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The Influence of Model Infant Group Care on Parent/Child Interaction at Home.

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The Influence of Model Infant–Toddler Group Care on Parent–Child Interaction at Home

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Abstract
The effects of day care participation on parent-child interaction at home were assessed using a university-based, half-day model infant-toddler program. Hypotheses concerned whether "child-centered" features of the physical and social environment were carried over by parents to the home. Nineteen matched pairs of center and noncenter children (ages 2 to 24 months at start) were followed for 8 months. All had employed student mothers. Methods included brief parent-reported "spot" observations, a videotaped observation of a bathing or feeding routine, and home environment assessments. Parents showed few group differences during the first half of the study period. At study end, however, center homes were more child-centered with respect to play, safety, and dinner arrangements. Center parents scored higher in proximity and warmth and lower in "teacher-avoided" behaviors. Noncenter parents at study end scored higher in authority (limit setting) and communicating values and labels. The findings are interpreted as supporting an ecological model of substantial intersection and cross-influence between home and day care settings.

Women today in unprecedented numbers are leaving their children with other caregivers in order to work in the paid labor force. In 1982, 41% of

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mothers with children under age 5 were employed. Who cares for the children? Home-based care by a relative, babysitter, or family day care provider continues to be the most commonly used arrangement. However, the use of "center-based" care (in nurseries, preschools, and day care centers) is rapidly increasing. In 1977, 14.6% of ever-married working mothers used a center for their child under age 5, up from 8.2% in 1965 and 4.5% in 1958. In 1982, almost 10% of employed mothers of infants and toddlers (under age 3) used center-based care as their principal arrangement. These trends were most pronounced for well-educated women, full-time workers, and mothers with relatively high family incomes who could afford to pay for child care services (U .S. Department of Commerce, 1982, 1983).

Recent public attention focused on day care has heightened public awareness of both potential problems and the extreme range of quality in available centers. Psychological research on the effects of day care on children has generally been of two types. On the one hand, some researchers have studied community-based programs, not of ideal quality, to investigate the effects of "typical" day care (Phillips, 1984; Rubenstein, Howes, & Boyle, 1981; Ruopp, Travers, Glantz, & Coelen, 1979; Vandell & Powers, 1983). On the other hand, other researchers have focused on model programs, often university-based, to determine the dimensions and effects of "ideal" or "developmental" day care. Clearly, the two lines of research are complementary.

This study is of the second type and focuses on a model program. The purpose of the investigation was to assess the impact of an infant-toddler program on parent-child interaction. Past research, whether concerning typical or model programs, has focused almost exclusively on the effects of day care on children's cognitive development, attachment to mothers, and social competence in the group setting. In contrast, we were concerned with broadening the research perspective and investigating the influence of a day-care program on the children's home life and interaction with parents. In particular, we wished to assess whether certain "child-centered" features of the day-care environment and interaction pattern would be modeled and carried over into the home setting and/or whether day-care parents would abrogate some of their parental authority and become more permissive. Thus, we were interested in the intersection between home and center environments—the linkage between home and center. Several recent reviews have emphasized the need for this type of research cutting across setting boundaries (e.g., Belsky & Steinberg, 1978; Bronfenbrenner, 1979; Phillips, 1984).

The questions asked by this study derive from an ecological and comparative model of human development (Bronfenbrenner, 1979; Edwards & Whiting, 1980; Whiting & Whiting, 1975). We assumed that social behavior is shaped by the prominent features of the physical settings, major activities, and social relations in which people spend their time. With respect to day

care, therefore, we expected that both children's and parents' social behavior would be influenced by day care participation (especially if the parents had established a close relationship with caregivers or spent much time at the center).

How are the environment, activities, and adult-child relations of a day care program importantly different from those of the typical home? For model educational programs, a central difference may have to do with the degree of child-centeredness (Bronfenbrenner, 1979). This variable concerns how much adults adjust the environment, activities, and social relations to compensate for the perceived special nature and needs of the child, as opposed to requiring the child to adapt to the adult world. Although American childrearing practices are considered by anthropologists to be highly child-centered (e.g., Ochs & Schieffelin, 1984), the American home setting is probably less child-centered than the model day care program. The home must accommodate to many purposes in addition to childrearing, whereas the environment, activities, and adult-child relations at the model day care program are explicitly geared to meet children's developmental needs.

Do child-centered features of the model infant-toddler program influence parental behavior and childrearing practices? The point of a research study such as this is certainly not to suggest or advocate that they *should*; that is a matter of value choice that deserves serious public consideration and debate. Rather. our concern here is an empirical one—whether day care *does* ever influence parents.

One reason for thinking that this may be the case is that, as previously noted, 'child-centeredness' is a key American cultural value. Therefore, it seems reasonable to expect that American parents will be sensitive and alert to routines or techniques that they perceive as promoting this value. American parents, like parents in all societies, are eager to "do right" by their children in ways that are culturally defined as necessary.

Another reason to suppose that day care participation might be influential is that parents of infants and toddlers (especially primiparous parents) tend to be relatively anxious and insecure about their parenting,. Parents' membership in a social network is becoming recognized as an important factor in competent parenting (Belle, 1982; Easterbrooks & Goldberg, 1983). Integration into a social support network has been found to predict the effectiveness of the mother in parent-child interaction (Hetherington, Cox, & Cox. 1982; Weinraub & Wolf, 1983). At a model day care program, professionally trained teachers have daily contacts with parents of young children and may be in a position to become influential members of the parents' support networks. Belsky, Steinberg, and Walker (1982) have reported that parents with children in day care centers claim to learn more about parenting than do comparable parents with children in family day care homes; this finding

may be due to the professional training of the staff at those centers involved in the research. It has also been speculated that parents may be inclined to yield some of their responsibility for socialization to teachers and become relatively permissive, or *laissez-faire* (Bronfenbrenner, 1979).

Method

Description of the Model Program

The hypotheses for this study were based on pilot observation of a particular model program. Certainly, not all day care centers are alike, nor are the groups of parents and children who use them. The effects of day care are likely to be program-specific—that is, different for different kinds of programs (Macrae & Herbert-Jackson, 1976). In order to generalize from specific results, therefore, and move toward building a valid and comprehensive theory of the effects of day care, specification of program and sample dimensions becomes of critical importance.

The infant-toddler program used in this research was part of a laboratory preschool at a large New England state university. It was a half-day program with separate infant and toddler groups. Child-adult ratios (2:1) were lower than state regulations required in order to maximize child-centered interaction time and minimize teachers' involvement in housekeeping and managerial activities. Male and female teachers (including student interns) were present in both infant and toddler classrooms. Professional staff typically held bachelor's degrees in early childhood education and were career professionals.

Parents were encouraged to spend time in the classrooms and observation booths, and teachers were available for frequent communication and consultation. Study parents who applied to the school were generally seeking more than custodial care for their infants. Typical comments on application forms indicated that they were interested in "quality child care," "excellent child care," "enrichment and stimulation in a place that is also supportive and educative to parents," and the like.

Teachers' approaches to structuring the physical environment and to promoting children's exploration, autonomy, and cooperation were based on the "whole child philosophy" and consistent among teachers. Learning these approaches was an explicit part of student teachers' training. The physical environment was designed with low, child-accessible shelves of toys (rather than bins or baskets). "Child-proofing" and safety features prevented unsafe exploration. The teachers' social behavior with children was guided by the following principles, among others: (a) allowing self-direction unless the child was bored or destructive; (b) offering choices; (c) providing alternatives to undesirable behavior; (d) making clear requests; (e) finding supportive ways to help the child follow directives and routines; (f) inviting the child's participation;

and (g) encouraging the child's independence in developing self-help skills. These physical and social features of the day care program were expected to be the ones most salient to parents and most likely to be carried over to the home setting. Of course, influencing parents was not assumed to be a goal of the center or the teachers. Rather, we regarded program effects, if found, to be an unintended (but potentially important) aspect of the type of program in question.

Subjects

Thirty-eight children (divided into a center and a comparison noncenter group) participated in this study for 8 months during the 1980-81 academic year. Children ranged in age from 2 to 22 months at the beginning of the study period.

The center and noncenter families were intact, middle-class, and primarily college-educated. The noncenter families were recruited from center waiting lists (4), a newspaper advertisement (5), birth listings in the local newspaper (7), and personal contacts (3). The parents in both groups included graduate students (16), educators (19), business people (6), therapists (4), attorneys (3), physicians (3), other professionals (6), white-collar employees (6), and blue-collar employees (5). Three families spoke Spanish as their major home language. Twenty-eight pairs of parents had one child only; others had two or three children. The mean age of mothers was 30.7 (range 21 to 41); the mean for fathers was 32.4 (range 25 to 42).

The center and noncenter groups were similar at the beginning and end of the study in amounts of maternal employment and paternal involvement in child care. The center group (10 boys and 9 girls, or the entire population of the center minus 2 children) had employed or student mothers. The mothers were at work or school an average of 24.8 hours a week, and the children were in nonparental care an average of 19.8 hours a week (range 15 to 28). The noncenter children (matched on age within 2 months, sex, and sibling order with the center children) also had employed or student mothers. However, they received their supplementary child care in home settings from their fathers, babysitters, or family day care providers. Their mothers were at work or school an average of 20.8 hours a week (not significantly different from the center group), but the children were in nonparental care an average of 11.2 hours a week (range 0 to 40), an amount that was significantly different, $t(36) = 2.81$, $p = .01$). Father involvement was high. Four fathers (two in each group) reported themselves to be "primary parents" at the initial interview because their wives worked full-time and they did not. Thirteen center and 15 noncenter fathers reported that they provided scheduled child care at least several hours a week.

In addition, the two groups were comparable in certain childrearing values. They did not differ in number of mothers breast-feeding; number of fa-

thers present at the birth; or in other matters concerning bottle-feeding, nap taking, night waking, and toilet training.

Measures and Procedures

Brief ("Spot") Observations. An anthropological research technique developed by Munroe and Munroe (1971) was adapted to give an objective picture of children's activities and social relations (cf. Ellis, Rogoff, & Cromer, 1981; Rogoff, 1978). These home observations were conducted by telephone. The parent or caretaker who picked up the phone was asked to answer a standard list of brief questions ascertaining the identities, whereabouts, major activities, and physical positions of all persons present in the home "just at the moment the phone rang."

From October to February, 21 spot observations of each child were conducted; an additional 21 observations of each child were conducted from February to May. Each of the 7 weekdays was represented six times. Calls were equally divided according to time of day: morning (from 9:00 to 11:00 a.m.), late afternoon (from 3:00 to 5:00 p.m.), and evening (from 5:00 to 7:00 p.m.). Parents did not know on what days calls would come, and children were sampled in random order on each occasion. Each child's major activity was coded according to the following categories: cries, plays, watches, reads, eats, sleeps, is dressed, and is cleaned. Each parent's major activity was coded as follows: out; attends to child; rests (eats, personal hygiene, sleeps, etc.); studies; and does household chore. To assess interrater reliability, one team member telephoned 17 homes while another listened on a phone extension. Their forms were independently coded and agreed 88 to 100% of the time (average 98%) on 45 categories.

Monthly Parent Questionnaires. Monthly, from October to April, families were sent a questionnaire to be filled out on the day of reception by either parent (mothers filled out the form 82% of the time). The questionnaire included checklists to find out who had performed 13 caretaking tasks that day and to assess the child's current level of skill on 22 self-care items (taken from the Vineland Mental Maturity Scale, Doll, 1953). The self-care questions asked the parent to report whether the child frequently or typically performed certain skills and, if so, whether the child did the task unassisted or with parental help.

The self-care items provided each child with a plus/minus score on 9 feeding items (eats solids, feeds self with fingers, holds own cup, holds own spoon, drinks with straw, weaned from breast and bottle, uses fork, uses knife, gets drink unassisted); 2 toileting items (regularly put on potty, regularly goes on potty); and 12 dressing items (child "assists or performs by self" these tasks: pulls off hat; pulls off socks or booties; pulls off coat or sweater;

washes hands; pulls off shirt or dress; puts on coat or sweater; manipulates snaps, buttons, zippers, buckles; pulls off trousers; puts on shirt or dress; puts on shoes; hangs up coat; puts on trousers).

At the conclusion of the study in April, the interparent reliability of reports was assessed by sending each family two questionnaires and asking each parent to fill one out separately. Mothers and fathers agreed (in terms of our scoring categories) an average of 93% on the feeding items, 95% on the toileting items, and 84% on the dressing items. The raw (plus/minus) scores were used to construct three composite feeding, toileting, and dressing scales, based on adding each child's plus scores on the relevant items. This procedure was legitimate because the three sets of items formed statistically reproducible Guttman scales at each of the seven assessment times.

Initial and Final Parent Interviews. An observer made home visits at the start and end of the study to gather background information on the child's birth; sleep and eating habits; child care schedule; amount of extended family contact; parents' age, education, and current income and employment; parents' attitudes toward day care (initial interview only); and satisfaction with child care arrangement.

Physical Environment Assessment. At both initial and final home visits, the observer asked to be shown around the home. "We're interested in the physical space where children spend their time"). The observer noted on a form, for each room, whether there were (a) low shelves with toys; (b) restrictions on the child's entering the space; (c) child-size or child-oriented furniture; and (d) safety and other child-proofing measures. In addition, the observer asked (e) whether the child was included at the family dinner table "always, sometimes, or never" and (f) with whom the child shared a bedroom.

Videotapes of Parent-Child Interaction. A videotaped observation of primary parent and child interaction in a routine care and play situation was made at the end of the study, when subjects were 8 to 28 months old. A bath and dressing situation was selected because it combines caretaking routines with opportunities for playful interaction. Four families objected to videotaping a bath, and so a feeding and dressing activity was substituted for those four families as well as for their matches.

Videotapes were scored by three trained graduate students. Thirty-second intervals were time-sampled using a checklist of 12 child and 26 parent social behaviors. Scores were constructed by dividing number of instances of each behavior by the total number of time intervals in the observation. In addition, the coders rated each observation on six 7-point scales evaluating overall parental warmth, teacher-like control, and promotion of autonomy, and overall child cooperation, self-reliance and social involvement with parents (for details, see Logue, 1984).

Interrater reliability was established on both types of measure. For the time-sampling codes, reliability ranged from 81 to 100% (average 95%). For the rating scales, the percentage of agreement within 1 scale point was 97%.

Results

Findings are presented for three main hypotheses concerning center versus noncenter differences in parent behavior.

First, the home environments of the center group, relative to the noncenter group, were expected to become more child-centered and/or "school-like" over time. The specific changes examined included (a) use of shelving to display toys and encourage self-initiated choice (measured by number of rooms containing low shelves with child's toys); (b) declining use of restricted or "off-limit" areas (measured by number of off-limit areas in home); (c) protective child-proofing for safety (measured by constructing a Guttman home safety scale-score from four items: removal of unsafe items from child's reach and use of electrical outlet covers, safety gates/pens, and child locks on cabinets); (d) use of child-size furniture (measured by presence of small table-and-chair sets, changing tables, highchairs, toy chests, rocking horses, etc.); (e) presence of a playroom (other than the child's bedroom); (f) inclusion of the child at the family dinner table "always,"; and (g) co-sleeping (sharing of a bedroom) by parents and child.

The homes of the center and noncenter families did not differ at the start of the study on any of the measures. At the end of the study, however, they were found to differ in their use of low shelves, off-limit areas, and child-proofing procedures in the expected directions (see Table I). The center parents were also much more likely to include the child at the family dinner table. The groups did not differ in presence of a playroom or special children's furniture, except in the use of toy chests, with the noncenter group being higher than the center group. This finding is interesting because toy chests are the opposite of low shelves; they store toys in a way that makes them invisible and inaccessible to infants and toddlers. Thus, in certain ways, the home environments of the center families did become more child-centered and school-like.

Second, the parent-child interaction of the center group, relative to the noncenter group, was expected to become more child-centered: higher in proximity, warmth, and teacher-like focus on the child. The telephone spot observations were predicted to show increasing group differences over time with respect to parental proximity, holding, and social involvement. (Interestingly, other results showed the center, with its high staff-child ratios, to be much higher on these measures than were the babysitters' and family day care providers' homes, see Edwards, Logue, Loehr, & Roth, in press).

Table 1. Child-centeredness of Home Physical Environment

	Start of Study		End of Study	
	Center Families	Noncenter Families	Center Families	Noncenter Families
1. *M* rooms with low shelves to promote play	0.63	0.47	1.21	0.58, t= 2.88***
2. *M* areas of home off-limits to child	0.11	0.21	0.00	0.47, t= 2.45**
3. Child-proofing safety scale-score	2.26	2.21	2.95	2.37, t= 1.72*
4. Presence of playroom	0.26	0.16	0.32	0.21
5. Presence of special child furniture	(No differences on specific items)		(No differences, except toy chests)	0.32, t= 2.88***
6. Family dinner/child always included	0.53	0.63	1.00	0.63, t= 3.24***
7. Child shares parents' bedroom	0.05	0.05	0.05	0.00

Matched pairs t-tests have 18 degrees of freedom. Significance tests are one-tailed.
* $p < .10$; ** $p < .025$; *** $p < .01$

The videotaped observations of the bathing/feeding situations conducted at study end were similarly predicted to show center parents scoring relatively higher on the rating scale of warmth and a time-sampling sociability cluster composed of seven categories of initiating and responding playfully or sociably. In contrast, the noncenter parents were expected to score higher on a teacher-avoided cluster (including such negative behaviors as ignoring, refusing, scolding, coaxing, caring for child without inviting participation, and giving commands in Question form—e.g., "Would you like to come here, please?"—a behavior that invites toddler noncompliance).

The center and noncenter parent-child dyads differed significantly on a number of the spot observation measures (see Table 2). The extent of group differences was greater during the period from October to February than during the period from February to April. During the first period, the center parents were higher on touching, caring/playing, and playing down on the floor (a teacher-like behavior), whereas the noncenter patents worked more at adult tasks. During the second period, the groups differed strikingly on the proximity measures (touching, holding, being in the same room). The extent of these differences increased over time, with the noncenter families declining sharply on the proximity measures as babies grew older and the center families remaining at the same level.

The videotaped observations performed at the end of the study revealed some comparable group differences. The center parents scored higher on rated warmth but not on the sociability cluster. As expected, the noncenter parents scored significantly higher on the teacher-avoided cluster.

Table 2. Parental Proximity and Sociability in Percentages: Spot Observation Measures[a]

	Period 1 (Fall)		Period 2 (Spring)	
	Center Families	Noncenter Families	Center Families	Noncenter Families
Parent holds child	26	23	24	14, t= 3.05****
Parent touches	50	40, t= 1.93**	43	27, t= 2.95****
Parent in same room	92	89	90	81, t= 2.26***
Parent engages in same activity as child	70	64	72	63, t= 1.43*
Parent cares for or plays with child	57	46, t= 2.08**	54	45
Parent "entertains" (plays/reads)	26	21	27	23
Parent down on floor with child	18	11, t= 1.46*	10	13
Adult task (nearest parent works at adult chore)	24	31, t= 1.39*	23	29, t= 1.42*

Videotape Measures (End of Study)	Center Families	Noncenter Families
Rated parental warmth	5.21	4.53, t= 3.15***
Time-sampled sociability cluster	1.24	1.30
Time-sampled teacher-avoided behavior cluster	0.53	0.71, t= 2.43***

Matched pairs t-tests have 18 degrees of freedom. Significance tests are one-tailed.

a. Measures reflect the frequency that either parent was reported performing a given behavior (e.g., holding child, touching child, etc.) as a percentage of each child's total awake observations during both the fall and spring time periods.

* $p < .10$; ** $p < .05$; *** $p < .025$; **** $p < .01$

Thus, the pattern of findings tends to support the hypothesis that participation in the model program (which placed a strong emphasis on adult-child interaction) may have influenced parents, particularly with respect to physical proximity. Moreover, at the end of the study, the center parents were rated as warmer (this videotape measure correlates significantly with the spot observation measures of proximity), whereas the noncenter parents used more teacher-avoided behaviors—behaviors that tend to be part of negative parent-child interaction cycles.

Third, the center and noncenter parents were expected to differ in terms of permissiveness versus promotion of autonomy. Regarding this issue, the literature and conversations with day care parents actually suggested two conflicting hypotheses. On the other hand, there is the suggestion in Bronfenbrenner (1979) that day care parents tend to become *laissez-faire* or permissive, that is, to become less clear in limit setting and the transmission of

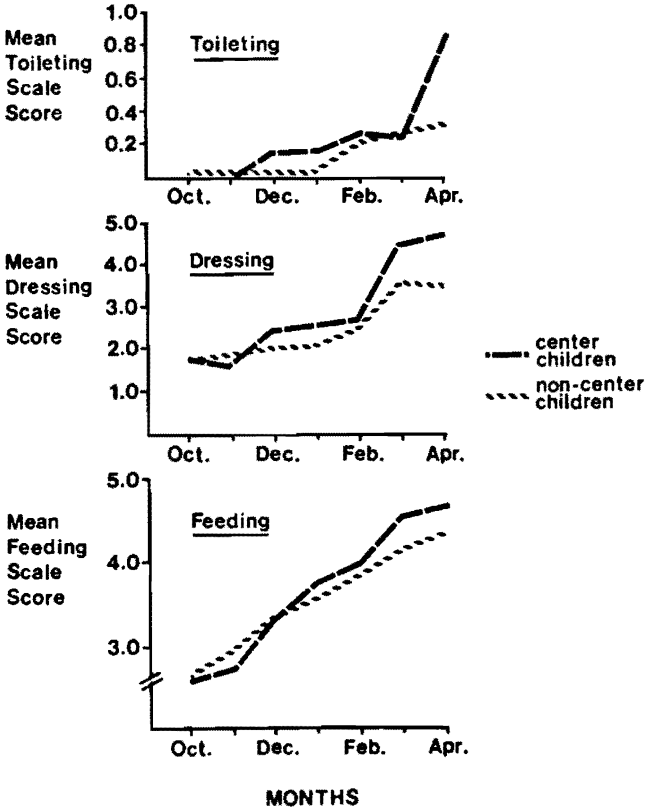

Figure 1. The growth of self-help skills in children.

parental values because they transfer some of their socialization responsibility to the teachers at the center. On the other hand, during our pilot phase we received anecdotal reports from day care parents that they had "learned many ideas" about how to handle problems and "let children do things for themselves" from watching or talking to teachers at the center. (In Massachusetts, day care licensing regulations specifically mandate the promotion of independence skills as a teaching objective). This anecdotal evidence suggested that day care participation may sometimes help parents to promote their children's autonomy more effectively or positively.

Two sources of information regarding parental permissiveness versus promotion of autonomy are relevant. First, the monthly parent questionnaires provided measures of parental perception of children's autonomy with respect to self-care tasks. The changes in the children's scores over time on the feeding, toileting, and dressing scales are illustrated in Figure 1. As

would be expected, the scores for both groups of children increased substantially over time. Growth in dressing and feeding skills appeared to be continuous, whereas growth in toileting was more discontinuous. The center children, in particular, showed a dramatic spurt in toileting skills in April. (Their teachers at the center, in a personal communication, confirmed this phenomenon and attributed it to "group contagion" following the movement out of diapers of one older child.)

Although age changes in self-help skills were great, group differences (with the center group higher) were visible as the study progressed but were of small magnitude. To compare age versus group effects, multiple repeated-measures analyses of variance (MANOVAs) were performed on each of the three sets of scale scores. Time (the first through seventh months of the study) and group were the independent variables. The main effect for time proved very significant (toileting, $F(1,18) = 10.98$, $p < .001$; dressing, $F = 14.74$, $p < .001$; feeding, $F = 37.12$, $p < .001$, one-tailed). No main effects for group were significant, and a significant time × group interaction emerged only for toileting, $F(1,18) = 3.44$, $p < .05$, one-tailed.

Information on parental behavior (as opposed to perceptions) regarding their children's autonomy was provided by the videotaped observations of bath (or feeding) and dressing. Unfortunately, these data concern only the end of the study. They reveal clear group differences, however, which must be interpreted with substantial caution but are nevertheless intriguing.

On both the promotes-autonomy rating and the time-sampled promotion of autonomy cluster, the two groups of parents did not differ. (The cluster is composed of waiting attentively, offering choices, asking if the child needs help before helping, inviting the child's participation, describing how something works, and preparing for future activity.) In addition, the parent groups did not differ on the teacher-like control rating (a scale measuring how much parents used the techniques of guidance advocated by early childhood educators). All of these measures relate to the adult role we can refer to as "facilitator"; findings suggest that the two groups of parents in our study did not diverge in their facilitator roles with respect to behavioral guidance and promotion of self-help skills.

The two groups of parents did differ, however, on the time-sampled clusters related to authority and adult labels/values (see Table 3). The noncenter parents significantly more often set limits (by using redirections, prohibitions, commands, and physical restraints). They also significantly more often communicated values or labels (by praising or evaluating the child, teaching him or her adult labels, and asking the child to name things). These are types of behaviors that involve parents in the roles of "authority" and "instructor"—quite different from the facilitator role. Here our evidence suggests either that the parent groups did diverge or that they were different all along.

Table 3. Parental Permissiveness

Videotape Measures (End of Study)	Center Parents	Noncenter Parents
Rated teacher-like control	4.26	3.84
Rated promotion of autonomy	4.11	3.84
Time-sampled promotes autonomy cluster	0.52	0.47
Time-sampled authority cluster	0.25	0.35, t= 2.40*
Time-sampled adult labels/values cluster	0.09	0.19, t= 2.14*

Matched pairs t-tests have 18 degrees of freedom. Significance tests are one-tailed.
* $p < .05$

Discussion and Conclusions

The purpose of this study was to investigate linkages between day care and home settings and to test for effects of day care participation that cross setting boundaries. The notion that human development is simultaneously shaped by all of children's daily environments (and by the nature of the linkages and transitions that occur among settings) has been forcefully argued by Bronfenbrenner (Bronfenbrenner, 1979; Bronfenbrenner & Crouter, 1983). The present study was designed to examine the influence of day care participation on parent-child interaction at home and to investigate whether the child-centered activities, roles, and relations that predominated at the model program came in any way to be mirrored by home physical and social environments.

Our findings with respect to the physical environment are probably our most straightforward. At the start of the study, the homes of center and noncenter families were not assessed as different on any measures. At the study end, however, the two sets of homes did differ significantly on a number of measures, all indicating the center homes to be more child-centered—in other words, to be more adjusted to meet culturally perceived needs of young children. The most parsimonious explanation of the findings would seem to be that center parents tended to echo at home some of the salient arrangements that they observed at the day care center. Of course, many of these arrangements, such as safety-proofing, are features of which most middle class parents are well aware. We would speculate that participation in the model educational program simply heightened parents' awareness and reinforced their behavior.

For two reasons, our findings with respect to parental proximity and social involvement are more difficult to interpret in terms of causality. First, some significant differences were found during the period from October to February, indicating that the groups may have entered with somewhat different behavioral tendencies. However, group differences observed during

the period from February to May are much stronger statistically and do mirror differences between the center teachers and the in-home babysitters and family day care providers. Thus, both center parents and teachers were relatively high in proximity behaviors, whereas both noncenter parents and providers scored lower. Similarly, center parents scored higher in rated warmth (a behavior correlating with the proximity measures), whereas noncenter parents scored higher in teacher-avoided behaviors.

Second, even if the proximity findings are attributed to day care participation, another problem of interpretation arises. Were these findings due to the Center parents' echoing teacher behavior, or were they the result of some other factor, such as parental guilt over day care and desire to compensate for time away from their children? To evaluate the guilt explanation partially, we reran the end-of-study *t*-tests on the proximity measures and their correlate warmth, partialling out the effect of number of hours per week spent by each child in nonparental care. This procedure reduced the *t*-scores for touching, holding, being in the same room, and warmth to 3.28, 2.43, 1.15, and 2.81, respectively—all still significant except for "same room." Given that the center and noncenter groups did not differ in amount of maternal employment, it seems reasonable to conclude that parental guilt and compensation are not the best explanation for the group differences in warmth and proximity found during the second half of the study. Coupled with the videotape finding on center parents' lesser use of teacher-avoided behaviors, this finding provides support for the speculation that the professional teachers at the model infant-toddler program may in fact have influenced or reinforced certain tendencies in our sample center parents' behavior.

This conclusion does not consider what part, if any, changes in *children's* behavior may have played in the relatively high proximity and warmth of center parents. It is certainly possible that center children themselves increased their demands for parent closeness and responsiveness as a result of the group care experience. Anecdotally, it is interesting to note that a number of center parents spontaneously speculated that day care had made their children "very social" or "less able to play by themselves." Although the videotaped observations found no group differences in children's behavior at study end, the spot observations did find center children to play significantly less by themselves during the second period of the study (Edwards et al., in press). Thus, the possibility should not be discounted that there were changes in children as well as in parents. Certainly, our findings in no way suggest that day care caused children to become relatively independent or avoidant of parents, as some researchers have concluded (see Clarke-Stewart & Fein, 1983).

Finally, our third set of findings, related to the center parents' weaker authority and tendencies to instruct, are our most difficult to interpret. Lack-

ing a pretest, we do not know whether such parent group differences were already present at the start of the study or were the result of day care participation. Either way, however, they seem worth calling to the attention of early childhood educators.

The findings do not suggest that our group of center parents were totally lax with their children. In fact, the center parents scored slightly, though nonsignificantly, higher on the videotape measures of promoting autonomy. By study end, center children were actually seen by their parents as more competent in self-help skills, as measured by the monthly parent questionnaires. These results, in conjunction with the physical environment data, indicate that the center parents were active in promoting their children's environmental exploration and self-initiative in dressing, eating, and toileting. Nevertheless, the videotaped observations do reveal that the center parents were significantly less effective "limit-setters" and were less likely to teach values and labels explicitly. Did the center parents feel hesitant about limiting their children's autonomy in any way, perhaps even in ways that children, especially toddlers, require? We cannot answer this question, but we would like to conclude by suggesting that the parental roles of authority and instruction may well be ones for which early childhood educators could offer some needed support to contemporary day care parents.

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