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Family Responses to Children With Early Developmental Delays II: Accommodation Intensity and Activity in Early and Middle Childhood

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Families were interviewed about functional accommodations made to sustain daily routines for a child with disabilities. Accommodation intensities were unchanged from ages 3 to 7 and declined from 7 to 11. However, number of accommodation types increased dramatically from 3 to 11. By late childhood, on average, families broadened the scope of their accommodations but reduced the intensity with which they made them. Accommodations are a continuing feature of family adaptation to developmental disabilities in late childhood rather than a feature of certain developmental periods. They are most consistently associated with child characteristics that directly impact the daily routine.

Families adapting to developmental disability and delay face many challenges. One faced by all families is constructing and sustaining a daily routine that accommodates such issues as income constraints, parents' paid and domestic work hours, and children's survival and developmental needs (LeVine, 1977; Weisner, 1984). To sustain their routines, all families make large and small functional adjustments or accommodations. For a family adapting to a child with developmental delays, some accommodations will be related wholly or partly to the child. For example, to incorporate a long commute to a special needs program into the family's routine, a mother might cut her paid full-time work to part-time but strike a deal with her employer to keep on a valued career path. The father might arrange to leave his job early to pick up a sibling from daycare. The couple could work out a new budget for what they hope is only a temporary income loss. Each of these functional tradeoffs and adjustments represents a family accommodation to childhood disability.

Two frequently investigated types of accommodation have been parent use of social support networks and the organization of caretaking to provide for child-centered, development-promoting interactions (Shonkoff, Hauser-Cram, Krauss, & Upshur, 1992). Other family accommodations have been studied less often but are nonetheless important for a complete portrait of the family functions sustaining daily routines that include a child with disabilities. For example, some make changes in subsistence base (e.g., changes in jobs, work hours, career goals), initiate connections to service providers, re-organize domestic workloads and family roles, and seek sources of information among other accommodations that are wholly or

partly in response to children's developmental problems (Barnett & Boyce, 1995; Gallimore, Weisner, Bernheimer, Guthrie, & Nihira, 1993).

One reason to investigate family accommodations to childhood disability is an increasing emphasis on family-centered interventions (Gallagher, 1989). Bernheimer and Keogh (1995) have argued that assessing a family's accommodations provides a valuable addition to planning interventions for children with delays and disabilities. They suggested that interventions often fail to be implemented or sustained when they are not well-fitted to the existing daily routine and the many accommodations a family is already making. So that interventions are sensitive to family as well as the child over time, Bernheimer and Keogh called for more longitudinal research on family accommodation and how accommodation changes as children with disabilities grow older.

In this paper, we present a longitudinal description of family accommodation to children with developmental delays, and, in particular, we examine continuities and changes from preschool through middle childhood. Results are presented from a longitudinal study of the accommodations reported by parents with children who exhibited significant developmental delays in the first 36 months of life. Findings are based on interviews with parents when the modal age of the children was 3, 7, and 11. The central questions of concern were: (a) What pattern of continuity and change in family accommodations occurs from preschool to late middle-childhood? (b) What is the relation of family accommodations to child characteristics in preschool and middle childhood?

Accommodation is defined in this paper as a family's functional responses or adjustments to the demands of daily life with a child who has delays (Gallimore et al., 1993; Gallimore, Weisner, Kaufman, & Bernheimer, 1989). Family accommodation is presumed to occur in response to both serious concerns and mundane problems of daily life and does not require individual or family stress to be activated. Accommodations do not always result in a changed psychological state of family members. There is no presumption that accommodation is intentional, or that families are conscious of their activities, or see themselves as dramatically different or special. Accommodation is not assumed to be positive or negative in its effects on the family or child: that must be determined from independent evidence. The "valence" of an accommodation must be determined by its correlation with other variables. Every accommodation is presumed to have costs as well as benefits to each individual in the family and to the family as a whole: An accommodation could eventually be judged "positive" for the child, but both "positive" and "negative" for the parents or siblings, and vice versa. In all cultures, parents and their children's interests are often, perhaps always, in partial conflict (Weisner, 1987). The "goodness" of accommodations depends on long-term outcome assessments for parents and siblings as well as children with delays. That determination goes beyond our purpose here, which is focused on continuity and change in accommodation types and intensities and their covariates, not their valence.

Although knowledge about family adaptation to childhood delay has increased in recent years, little is known about patterns of continuity and change over time. Investigators of family adaptation to disability and delay have generally answered the continuity/change question in two ways. On the one hand, results of some prior studies have suggested that families exhibit intense adaptive activity when a child's developmental problem is first identified, followed by a decline to stable adaptations after an initial "crisis" or "grief cycle" (Gabel, McDowell, & Cerreto, 1983). On the other hand, some investigators have reported continuities and/or changes in adaptive activity beyond preschool ages. For example, Suelze and Keenan (1981) concluded that coping with a child's disability can become more dif-

ficult as the child gets older—as parents recognize increasing performance discrepancies and become aware of the limited alternatives for adults with disabilities. Shonkoff et al. (1992) concluded that as children with disabilities mature, their increasingly apparent differences from peers may prompt changes in family functioning, a conclusion that suggests a continuation of adaptive activity. The ecocultural research literature also suggests that adaptation is a continuing activity for families with or without a child who has disabilities (Weisner, 1993). Thus, we expected that families in our sample would continue to make accommodations when the child with delays was age 7 and 11.

We looked for accommodation continuity and change in 10 domains in which families make accommodations to childhood delays: Family Subsistence Base, Services, Home/Neighborhood, Domestic Workload, Childcare Tasks, Child Peer Groups, Marital Roles, Parent Support, Father/Spouse Role, and Parent Information. These domains were identified and examined in several previous investigations (Gallimore et al., 1989; Gallimore et al., 1993). This work borrows from cross-cultural research in which investigators have identified universal ways that family life is organized (Weisner, 1984).

To study continuity and change, we assessed family accommodation at three different time periods—when children were ages 3, 7, and 11. Two different indices of accommodation were assessed at each time period: the intensity of accommodation within each of the 10 domains and the number of different accommodation types made within the 10 domains just listed. *Intensities* refers to the amount of attention and effort families put into accommodation in each of the domains identified in Appendix A. *Types* refers to the number of different accommodations families made within each domain. The dual measure was suggested by previous research showing interfamily variation in intensities and types of accommodation. For example, some families intensely focused energy on a few accommodations, whereas others made many different types of accommodation in a less intense manner (Weisner, Bausano, & Kornfein, 1983).

For the time period of this study, we also examined child characteristics correlated with accommodation types and intensity. In a cross-sectional investigation of our sample when the children were 3 years of age (Gallimore et al., 1993), we found no association between intensity of family accommodation and psychometric measures of child status on the Gesell Developmental Schedules (Knobloch & Pasamanick, 1974) and Vineland Adaptive Behavior Scales (Sparrow, Balla, & Cicchetti, 1984). What relation was to be expected at ages 7 and 11? Results of some studies suggest that in early middle-childhood, a relation between accommodation and developmental test scores might emerge once children transition to school (Bernheimer & Keogh, 1982; Shonkoff et al., 1992). For example, parents who are concerned about development of their preschoolers might be more alarmed about delays at ages 7 and 11, resulting in more types and greater intensities of accommodation (e.g., a 7-year old who is not toilet trained may prompt more accommodation than a 3-year old with delayed speech and motor functions). A major prediction guiding us in this study was that accommodation types and intensities would be related to child characteristics that most directly impact the daily routine of family life. We based this prediction on the expectation that child characteristics that directly impact the daily routine are more like to be related to accommodation because challenges to the daily routine trigger accommodation.

Method

Population Definition

Developmental delay is the term typically applied to a slower-than-expected rate of child development when a more specific diagnosis or etiology is absent (Bernheimer & Keogh, 1982, 1986). The number of

children with developmental delays is estimated to be from 50 to 80% of the overall population of persons with mental retardation (Batshaw & Perret, 1981; Hayden & Beck, 1982; Magrab & Johnston, 1980; Scheiner & McNabb, 1980). Although some children with early delays "catch up," the majority continue to lag behind age norms on standardized tests of development and cognition and are placed in special education classes once they enter school (Bernheimer & Keogh, 1982, 1988; Bernheimer, Keogh, & Coots, 1993).

Sampling Procedure

Seventy-three agencies (two thirds of which were public schools or private intervention programs) in the greater Los Angeles metropolitan area assisted in the assembly of the sample. Of a total of 313 children reviewed or discussed for entry into the sample, 103 matched our sampling criteria and their parents consented to participate. About 5% of the 313 children met sampling criteria, but either the parents declined to participate or the cooperating agency advised against contacting the family.

Criteria for inclusion in the sample were as follows. Children must be 3 or 4 years old and have significant delays of unknown origin. Those with known genetic abnormalities were excluded from the sample as were children whose delays were associated with prenatal alcohol or drug abuse or postnatal neglect or abuse. The sample was restricted to one ethnic group, Euro Americans, in order to minimize the effects of complex cultural and linguistic influences. We have described these families and their children with developmental delays in several prior papers. For economy's sake, we provide only a brief review of the sampling procedure and demographics here. A more extensive account of the sampling procedure appears in Gallimore et al. (1989) and Gallimore et al. (1993).

When the children were modal age 3 years (range = 2.5 to 4.5), all 103 were tested with standardized developmental tests, and all their families were interviewed. When the children were modal age 7 (range = 5.5 to 8.25), we successfully concluded a second round of child assessments with 97 children and interviewed their families. The family of one child who had died was no longer included in the study. Three families could not be located, and one family asked not to be interviewed. At modal age 11 (range = 9.4 to 12.6), 95 children of the original 103 children were again located for a third round of data collection. Two children had died, one family could not be located, and 5 families declined to participate.

For purposes of this article, we report data for 93 cases for which we had three sets of assessments and interviews, each at modal ages 3, 7, and 11. Families who withdrew from the study or could not be located did not differ significantly on measures of socioeconomic status (SES) or child status from the families who remained in this sample . The modal ages of the children at the time of the assessments and family interviews, ages 3, 7, and 11, were used throughout this report, for the sake of economy, to refer to both the three child assessments and the three family interviews. All references to ages should be interpreted with caution because the modal ages reflect a range of ages as noted previously.

Child Assessment Procedure

Each child (60 boys, 43 girls) was tested by independently contracted developmental specialists who had no knowledge of the purposes of the project. Child assessments were concluded within a few weeks of parent interviews (described later). At the time of the first testing, when the children were recruited into the sample, the mean child chronological age was 41.8 months (standard deviation [*SD*] = 6.2, range = 32 to 55, mode = 3 years). At that time, the children's delays were variable in expression and did not fit neatly into existing diagnostic categories. When the children were between 67 and 99 months

old (mean = 84, *SD* = 6, mode = 7 years), we conducted a second round of independent testing in a manner that replicated the original procedures. A third round of independent testing was conducted when the children were between 113 and 152 months old (mean = 131.64, *SD* = 8.19, mode = 11 years). The number of children tested at ages 3, 7, and 11 years was 103, 87, and 81, respectively. The decline in number of children tested was due to a growing resistance of parents to child assessments in general. Because many parents felt that their children had been subjected to testing so often for clinical and educational reasons, they would not agree to our request and reported that they also declined other testing requests.

Child Assessment Instruments

Assessment of Child Developmental Status. As shown in Table 1, we used the Gesell Developmental Schedules, Stanford-Binet Short Form (Terman & Merrill, 1973, and Vineland Adaptive Behavior Scales Communication and Daily Living subscales according to their appropriateness for different child ages. At child age 11, parents completed a project-developed parent checklist of daily living competencies (Keogh & Bernheimer, 1995). The list included 20 items rated 1 to 4 (*never* to *always*). The items fell evenly into four domains: Independence, Conduct, Social, and Health Competence. Summing the 5-item ratings yielded domain scores; summing the domain scores yielded a total competence score.

Assessment of Child Problems and Hassle. At each of the three assessments, parents were presented a card listing child "problems" (physical, motivational, emotional, learning, retardation, hearing, medical, behavioral, and speech). The number of problems that parents identified their children as having yielded a total parent report of child problems.

Because some parents reported that the child had a problem that did not

Table 1
Child Descriptions at Ages 3, 7, and 11

Child measure	Age 3 *n*	Age 3 Mean	Age 3 *SD*	Age 7 *n*	Age 7 Mean	Age 7 *SD*	Age 11 *n*	Age 11 Mean	Age 11 *SD*	Change 3 to 7, *t*	Change 7 to 11, *t*	Correlation between ages 3 & 7, *r*	Correlation between ages 7 & 11, *r*
Gesell DQ at age 3 & Binet IQ at age 7, and 11	91	72.63	16.49	80	71.20	18.36	80	66.68	20.29	-1.84	-1.99	.70 **	.83 ***
Vineland Communication standard score	93	72.37	10.80	82	69.83	16.03	NA			-1.66	NA	.39 ***	NA
Vineland Daily Living standard score	93	71.89	11.33	82	63.98	20.45	NA			-4.42 ***	NA	.50 ***	NA
Independence	NA			NA			80	13.01	3.44	NA	NA	NA	NA
Conduct	NA			NA			80	14.29	3.06	NA	NA	NA	NA
Social	NA			NA			80	12.14	2.89	NA	NA	NA	NA
Health	NA			NA			80	15.85	2.67	NA	NA	NA	NA
Behavior hassle	93	4.60	2.13	92	4.17	2.37	93	4.55	2.48	-1.86	1.97	.51 ***	.63 ***
Responsiveness hassle	93	3.31	1.96	89	3.08	1.73	93	3.67	1.87	-.79	2.54 *	.16	.20
Interaction rate hassle	93	3.99	1.76	90	3.99	1.47	93	3.93	1.73	0	-1.18	.20	.38 ***
Appropriateness hassle	93	2.81	1.96	90	2.03	1.88	93	2.99	2.10	-3.41 **	4.46 ***	.35 ***	.48 ***
Medical hassle	93	3.15	2.05	92	2.00	2.12	93	2.52	2.15	-5.57 ***	2.53 *	.53 ***	.57 ***
Communicative hassle	93	5.25	1.65	92	3.55	1.80	93	3.59	1.83	-8.62 ***	.50	.39 ***	.67 ***
No. of problems	93	4.38	1.81	92	3.71	1.70	93	4.15	2.20	-3.63 ***	2.04 *	.49 ***	.50 ***

*$p < .05$. **$p < .01$. ***$p < .001$.

impact the family's daily routine, at each assessment children were rated for their "hassle level." *Hassle* was defined as a child's impact on the daily routine of family life. Each child was rated on a 9-point scale (from *low* to *high* hassle) across the following areas: (a) medical hassle (e.g., caused by the child's unusual care demands), (b) behavioral hassle (e.g., caused by the child's tantrums), (c) communication hassle (e.g., caused by a nonverbal child), (d) interaction rate hassle (e.g., caused by an extremely active child), (e) responsiveness hassle (e.g., caused by a nonresponsive child), and (f) appropriateness hassle (e.g., caused by the child's inappropriate conduct).

Reliability of hassle ratings at age 3 was reported in previous papers (Gallimore et al., 1993; Weisner, Beizer, & Stolze, 1991). For that age period, 13% of the cases were coded by at least two "blind" raters, trained by one of the authors. Their overall average agreement was 88%. The same procedure was used at ages 7 and 11, with overall agreement at 77% and 93%, respectively.

Assessment of Family Socioeconomic and Job Status

At each of the times the children were assessed (ages 3, 7, and 11), each family completed a questionnaire regarding parental employment and the family's SES. We assessed four related variables, based on information collected during the parent interview: total family income, SES according to the Hollingshead Four Factor Index (Hollingshead, 1975), the mother's employment status (full-time employment, part-time employment, and not employed), and the mother's description of her employment orientation (career-minded, only a job/no plans to quit or hopes to quit, and homemaker). The latter variable assesses mother's attitude toward employment outside the home, which captures job/career values to complement the traditional income and status dimensions. An identical father measure was not analyzed due to a lack of variance.

Description of Children and Families in Sample

Description of Children. Table 1 presents a summary of developmental quotient (DQ)/IQ, competence as measured with the Vineland/competence, and problems and hassle scores at each modal age. On entry into the study sample, the children had a mean Gesell DQ of 72.63. All but 18 of them had DQs below 90, and all 93 had significant delays in one or more areas (motor, speech, behavior, or cognition) in spite of some relatively high DQs. At modal ages 7 and 11, the children had a mean Stanford-Binet IQ of 71.20 and 66.68, respectively. There were no significant differences in the means for DQ/IQ obtained at ages 3, 7, and 11. As can be seen from Table 1, the DQs/IQs were remarkably stable between 3 and 7 and 7 and 11 years of age. (For an extended analysis, see Bernheimer, Keogh, & Coots, 1993.) The number of problems parent reported for their children significantly declined from child age 3 to age 7 and significantly increased from age 7 to 11. Hassle ratings presented a mixed picture. Some dimensions were unchanged over time. However, others declined from 3 to 7 and increased from 7 to 11.

Description of Families. All changes in family demographic measures were tested using McNemar's Test of Symmetry. All measures were stable over time except for family composition. Between child ages 3 and 7 only, the number of conjugal families decreased (from 81% to 73%), $p < .05$, parents with joint custody increased (from 1% to 10%), $p < .01$. At all three child ages, a majority of the children were in two-parent families. Over 90% of the parents were high school graduates, and a majority of them had attended college.

Family Accommodation Interview Procedure

At the three times children were assessed, an experienced fieldworker visited their families to conduct a 2- to 3-hour semi-structured Family Accommodation Interview with the principal caretaker (mothers with few exceptions). All interviews were conducted within a few weeks of the assessment of the children.

We assumed in designing the interview that most adults organize and recall personal experiences and activities in narrative form. Thus, we structured the three interviews to allow each family to "tell its story" (Bruner, 1989). For each of 10 ecocultural domains (listed in Appendix A), families were prompted to talk about their daily routines. They were asked to talk about challenges they faced in maintaining stable routines and how their child with delays affected everyday life. Interviewers were trained to ask parents whether any of the accommodations included anyone in the family besides the child with delays. To ensure uniform coverage of the 10 ecocultural domains and to reduce "false negatives," we provided interviewers with specific topics to probe in case the families did not spontaneously cover all the domains. In many cases, the probes only were used to elicit details because the "story interview" stimulated detailed narrative accounts of everyday family life. The protocol followed in the three interviews was essentially identical. For the interviews when the children with delays were ages 7 and 11, topics that were no longer relevant were removed (e.g., accounts of the child's early life or prenatal and postnatal issues). Other topics, however, were added to the second (age 7) and third (age 11) family interviews (e.g., questions about schools and special education assignments).

Assessment of Family Accommodation

All information obtained in the interviews that fit the definition of accommodation was noted and transcribed. *Accommodation* was defined as a family's functional responses or adjustments to the demands of daily life with a child who has delays (Gallimore et al., 1993, 1989). Accommodations include actions taken, avoided, or delayed in order to create and sustain a daily family routine (Gallimore et al., 1993). Accommodations that were wholly or mainly made for other family members, such as siblings, were excluded. *Type of accommodation* referred to the discrete activities the families reported, and *intensity of accommodation* referred to how actively and intensely they accommodated.

Accommodation Types. Appendix A presents 82 different accommodation types, grouped by 10 ecocultural domains, that were identified by a review of the interview materials. Each report of a family accommodation was categorized as 1 of the 82 different types. The types score for each family was the total number of discrete types of accommodations reported. Although families could be credited for more than one type within each of the 10 domains, each type was scored 1 or 0. Thus, the maximum number of accommodation types possible for a family was 82 types for each of the three interviews.

A family was credited for each accommodation type only at the time period it was reported. For example, if a family remodeled their house so that their 3-year-old child with poor self-management skills could have a safe play area, the family would be credited for one Home/Neighborhood accommodation type. At child age 7 and 11, the family would not again be coded for another Home/Neighborhood type for the remodeling completed earlier. However, the family could be credited with a type of Subsistence Accommodation if it was reported in subsequent interviews that the mother had stayed on a job she otherwise would have left to pay for the remodeling loan. If the family had completed another remodeling or moved to another area for the sake of the child (e.g., to get better services), they would also be credited with a second type at the later age.

Rating of Accommodation Intensities. Each family was rated for accommodation intensity within each of the 10 domains and assigned one intensity score for each domain, yielding a total of 10 intensity scores per family per interview. *Intensity* was defined as the extent to which an accommodation in one of the 10 ecocultural domains was a theme or dominant focus of family adaptation to childhood disability. Thus, two families could be rated as having engaged in the same type of childcare accommodation (types measure), but one could be rated at a higher intensity because this was a more salient theme or focus of their adaptive efforts.

Only those domains in which the family was credited with at least one accommodation type were rated for intensity. Only accommodations partially or wholly related to the child with delays were rated for intensity.

Raters were instructed to rate whether the family had reported low, moderate, or high accommodation intensity in each of the 10 ecocultural domains. Raters were then asked to fine-tune the initial low, moderate, or high rating with a second rating of low, moderate, or high intensity. For example, if a rater had coded a family's activity in the Childcare domain as low accommodation intensity (little or no evidence), they were asked to rate the overall low rating as either a 0, 1, or 2 (with 2 on the high end of the low category). A similar secondary rating was made for each moderate (3, 4, or 5) and high rating (6, 7, or 8), thus producing a 9-point scale of accommodation intensity. This procedure was adopted as a result of exploratory work in which Gallimore et al. (1989) determined that raters preferred the primary-followed-by-secondary rating procedure.

Reliability of Family Accommodation Interview Ratings

The procedure used to establish reliability for hassle ratings was applied to ratings of accommodation intensity. Reliability at age 3 has been reported in previous papers (Gallimore et al., 1993; Weisner et al., 1991). For that age period, 13% of the cases were coded by at least two "blind" raters, trained by one of the authors. Their overall average agreement was 78%. The same procedure was used at ages 7 and 11, resulting in overall agreements of 70% and 82%, respectively. Items with less than 70% agreement among the raters were excluded from subsequent analyses. For the qualitative, semi-structured interviews conducted in the narrative style and vocabulary of the participants, the overall interrater agreements are satisfactory to high.

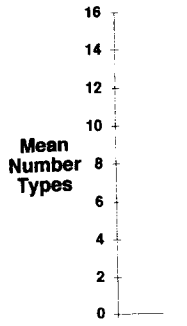
Canonical Correlation Analysis

Following the procedure used in an earlier report (Gallimore et al., 1993), we used canonical correlation (Johnson & Wichern, 1988) to examine the correlates of family accommodation. Canonical correlation measures the association between two categories and identifies combinations of variables contributing to the overall association. This procedure allowed us to reduce the dimensionality of the accommodation domains and correlates while highlighting the combination of items most highly related.

Results

Number of Accommodation Types

Figure 1 illustrates the average number of accommodation types reported by families during the three interviews at different child ages. Families reported substantially more accommodation types at each successive interview. The total types reported were 749, 891, and 1,388 for ages 3, 7, and 11, respectively. There were statistically significant increases in the average number of accommodation types from ages 3



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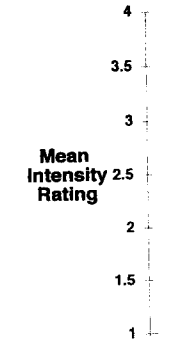

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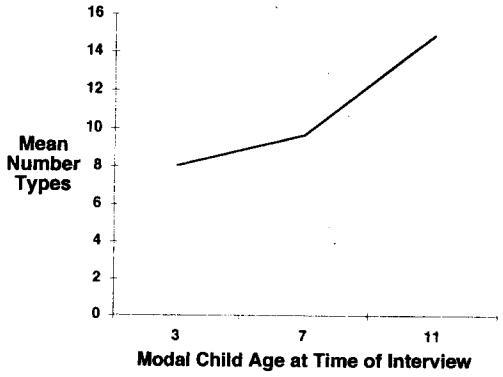

Figure 1. Mean number of accommodation types.

to 7 and from 7 to 11, $t(92) = 2.72$, $p < .01$, and $t(92) = 7.58$, $p < .001$. Detailed findings for each of the 82 types are presented in Appendix A, which shows that only a limited number of domains contributed to these increases. Inspection of Appendix A reveals there were 12 significant increases (out of 79 possible) in types from ages 3 to 7, with almost half in Childcare accommodation. From ages 7 to 11, there were 25 increases (of 82 possible), with 8 in Childcare accommodation, 6 in Father's Role, and 4 each for Child Peer Groups and Support. Significant decreases occurred for 9 types of accommodation between ages 7 and 11.

Ratings of Accommodation Intensities

Figure 2 presents the mean rating of accommodation intensities at the three

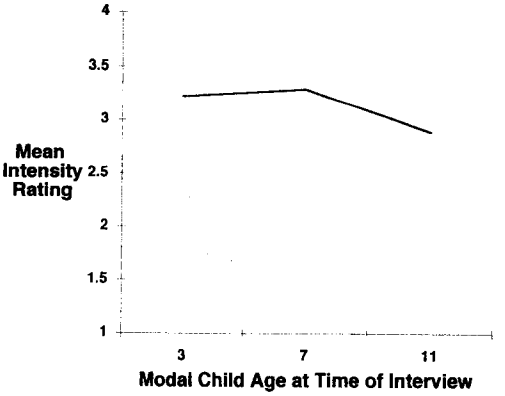

Figure 2. Mean accommodation intensities.

Table 2
Mean Level and *SD*s of Accommodation Intensities by Time, Changes in Intensities Over Time, and Correlations Between Accommodation Intensities by Age

Accommodation intensity	Age 3		Age 7		Age 11		Change 3 to 7, *t*	Change 7 to 11, *t*	Correlation between ages 3 & 7, *r*	Correlation between ages 7 & 11, *r*
	Mean	*SD*	Mean	*SD*	Mean	*SD*				
Family Subsistence Base	2.46	2.40	3.56	2.78	2.48	2.41	3.34 **	-3.28 **	.26 *	.27 *
Services	3.25	2.46	3.66	2.33	3.09	1.98	1.23	-2.28 *	.10	.38 **
Home/Neighborhood	2.14	2.22	2.34	2.81	1.66	1.94	.60	-1.91	.16	-.04
Domestic Workload	2.37	2.33	2.45	2.08	2.00	1.76	.32	-1.91	.30 **	.31 **
Childcare Tasks	4.60	2.13	5.02	2.36	4.19	1.95	1.59	3.43 ***	.36 ***	.43 ***
Child Peer Groups	3.02	1.97	2.59	2.36	3.00	1.98	-1.41	1.73	.09	.46 ***
Marital Roles	2.89	2.53	2.62	2.43	2.58	2.00	-.79	1.18	.14	.16
Parent Support	4.42	2.19	4.03	2.50	3.42	1.86	-.47	-2.32 *	.42 ***	.34 ***
Father/Spouse Role	3.35	2.30	3.37	2.33	3.45	2.12	-.04	1.23	.36 ***	.32 **
Parent Information	3.82	2.05	3.11	2.67	3.06	2.30	-2.45 *	-0.15	.32 **	.35 ***
Overall average intensity	3.23	1.23	3.30	1.41	2.89	1.20	.50	-2.95 **	.59 ***	.64 ***

*$p < .05$. **$p < .01$. ***$p < .001$.

time periods. In contrast to increasing types over time, mean ratings of intensities remained stable from child ages 3 to 7 but significantly decreased from ages 7 to 11 (see Table 2, overall average intensity). Overall mean accommodation intensities were significantly correlated from ages 3 to 7 and ages 7 to 11. Correlations across age for individual domains were somewhat mixed. Significant correlations were obtained for 6 of the 10 domains between ages 3 and 7 and 8 between ages 7 and 11.

Table 2 presents the means and *SD*s of accommodation intensity for each of the 10 accommodation domains. Average intensities ranged from low to moderate across the three interviews. A majority of domains were rated 3 or higher on average; 7 domains were rated 3 or higher for interviews at child ages 3 and 7; and 6 domains rated 3 or higher at child age 11. From child ages 3 to 7, there were significant changes in mean accommodation intensity in 2 of the 10 domains: Subsistence increased and Parent Information decreased. From child ages 7 to 11, there were significant decreases in mean accommodation intensity in 4 of the 10 domains: Subsistence, Childcare, Services, and Support. No domain showed an increase in accommodation intensity from child ages 7 to 11. The pattern of domain changes mirrored the aggregate trends presented in Figure 2. There was little change in accommodation intensity from ages 3 to 7, and there was a significant, but moderate decrease from ages 7 to 11. Overall, the data suggest that low to moderate accommodation intensity continues to be reported from preschool through late childhood.

Because intensity ratings at all ages were correlated, families who were the most intensely accommodating when the child was 3 were also the most intensely accommodating at 7 and 11. This relative stability of intensity ratings occurred in spite of the decrease in aggregate mean intensity ratings.

Relation of Accommodation Intensities and Types

The product moment correlations of total intensities with total types were .71, .83, and .82 at child ages 3, 7, and 11, respectively, all $ps < .0001$. The more intensely a family accommodated, the more types of accommodation they reported. Comparison of Figures 1 and 2 suggests that despite this substantial correlation of accommodation intensities and types, the two measures reflect a different picture of family response to developmental delay from preschool to late middle childhood. Although mean accommodation intensity was relatively stable, over the same age period there was a substantial increase in number of accommodation types. On average, many more types of accommodations were made as the child matured, but they were made with the same or less intensity. Because intensities and types measures were correlated, the sample as a whole was characterized by this trend of increasing types and declining intensities of accommodation.

Relation of Accommodation Intensity to SES and Job Status

A canonical correlation analysis was conducted of accommodation intensity with SES, family income, mother's employment status, and mother's job/career orientation. Significant canonical correlations were found when the children were ages 3 and 7, but not at 11, $R = .513$, $\chi^2 (40) = 57.85$, $p < .03$; $R = .570$, $\chi^2 (40) = 55.38$, $p = .05$; $R = .556$, $\chi^2 (40) = 46.91$, $p = .21$). Twenty six and 32% of variance was shared by SES/career goals and accommodation intensity at 3 and 7 years, respectively. The domains of accommodation loaded at .50 or higher at child age 3 were: Subsistence (loading = .61), Marital Roles (.51), Role of Father (.62), and Parent Information (.55). At child age 7, the domains loaded .50 or higher were Services (.82), Child Peer Groups (.62), and Role of Father (.50). For

SES and job status variables, all four loaded .50 or higher at child age 3: family income (.77), mother employment status (.67), family SES (.58), and career orientation (.56). Two loaded .50 or higher at child age 7: family income (.98) and family SES (.66).

Appendix A suggests that at child age 3 the canonical results reflect accommodations such as mothers stopping work, reducing hours at work, or arranging for flexibility in their work as well as for father's emotional and instrumental support. Appendix A reflects that at child age 7 the relation of income and SES resources to service accommodations (e.g., driving to services or efforts to access services) as well as child peer group accommodations (e.g., arranging for child participation in groups for children with and without handicaps). The absence of a relation at age 11 in addition to the limited domains of accommodations related to SES/job status indicate that accommodation is not merely a proxy measure of class and income. This weak relation of SES and accommodation intensity is also suggested by case materials indicating that families of very different economic and social circumstances engaged in accommodation. For example, in one case a single mother who juggled public assistance, job training programs, and visits to food banks to maintain a daily routine that included intensive home-therapy for the child made Subsistence accommodations when her child was 3. In other cases, more affluent families used their resources to allow fathers to make role adjustments and mothers to quit paid work to provide childcare and transportation to therapies and social activities, such as Brownies, scouts, and/or sports.

Relation of Accommodation Intensity to Child Characteristics

Table 3 presents the canonical correlation analysis of developmental test scores and accommodation intensities. One significant canonical correlation was found at child age 7 and one at 11. There were no significant canonical correlations at age 3. The variance shared by test scores and accommodation intensities increased from 28% at child age 3 to 44% at age 7 and 50% at age 11.

Table 3
Canonical Relation Between Accommodation Activity and Child Test Scores

Dimension	Canonical loadings		
	Age 3[a]	Age 6[b]	Age 11[c]
Accommodation activity			
Family Subsistence Base	.37	.47	−.09
Services	.64	.29	.00
Home/Neighborhood	.40	.18	.05
Domestic Workload	.37	.35	.19
Childcare Tasks	.55	**.70**	**.54**
Child Peer Groups	.01	.38	.22
Marital Roles	−.27	.24	.23
Parent Support	.11	**.82**	.20
Father/Spouse Role	−.13	.41	**.55**
Parent Information	.49	.19	**.51**
Child test scores			
Gesell DQ	−.60	NA	NA
Binet IQ	NA	−.68	−.50
Vineland Daily Living standard score	−.62	−.99	NA
Vineland Communication standard score	.23	−.62	NA
Social	NA	NA	−.93
Conduct	NA	NA	−.67
Independence	NA	NA	−.32
Health	NA	NA	−.23

Note. Boldface indicates variables with strongest loadings. [a] $R = .539$, $\chi^2(30) = 38.6$, ns, $n = 91$. [b] $R = .662$, $\chi^2(30) = 65.43$, $p < .001$, $n = 80$. [c] $R = .721$, $\chi^2(50) = 87.26$, $p < .001$, $n = 65$.

Table 4 contains the canonical correlation analysis of child problems/hassles and accommodation intensities. One significant canonical correlation was found at each child age. The proportion of variance shared by child problems/hassles and accommodation intensity increased from 30% at age 3, to 56% at age 7, and to 62% at age 11.

The canonical correlation analyses suggest that accommodation intensities were more related to child characteristics at each succeeding age period. At age 3, for example, there were two problems/hassles loaded on the canonical dimension; by age 11 there were five loadings of .50 or greater. The magnitude of the correlation rose from .551 to .795. Test scores that did not correlate at age 3 with

Table 4
Canonical Relation Between Accommodation Activity and Child Problems/Hassle

Dimension	Canonical loadings		
	Age 3[a]	Age 6[b]	Age 11[c]
Accommodation activity			
Family Subsistence Base	.17	.13	.12
Services	**.58**	.29	.34
Home/Neighborhood	−.28	.33	−.13
Domestic Workload	.27	.48	.37
Childcare Tasks	**.53**	**.81**	**.89**
Child Peer Groups	−.28	.21	.31
Marital Roles	.20	.06	.36
Parent Support	.15	**.61**	**.60**
Father/Spouse Role	.38	.36	.35
Parent Information	.26	.47	**.50**
Child hassle/problems			
No. of problems	**.74**	**.70**	**.82**
Hassles			
Behavioral	−.07	**.77**	**.87**
Responsiveness	−.23	.47	.25
Interaction rate	.31	.34	.43
Appropriateness	.12	.46	**.79**
Medical	**.61**	.07	**.55**
Communication	.28	.38	**.55**

Note. Boldface indicates variables with strongest loadings. [a]$R = .551$, $\chi^2(70) = 95.76$, $p < .02$, $n = 93$. [b]$R = .753$, $\chi^2(70) = 140.17$, $p < .0001$, $n = 88$. [c]$R = .795$, $\chi^2(50) = 127.11$, $p < .001$, $n = 79$.

accommodation intensities were correlated significantly at both 7 and 11.

Similar results were obtained for the canonical correlation of accommodation types with child characteristics. To avoid redundancy and for the sake of economy, we present only the canonical analyses of accommodation intensities with child characteristics.

Qualitative Case Materials

Canonical results suggest that, by child age 11, the families who were accommodating most intensely were those with the children who, in relative terms, were less competent, more problematic, and created greater hassles. This is also suggested by case materials indicating that the impact on family routines of more troubled, higher hassle children required less intense, greater numbers of accommodations in late childhood—the pattern reflected in Figures 1 and 2. For example, in one case the family was accommodating a high hassle 3-year-old child whose problems required constant monitoring because he was capable of injuring himself or wreaking serious destruction. The parents made intense Childcare and Home/Neighborhood accommodations. Childcare accommodations focused on constant monitoring, which was facilitated by the mother not working outside the home and by having a full-time housekeeper. Although the housekeeper did a poor job of cleaning, she did a good job of monitoring the child when the mother needed a break. Their Home/Neighborhood accommodations focused on their house, which was set up to keep their son out of trouble, though he still managed to do so if they did not also constantly monitor his activities. The mother noted:

> Our house is set up around Michael. We still have a gate in here and there's a smaller area for him and he can function better, and it isn't that he's ever been destructive, it's just that he can't control himself . . . [once] he managed to get himself . . . [in a] cabinet . . . with the door closed—I don't know how.

Although at age 11, Michael was still a high hassle child, the deadbolts and gates required at age 3 were no longer needed. His parents reported that he was now capable of many more things—both more competent and more troublesome; for instance, he recently used his computer to purchase a car. The child's increasing competence, although still discrepant with age-norms, required less intensity of accommodation but many more types of accommodation because of the child's increasing range of activity and interest. Although they still needed to closely monitor his activities, the nature of their accommodations had changed—less intense, more varied.

Case materials suggested other reasons for changes in variable loadings at child ages 7 and 11 (see Table 3). For example, loadings for medical hassle and services intensity decreased at age 7 because of child maturation, stabilization of medical hassles, and lessened need for medical services. Some children in the

sample were quite ill as infants and toddlers, but by age 7 had improved rapidly or were much more medically stable (Bernheimer, Gallimore, & Kaufman, 1993). The changes in loadings also reflected, in some cases, a referral trail for services at age 3 (not present at ages 7 and 11), which led to intense service accommodations in preschool (e.g., a succession of referrals to various medical specialists including several geneticists and neurologists). For example, Case 321 reported that when the child was 3, a neurologist recommended physical therapy as it "would certainly not hurt." The physical therapist in turn recommended several interventions, including requiring intense Services and Childcare accommodations to fund speech therapy, provide for multiple trips to specialists, and promote daily living skills, such as toilet training, eating, and speech.

This pattern of a referral trail followed by many high intensity accommodations was far less frequent by child age 11. By late childhood, many families were less dependent on the service delivery system (education and medical) for information related to the cause of problems or hassles as the child grew older. Such changes were reflected in the reduced relation between services accommodation and child problems/hassles. For younger children, there was much discussion about the child's condition (e.g., "get a name for it" and great intensity of activity to secure the precise services that such a condition required. By the time the child was 11, many families felt that they understood their child's competencies and that professionals did not have a specific treatment for the problems the parents felt were most salient. Thus, some of the driving force between the early intensity of activity had diminished. For example, the mother in Case 613 said:

> He's had a variety of diagnoses in the past, none of them really seem to fit now or be useful in predicting, so that we've thrown away thinking of him as any particular way or another. I don't care anymore. I guess that's basically how I'd describe him. Socially immature, academically seriously delayed and still serious delays in anything to do with speech and language processing: reading, writing, literacy.

As did the canonical analysis, many of the case records at child age 11 reflected the growing impact of the child hassles and problems on family routines. In addition, medical hassles (loading again at child age 11) impacted Childcare, Support, and Information intensity as families adapted to increased seizure activity, new diagnoses of Attention Deficit Disorder, and psychiatric disorders. Thus, by early and late middle childhood, the families reporting the highest accommodation intensities (and most types) were adapting to relatively more problems, higher hassle behaviors, and poorer daily living skills. This finding is consistent with conclusions of Bernheimer and Keogh (1982) and has been suggested by others (Shonkoff et al., 1992; Suelze & Keenan, 1981).

In contrast to those adapting to increased impact, some families reported a lessening impact on the daily routine as their child's delays—still present—diminished because of developing competencies. For example, the parents in Case 624 reported that their workload greatly decreased by the time their child with severe delays was age 11 due to self-managed toileting at age 10 and increased awareness and communication skills following prescription of a new seizure medication. As the mother said:

> She's not really talking in complete sentences. She doesn't get as frustrated as before by certain things, so she's getting her point across. She'll miss phrases, things like that. She's got a long way to go on her speech.

Another mother said that her family's workload had diminished because their son was becoming more independent at home. She described him as "kind of self-reliant in that sense, but he's not as self-reliant as other 10-year-olds or other 11-year-olds." These children may continue to score below age norms, but in

terms of their impact on the daily routine, matters have improved in significant ways, and they require less intense, less frequent family accommodation.

For a few families, the situation is quite different. The difficulties caused by the child's behavioral hassle or low daily living competence have severely and negatively impacted their ability to sustain a daily routine that includes the child with delays. Two families had placed their child in group homes by age of 11 because these children could no longer be accommodated in the daily routine.

Discussion

Family accommodations from preschool to late childhood presented a mixed picture of continuity and change. Accommodation intensity at child ages 3 and 7 was virtually identical, with a downward trend from ages 7 to 11. No evidence suggests that accommodation intensity dramatically decreased as children approached adolescence. However, by child age 11, families were making many more types of accommodation. Although slightly less intense in their efforts, families' dramatic increase at child age 11 in number of accommodation types suggests that they were diversifying their adaptive efforts across more domains. These results are consistent with the expectation that some forms of family adaptation to childhood disability continue into early and late childhood and that adaptation to disability involves more than early crisis responses and parents' psychological reactions to their child's handicaps. The results are also consistent with the ecocultural prediction that maintaining a daily routine through continuing accommodations is an enduring family project, not a transient stage in family life or child development (Weisner, 1996).

At all child ages, intensity of family accommodation was related to characteristics of the child that most directly impacted the daily routine. Families who reported the highest intensities were adapting to high hassle children with many problems and relatively poor everyday competencies. These results are consistent with previous studies showing that family accommodation intensity was primarily related to child characteristics that have the most direct effects on a family's daily routine (Bernheimer, Gallimore, & Kaufman, 1993; Gallimore et al., 1993; Gallimore et al., 1989). Taking note of these findings, Bernheimer and Keogh (1995) suggested that a too narrow focus on children's cognitive development may place family-centered intervention plans at increased risk of failure. Because the child's impact on the daily routine is closely related to family adaptation, family-centered plans must also take account of and build on what parents are already doing.

Appendix A can serve as the first draft of a checklist for assessing functional responses of families to children's impact on everyday family life. Such a checklist can contribute to a picture of functional family life in households adapting to children with delays and disabilities. In developing such a checklist, one could use the information in this appendix to include the many seemingly mundane and varied family functions that are easy to overlook because they entail activities less dramatic than normative and psychopathological responses to stress and negative emotions. Like many aspects of implicit, everyday culture, family accommodations are sometimes so transparent that they are taken for granted as the "ways things are or should be." We believe that knowing the accommodations they are already making can help us plan with families interventions more likely to be incorporated into and sustained in their daily routines. Bernheimer and Keogh (1995) captured this point when they noted that:

> Successful interventions are ones that can be woven back into the daily routine; they are the threads that provide professionals with the means to reinforce, rather than fray, the fabric of everyday life. (p. 430)

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Appendix A
Percentage of Families Reporting Accommodation Activities From Child Ages 3 to 11

Types of activity	Age 3	Age 7	Age 11	McNemar p^a 3-6	6-11	3-11
Family Subsistence Base						
Mother arranges for flexibility in work or works at home	13	15	16			
Father arranges for flexibility in work or works at home	2	2	7			
Mother is not working or reduces hours for child	9	20	14			
Father is not working or reduces hours for child	2	1	1			
Mother works to support services or insurance	9	10	10			
Father works to support services or insurance	4	5	7			
Mother has less desirable job for services or insurance	0	1	2			
Father has less desirable job for services or insurance	4	1	2			
Mother is in school or training program	0	3	2			
Family makes other types of subsistence accommodation	4	9	15			.018
Services						
Mother drives to services	15	26	36			.002

(Appendix continues)

Appendix A (continued)

Types of activity	Age 3	Age 7	Age 11	McNemar p^a 3-6	6-11	3-11
Mother drives to services with choice not to	11	19	7		.005	
Family moves for services	4	5	0		.025	.046
Family makes much effort to access services	5	20	28	.004		.001
Less convenient or more expensive services are chosen	2	3	4			
The family switches or compromises services for accessibility	5	4	2			
Father or relatives drive child to some or all services	9	11	25		.007	.002
Family has no car so they use the bus or walk	4	0	1			
Family makes other types of accommodation in accessing services	8	2	5			
Home/Neighborhood						
The family's home is altered for convenience or safety of child	22	16	12			
The location of family's home is selected for child's benefit	10	24	12	.01	.028	
The location of family's home is selected for another family member's benefit	3	14	11	.049		.035
The child is kept in locked areas for his or her own safety	4	2	2			
Family makes other types of accommodation in home/neighborhood	7	4	2			
Domestic Workload						
Parents decide to have no more children due to the workload created by child	10	4	0		.046	.003
Mother's workload has increased due to the child	11	7	12			
Father gives additional assistance with domestic workload due to child	5	8	5			
Help is hired to assist because of the workload due to child	7	8	2			
Siblings give additional assistance with domestic workload due to child	5	1	7			
Parent changes or eases up on domestic tasks due to child	3	13	3	.013	.013	
Family makes other types of accommodation in domestic workload	3	10	1	.039	.011	
Childcare Tasks						
Physical care (e.g., lifting, using braces)	11	11	10			
Behavior management	9	30	47		.005	.001
Constant monitoring	8	33	29	.001		.001
Therapies/medical appointments	17	21	46		.001	.001
Transportation	10	28	52	.001	.001	.001
Educational tasks (e.g., computers, educational games)	0	13	32		.003	
Assistance						
Hired help	12	4	11			
Little or no respite/hired help is used, family takes care of childcare	4	23	52	.001	.001	.001
Father	11	34	53	.001		
Extended family	19	15	39		.001	.002
Siblings	10	16	26			.002
Paid respite	4	14	25	.035	.041	.001
Friends or child care co-op	1	2	20		.001	.001
Family makes other types of accommodation in childcare tasks and assistance	13	5	11			
Child Peer Groups						
Participate in groups of children with mixed status	17	32	5	.029	.001	.008
Participate in groups of children with handicaps only	14	3	23	.021	.001	
Participate in groups of typical children only	20	8	39	.029	.001	.003
Parent supervises child's play groups (e.g., doesn't let child play outside alone)	4	0	15		.001	.012
Mother cares for children in the home to have playmates for child	5	1	0			.025
Family makes other types of play group accommodations	0	3	12		.033	.001

(Appendix continues)

Appendix A (continued)

Types of activity	Age 3	Age 7	Age 11	McNemar p* 3-6	6-11	3-11
Marital Roles						
Parents' decision-making roles are egalitarian; they share and collaborate on decisions	15	19	25			
Mother makes decisions regarding child and then acts; father supports her	9	12	11			
Parent roles are traditional: Father is authority on decisions regarding child	4	2	5			
Mother makes decisions regarding child and then acts; father seldom does	10	5	7			
Parents have serious conflicts and/or marital disruption over child	11	11	7			
Family makes other types of accommodations in marital roles	5	3	3			
Instrumental/Emotional Support						
Grandparents	29	25	45		.001	.031
Parent support groups	19	8	7	.041		.016
Church/religious group or orientation	32	40	41			
Professional parental therapy	22	25	11		.009	.033
Friends	23	22	50		.001	.001
Other family members	24	15	39		.001	.016
Multiple sources of support	11	3	28		.001	.002
Family makes other types of support accommodations	5	4	8			
Father/Spouse Role						
Father's contribution is an equal or primary role in childcare	5	13	13			
Father makes contribution on evenings/weekends only	7	33	44	.001		.001
Father provides emotional support for mother	19	21	50		.001	.001
Father assists with childcare	17	21	50		.001	.001
Father assists with domestic workload	10	8	33		.001	.001
Father assists with transportation	10	10	28		.001	.001
Father plays with child	4	8	47		.001	.001
Father contributes nonspecific or other instrumental support	5	2	13		.001	
Father avoids contributing to shared workload, has low participation	5	7	3			
Family makes other types of accommodations in father participation	4	0	5			
Parent Information						
Attending lectures, taking courses	11	10	15			
Professionals	39	36	54		.003	.027
Researching and reading	19	14	21			
Family and friends	13	4	15	.039	.012	
Parents/parent groups	14	16	11			
Programs or organizations	8	3	15		.005	
Family makes other types of accommodations for information	7	3	1			

*A significant McNemar p value indicates a significant increase or decrease in frequency.