
Last 30 months	81	85	4	84	77	7	79	82	3	81	79	-2
Entire life of the child	80	79	-1	87	77	-10 ^a	84	72	-6	87	74	-13 ^a
Father "seldom" or "never" too busy to pay attention	80	79	-1	83	80	-3	80	86	6	85	73	-12 ^a
1 to 3 years	72	63	-9	72	64	-8	75	60	-15	69	74	5
4 to 6 years	72	70	-2	71	69	-2	75	66	-9	88	85	-3
Last 30 months	76	60	-16 ^a	72	67	-5	73	70	-3	69	73	4
Entire life of the child	73	70	-3	70	72	2	77	69	-8	69	71	2
	73	70	-3	69	76	7	75	71	-4	68	71	3

^aDifferences significant at the 5-percent level on the basis of a 1-degree-of-freedom chi-square test.

negative; between seventh-grade girls for the item related to frequency of being told "to keep still" when they argued with their fathers, one negative and one positive; and between eleventh-grade girls for the item asking whether their mothers were too busy to pay attention to them, both negative. The other 10 significant differences occurred only once for any item in any grade and sex subsample and involved all of the independent variables.

On the basis of statistical inference these findings provided no grounds for rejecting the null hypothesis for any grade and sex sample for the relations between the five independent variables and the 12 items used to assess the family-relationship variables.

The over-all assessment of item differences required arbitrary decisions. Because these were group comparisons and not individual percentage differences, techniques such as the matched-pairs signed-ranks test could not be used. Also, the intercorrelations among the independent variables, and probably also among the dependent variables, precluded the assumption of independent tests among the 12 item comparisons. It appeared that the only alternative was to rest on judgements based on the percentages of positive or negative differences and the sizes of the differences.

Inspection of the sizes and direction of percentage differences did not change this conclusion for the results based on the samples of boys or for the eleventh-grade girls, but, relative to the results for the other three samples, reconsideration of the null hypothesis was suggested for the sample of seventh-grade girls.

Although the majority of percentage differences among seventh-grade boys was negative, 58 percent for the first 3-year period, 83 percent for the second 3-year period, 75 percent for the first 6-year period, 67 percent for the last 30 months, and 75 percent for the entire-life period, most of the differences were small. Only 8 of the 60 differences exceeded 9 percent. All were negative.

Among the eleventh-grade boys, the majority of the percentage differences were positive: 67 percent for the first 3-year period, 50 percent for the second 3-year period, 58 percent for the first 6-year period, and 75 percent for the last two maternal-employment periods. Twelve of the differences exceeded 9 percent, but the direction of difference was almost evenly balanced; seven were negative, and five were positive.

All of the percentage differences among the seventh-grade girls based on the mothers' employment status during the time the girls were between 1 and 3 years of age were negative, and six of the differences were in excess of 10 percent. Negative differences were observed 75 percent of the time for the second 3-year period, 92 percent for the 1-to-6-year period, 84 percent for the last 30 months and 75 percent for the entire-life period. Among the latter four variables, nine of the negative differences were greater than 9 percent. One positive difference of 18 percent was also observed. Negative differences were more pronounced among seventh-grade girls, and more of the negative differences exceeded the arbitrary criterion of 9 percent than for the other three samples. These results are not considered to be suf-

ficient for complete rejection of the null hypothesis. They are accepted as indicating a basis for tentative inference that there is a greater probability for an association between employment of mothers and less harmonious family relations as seen by the children among seventh-grade girls than among the other three samples.

Predominately negative differences were observed on all of the maternal-employment comparisons but one for the eleventh-grade girls: Only 25 percent of the differences in relation to employment of mothers during the second 3-year period were negative. Otherwise, the percentages for negative differences were 67 for the first 3-year period, 75 for the 1-to-6-year period, 67 for the last 30 months and 75 for the entire-life period. Thirteen of the 16 differences which exceeded 9 percent were negative. These findings for the eleventh-grade girls are similar to those observed for seventh-grade boys and are not accepted as providing convincing enough evidence to warrant rejection of the null hypothesis for the older sample of girls.

The data reported in table 11 were not reanalyzed as those in table 10, without the family-status control, and related to all five maternal-employment variables, because it was felt that the school-related data and the household-work and allowance data were even further removed from possible association with the mothers' earlier work histories than were the 12 general family-relationship items.

MATERNAL EMPLOYMENT AND SELECTED PERSONALITY CHARACTERISTICS OF THE CHILDREN

All five maternal-employment variables were initially related to the personality characteristics of the children. This was done because the personality characteristics were considered as developmental variables with at least a moderate degree of continuity throughout the children's development. If there are influences upon this development which were associated with maternal employment during infancy and early or later childhood, the effects of such influence should be observable during later periods of development in the children's lives.

The measurement of the personality characteristics of the children was derived from indexes developed from 44 questions similar to those included in several of the personality inventories and the emotionality scale of the Minnesota Test of Personality (10). Each question was followed by three responses: "Yes," "No" and "Don't know" which were scored as two for "Yes," one for "Don't know" and zero for "No." Eleven scores were derived by sorting items into homogeneous pools on the basis of the agreement of three judges. The personality-related scores were based on the following items and are referred to hereafter by the following descriptive titles:

(1) *Obsessional feeling*

Do ideas run through your head so you cannot sleep?

Do you have difficulty getting to sleep even when there are no noises to disturb you?

Does some particular useless thought keep coming into your mind to bother you?

(2) *Over-sensitivity to others*

Does criticism disturb you greatly?

Are your feelings easily hurt?

Are you sorry for things you do?

(3) *Excessive introspection*

Do you feel just miserable?

Do you feel self-conscious because of your personal appearance?

Do you worry too long over humiliating experiences?

(4) *Upper respiratory complaints (psychosomatic)*

Do you have difficulty in breathing through your nose?

Do you take colds rather easily from other people?

Do you have difficulty in getting rid of a cold?

Do you have colds?

(5) *Envy and withdrawal*

Do you envy the happiness that others seem to enjoy?

Do you feel lonesome, even when you are with people?

(6) *Head and eye complaints (psychosomatic)*

Are your eyes very sensitive to light?

Do you have headaches?

Are you subject to eye strain?

Do you have shooting pains in your head?

(7) *Illness proneness (psychosomatic)*

Has it been necessary for you to have medical attention?

Do you find it necessary to watch your health carefully?

Have you been ill during the past 10 years?

Have you been absent from school because of illness?

(8) *Nervous symptoms*

Do you consider yourself a rather nervous person?

(9) *Fatigue*

Do you feel fatigued when you get up in the morning?

Do you feel very tired toward the end of the day?

Do you feel tired most of the time?

(10) *Mood fluctuations*

Do you have up and down moods without apparent cause?

Do you have spells of the "blues"?

Do you get upset easily?

Do you get excited easily?

(11) *Anxiety and fright*

Do you worry over possible misfortune?

Does it frighten you when you have to see a doctor about some illness?

Are you frightened by lightning?

The 10 questions not used in developing these 11 scores were each considered as a separate variable related to some personality-development characteristic of the children. Each of the selected personality characteristics are considered as indexes of personality development reflecting some aspects of the mental-health status of the children. If maternal employment has a detrimental effect which may be ob-

served concomitantly with or in spite of the interaction of other variables with the independent and dependent variables used in this study, the selected personality characteristics of the children will be negatively associated with the maternal-employment variables. Because high scores on the personality scales are indicative of greater personality disturbance and the maternal-employment variables were coded with higher values representing longer employment, negative substantive relationships are indicated by positive correlation coefficients.

Correlation coefficients between each of the indexes of maternal employment with each of the above measures of personality characteristics of children were used as the basis for testing the second general null hypothesis: There is no relation between maternal employment and selected personality characteristics of the children. The correlation coefficients in table 13 report the estimates of association among the five maternal-employment variables and the 11 scores; those in table 14 report the estimates of the association between the maternal-employment variables and the separate-item responses.

Fifty-five correlation coefficients are reported for each grade and sex sample in table 13. Only two correlation coefficients were statistically significant for seventh-grade boys; three for eleventh-grade boys; four for the seventh-grade girls; and eight for the eleventh-grade girls. All significant results supported an association between maternal employment and greater indications of personality disturbance in children. In each sample, several other correlation coefficients approached significance and were also in the direction just described for the significant results. However, the overwhelming majority of coefficients was nonsignificant. Also, there was virtually no pattern among the significant coefficients. No significant results were observed for the relations involving the 1-to-3-year maternal employment variable. Six were observed for the 4-to-6-year variable, five for the 1-to-6-year variable, one for the last-30-months variable and five for the entire-life variable. Some concentration of significant results was found in relation to the envy-withdrawal variable among the boys and in relation to the head-and-eye-complaints variable among girls. In neither case, however, was the majority of the coefficients significant. Otherwise, the significant coefficients were scattered among four other dependent variables and were observed only for the older students.

Thus far, only the level of significance has been used in assessing the correlation coefficients reported in table 13. Even where significant, the magnitude of the correlations was uniformly low. The 5-percent level of significance for the correlations varied from 0.10 to 0.13. The observed significant correlations ranged from 0.10 to 0.13 for boys and from 0.12 to 0.20 for girls.

In summarizing the results in table 13, correlations were almost uniformly nonsignificant, and, where significant results were observed, correlation coefficients were low and not patterned to any marked degree with respect to either the independent or dependent variables. These data offered no basis for rejecting the second null hypothesis.

TABLE 13. CORRELATION COEFFICIENTS AMONG MATERNAL-EMPLOYMENT VARIABLES AND THE PERSONALITY SCORES BY THE GRADE LEVEL AND SEX OF THE CHILDREN.

Maternal employment during given periods in the child's life	Obsessional feelings	Over-sensitivity to others	Excessive intra-speciation	Upper respiratory complaints	Envy withdrawal	Head and eye complaints		Illness proneness	Nervous symptoms	Fatigue	Mood fluctuations	Anxiety and fright
						Seventh-grade boys (N = 370)*	Eleventh-grade boys (N = 283)*					
1 to 3 years	0.4 ^a	-0.3	-0.4	-0.1	0.7	0.2	0.2	0.2	0.3	-0.3	0.6	0.6
4 to 6 years	0.0	-0.2	0.0	-0.6	1.0 ^a	0.8	0.6	0.6	-0.1	-0.7	0.8	0.8
1 to 6 years	0.2	-0.3	-0.2	-0.5	0.9	0.7	0.8	0.8	0.0	-0.5	0.8	0.7
Last 30 months	-0.1	-0.6	-0.2	-0.4	0.6	0.2	0.6	0.6	-0.7	0.3	-0.1	0.1
Entire life	0.0	-0.2	0.0	-0.6	1.1 ^a	0.8	0.4	0.4	-0.2	-0.3	0.6	0.4
Eleventh-grade boys (N = 283)*												
1 to 3 years	-0.3 ^a	-0.3	0.1	0.3	0.8	-0.8	0.1	0.1	0.9	0.5	0.0	-0.4
4 to 6 years	0.0	-0.4	0.7	0.5	1.3 ^a	0.5	0.1	0.3	0.3	1.3 ^a	0.0	0.0
1 to 6 years	-0.1	-0.4	0.4	0.4	1.2 ^a	-0.2	0.1	0.6	0.6	1.0	0.0	-0.1
Last 30 months	0.5	-0.7	0.7	0.6	-0.2	0.3	0.7	0.4	0.4	0.3	0.4	0.6
Entire life	0.1	-1.1	0.7	0.4	0.3	0.4	0.5	0.4	-0.4	0.8	0.2	0.0
Seventh-grade girls (N = 351)*												
1 to 3 years	0.3 ^a	0.5	-0.3	0.7	0.9	0.8	0.3	0.3	-0.1	0.3	0.5	0.6
4 to 6 years	0.3	0.0	-0.9	0.6	0.6	1.6 ^a	0.5	0.1	-0.2	0.1	0.6	0.2
1 to 6 years	0.4	0.3	-0.7	0.8	0.9	1.4 ^a	0.5	0.5	-0.2	0.2	0.6	0.4
Last 30 months	0.0	0.5	-0.2	0.5	0.2	1.2 ^a	0.0	0.0	-0.5	-0.3	0.1	-0.1
Entire life	0.2	0.3	-0.9	0.6	0.3	1.6 ^a	0.2	0.2	-0.3	-0.3	0.3	0.2
Eleventh-grade girls (N = 245)*												
1 to 3 years	-0.3 ^a	-0.3	-0.4	1.1	-0.1	0.7	0.9	0.8	0.8	1.1	0.6	-0.2
4 to 6 years	0.4	0.3	-0.3	2.0 ^a	-0.2	0.7	0.1	0.1	1.5 ^a	0.5	0.9	0.1
1 to 6 years	0.0	0.1	-0.3	1.8 ^a	-0.2	0.9	1.4 ^a	1.3 ^a	1.3 ^a	0.9	0.9	-0.3
Last 30 months	0.5	-0.7	0.4	0.2	0.6	1.2	0.8	0.0	1.2	0.0	-0.7	0.5
Entire life	0.5	-0.3	-0.3	1.2	0.6	1.7 ^a	1.3 ^a	1.3 ^a	1.3 ^a	0.1	0.7	0.3

*For seventh-grade boys, $r \geq 0.10$, $P \leq 0.05$; for eleventh-grade boys, $r \geq 0.12$, $P \leq 0.05$; for seventh-grade girls, $r \geq 0.10$, $P \leq 0.05$; and for eleventh-grade girls, $r \geq 0.13$, $P \leq 0.05$.

^aDecimals for correlation coefficients have been omitted.

TABLE 14. CORRELATION COEFFICIENTS AMONG THE MATERNAL-EMPLOYMENT VARIABLES AND THE PERSONALITY-ITEM RESPONSES BY THE GRADE LEVEL AND SEX OF THE CHILDREN.

Maternal employment during given periods in the child's life	Anger easily	Ill in childhood	Things go wrong	Easily discouraged	Feelings not real	Depressed over low marks		Daydream	Love and hate family	Parents disappointed in you	Gastro-intestinal pains
						Seventh-grade boys (N = 370) ^a	Eleventh-grade boys (N = 288) ^a				
1 to 3 years	01 ^a	-04	01	-01	-01	05	05	02	-01	05	
4 to 6 years	01	00	08	03	00	06	11 [*]	02	04	-01	
1 to 6 years	00	-02	06	01	00	06	09	02	00	00	
Last 30 months	-07	03	03	-05	-02	01	07	01	04	06	
Entire life	-01	-01	07	00	00	04	11 [*]	03	03	01	
1 to 3 years	-01 ^a	-02	00	-06	04	-05	05	-01	-03	-01	
4 to 6 years	-01	-02	01	-07	14 [*]	-03	03	02	07	-05	
1 to 6 years	-01	-02	00	-08	10	-05	05	01	02	-03	
Last 30 months	11	02	04	-04	01	06	04	-02	02	01	
Entire life	04	-04	04	-11	04	04	08	00	06	-03	
1 to 3 years	06 ^a	-03	00	05	04	15 [*]	03	01	06	05	
4 to 6 years	05	-04	-05	-03	07	19 [*]	04	-01	-06	02	
1 to 6 years	07	-04	-03	01	06	20 [*]	04	-01	04	04	
Last 30 months	05	-05	-02	05	01	08	02	-03	-03	06	
Entire life	05	-04	-04	-01	06	19 [*]	06	-03	-03	00	
1 to 3 years	-10 ^a	-01	03	09	-04	09	15 [*]	-01	-02	04	
4 to 6 years	-07	-07	11	05	-03	-01	13 [*]	03	02	-08	
1 to 6 years	-10	-04	07	08	-04	05	17 [*]	01	00	-07	
Last 30 months	06	02	04	00	-03	-04	09	10	09	-02	
Entire life	-02	-01	17	08	-05	03	09	08	08	-04	

^aFor seventh-grade boys, $r \geq 0.10$, $P \leq 0.05$; for eleventh-grade boys, $r \geq 0.12$, $P \leq 0.05$; for seventh-grade girls, $r \geq 0.10$, $P \leq 0.05$; and for eleventh-grade girls, $r \geq 0.13$, $P \leq 0.05$.
^aDecimals for correlation coefficients have been omitted.

The 10 separate items are referred to in abbreviated form along the top of table 14. The complete form of the items, from left to right, were: Do you get angry easily? Were you ill much of the time during childhood? Do things go wrong for you from no fault of your own? Do you get discouraged easily? Are you bothered by the feeling that things are not real? Have you been depressed because of low marks in school? Do you daydream? Do you have conflicting moods of love and hate for members of your family? Do you feel that your parents are disappointed in you? Do you suffer discomfort from gas in the stomach or intestines?

Only 11 of the total of 200 correlation coefficients listed in table 14 were statistically significant; seven for the two samples of girls and four for the two samples of boys. Among the boys, three different dependent variables and three different independent variables were involved in the significant correlations. Among the girls, significant coefficients were found only in relation to the "depressed over low marks" variable for the younger girls and in relation to the "daydreaming" variable for the older girls. The correlations, as all others, were positive, but the sizes were low. The highest correlation coefficient was 0.20.

Since all the foregoing significant results were quite low, partial correlation analysis controlling on socio-economic level was not employed. On the basis of the results given in tables 13 and 14, the null hypothesis for the relations between the maternal-employment variables and the selected personality characteristics of the children was not rejected.

MATERNAL EMPLOYMENT AND SCHOOL-RELATED AND SOCIAL-DEVELOPMENT CHARACTERISTICS OF THE CHILDREN

Two null hypotheses were formulated for the relationships between maternal employment and the school-related variables and the social development of the children. Data used to test both of these hypotheses are presented in this section. In a broad sense, it is difficult to separate the school-related and social-developmental characteristics for the children because the children's scholastic achievement, school grades and other behavior related to school activity can be considered as measures of social adjustment within the context of a school as a social system. However, data were organized to test each hypothesis, although the school and social-development variables are presented in the same tables for convenience.

SCHOOL-RELATED VARIABLES

All five maternal-employment variables were related to the school-adjustment variables and to the scores and items used to measure social adjustment of the children. Results are presented first for the relations between maternal-employment variables and the dependent variables which were in continuous form. School-related variables in continuous form, all taken from school records, included intelligence and achievement scores, grades during the past year, absenteeism and tardiness. The intelli-

gence scores were derived from the Otis Quick Scoring Mental Abilities Test (short form) with the appropriate forms being used for the two grade levels (47). Achievement for the junior high students was measured by the median score on the Stanford Achievement Test (30). The composite score on the Iowa Test of Educational Development was used to measure the achievement level of the senior high school students (35). School grades were calculated as a mean from zero to four for all grades received during the previous year. The number of days reported was used as the measures of absenteeism and tardiness. Although intelligence scores might have been better placed with the personality-related variables on the basis of the usual classification of intelligence characteristics, these scores are included among the school-related variables for two reasons. First, the intelligence scores, as measured by the Otis test, reflect the results of social experience in the home and community, as well as the school. The intelligence scores are considered as general estimates of cognitive functioning and of general responses to one's environment. Second, the intelligence scores are not presented with the other personality scores in order to retain the homogeneity of the emotional character of the personality scores reported earlier.

If maternal employment and school variables are negatively associated, negative correlations should be observed for all relationships except those involving the absentee and tardy variables. Negative substantive association among the last two variables and the maternal-employment variables would be indicated by positive correlation coefficients.

The 100 correlation coefficients for the relations among the five maternal-employment variables and the five school-related variables of the children are presented in table 15. Correlations involving the two activity scores, also presented in table 15, are described later under the section on the social development of the children.

Twenty of the 100 correlations just described were statistically significant at the 5-percent level. All of the independent variables were involved in significant relations as were all dependent variables, but aside from three specific combinations, there was little pattern apparent in the results. First, four of the five correlations between the maternal-employment variables and the intelligence scores of the seventh-grade boys were statistically significant. Although low, all correlations were negative. However, relations between maternal-employment variables and intelligence scores for the other three samples of children were uniformly nonsignificant. Therefore, little theoretical or substantive significance can be attached to the significant results found for the seventh-grade boys sample.

A second combination of significant results occurred in relation to school grades: two significant correlations were observed for the eleventh-grade boys, three for the seventh-grade girls, and one for the eleventh-grade girls. There were, however, only 6 significant correlations among 20 relations which were tested, and these correlations were all low, the largest being -0.17.

TABLE 15. CORRELATION COEFFICIENTS AMONG THE MATERNAL-EMPLOYMENT VARIABLES AND THE SCHOOL AND SOCIAL-ADJUSTMENT VARIABLES BY THE GRADE LEVELS AND SEX OF THE CHILDREN.

Maternal employment during given periods in the child's life	School grades		Days absent	Days tardy	Participation in school activities	Participation in nonschool activities
	Intelligence	Achievement				
Seventh-grade boys (N = 363)*						
1 to 3 years	01 ^a	01	06	-03	-01	02
4 to 6 years	-14 ^a	-10 ^a	-05	-01	03	-01
1 to 6 years	-11 ^a	-07	-06	-02	01	01
Last 30 months	-15 ^a	-06	-02	03	-01	03
Entire life	-13 ^a	-07	-07	-00	04	03
Eleventh-grade boys (N = 278)*						
1 to 3 years	07 ^a	01	-01	00	-09	01
4 to 6 years	06	01	11	03	-08	-04
1 to 6 years	07	02	06	02	-10	-02
Last 30 months	-04	-12 ^a	11	05	-13 ^a	-02
Entire life	-01	-07	12 ^a	03	-12 ^a	-09
Seventh-grade girls (N = 345)*						
1 to 3 years	-08 ^a	-11 ^a	-03	-02	04	-05
4 to 6 years	-03	-05	-00	-05	03	00
1 to 6 years	-06	-09	-02	-04	04	-03
Last 30 months	00	-03	-02	-05	01	04
Entire life	-03	-09	-04	-05	03	01
Eleventh-grade girls (N = 242)*						
1 to 3 years	10 ^a	10	-03	05	05	-02
4 to 6 years	-01	05	10	23 ^a	01	-12
1 to 6 years	05	09	08	17 ^a	04	-09
Last 30 months	-02	-07	14 ^a	16 ^a	-11	-12
Entire life	-04	-03	14 ^a	16 ^a	02	-12

*For seventh-grade boys, $r \geq 0.10$, $P \leq 0.05$; for eleventh-grade boys, $r \geq 0.10$, $P \leq 0.05$; for seventh-grade girls, $r \geq 0.10$, $P \leq 0.05$; and for eleventh-grade girls, $r \geq 0.10$, $P \leq 0.05$.
^aDecimals for correlation coefficients have been omitted. For all correlations except those involving days absent or tardy, a positive correlation represents a positive substantive relationship between variables. Negative correlations between maternal-employment variables and days absent or tardy represent positive substantive relationships.

Finally, among the eleventh-grade girls 6 of the 10 correlations involving tardiness or absenteeism were statistically significant. Again, however, the correlations were low, ranging from 0.14 to 0.23.

The slight patterning of results on some of the dependent variables required further analysis. Partial correlations were determined for the relations between the last-30-months maternal-employment variable and the dependent variables. Only the last-30-months variable was used in these analyses because this independent variable corresponded most closely with the period for which the social-status scores were comparable. Because of social-mobility patterns, the social-status scores could not be appropriately related to the other independent variables for the purposes of partial correlation analyses. Also, the children's school-related data would be theoretically most meaningful in relation to this maternal-employment variable. When the partial correlations were determined, the significant zero-order correlations between the last-30-months employment variable and the intelligence scores for the seventh-grade boys, and for the grades, absenteeism and tardiness scores for the eleventh-grade girls were reduced below the level of statistical significance. Only the partial correlation involving maternal employment during the past 30 months and the grades of the eleventh-grade boys with the control on family social-status level, remained significant. The coefficient was -0.12, having been reduced from -0.17, for the association not controlling on the status-level variable.

The partial correlation analyses removed virtually all of the support thus far found for the null hypothesis regarding maternal employment and the children's school adjustment.

Responses to five items were also used for a further test of the null hypothesis. The complete form of these items, shown in abbreviated form in table 16, were: Taking everything into consideration, how well do you like school? How often do you feel your teachers give more attention to other students than to you? How often do you feel your teachers are harder on you than on other students? How many of your schoolmates do you like? In comparison with other students in your school, how well do you think you are liked by your schoolmates?

Percentages listed in table 16 are based on comparisons between children whose mothers have been employed in the past 30 months and children whose mothers have not been employed during this period within the three status levels of the four grade and sex samples. For the first four items, the percentages represent the positive responses for each item; responses to the middle category are used for the last item. A negative difference between children whose mothers have and have not been employed during this period indicates that the children of the employed mothers tended to perceive their school relations or their peer relations less favorably than the other children.

Only 1 of the 36 percentage differences for the three school-related items was statistically significant. This occurred for the seventh-grade girls from low-status families in relation to their perception of "how hard" their teachers were on them in comparison with the

other students. A greater proportion of the girls whose mothers were employed perceived their teacher as being "harder" on them than did the corresponding girls whose mothers had not been employed.

In addition to these tests of significance, the sizes and direction of percentage differences were analyzed. Four of the nine differences were negative for the analyses involving seventh- and eleventh-grade boys. Among the older boys, all differences were small, only one exceeded 9 percent. Slightly larger differences were observed among the seventh-grade boys, up to 17 percent, but of the three differences which exceeded 9 percent, two were negative and one was positive. Five of the differences based upon responses of seventh-grade girls were negative. Only two differences exceeded the arbitrary criterion of 9 percent. One of these was positive and one negative. Among the eleventh-grade girls, seven of the nine differences were negative. Four of these were greater than 9 percent, three being negative and one being positive.

In terms of the children's responses to the three school-attitude items, the null hypothesis must be accepted for relations between the maternal-employment variable and the boys' attitudes and the attitudes of seventh-grade girls. There was a suggestion that the eleventh-grade girls whose mothers had been employed during the past 30 months had less positive attitudes toward school than corresponding girls whose mothers were not employed, but the basis was very slight.

Except for the differences observed for eleventh-grade girls, these additional analyses provided no bases for rejecting the null hypothesis for the relation between maternal employment during the past 30 months and the school adjustment of the children.

The relations between all five maternal-employment variables and responses to each of the three school-attitude items are presented in table 17 without the control on family-status level. None of the percentage differences between the seventh- or eleventh-grade boys whose mothers had been employed during any of the five periods compared with boys whose mothers had not been employed in these periods was statistically significant at the 5-percent level. Three significant differences, all in relation to the girls' perceptions regarding how hard their teachers were on them in comparison with other students, were observed for comparisons among the seventh-grade girls. Three significant differences were also found for the comparison of the eleventh-grade girls: Two significant differences occurred in relation to teachers giving more attention to the students and one for the item just described for the seventh-grade girls. All significant differences were negative.

The three significant differences among the 15 tested for each sample of girls were not accepted as a sufficient basis for rejecting the null hypothesis for these two samples. Obviously, the null hypothesis was retained for boys' samples.

The majority of the findings pertaining to the children's school adjustment and school relations, both the correlation coefficients and the tests of responses to the three items, appeared to support retention of the null hypothesis for the relations between mater-

TABLE 16. PERCENTAGES FOR INDICATED SCHOOL- AND PEER-RELATED ATTITUDES BY THE EMPLOYMENT STATUS OF THE MOTHERS DURING THE PAST 30 MONTHS, THE SOCIAL STATUS OF THE FATHERS, AND THE GRADE LEVELS AND SEX OF THE CHILDREN.

Responses to school- and peer-related attitudes and the grade and sex of the children	High status			Middle status			Low status		
	Not employed	Employed	Difference	Not employed	Employed	Difference	Not employed	Employed	Difference
Likes school "very well" or "pretty well"									
7-B ^a	92	82	-10	82	91	9	87	87	0
11-B	88	92	4	84	70	-14	81	79	-2
7-G	98	100	2	93	91	-2	96	90	-6
11-G	96	79	-17	91	90	-1	74	83	9
Teachers "hardly ever" or "not at all" give more attention to other students									
7-B	58	41	-17	61	54	-7	49	62	13
11-B	72	69	-3	68	72	4	59	53	-6
7-G	66	83	17	60	66	6	57	50	-7
11-G	80	71	-9	71	68	-3	67	56	-11
Teachers "hardly ever" or "not at all" harder on you than on other students									
7-B	72	65	-7	71	80	9	68	71	3
11-B	92	92	0	82	79	-3	68	73	5
7-G	87	94	7	80	76	-4	89	55	-34 ^o
11-G	98	79	-19	76	92	16	86	79	-7
Like "most" or "practically all" of your schoolmates									
7-B	83	88	5	96	93	-3	92	90	-2
11-B	92	92	0	92	87	-5	95	87	-8
7-G	95	94	-1	100	98	-2	96	95	-1
11-G	98	93	-5	100	90	-10	96	95	-1
Liked "about the same" as most of your schoolmates									
7-B	65	53	-12	64	69	5	75	75	0
11-B	68	54	-14	61	72	11	70	74	4
7-G	71	78	7	67	76	9	76	77	1
11-G	80	72	-8	82	82	0	84	81	-3

^oDifference significant at the 1-percent level on the basis of a 1-degree-of-freedom chi-square test.

^a7-B and 11-B refer to seventh-grade and eleventh-grade boys, respectively; 7-G and 11-G refer to seventh- and eleventh-grade girls, respectively.

TABLE 17. PERCENTAGES FOR INDICATED SCHOOL- AND PEER-RELATED ATTITUDES BY THE EMPLOYMENT STATUS OF THEIR MOTHERS DURING THE FIVE SELECTED PERIODS AND BY THE SEX AND GRADE LEVELS OF THE CHILDREN.

Responses to school- and peer-related attitudes and period of maternal employment	Boys						Girls					
	Seventh grade			Eleventh grade			Seventh grade			Eleventh grade		
	Not employed	Employed	Difference	Not employed	Employed	Difference	Not employed	Employed	Difference	Not employed	Employed	Difference
Likes school "very well" or "pretty well"												
1 to 3 years	86	82	-4	81	81	0	94	90	-4	85	88	3
4 to 6 years	85	90	5	81	76	-5	95	88	-7	85	88	3
1 to 6 years	84	91	7	81	79	-2	94	91	-3	86	85	-1
Last 30 months	86	87	1	83	76	-7	95	91	-4	86	85	-1
Entire life of the child	85	88	3	84	73	-11	95	91	-4	86	85	-1
Teachers "hardly ever" or "not at all" give more attention to other students												
1 to 3 years	56	54	-2	65	57	-8	59	60	1	66	71	5
4 to 6 years	57	55	-2	66	54	-12	60	56	-4	68	64	-4
1 to 6 years	56	56	0	66	56	-10	59	59	0	68	69	1
Last 30 months	56	58	2	65	62	-3	58	60	2	72	60	-12 ^o
Entire life of the child	57	56	-1	62	62	0	60	56	-4	72	57	-15 ^o
Teachers "hardly ever" or "not at all" harder on you than on other students												
1 to 3 years	71	74	3	78	81	3	83	88	5	86	53	-33 ^o
4 to 6 years	72	72	0	78	79	1	87	72	-15 ^o	86	85	-1
1 to 6 years	72	70	-2	77	82	5	87	75	-12 ^o	87	83	-4
Last 30 months	71	73	2	79	77	-2	86	81	-5	88	84	-4
Entire life of the child	72	72	0	78	77	-1	88	74	-14 ^o	88	83	-5
Like "most" or "practically all" of your schoolmates												
1 to 3 years	90	98	8	91	89	-2	96	95	-1	96	97	1
4 to 6 years	90	94	4	92	88	-4	96	96	0	96	97	1
1 to 6 years	90	94	4	91	90	-1	96	95	-1	96	96	0
Last 30 months	91	90	-1	93	88	-5	96	96	0	98	94	-4
Entire life of the child	90	92	2	94	85	-9	96	94	-2	97	94	-3
Liked "about the same" as most of your schoolmates												
1 to 3 years	72	64	-8	67	73	6	73	70	-3	81	85	4
4 to 6 years	72	66	-6	68	58	-10	72	76	4	81	64	-17 ^o
1 to 6 years	71	69	-2	68	69	1	72	78	6	82	46	-36 ^o
Last 30 months	70	71	1	66	60	-6	71	77	6	81	85	4
Entire life of the child	71	69	-2	67	71	4	72	75	3	80	84	4

^oDifferences significant at the 5-percent level on the basis of a 1-degree-of-freedom chi-square test.

nal employment and these dependent variables for each of the four samples of children.

SOCIAL-DEVELOPMENT VARIABLES

The social development of the children was measured by two scores, based upon participation in school activities and community activities, and the responses of the children to the two items related to their acceptance of and by their peers. The school-activities scores were developed from a 10-item activity scale for which weights were assigned for membership and participation. Community-organization-participation scores were derived from a five-item index based on membership and participation in community organizations appropriate for the age levels of the children.

Two of the 20 correlation coefficients among the five maternal-employment variables and the school-participation scores for the four grade and sex samples were statistically significant. Both were negative and low, -0.12 and -0.13, and involved eleventh-grade boys only. None of the 20 correlation coefficients on the maternal-employment variables and the community-participation scores was statistically significant. Partial correlation, controlling on the family-status level, reduced the -0.13 correlation for the relation between the maternal employment during the past 30 months and the participation of eleventh-grade boys in school activities to -0.10, which was statistically nonsignificant.

These correlation coefficients supported accepting the null hypothesis for relations between maternal employment and the social development of the children.

Responses to the last two items presented in table 16 provided a further basis for testing this null hypothesis. Percentages represent positive responses for the item related to how many of their schoolmates the children liked. For the last item, percentages represented responses to the middle category, "I am liked about the same as most of my schoolmates."

None of the percentage differences between the two categories of children within the three status levels for each of the four grade and sex samples was statistically significant in relation to the mothers' employment during the past 30 months. Because only two items were used and there was little basis for replication, no further analyses were performed.

When the family-status-level control was removed and responses to the two items were determined in relation to all five maternal-employment variables, as reported in table 17, only 2 of the 40 differences were significant at the 5-percent level. These occurred among eleventh-grade girls in relation to questions about how well they are liked by their schoolmates. Both differences were negative, but the other three differences for the seventh-grade girls on this item, while not significant, were all positive. Again, no further analyses were employed for these differences.

On the basis of all the data pertaining to the children's social development, the null hypothesis between maternal employment and the children's social development was not rejected.

DISCUSSION

The problem posed for study was: What relationships exist between maternal employment and the personal and social development of children? An attempt was made to answer this problem by testing four null hypotheses:

1. There is no relationship between maternal employment and children's perceptions of family relationships.
2. There is no relationship between maternal employment and selected personality characteristics of the children.
3. There is no relationship between maternal employment and school-related variables of the children.
4. There is no relationship between maternal employment and selected social-relations characteristics of the children.

These general hypotheses were tested by numerous analyses, each of which could have been considered as a test of an operational hypothesis linked to one of the four hypotheses. Tests were made utilizing correlation analysis for continuous data and chi-square tests for discrete data. Separate analyses were conducted with controls for family-status level and without these controls. Discussion of the results obtained from these analyses will be facilitated by treating findings relevant to the last three hypotheses and then returning to findings relevant to the first hypothesis.

Cause-effect connotations have been obvious in these hypotheses and attendant analyses and would have become the major focus of discussion if sufficient support had been found for the rejection of the null hypotheses in favor of hypotheses indicating negative associations with the dependent variables. However, the null hypotheses received almost uniform support. Because the significant correlations between the five maternal-employment indexes and the dependent variables which were observed, were so few in number, low in magnitude and generally scattered among different variables, the observed significant coefficients are better interpreted as chance relationships rather than as substantively significant relationships. Acceptance of the null hypotheses leads to the conclusion that maternal employment during the specified periods of the children's lives had no apparent relationship with the personality, school-related or social-development characteristics of the children selected as dependent variables in this study.

It is especially noteworthy that this conclusion holds for the relations of maternal employment during the first 3, second 3, and first 6 years of the children's lives with dependent variables measured during early and late adolescent periods of the children's lives. Within the limitations of the methodology used in the present study, apparently maternal employment *per se* cannot be considered as an index of maternal deprivation with consequent detrimental effects on the development of children. If maternal employment during preschool years of the children's lives had negative effects upon the children's development, these effects were not observed by tech-

niques used in this study. This conclusion holds for both sexes and for the two periods of development.

The several sets of results which were significant and appeared to have some degree of replication were at least partly attributable to the socio-economic level and disappeared when this control was applied. For instance, it would have been reasonable to interpret the association between maternal employment and school absenteeism and tardiness among older girls as an indication that these girls had to assume greater domestic roles which at least partially conflicted with their school attendance. However, the greater proportion of employed mothers among girls from lower status levels apparently was involved in these correlations. There were slight negative correlations between socio-economic level and absenteeism and tardiness. Hence, the slight correlations between maternal employment and school absenteeism and tardiness among the eleventh-grade girls could not be attributed to maternal-employment conditions, but apparently reflected normative standards toward school attendance associated with social-class differentials, and were possibly reinforced by domestic demands arising from the employment of mothers.

In general, the results obtained from the responses to items regarding school relations and peer-group relations overwhelmingly supported the second and third null hypotheses. There was a slight indication that the eleventh-grade girls whose mothers had been employed had less positive attitudes toward school than the eleventh-grade girls whose mothers had not been employed. The less favorable attitudes were not reflected in the scholastic achievement, grades, intelligence or school social-activities score of the girls or in their rates of absenteeism or tardiness which could not be attributed to the social status of their families.

One correlation coefficient requires additional comment. The relation between maternal employment during the past 30 months and eleventh-grade boys' grades remained significant after the partial correlation for family status was calculated. The coefficient was low, -0.12 . In interpreting this finding, two alternatives are available: (1) The result can be accepted, the null hypothesis rejected for this relationship, and an alternative hypothesis accepted, that there is a slight, negative association between employment of mothers and grades of eleventh-grade boys; or (2) because of the general lack of significant results among the large number of correlation tests which were determined, this single significant result may be interpreted as a "chance" finding, and the null hypothesis may be retained for this particular test. In view of the overwhelming support for the school-related null hypothesis, the latter alternative is accepted.

Three conclusions of this investigation are that the null hypotheses for the relations between maternal employment and the selected personality characteristics, school-relations and social-development variables of the children cannot be rejected.

These results are applicable only for the total population studied. The four grade and sex samples were similar in being composed of white students from

families which had experienced only primary marriages. Significant positive or negative correlations between maternal employment indexes and the dependent variables may be observed for subclasses of families and children within these larger samples. If data were obtained related to the mothers' attitudes toward child rearing, motivations toward employment, competency to handle home and work roles, the children's perceptions and evaluations of their mothers' employment, the adequacy of substitute care for younger children, the fathers' attitudes toward the mothers' employment, and family integration and family adaptability—to mention just a few variables—and appropriate designs were developed to test the relations between maternal employment and dependent child-development variables within the context of these or related family-relationship variables, different results may be obtained. These are needed next steps in research in this area.

The present results, however, provide data in an area where results have been almost totally lacking until just recently and seriously challenge popularly held generalizations about relationships between employment of mothers and the development of children.

On the basis of the data obtained in the present study, the conclusion of this study is exactly that of another study related to the present one but conducted with kindergarten children: "... one may surely conclude from these data that maternal employment *per se* is not the overwhelmingly influential factor in children's lives that some have thought it to be" (54, p. 545). Scattered data from several other investigations which were summarized in the review of literature section generally support this conclusion.

The results related to the first hypothesis were less clear than those for the last three hypotheses. Part of this lack of clarity may be attributed to the necessity to summarize results for the separate items used to assess differences in the children's perceptions of their relations with their parents. On the basis of significance tests, the first null hypothesis was also retained. Few differences were significant, and no particular pattern was observed among those results which were significant. When the criterion of statistical significance was abandoned in favor of assessing the sizes and directions of item differences between children whose mothers had been and those whose mothers had not been employed, the findings supported retaining the family relations null hypothesis for three of the four samples. Only the differences for the seventh-grade girls showed a pattern of predominantly negative differences, some being large percentage differences. These findings were present for analyses based on the last-30-months-maternal-employment variable, with and without the family-status control, and for several of the other maternal-employment variables.

Because of the moderate-to-high intercorrelations among the maternal-employment variables and the probable associations among the dependent family-relationship variables, the results for the seventh-grade girls are hard to interpret. Also, to some degree, the decisions regarding assessment of the item

differences must be arbitrary. The findings based on the inspection of item differences suggested that the null hypothesis should be cautiously rejected for the association of maternal employment with the perceptions of family relations by seventh-grade girls. The rejection of this null hypothesis is offered only on slight grounds and is considered to be only tentative.

The findings of the present study which support the family relations null hypothesis for three of the four grade and sex samples agree with some of the results of previous research which were discussed in the review of literature. The suggestive findings pointing to rejection of the null hypothesis for the seventh-grade girls support the results of an earlier study on the relations between employment of mothers and family adjustments of junior high school

girls. The less positive family relations reported by the seventh-grade girls from homes with working mothers apparently are not related to their behavior in the other three areas which were studied in this investigation. Obviously, additional research is needed for testing the relations between maternal employment and the age and sex of the children and their perceptions of intrafamily relationships. The present findings suggest that the developmental period and the sex of the child may interact in relation to the independent variable and the dependent family-relationship variables. This finding is congruent with the growing body of evidence that the differential developmental processes of the two sexes are reflected in their perceptions of their family relationships (23, 24, 37).

APPENDIX A

MINIMUM AND MAXIMUM CELL FREQUENCIES FOR PERCENTAGES REPORTED IN VARIOUS TABLES IN THE TEXT

TABLE A-1. MINIMUM AND MAXIMUM CELL FREQUENCIES BY THE STATUS LEVELS OF THEIR FATHERS, THE EMPLOYMENT STATUS OF THEIR MOTHERS DURING THE PAST 30 MONTHS AND THE GRADE AND SEX OF THE CHILDREN.^a

Samples	High status		Middle status		Low status	
	Not employed	Employed	Not employed	Employed	Not employed	Employed
	Minimum cell frequencies					
Seventh-grade boys	62	17	51	43	80	81
Eleventh-grade boys	39	12	60	44	61	59
Seventh-grade girls	54	18	57	42	77	67
Eleventh-grade girls	44	13	31	37	50	62
	Maximum cell frequencies					
Seventh-grade boys	67	17	56	55	83	83
Eleventh-grade boys	39	13	61	47	63	61
Seventh-grade girls	55	19	61	43	90	75
Eleventh-grade girls	45	14	34	40	51	62

^a The percentages in tables 10, 11 and 16 were based upon cell frequencies which ranged between these minimum and maximum values. The largest numbers of missing cases occurred in the analyses reported in table 11.

TABLE A-2. MINIMUM AND MAXIMUM CELL FREQUENCIES BY THE SEX AND GRADE LEVELS OF THE CHILDREN AND THE EMPLOYMENT STATUS OF THEIR MOTHERS DURING THE FIVE SELECTED PERIODS IN THE CHILDREN'S LIVES.^a

Maternal employment during given periods in the children's lives	Boys				Girls			
	Seventh grade		Eleventh grade		Seventh grade		Eleventh grade	
	Not employed	Employed	Not employed	Employed	Not employed	Employed	Not employed	Employed
	Minimum cell frequencies							
1 to 3 years	311	47	243	35	285	35	209	33
4 to 6 years	269	84	247	30	257	63	210	33
1 to 6 years	205	75	228	49	243	78	195	47
Last 30 months	255	152	163	117	196	135	127	116
Entire life of the child	259	99	201	80	240	91	154	89
	Maximum cell frequencies							
1 to 3 years	317	49	248	37	305	39	212	34
4 to 6 years	276	90	252	33	271	70	213	33
1 to 6 years	259	85	230	55	256	100	198	48
Last 30 months	208	155	163	121	205	138	127	118
Entire life of the child	263	102	202	82	249	95	157	89

^a The percentages in tables 12 and 17 were based upon cell frequencies which ranged between these maximum and minimum values.

APPENDIX B

ANALYSES OF RELATIONS BETWEEN MATERNAL EMPLOYMENT AND MARITAL AND PARENTAL ROLES CITED IN THE REVIEW OF LITERATURE

In the review of literature, a brief summarization was made of findings reported by Burchinal and Lovell (7). These data were gathered by the Child Welfare Research Station at the State University of Iowa and were generously made available by Dr. Boyd McCandless, director of the station. A more extended statement of the methodology used to obtain and to analyze these data is presented in this appendix. The analyses were developed and directed by the author; and the original report of these findings was made by the author and Dr. Lloyd Lovell, then on the staff of the Child Welfare Research Station.

METHODOLOGY

Data for the present analyses were taken from a study which focused upon the relationship between parental attitudes and the degree of psychological comfort felt by the child. Five sociologically different communities were selected for the sample

used in the original investigation. These communities included one having no community center, a small shopping center for a rural area, a medium-sized shopping and service center with light industry, a predominately lower-middle class manufacturing city, and a predominately lower class industrial city. In these communities all fourth- fifth- and sixth-grade children in attendance at public schools on the day of data collection completed a series of measures, none of which are reported here. Questionnaires were mailed to the parents of all children completing the school questionnaire. Forty percent of the questionnaires were returned.

The Parent Attitude Research Instrument (52) was employed in this study to measure parental attitudes regarding marital and parental roles. The PARI scales used in the present analyses are shown in tables B-1 and B-2.

The employment status of mothers was taken as

TABLE B-1. PARENTS' MEAN MARITAL-RELATIONS SCORES BY THE OCCUPATIONAL STATUS OF THE FATHERS AND THE EMPLOYMENT CLASSIFICATIONS OF THE MOTHERS.

Occupational status of the fathers	Employment status of mothers	Fathers			Mothers				
		N	Marital conflict	Dominance of father	N	Marital conflict	Seclusion of mothers	Rejection of home-making role	Dependence of mothers
Low	N ^a	82	15.35	12.79	83	15.20	13.75	10.98	12.33
	P	63	16.40	14.38	62	15.82	12.45	10.87	12.65
	S	25	16.00	14.44	25	16.00	11.88	11.24	12.60
Middle	N	113	14.89	11.51	112	15.38	12.95	10.30	12.09
	P	48	15.13	11.96	52	15.88	12.25	10.73	12.21
	S	36	15.42	12.94	35	14.54	11.34	9.51	11.86
High	N	137	15.18	11.61	140	14.51	11.48	10.56	11.37
	P	56	14.41	11.79	57	14.04	11.40	10.32	10.35
	S	31	14.19	10.97	30	14.40	12.23	10.43	10.87
Total	N	332	15.12	11.87	335	14.97	12.53	10.58	11.85
	P	167	15.37	12.81	171	15.25	12.04	10.64	11.75
	S	92	15.16	12.68	90	14.90	11.79	10.30	11.73
Grand Total		591	15.20	12.26	596	15.04	12.28	10.56	11.80

^a N refers to the category of mothers who had not worked since the birth of any of their children; P to those who were employed while they had preschool children; and S to those who were employed while they had school-aged children.

TABLE B-2. SELECTED PARENT-ATTITUDE MEAN SCORES BY THE OCCUPATIONAL STATUS OF THE FATHERS AND THE EMPLOYMENT CLASSIFICATIONS OF THE MOTHERS.

Occupational status of the fathers	Employment status of mothers	N	Fathers' scores							Parental ascendancy
			Strictness	Harsh punishment	Autonomy of child	Excluding outside influences	Fostering dependency	Irritability		
Low	N ^a	82	13.37	11.80	16.94	12.74	12.82	12.10	11.12	
	P	63	13.29	12.05	16.98	14.08	13.12	12.62	12.62	
	S	25	13.60	11.80	17.36	12.36	12.12	12.56	11.92	
Middle	N	113	13.08	11.12	16.88	11.35	11.95	10.61	10.57	
	P	48	13.10	11.60	17.17	11.67	12.04	11.44	11.21	
	S	36	13.39	11.25	17.14	11.22	12.11	11.47	11.14	
High	N	137	13.18	10.76	17.25	10.75	10.88	11.14	10.96	
	P	56	12.66	10.39	17.05	10.96	10.89	11.36	10.29	
	S	31	12.84	10.68	16.48	10.61	10.97	10.48	9.00	
Total	N	332	13.19	11.14	17.05	11.45	11.72	11.20	10.86	
	P	167	13.03	11.37	17.06	12.34	12.07	11.86	11.43	
	S	92	13.26	11.21	16.98	11.33	11.73	11.43	10.63	
Grand total		591	13.15	11.21	17.04	11.68	11.82	11.42	10.99	
Mothers' scores										
Low	N ^a	83	13.77	10.84	17.46	12.36	11.82	13.23	12.36	
	P	62	12.95	10.73	17.52	12.26	11.95	13.06	12.24	
	S	25	12.80	10.20	17.68	12.84	13.24	12.32	12.32	
Middle	N	112	13.39	10.25	17.57	10.94	10.80	12.71	11.04	
	P	52	13.52	9.58	17.67	10.60	11.44	13.56	11.44	
	S	35	13.91	9.66	17.66	11.89	10.40	11.40	11.43	
High	N	140	13.65	9.50	17.69	10.14	10.51	12.74	11.24	
	P	57	13.72	9.79	18.05	9.84	10.63	12.95	11.39	
	S	30	14.23	9.67	17.23	10.43	10.57	12.30	11.50	
Total	N	335	13.59	10.08	17.59	10.96	10.93	12.95	11.45	
	P	171	13.38	10.06	17.74	10.95	11.36	13.18	11.71	
	S	90	13.71	9.81	17.52	11.67	10.99	12.21	11.70	
Grand total		596	13.55	10.04	17.62	11.06	11.06	12.85	11.56	

^a See the footnote in table B-1 for the definitions of the N, P and S employment categories.

the independent variable in the present study. Three employment categories of the mothers were defined. One group of mothers had never worked during the lives of their children. In the tables and discussion this category is referred to as the "never employed" (N), although some of these women had worked before the birth of their first child. The second category included women who had worked at some time while they had at least one child of preschool age (P). The third category included mothers who entered the labor force only after all of their children were in school (S).

The socio-economic levels of the families were controlled by defining three status levels. North-Hatt scores for the occupational prestige levels of the fathers' occupations were used for this purpose (41). The low-status category included families in which the occupations of the fathers had prestige scores of 61 or lower. Middle-status families included those families in which the occupational prestige scores of fathers were between 62 and 69. High-status families were ones in which occupational prestige scores of fathers exceeded 69. Within each of the three status levels, families were further classified by the three-fold definition of the employment of the mothers, thus yielding nine family types.

Results pertaining to the relations among the marital roles of husbands and wives and the employment of the wives, summarized in the review of literature section earlier, are reported in table B-1.

For the total sample comparison, highest mean scores (least conflict) were observed for husbands and wives in the P category. While the mean differences were slight among the three categories of high-status husbands, the $P < N$ mean difference among husbands' scores, 0.77, approached significance, $t=1.90$, and the $S < N$ mean difference, 0.99, was significant, $t=2.07$. None of the mean differences which involved the never-employed mothers was statistically significant. Three nonsignificant $S < N$ differences were observed for wives' marital-conflict mean scores.

With the exception of the high-status husbands, the husbands in the N category had the lowest mean dominance scores, which indicated higher dominance on the part of these husbands. Theoretically, one would predict greater dominance (lower scores) among the husbands whose wives had not been employed in comparison with husbands whose wives had been employed. None of the mean differences for the high-status husbands was significant. The $N < P$ mean difference of 1.59 and the $N < S$ mean difference of 1.65 in the low-status category were significant, $t=2.69$ and 2.48, respectively. In the middle-status category, the $N < S$ mean difference, 1.43, was significant, $t=3.05$. Both the $N < P$ and $N < S$ mean differences were statistically reliable for the total sample, $t=3.19$ and 2.36. Apart from statistical significance, three of the N to P and all four of the N to S comparisons on this variable agreed with the $N < P$ and $N < S$ patterns.

In relation to the dependency scores of the wives, the means for the wives in P or S categories could be expected to be higher (showing less dependency) than wives in the N category. This prediction was supported only by the data for the low-status-level

families, but the differences among the low-status means, as well as among the mean differences in the other strata, were nonsignificant. Only one other expected difference, $N < P$ in the middle-status level, was observed. Differences in means for this variable among the three social-status levels tended to nullify one another, producing almost identical means for the total employment classification.

It was thought that married women who had been employed after having children would be far less likely to exclude themselves from the world outside of their homes and families. If so, the mean values for the N category of mothers should have been lower than for mothers in the P or S category. The results almost uniformly failed to support this hypothesis. Only one $N < S$ pattern and no $N < P$ pattern was observed.

Employment of mothers may stem from or contribute to increased rejection of the homemaking role. Under these conditions the mothers in the P or S category should have had lower means than mothers in the N category. Two $P < N$ and three $S < N$ differences were found. None of the mean differences was significant.

Data for seven parent-attitude scales which were expected to be related to employment of mothers are reported in table B-2. Short descriptive titles are used in the tables and discussion which follows.

Of the 112 comparisons involving the N to P or N to S categories, only four mean comparisons were in excess of 1.00. These results show that only small differences existed among most of the means. It was possible, however, that the small differences between N and P or N and S categories were consistently in agreement with or contrary to expected differences among the variables.

The parents in the P or S category were expected to approve more strongly of strictness, harsher discipline, and parental ascendance in parent-child interaction than parents in the N category. The former parents were also expected to place greater emphasis upon developing autonomy in the child. The parents in families where wives had been or were employed might also be expected to report greater irritability in regard to relations with their children. Since low scores reflected acceptance or greater magnitude of these variables, the P and S categories were expected to have lower means than the N category for these variables. On the other hand, parents in the employed-wife categories were expected to discourage the dependency of their children and to be less concerned about intrusion of outside influences upon the lives of their children. For these two variables, the N group was expected to have lower mean scores.

The N and P comparisons produced 12 patterns out of the 28 in the expected direction for husbands. Eleven of the 28 comparisons for the wives also agreed with theoretically predicted directions. The expected patterns were concentrated on certain variables. Three differences in the expected direction were found for responses related to strictness and four for responses related to fostering dependency. All four sets of means produced differences in the expected direction among wives' scores on the fostering-de-

pendency variable. Mean differences for the harsh-punishment variable for wives had three differences in the expected direction.

Results in the expected direction were observed for 14 of the 28 patterns among the fathers and for 16 of the 28 patterns among mothers for the N to S comparisons. Predicted differences by the employment status of the mothers were observed again for both

fathers and mothers for the fostering-dependency variable. Excluding outside influences and parental ascendance, mean differences between father scores in the N and S categories tended to adhere to the predicted patterns. Predicted differences were found in at least three of the four comparisons among mothers for the harsh-punishment, excluding outside influences and irritability variables.

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