

## **The Determinants of Paternal Involvement in Primiparous Swedish Families**

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The mothers and fathers of 138 firstborn Swedish children were interviewed when their children averaged 16 months of age and again 12 months later. Questions focused on demographic characteristics, employment characteristics, division of paid and unpaid parental leave, amount of paternal involvement in the weeks preceding the two assessment phases, division of parental responsibilities, and the child's parental preferences. Analyses conducted using the Partial Least Squares (soft modelling) technique revealed that fathers were more involved at 28 months when their partners worked more, when the fathers assumed more responsibility for childcare chores, and when the fathers had been more involved 12 months earlier. Paternal involvement at 16 months was likewise determined by maternal and paternal work status, and the amount of maternity and paternity leave taken in the preceding months. The data thus reveal substantial stability over time in the degree of paternal involvement. Fathers were also more involved with daughters. Socioeconomic status (SES) did not significantly predict paternal involvement.

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The research was generously supported by the Riksbankens Jubileumsfond of Stockholm (Sweden). We are grateful to this Foundation, to the families for their gracious cooperation, and to Craig Abbott and Robert Ketterlinus for assistance with the data analysis. This report was completed while author Lamb was at the University of Utah.

## INTRODUCTION

In the last decade, there has been considerable speculation about factors that affect the degree of paternal involvement in childcare, in large part because of a widespread belief that increased paternal involvement has beneficial effects on many aspects of child development (Lamb, Pleck, & Levine, 1985). Many researchers have examined demographic variables, including educational and occupational status, income, and maternal employment; others have considered the effects of individual motivation, as indicated by sex roles and the division of family responsibilities. Unfortunately, attempts to investigate these factors empirically have been few and have mostly been limited to small, highly-selected samples. The goal of the present study was to examine the correlates of father involvement in an unselected sample of Swedish families. The governmental encouragement of paternal involvement in Sweden ensures greater variability in involvement than in North America, while the universal availability of paid paternity and maternity leaves provides a basis for examining temporal stability in dimensions of father involvement, specifically the association between paternity leave in early infancy and indices of involvement later in childhood.

As Pleck (1986; Lamb, Pleck, Charnov, & Levine, 1987) has pointed out, the demands of the workplace obviously impose restrictions on the extent to which fathers (or mothers) can be actively involved in the care and rearing of their children. Employers appear to be more intolerant of men whose family responsibilities intrude upon performance of their work roles than of women in similar situations; men are also more likely to have higher status occupations, so that employers' expectations of them are more demanding (Lamb et al., 1987). One would thus expect the relative social status and extent (in terms of paid working hours per week or month) of mothers' and fathers' jobs to predict the degree of paternal involvement—a prediction borne out in part by previous analyses of parental leave utilization in Sweden (Lamb & Levine, 1983). In a recent study in the U.S.A., Barnett and Baruch (1984) reported that the number of hours mothers were employed each week was the best predictor of paternal participation, with higher levels of maternal employment associated with higher levels of paternal involvement. Radin and Goldsmith (1985) reported that highly involved fathers frequently had wives with high occupational aspirations whereas the fathers were less ambitious and chose to spend fewer hours involved in paid work. In the present study, we considered as determinants of paternal involvement the two parents' occupational statuses and the extent of their involvement in paid work.

Other researchers have stressed the importance of the parents' gender roles in the determination of paternal involvement. Researchers in

Sweden, the U.S.A., and Australia have reported that high father involvement is correlated with paternal androgyny and with more nontraditional attitudes to family roles (Coysch, 1983; Frodi et al., 1982; Russell, 1978). Similar findings were not obtained by Radin (1981, 1982), perhaps because public debate about sex roles has generated social desirability response sets that reduce the validity of sex role inventories. For this reason, we decided not to include any of the standard sex role inventories in this study.

Another factor that has received much attention is the child's gender. Large and small scale surveys and studies in the U.S.A. consistently report that men are more involved in childcare when they have sons than when they have daughters (Lamb et al., 1987). In an exception to this trend, however, Radin and Goldsmith (1985) reported that fathers were more likely to maintain high involvement over a four-year period when they had daughters. Because this finding is based on a small sample we sought to explore the issue again in our sample of Swedish families. In 1982, Lamb et al. speculated that nontraditional Swedish fathers might be more involved with their daughters as a reflection of their ideological commitment to gender equality.

In their longitudinal study of paternal involvement, Radin and Goldsmith (1985) suggested that different factors might explain the initial selection, as opposed to the maintenance, of nontraditional care arrangements. Unfortunately, their sample size was too small to permit an empirical examination of this issue, but it underscored the importance of following the same families over time, looking at the division of parental leave in the first year as well as measures of parental responsibility and parental involvement through the first two and a half to three years of the children's lives.

Reviewing the literature on paternal involvement, Lamb et al. (1987) observed that measurement differences appeared to account for substantial inter-investigation variability. Different researchers not only used different definitions of involvement, but also relied upon different means of gathering data. As the most reliable and valid estimates appeared to be derived from time-diary reports by the two parents (e.g. Pleck, 1983), we decided to base our measures on such diaries. From these, we distinguished between the amounts of time spent in care of, in play with, being accessible to, and being solely responsible for the care of the child on both weekdays and weekend days. Such information was obtained from the parents when their children averaged 16 and 28 months of age.

With variations on these measures together serving as "outcome measures" in the predictive models tested in this research, the amount of paternity leave taken in the first year served as a predictor variable analytically, although it can also be seen as an earlier, albeit different, index of paternal involvement whose availability allows estimation of the

degree of stability in paternal involvement over the first 28 months of these children's lives. Another construct with a conceptually mixed status was one we labelled parental roles. This construct was tapped at both 16 and 28 months of age from independent maternal and paternal reports of the division of responsibility for several specific parenting tasks and of the child's apparent preferences in specific situations. Because children's preferences are believed to reflect variations in relative parental involvement (e.g. Lamb, 1981) we expected that the children's reported preferences would be correlated with variations in reported parental responsibility. The parental role measures could thus be viewed as alternative and somewhat indirect measures of paternal involvement, broadly defined, but because the measures of responsibility and preference were expected to be imperfectly associated with the temporal measures of involvement and did not yield absolute scores, we considered the parental roles measures analytically as "determinants" rather than as "outcomes."

In Figure 1, we sketch the model explored in this study. As shown in the figure, most constructs were in fact measured using several indicators, all of which were included in the analyses. We thus examined the effects of child gender, family socioeconomic factors, parental leave utilisation (itself an early index of paternal involvement), amount of nonpaternal care, and the measures of parental role definitions on temporal measures of the distribution of child care responsibilities and the degree of paternal involvement when the children averaged 16 months of age. Paternal involvement and role assignments were again measured when the children averaged 28 months of age so that we could examine the degree of stability over time and the determinants (notably changes in family constellation and employment characteristics) of changes in paternal involvement.

The determinants of individual differences in paternal involvement when the children averaged 28 months of age—the "outcome" measure—was assessed using the technique of "soft modelling" or Partial Least Squares (PLS) analysis. This tool, developed principally by the Swedish statistician Herman Wold (1975; Joreskog & Wold, 1982), is intended for use in the exploration of complex social phenomena that have been measured indirectly. PLS summarises patterns of correlations among multiple measures of multiple putative constructs, of which some are "determinants" and some "outcomes" of unobservable processes.

Analytically, PLS searches for simple consistency between the various roles which constructs are expected to play in a least-squares analysis. The coefficients reported by PLS are tightly tied to actual observable correlations between linear combinations of indicators—no correction for "attenuation" occurs to accommodate vagueness in the model or measurement error. PLS computations assess the coherence of conceptually-defined clusters of variables—known as *latent variables*—by examining their pat-

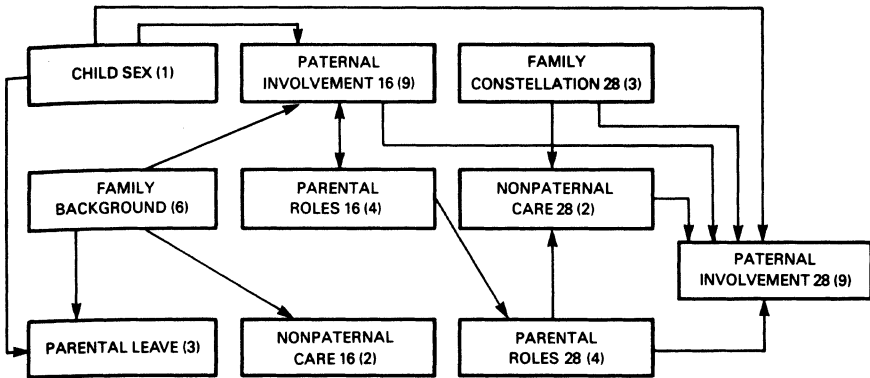


FIG. 1. Constructs included in the initial model. Numbers indicate the age (in months) when the data were gathered; figures in parentheses refer to the number of indicators tapping the construct.

terms of correlations with other latent variables, rather than by examining their patterns of correlation with other members of their own latent variables. One may think of PLS as a sort of canonical-correlation analysis in which both steps of multiple regression are replaced by a procedure somewhat akin to principal-components analysis involving the summing of simple regressions. In a model, each latent variable is computed as a weighted sum of its own indicators by weights which are proportional to the correlations of these indicators with the other latent variables (i.e. the correlations between predictor indicators and outcome indicators). By comparing the magnitude of the net correlations between predictor and outcome variables when the predictors or outcomes are divided into varying numbers of blocks, it is possible to determine whether the differentiation among constructs or blocks is empirically justified. Thus it was possible for us to assess whether a simpler model than that depicted in Figure 1 was sufficient to characterise the determinants of paternal involvement when the children were 28 months old. An elementary description of PLS is provided by Bookstein (1986).

## METHOD

### Subjects

The subjects were the mothers and fathers of 138 Swedish children, 69 (50%) of whom were girls. At the time of recruitment, the children ranged in age from 11 to 24 months, but most were between 13 and 19 months of age; both the mean and the median age were 15.9 months; the standard

deviation was 2.9 months. None of the children had received regular out of home care at the time of initial recruitment. Subjects were recruited from municipal records; only firstborn children whose parents lived together were recruited for the sample, which included families from all social strata, with residences throughout the Göteborg metropolitan region. About 75% of the eligible parents contacted agreed to participate in the longitudinal study.

The characteristics of the families in our sample were compared with the demographic characteristics of two-parent families with a single child between 10 and 24 months included in a randomly-selected sample comprising 10% of the parents of young children in Göteborg (Broberg & Hwang, 1986). The parents in our sample were significantly older (Mothers: 29.5 vs. 28.4 years,  $t = 2.4$ ,  $P < 0.05$ . Fathers: 31.5 vs. 30.2 years,  $t = 2.33$ ,  $P < 0.05$ ) and had significantly higher social status, as reflected on the Hollingshead (1975) Index (Mothers: 41.0 vs. 35.1,  $t = 3.81$ ,  $P < 0.01$ . Fathers: 43.6 vs. 36.9,  $t = 4.06$ ,  $P < 0.01$ ). Thus our sample was somewhat more middle-class than average, although the differences were not large.

## Procedure

After being identified and agreeing to participate in this longitudinal study, families were visited at home when both parents were present. The parents were interviewed together, and each was also asked to complete certain questionnaires independently in the presence of the interviewer. This is referred to below as phase 1. Twelve months later, the families were again visited (phase 2) and similar data were gathered. All interviews were conducted in Swedish by native Swedes. Protocols and questionnaires were back-translated to ensure that they indeed asked the questions intended.<sup>1</sup> In both phases, additional data not relevant to the present analyses were also gathered. In Table 1 all of the variables employed are listed, along with their means and standard deviations. They are grouped according to the constructs identified in Figure 1 and in the analyses described below. Several of the measures were not normally-distributed, but the problems this sometimes poses for researchers were avoided by use of the PLS analytic procedure which, because it makes additive combinations of simple regressions, shortens extended tails and yields robust coefficients as a result.

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<sup>1</sup>Copies of the questionnaires and coding protocols are available from the authors.

TABLE 1  
Variable Clusters, Means, and Standard Deviations

<i>Variables</i>	<i>Mean</i>	<i>Standard Deviation</i>
<i>Family Background</i>		
Mothers' Occupation	5.59	1.85
Mothers' Employment Status	3.49	1.23
Mothers' SES	40.75	12.72
Fathers' Occupation	6.09	2.20
Fathers' Employment Status	4.83	0.75
Fathers' SES	43.62	15.28
<i>Parental Leave</i>		
Maternal leave (total)	13.33	3.52
Paternal leave (paid)	0.70	1.39
Paternal leave (total)	1.63	3.40
<i>Paternal Involvement 16</i>		
Estimated hours/week paternal care (last month)	10.95	14.64
Weekday paternal care (minutes)-diary	49.34	50.48
Weekday paternal play (minutes)-diary	84.41	76.08
Weekday paternal accessibility (minutes)-diary	223.16	161.77
Weekday paternal responsibility (minutes)-diary	82.65	151.87
Weekend paternal care (minutes)-diary	51.94	42.65
Weekend paternal play (minutes)-diary	116.07	86.79
Weekend paternal accessibility (minutes)-diary	422.68	160.46
Weekend paternal responsibility (minutes)-diary	71.36	133.36
<i>Nonpaternal Care 16</i>		
Estimated hours/week maternal care (last month)	35.27	18.07
Estimated hours/week care by relatives and others (last month)	23.80	18.14
<i>Parental Roles 16</i>		
Mothers' report of children's preferences	27.33	3.35
Fathers' report of children's preferences	27.95	3.45
Mothers' report of division of childcare responsibility	17.03	4.08
Fathers' report of division of childcare responsibility	18.12	3.47
<i>Family Constellation 28</i>		
Mothers' employment status	3.44	1.29
Fathers' employment status	4.93	0.39
Birth of sibling <sup>a</sup>	—	—
<i>Nonpaternal Care 28</i>		
Estimated hours/week maternal care (last month)	27.14	15.49
Estimated hours/week care by relatives and others (last month)	20.63	15.44
<i>Parental Roles 28</i>		
Mothers' report of children's preferences	27.05	4.14
Fathers' report of children's preferences	27.82	3.54
Mothers' report of division of childcare responsibility	17.95	3.40
Fathers' report of division of childcare responsibility	18.31	2.85
<i>Paternal involvement 28</i>		
Estimated hours/week paternal care (last month)	7.19	7.59
Weekday paternal care (minutes)-diary	34.13	34.43
Weekday paternal play (minutes)-diary	65.33	72.95

TABLE 1

<i>Variables</i>	<i>Mean</i>	<i>Standard Deviation</i>
Weekday paternal accessibility (minutes)-diary	202.24	164.91
Weekday paternal responsibility	76.12	132.32
Weekend paternal care (minutes)-diary	34.34	30.79
Weekend paternal play (minutes)-diary	117.14	93.42
Weekend paternal accessibility (minutes)-diary	449.71	166.63
Weekend paternal responsibility (minutes)-diary	84.13	129.69

## NOTE:

*N* = 138.

Names in italics identify the blocks or latent variables explored in the soft models.

<sup>a</sup>45 of the families (33%) reported the birth of siblings in the 12 months between the Phase I and Phase II assessments.

## Definition of Variables

*Family Background and Constellation.* Maternal and paternal employment status was scored on a 5-point scale, with 1 point assigned to those who were not currently employed, 2 to those employed quarter-time (10 hours/week), 3 to those employed half-time (20 hours/week), 4 to those employed three-quarters time (30 hours/week), and 5 to those employed full-time ( $\geq 40$  hours/week). Too few subjects regularly worked on non-conventional schedules (e.g. night shifts) to make it worthwhile to code scheduling parameters. Only 12 (9%) of the fathers were employed less than full-time; 3 of their partners were employed full time and 6 were employed half-time. In 24 families, both parents were employed full-time, and in an additional 68 families, fathers were employed full-time while mothers were employed half- (32) or three-quarters (36) time. Six mothers were employed quarter-time, while 14 mothers and 4 fathers did not work outside the home.

Each parent's SES was assessed using the weighted sum of scores on the two factors (occupation, education) of Hollingshead's (1975) index—an index which, although developed in the United States, has proven useful in previous studies conducted in Sweden (e.g. Cochran, 1977; Frodi et al., 1982). Because educational attainment shows less variability in Sweden than in the U.S.A., we also included the unweighted occupation scores (1 to 9) for both parents in our analyses. The different weightings assigned to the occupation and SES variables in the analyses (see below) justify our decision to include the two; had they been wholly equivalent we would have observed nearly identical saliences, and we did not do so.

At the time of the initial interviews, all of the children were firstborn only children. In the next 12 months, however, 45 of the families had



another child. This variable was also included (Sibling born: 0 = no, 1 = yes.) in the analyses.

*Parental Leave.* Under the Swedish parental insurance scheme (Lamb & Levine, 1983), each family is entitled to 9 months of paid leave that can be divided between the two parents at their discretion. Because the family total invariably amounts to 9 months, only one parent's paid leave needs to be included in analyses (the other would be totally redundant) and we considered the amount of paid parental leave taken by the fathers. In addition to paid leave, however, parents often take unpaid leave, and as there is no family-wide limit, we included measures of the total amount of leave (paid and unpaid) taken by each parent since the child's birth. All of the measures of leave were scored in months.

*Paternal Involvement.* Parental involvement in both phase 1 and phase 2 interviews was assessed in two ways. First, the parents together estimated the number of hours per week each had provided care for the child in the past month. The estimates of maternal and paternal care at 16 months were in fact so closely (and inversely) related that we included only one estimate—that of paternal care—in the analyses. Second, eight other scores were generated in each phase on the basis of a detailed diary recall method modelled after that developed by Robinson (1977) in his surveys of time-use in the U.S.A. The parents together recalled the last weekday and nonworkday from midnight to midnight, indicating what activities the child was engaged in, when, and with whom. On the basis of these recollections, we computed weekday and weekend day estimates of the number of minutes per day fathers spent providing care to, playing with, being accessible to (i.e. being within earshot when the child was awake whether or not interaction was actually taking place), and being responsible for (i.e. being the sole parent present when the child was awake) the child. In each phase, the estimates and the nine diary-based scores were included as variables.

*Nonparental Care.* Care by persons other than the parents was estimated jointly by the parents (and where appropriate, careproviders) in terms of the average number of hours per week in the last month. The figures included times spent in the care of relatives and nonrelatives as well as time spent in family or centre-based day care.

At 16 months, the estimate for the amount of nonparental care was based on two questions, one concerning the amount of informal nonparental care and one concerning the amount of care received via formal arrangements with child care providers, in either family day care or centre day care facilities. The two questions were asked, respectively, in separate

interviews with parents *before* and careproviders *after* two-thirds of the children entered out-of-home care settings and therefore the composite figure may not provide an accurate estimate of the absolute amount of nonparental care. It does provide a good index of relative differences, however, and hence correlations are robust. A similar problem did not occur at 28 months, and thus both the absolute and relative figures are accurate at this age.

*Parental Roles.* In each assessment phase, the parents separately completed the Parental Preferences Questionnaire (PPQ) and the Parental Responsibility Questionnaire (PRQ). The PPQ included 10 situations (when child is hurt, wants to play, wants to sit on lap, is hungry, is being put to bed, bathed, dressed, read to, comforted by, and "general") for each of which the parent indicated on a 5-point scale whether the child strongly preferred mother (1), somewhat preferred mother (2), showed no preference (3), somewhat preferred father (4), and strongly preferred father (5). The scores on all 10 items were then summed to yield indices of the child's reported preferences in both phase 1 and phase 2; the possible range was from 10 to 50 with scores less than 30 indicating maternal preferences and above 30 indicating paternal preferences.

The PRQ referred to seven child-related chores (taking child to preventive health care clinic, taking child to pediatrician, buying clothes, buying toys, deciding whether the child needs new clothes, making babysitting arrangements, and putting the child to bed at night). On each item, the parent indicated whether mother almost always was responsible (1), was usually responsible (2), both parents did it about equally (3), father was usually responsible (4), or father almost always did it (5). Possible scores on these scales thus ranged from 7 to 35, with scores below 21 indicating greater maternal responsibility and above 21 indicating greater paternal responsibility. Scores based on both the mothers' and fathers' reports were included in the analyses. Alpha coefficients were computed as measures of reliability. For the 16-month PPQ based on mothers' reports, the coefficient was 0.79, for the 16-month PPQ (fathers), 0.79; 28 month PPQ (mothers), 0.79; 28-month PPQ (fathers), 0.78; 16-month PRQ (mothers), 0.76; 16-month PRQ (fathers), 0.69; 28-month PRQ (mothers), 0.68, and 28-month PRQ (fathers), 0.48. With one exception, these coefficients indicate that preference and responsibility were coherent dimensions, even though this is not theoretically necessary.

## RESULTS

Figure 2 indicates that the extent of paternal involvement at 28 months of age was substantially predicted by prior measures of paternal involvement

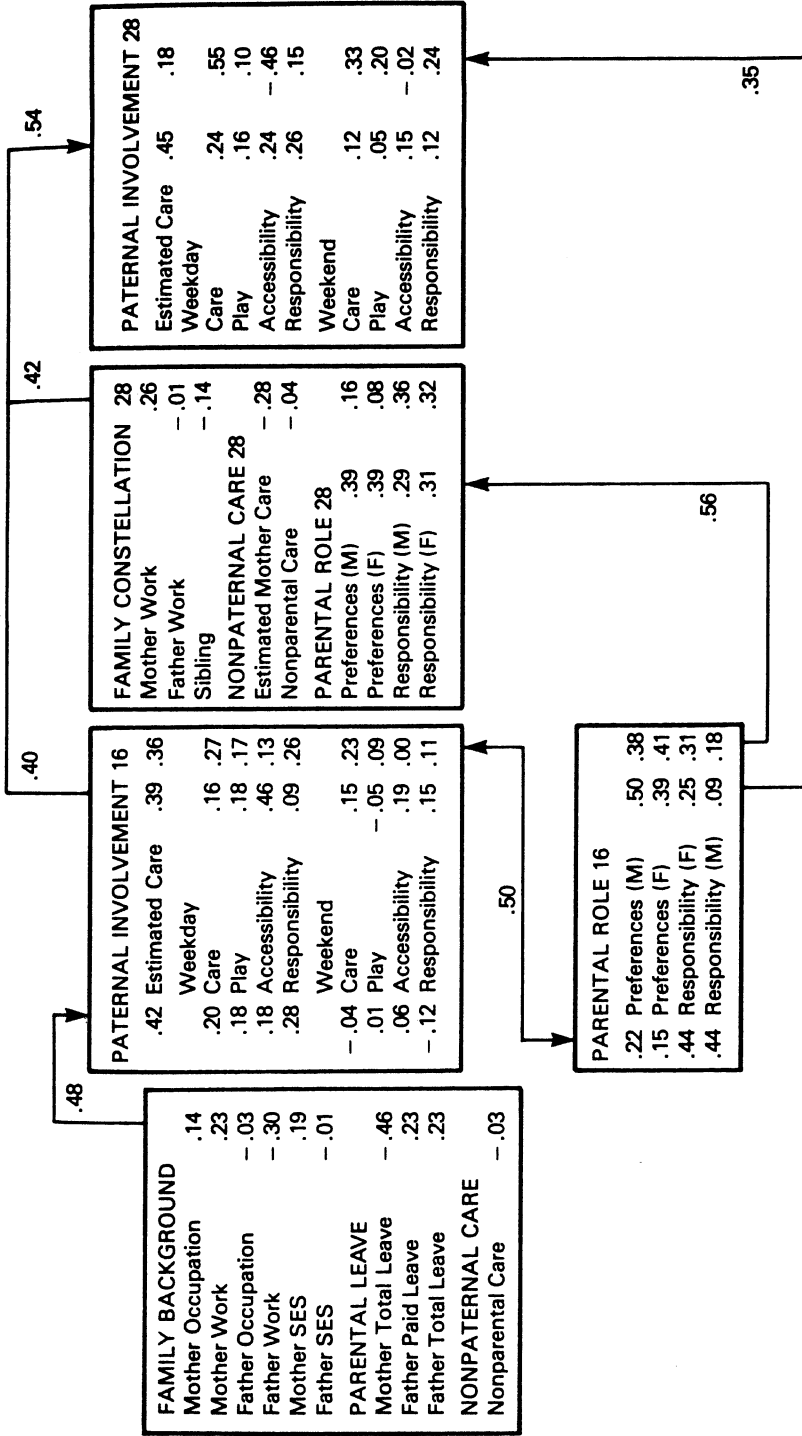


FIG. 2. The reduced model depicting the determinants of paternal involvement at 28 months.

(themselves significantly influenced by family background variables) and by contemporaneous measures of parental roles, family constellation, and the amount of nonfamily care. Numbers on arrows are correlations between latent variables; numbers in boxes are “salience” — correlations of items with latent variables other than their own. The figure illustrates that two latent variables (paternal involvement 16 and a combination of family constellation, nonpaternal care, and parental roles 28) contributed to the prediction of paternal involvement at 28 months; distinguishing between the latent variables family constellation, nonpaternal care, and parental roles 28 is not necessary for purposes of predicting paternal involvement at 28 months because the coefficient of prediction is the same regardless of whether these three blocks of indicators are separated or united. On the other hand, although the separation of the parental role 28 latent variable from the family constellation and nonpaternal care latent variables does not improve the prediction of paternal involvement 28, it would be justified in some contexts because the former is correlated with parental role 16 whereas the family constellation and nonpaternal care indicators are not.

The multiple columns of saliences within the blocks in Figure 2 reveal the extent to which latent variables related to different subsets of blocks in the model are similar to one another. For example, they show that the parental role 16 latent variable is associated with a different combination of parental role 28 indicators than is the latent variable for paternal involvement at 28 months. Likewise, paternal role 16 is associated with a different aspect of paternal involvement 28 than are the paternal involvement 16, and family constellation, nonpaternal care, parental role 16 latent variables.

Stated simply, the figure reveals that fathers of 28-month-olds are more involved when their partners are employed more and spend less time in child care, when the assignment of parental roles emphasises paternal responsibility, and/or when the fathers were more involved in child care 12 months earlier. Earlier paternal involvement is itself related to the mother’s earlier work status and the amount of paternity leave taken early in the child’s life, and is inversely related to the father’s work status and the amount of maternity leave taken. Neither parent’s SES aided in the prediction of paternal involvement. Variations in the children’s ages were likewise not influential.

*Effects of Child Gender.* The influence of the child’s gender was estimated in three ways: comparing means using *t*-tests, by examining the zero order correlation matrix, and by including sex of child as a predictor in the model presented in Figure 1. Sex of child was not meaningfully correlated with other indicator variables and had correlations near zero with the latent variables shown in Figure 2. For simplicity of presentation, consequently, sex of child was not included as a variable in that figure. Sex

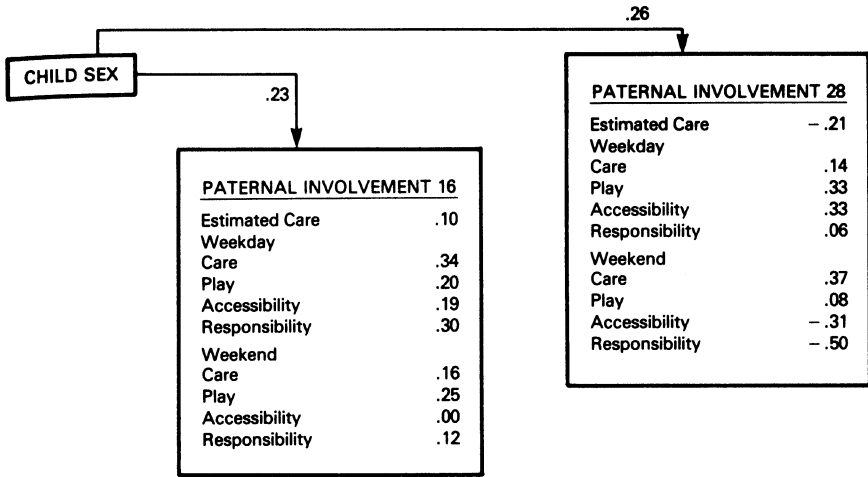


FIG. 3. Relationships between sex of child and paternal involvement at 16 and 28 months.

of child was associated with two latent variables tapping paternal involvement, however, as indicated in Figure 3. The figure shows that sex of child was related to paternal involvement 16 and paternal involvement 28 latent variables. Comparison of the within-block saliences in Figures 2 and 3, however, shows that sex of child was associated with different paternal involvement latent variables than those included in the main model. The correlations between the different latent variables included under the same name were in fact very low. This explains why the inclusion of sex of child in the reduced model (Figure 2) did not improve the predictive relationships among the variables included there: Indeed, the implicit attempts to accommodate the competing within-block latent variables served to attenuate (minimally) the net predictive coefficients when sex of child was included. These results indicate that sex of child indeed influences paternal involvement and responsibility, with fathers assuming more responsibility for and spending more time with girls than with boys in both assessment phases. However, the aspects of paternal involvement explained by sex of child are unrelated to those explained by nonpaternal care, family background characteristics, parental roles, and earlier indexes of paternal involvement.

Mean levels of involvement with boys and girls are presented in Table 2, along with indications of statistical gender differences where relevant. Inspection of the table shows that only one of the 18 involvement variables showed significant gender differences when tested using t-tests of standardised scores (to correct for the non-normal distributions); three others showed

TABLE 2  
Sex Differences on Measures of Paternal Involvement with Boys and Girls (Standard Deviations in Parentheses)

<i>Variable</i>	<i>Boys</i>	<i>Girls</i>	<i>t</i>
Estimate care 16	10.18(14.46)	11.96(15.01)	0.62
Weekday care 16	40.22(47.77)	59.33(51.69)	2.23 <sup>a</sup>
Weekday play 16	75.54(75.94)	93.21(76.13)	1.27
Weekday accessibility 16	207.65(149.53)	240.89(173.19)	1.19
Weekday responsibility 16	58.23(130.55)	108.66(168.74)	1.94+
Weekend care 16	48.01(34.48)	55.92(49.53)	1.08
Weekend play 16	103.68(78.40)	128.66(93.45)	1.68+
Weekend accessibility 16	419.63(147.58)	423.06(173.39)	0.68
Weekend responsibility 16	54.48(115.52)	80.60(134.97)	1.21
Estimate care 28	7.84(7.74)	6.72(7.54)	0.85
Weekday care 28	32.50(34.08)	35.60(35.67)	0.52
Weekday play 28	55.44(60.79)	74.40(82.95)	1.52
Weekday accessibility 28	181.09(164.08)	221.95(166.84)	1.43
Weekday responsibility 28	74.34(124.05)	79.03(143.31)	0.20
Weekend care 28	30.44(27.18)	38.95(34.17)	1.60
Weekend play 28	111.98(89.25)	122.61(95.73)	0.67
Weekend accessibility 28	470.51(168.11)	441.87(154.62)	1.03
Weekend responsibility 28	107.65(141.36)	64.03(115.44)	1.96+

## NOTE:

Estimated father care is expressed in hours per week; all other variables expressed in minutes per week. Differences assessed using *t*-tests.

<sup>a</sup>*P* < 0.05; +*P* < 0.10.

nonsignificant trends. Overall, the table underscores the fact that child gender had a very modest effect on paternal involvement.

## DISCUSSION

The analyses reported above show that paternal involvement in the care of 28-month-old children is influenced by prior measures of paternal involvement and a composite latent variable reflecting relative parental responsibility (in terms of time and role assignments) for child care. Prior involvement was itself predicted by measures of the division of parental leave— itself an even earlier index of paternal involvement—child care roles, and employment roles in the first 16 months of the child's life. Fathers of 28-month-olds were more involved: (1) when their partners spent more hours involved in paid work and thus (not surprisingly) fewer hours involved in child care; (2) when the parents both agreed that fathers assumed substantial degree of responsibility for various childcare chores; and (3) when the fathers had been more involved in child care 12 months earlier. Degree of paternal involvement when the children were 16 months

old was itself determined by the mothers' earlier work status, the amount of paternity leave taken early in the children's lives, the number of hours fathers worked, and the amount of maternity leave the mothers had taken. These data thus reveal substantial stability over time in various aspects of paternal involvement. Highly involved fathers tend to take a larger proportion of the parental leave available to the family, work fewer hours, and assume relatively more responsibility for aspects of child care than do their partners, who in turn take less parental leave, work longer hours than mothers married to less involved fathers, and assume relatively less responsibility for aspects of child care. Overall, the associations among measures included in this study would justify viewing the measures of maternal and paternal involvement, responsibilities, and children's preferences as complementary indications of nontraditional lifestyles that reveal substantial stability over time.

Within each of the ages sampled in this longitudinal study (retrospective information concerning the first year, phase 1, phase 2), the relations among variables are similar to those reported by Barnett and Baruch (1984) in their study of middle-class American families. They found that the number of hours mothers worked was the best predictor of paternal involvement, and we were able to place this relation in its broader family and temporal context. Maternal employment characteristics were also deemed important by Radin (1981, 1982). In these respects, therefore, it appears that the determinants of paternal involvement may be similar in Sweden and the United States, despite substantial differences in ideology concerning sex roles.

Our findings show substantial temporal stability in aspects of paternal involvement within an essentially unselected sample. Both Radin and Goldsmith (1985) in the U.S.A. and Russell (1982, 1983) in Australia recruited families in which fathers were highly involved and were struck by the rapidity with which nontraditional families reverted to more traditional family roles. There was greater temporal stability in traditional families: fathers initially classified as less involved remained less involved. The temporal stability found in our analyses implies either that early involvement promotes later involvement or that the parental insurance scheme succeeds in permitting parents to divide parental leave in accordance with their individual preferences. These decisions, in turn, are repeatedly associated with later indices of the time the fathers spend involved in childcare and the responsibility they assume for various child-related chores. It remains to be seen whether the stability of paternal roles over the first two and a half years of life continues into the preschool and school years. Note (see Table 1) that the degree of paternal involvement decreased on all measures of weekday involvement and on the measure of weekend care-providing. These changes likely reflect the transition to

out-of-home care in many cases, and the fact that older children require less direct parental supervision than do younger ones. Paternal accessibility and responsibility on the weekends likely increases over time because older children sleep less than younger ones.

The sex of the child also appears to influence paternal involvement—albeit a different aspect of paternal involvement than that predicted by maternal and paternal employment and leave characteristics as well as parental roles and responsibilities. As a result, inclusion of sex of child in the reduced model (Figure 2) did not increase the size of the overall predictive coefficient at all. At both 16 and 28 months, however, composite measures of paternal involvement were significantly correlated with sex of child in a fashion indicating greater involvement with girls, although it is important to note that in both cases, the proportion of variance explained was low—less than 7%. These findings thus contrast with the more commonly reported tendency for fathers to be more involved in the lives of their sons. Most such findings have been gathered in the U.S.A. rather than in Sweden, however, and our results are in fact consistent with Lamb et al.'s (1982) speculation that nontraditional Swedish men would be more involved in the care of their daughters as one manifestation of their commitment to the elimination of gender-based inequalities. Indeed, our findings suggest that this commitment may extend to Swedish fathers in general, not only those with nontraditional family patterns. It is also possible, however, that “liberated” Swedish men are eager to be seen as involved with their daughters, thus allowing social desirability norms to obscure whatever real differences exist. Note, in any event, that different components of paternal involvement were correlated with child sex at 16 and 28 months of age, and that neither of these latent variables was impressively correlated with the aspects of paternal involvement that remained stable over time. Evidently, considerably more research is needed before we can explain the relationship between child sex and paternal involvement in Sweden.

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