
Time Use of Mothers With School-Age Children: A Continuing Impact of a Child's Disability

Terry K. Crowe,
Sandra I. Florez

OBJECTIVE. The purpose of this study was to compare the time use of mothers of children with disabilities with the time use of mothers of children without disabilities.

METHOD. Sixty mothers with children 3 to 14 years of age (30 mothers with children with disabilities and 30 mothers with children without disabilities) completed time diaries over seven 24-hour days.

RESULTS. Significant differences were found between the two groups when comparing mean hours spent per week by mothers in occupations involving child-care activities and recreational activities. Mothers of children with disabilities spent significantly more time in child-care activities and significantly less time in recreational activities. In addition, mothers of children with disabilities reported fewer typical days and rated the quality of days as poorer. As children got older, the gap between the time mothers devoted to child care increased between the two groups.

CONCLUSION. The type of occupations a mother participates in varies significantly dependent upon whether a child in the family has a disability and the age of the child. Professionals need to work collaboratively with families to assist parents to meet the family's daily needs particularly in light of the time demands of the mother.

Crowe, T. K., & Florez, S. I. (2006). Time use of mothers with school-age children: A continuing impact of a child's disability. *American Journal of Occupational Therapy, 60*, 194–203.

Be-coming a parent significantly increases the demands impacting daily time use (MacDermid, Huston, & McHale, 1991; Traustadottir, 1993). Parents often struggle to maintain some balance in their lives amid the competing pull of family, work, and recreational time demands. Child-care responsibilities typically fall more heavily on the mother in comparison to the father (Bird & Fremont, 1991; Crowe, VanLeit, & Berghmans, 2000; Darling-Fisher & Tiedje, 1990; Manke, Seery, Crouter, & McHale, 1994; Robinson & Godbey, 1997; Wuest, 2000). Bateson (1996) described mothering a young child as an intense occupation consisting of enfolded activities with multiple tasks requiring attention simultaneously. Brown (2004) stated that “mothering occupations embrace the orchestration of family activities and participation in household chores and in the play of their children” (p. 356). MacDermid, Huston, and McHale (1991) found that the division of household labor changed considerably for the woman and minimally for the man after the birth of a child. Women tended to reconfigure their daily tasks to focus on the family, whereas men's adjustments were minimal. Despite more and more women working outside of the home, women's responsibilities within the home have changed minimally (Bianchi, 2000; Ehrenberg, Gearing-Small, Hunter, & Small, 2001; Mukhopadhyay, 1998; Robinson & Godbey). Two sacrifices related to time that women often make include reducing the amount of sleep they get on a daily basis and pursuing fewer recreational or discretionary activities (Crowe, 1993; Crowe, Clark, & Qualls, 1996; Darling-Fisher & Tiedje).

Time allocation challenges become more extreme when a child has a disability (Barnett & Boyce, 1995; Crowe, 1993, Curran, Sharples, White, & Knapp, 2001; Kellegrew, 2000; Segal, 2004; Taanila, Kokkonen, & Jarvelin, 1996). Taanila, Kokkonen, and Jarvelin identified risk factors that influenced marital satisfaction

Terry K. Crowe, PhD, OTR/L, FAOTA, is Professor and Director, University of New Mexico, School of Medicine, Occupational Therapy Graduate Program, Department of Pediatrics, Health Sciences and Services Building #215, Albuquerque, New Mexico 87131-5641; tcrowe@salud.unm.edu

Sandra I. Florez, MOT, OTR/L, is Staff Occupational Therapist, HealthSouth Rehabilitation Hospital, Albuquerque, New Mexico.

after a birth of a child with a disability including heavy daily demands for care of the child, unequal distribution of tasks between the spouses, and lack of time for leisure activities. Padeliadu (1998) reported mothers of children with Down syndrome faced almost twice as many child-related time demands in comparison to mothers of children without disabilities. Barnett and Boyce reported that both parents of children with Down syndrome devoted more time to child care and spent less time in social activities.

Crowe (1993) studied the impact of very young children (6 months to 5 years of age) on the time use of mothers. Children with disabilities and matched controls were evenly distributed across three age ranges: 6 to 12 months of age (infants); 1 to 3 years of age (toddlers); and 3 to 5 years of age (preschool children). The siblings of the children in the sample covered a wider age range. Crowe found significant differences in time use when comparing mothers of children without disabilities to mothers of children with multiple disabilities and mothers of children with Down syndrome. The mothers of children with multiple disabilities spent more time doing child-related activities than the other two groups (approximately 6 hours more a week). She also found that mothers of both groups of children with disabilities (multiple disabled and Down syndrome) spent significantly less time in participation and socialization activities with others than mothers of children without disabilities. There was no significant difference between the three groups when comparing recreational activities. Weekly maternal child-care hours differed depending upon the age of the child: infants 38.3 hours; toddlers 35.4 hours; and preschoolers 31.9 hours across groups.

As typically developing children become older, parental child-care demands usually lessen (Francis-Connolly, 1998). However, when a child has a disability, parental demands do not necessarily lessen with a child's increasing age (Curran et al., 2001; Francis-Connolly; Segal, 2000). Mothers' daily occupations may be impacted especially during nonschool hours or weekends.

In contrast to Crowe's (1993) earlier study, which evaluated the time use of mothers of very young children (6 months to 5 years of age), this study was designed to examine and compare the time use of mothers of school-age children (3–14 years of age). School-age was classified as 3–14 years of age in accordance with Public Law 102-119, the Individuals with Disability Education Act of 1990 (IDEA), which mandates that all children with disabilities have access to free, appropriate public education starting at 3 years of age. There is a lack of information about how women use their weekly time as children get older. Specifically, a comparison between mothering typically developing children who become increasingly independent

and mothering children with disabilities who might be continually dependent upon others is needed. Consistent with the research reviewed, the conceptual framework that guided this study highlighted the multiple time demands for mothers of children with disabilities specifically as related to the occupational orchestration of the daily routines within families. Time spent directly caring for children and discretionary activities including recreation and socializing with others were emphasized based on previous findings showing significant differences between mothers of children with and without disabilities. Child care was hypothesized to be the main activity that would show a significant difference when comparing the two groups. Recreation activities and activities involving socializing with others were further analyzed because these were representative of mothers' discretionary leisure time use. In addition, it was conceptualized that mothers of children with disabilities would rate the quality of their days as poorer and indicate that they had fewer days they self-rated as typical. The three research questions examined in this study are:

- (1) What differences exist between the amount of time mothers of children with disabilities spent in child-care, recreational, and social activities in comparison to mothers of children without disabilities?
- (2) What are the differences between the number of "typical" days and the "quality" of days between mothers of children with disabilities and mothers of children without disabilities?
- (3) What are the differences between the amount of time mothers of children (5 to 14 years) with disabilities spend in child-care, recreational, and participation/socialization activities in comparison to mothers of very young children (6 months to 5 years) with disabilities?

Method

Participants

Sixty women participated in this study, 30 with children with disabilities and 30 with children without disabilities. The mothers of children with disabilities were recruited through a previous intervention study that addressed mothers' time use and occupational performance concerns (Helitzer, Cunningham-Sabo, VanLeit, & Crowe, 2002; McGuire, Crowe, Law, & VanLeit, 2004; VanLeit & Crowe, 2000, 2002). Children with disabilities ranged in age from 3 to 14 years with a mean age of 6.5 years (*SD* 2.4 years). The child was classified as having a disability if the child had functional needs in at least three of the following five areas: feeding, mobility, toileting, play, and communication. Based on parent reports, the children had the following diagnoses:

eight children had autism; seven had cerebral palsy; six had developmental delays; four had multiple disabilities; two had Down syndrome; two had severe learning disorders; and one child had a significant attention deficit hyperactive disorder. For the purposes of the study reported here, this group is referred to as the disability group.

The comparison group is referred to as the typically developing group. This group provided a matched control condition in that each child without a disability was matched in age with a child in the disability group. Children were judged to be typically developing based on parent report of no concerns reported at birth, no developmental concerns noted by the parents or professionals, and currently and historically not having received any special services such as therapy or special education. The 30 mothers of the typically developing group were also carefully matched to the disability group on a number of demographic variables. Criteria used to match mothers included: (a) number of adults in the household (single parent versus dual parents); (b) age of the target child (plus/minus 1 year); (c) number and age of other children in the household (plus/minus 1 year); and (d) hours of mother's work (no work = 0–4 hours, part-time = 4–34 hours, and full-time = 35+ hours). Both groups of women resided in the same geographical area.

Further analysis was done to compare mothers of younger children (less than 5 years) with mothers of older children (5 to 13 years). Data from 41 of the 60 mothers with children 5 years of age and older were used. Twenty-one mothers of the disability group and 20 mothers of the typically developing group met this child-age criteria. The other 19 children were 3 to 5 years old so this data was not used in this further analysis. These women were compared to 45 mothers of children less than 5 years of age with multiple disabilities and 45 mothers of typically developing children less than 5 years of age from Crowe's (1993) previous study in order to compare the time use of mothers as children get older. The earlier study used similar research methods and inclusion criteria.

Recruitment

The women in this study were recruited at two different times. Mothers of children with disabilities were recruited from the greater metropolitan area of a city in the southwestern United States to participate in an intervention study (Helitzer et al., 2002; McGuire et al., 2004; VanLeit & Crowe, 2000, 2002). Individuals from interested organizations and programs (parent advocacy groups, pediatric hospitals, private therapy practices, and public schools) helped to identify mothers of children with disabilities, pro-

vided the mothers with information about the project, and encouraged them to participate in the research project. In addition, a few study participants recruited other women of children with and without disabilities. Mothers of children without disabilities were recruited from several sources including school or community events, child day-care centers, various places of employment, flyers and/or Internet listservs, acquaintances of the researchers, or referrals from identified mothers.

Instrumentation

Two instruments were used for this study: the Demographic Background Questionnaire (designed by the authors) and the Caregiver's Activity and Recording of Events (CARE) Inventory (Crowe, 2001). The Demographic Background Questionnaire surveyed participant, child, and family demographic variables such as parents' ethnicity and educational level, child's special services, and listing of people living in the family home. The CARE Inventory is a self-report inventory of daily activities over 1 week (7 days). The CARE Inventory consists of three sections: Part 1 is a self report of daily activities in 30-minute time periods over a 24-hour period of time; Part 2 documents who was responsible for the child with disabilities or the matched control throughout the day; and Part 3 collects data about whether the day was a typical day and rates the quality of the day (noted on a 5-point scale). Data from Part 2 of the CARE Inventory will be reported in another study (Hinson, 2004). No psychometric properties are available for these instruments.

Participants' CARE Inventory activities were coded according to the CARE Manual (2001) using nine activity categories: homemaking (HM); child care (CC); passive recreation (PR); active recreation (AR); personal care (PC); participation/socializing (PS); employment (EM); education (ED); and rest/sleep (RS). Unaccounted (UA) hours were also coded indicating that the participant skipped time frames or gave incomplete data. A detailed activity dictionary that was frequently updated was used to assure coding consistency.

Procedure

The Human Research Review Committee approved the study and data were collected over several years by the research team (a faculty member and eight occupational therapy students). After identifying women through a primary screening checklist, an appointment was arranged for a data collector and the mother to meet. At the home visit, the participant signed a consent form and the Demographic Background Questionnaire was completed. Several other questionnaires were completed that were used for another

study (VanLeit & Crowe, 2002). The home interview took between 60 and 90 minutes.

After completing the questionnaires, the CARE Inventory was introduced to the participants. The women were trained to reliably complete the CARE Inventory by completing simulated scenarios. One scenario was filled out by the data collector for teaching purposes. Three additional scenarios were available, if needed, to assure recording accuracy. If the participant made no more than two errors on the second scenario, no further scenarios were completed. An error included an omission of an activity, recording the child's activity but not the mother's activity in Part 1, not properly completing Part 2, or asking clarifying questions. All participants were judged by the data collector to be competent to complete the CARE Inventory within three scenarios.

The data collector and the mother then identified what was the next typical day (e.g., children or mother not on vacation) to begin the CARE Inventory. Usually the women started filling out the CARE Inventory the day after the home interviews. The data collector contacted the mother by telephone once during the week to respond to any questions and/or concerns. After the data were collected, the participant received a small honorarium. All data were collected during the school year, as it was hypothesized that mothers' time use would be different during the summer months due to the children not attending school.

A procedural checklist was used to maintain data collection consistency. All data collectors were trained by the lead researcher on the research protocol and received a 95% agreement or above on two pilot subjects before beginning data collection. The lead researcher served as the "gold standard" and consistently monitored all eight data collectors. On the first visit and every fifth visit after, a procedural check was conducted with each data collector to assure that the research protocol was carried out consistently across participants. This same procedure was followed with the earlier study, which was used for comparison purposes (Crowe, 1993).

The CARE Inventories were then coded for data analysis. Three coders received training by the lead researcher and coded several simulated CARE Inventories for practice. A 90% agreement was obtained on at least five daily CARE Inventories before coders evaluated and coded participant CARE Inventories. Throughout the study, the lead researcher coded every 15th CARE Inventory along with the coder to assure coding accuracy. Coding reliability between the lead researcher and coders was: coder 1 equaled 90.4%; coder 2 equaled 92.3%; and coder 3 equaled 91.3% reliability. Coding differences were systematically discussed and changes made.

Data Analysis

Means and standard deviation (*SD*) were calculated for all demographic data and time use data. Statistical analysis (*t* tests) compared demographic variables such as parent's age, education level, and ethnicity between the two groups. Fisher's Exact Tests were used to examine the differences between the groups for gender of the children of focus. The Wilcoxon Test was used to compare the target children's birth order differences in family income between the two groups. Next, the mean scores on child care, recreation, and participation/socialization activities from the CARE Inventory were compared between the two groups using a dependent *t* test (two-tailed). In order to compare the time use of mothers of children less than 5 years of age (Crowe, 1993) to mothers of children 5 to 14 years, mothers of children between 3 to 5 years were eliminated from the current study. Means and standard deviations for child care, recreation, and participation/socialization from the current study were then compared with the data from the earlier study (Crowe, 1993).

Results

Table 1 describes demographic characteristics of the children in the sample. No significant differences were found between the groups on any of the child demographic variables except for gender ($p < .001$).

Parents in this study were not necessarily married or the biological parents of the children. All of the parents were male or female couples. Table 2 describes demographic characteristics of the families. No significant differences were found between the two groups on any of the family demographic variables. Many of the women in both groups had other children in the family ranging in age from 3 months to 16 years of age, with a mean age of 6.3 years ($SD = 4.4$ years) for the disability group and 5.7 years ($SD = 4.2$) for the typically developing group. There were 21 siblings distributed among the 30 mothers in each group. Because these variables were controlled in the inclusion criteria, there were no significant demographic group differences in the four variables listed above.

Table 3 provides descriptive data for the nine time-use categories gathered from the CARE Inventory. Unaccounted hours were minimal due to the completeness of the CARE Inventories. The mean number of unaccounted hours over the 7 days (168 hours) was 2.5 hours ($SD = 3.2$) for the mothers of children with disabilities and 1.2 hours ($SD = 1.3$) for the mothers of children without disabilities.

Table 1. Characteristics of Children (N = 60)

	Disability Group (n = 30)	Typically Developing Group (n = 30)
Child's Age (years)		
Mean (SD)	6.5 (2.4)	6.4 (2.5)
Girls:Boys	4:26	20:10
Child's Ethnicity*		
Anglo/white	18	9
Hispanic/Mexican-American	10	17
Native American/Indian	1	2
African-American/black	0	1
Other	1	1
Birth Order		
First child	18	19
Second child	7	7
Third child	4	2
Fourth child	1	2

*Children's ethnicity based on ethnicity of both father and mother.

Further analysis was conducted on three of the eight preselected activity categories (child care, recreation, and participation/socialization). Passive and active recreation were combined to form one category.

First, this study examined whether there was a significant difference between the two groups of mothers in the number of documented hours of child care over the 7-day period. Child care included occupations such as bathing, dressing, or feeding a child; accompanying a child to school, therapy, and medical appointments; and preparing and participating in any child activity or event. There was a significant difference ($p < 0.01$) between the two groups of mothers, with mothers of children with disabilities spending significantly more time in child care than mothers of children without disabilities.

Second, this study examined whether there was a significant difference between the two groups of mothers in the number of documented hours of recreation over the 7-day period. Active recreational activities included exercising of any kind or any physical activity seemingly done for

Table 2. Characteristics of Families (N = 60)

	Disability Group (n = 30)	Typically Developing Group (n = 30)
Age (years) of mother		
Mean (SD)	36.9 (6.2)	34.6 (7.1)
Age (years) of father		
Mean (SD)	39.4 (7.2)	37.8 (8.1)
Years of mother's education		
Mean (SD)	16.2 (2.5)	15.0 (2.6)
Years of father's education		
Mean (SD)	16.4 (3.3)	14.9 (2.6)
Ethnicity of mother		
Anglo/white	22	15
Hispanic/Mexican-American	7	14
Native American/Indian	0	1
Other	1	0
Mean family income (thousand/yr)	28.2	30.8

Table 3. Descriptive Data for Weekly Hours Spent on Nine Activity Categories (N = 60)

Category	Disability Group	Typically Developing Group
Homemaking		
Mean (SD)	19.6 (9.1)	23.2 (8.7)
Low/High Score	5.3–41.5	8.5–43.0
Child Care		
Mean (SD)	32.1 (19.3)	19.0 (9.2)
Low/High Score	7.4–76.6	6.5–42.5
Passive Recreation		
Mean (SD)	15.9 (8.1)	21.4 (8.0)
Low/High Score	4.0–36.5	8.5–39.4
Active Recreation		
Mean (SD)	2.6 (2.0)	2.8 (2.0)
Low/High Score	0.3–7.1	0.5–7.0
Personal Care		
Mean (SD)	9.6 (3.1)	12.7 (3.1)
Low/High Score	3.7–15.6	6.7–18.9
Participation/Socialization		
Mean (SD)	10.5 (6.2)	7.7 (4.6)
Low/High Score	2.0–24.4	0.8–19.7
Employment		
Mean (SD)	27.4 (20.2)	21.5 (16.1)
Low/High Score	1.4–67.5	0.3–49.1
Education		
Mean (SD)	5.7 (6.0)	11.6 (17.4)
Low/High Score	0.5–14.2	0.2–51.2
Rest/Sleep		
Mean (SD)	53.0 (11.0)	61.1 (7.8)
Low/High Score	18.8–65.3	43.1–81.9

pleasure including walking a dog. Passive recreational activities included browsing the Internet, doing artwork, completing the CARE Inventory, driving to and from activities, praying, watching television, and any passive activity that is done for pleasure. There was a significant difference ($p < .005$) between the two groups of mothers, with mothers of children with disabilities spending significantly less time in recreational activities than mothers of children without disabilities.

Third, this study examined whether there were any differences between the two groups of mothers in the number of documented hours in participation and socialization activities over the 7-day period. There was no significant difference between the groups.

Fourth, this study examined whether there was a significant difference between the ratings of how typical days were and the quality of days between the two groups of mothers as noted in Table 4. It can be seen that mothers of children with disabilities reported significantly fewer typical days than mothers of children without disabilities. In addition, mothers of children with disabilities rated the quality of their days significantly poorer than mothers of children without disabilities.

Fifth, this study examined whether there was a significant difference between the amount of time mothers of children with disabilities 5 years and older spent in child-care,

Table 4. Descriptive Data for Ratings of Typicality and Quality of Day

Category	Disability Group	Typically Developing Group	<i>p</i>
Typical Day			
Mean (<i>SD</i>)	0.6 (0.3)	0.8 (0.2)	< .001
Quality of Day			
Mean (<i>SD</i>)	3.3 (0.7)	3.7 (0.6)	< .03

Note. Was this a typical day? (1) Yes; (0) No

Rate the quality of the day: 1 (Awful), 2, 3, 4, 5 (Great)

recreational, and participation/socialization activities in comparison to mothers of children with disabilities less than 5 years old from Crowe's (1993) study (refer to Table 5). Mothers of older children with disabilities spent less time in child-care activities, more time in recreational activities, and less time in participation/socialization activities in comparison to mothers of younger children with disabilities. All differences were significant ($p < .001$).

Finally, this study examined whether there was a significant difference between the amount of time mothers of children less than 5 years old with and without disabilities spent in child care in comparison to mothers of children more than 5 years old with and without disabilities. As might be expected, there is an increased gap in child-care time use between mothers of children with disabilities and mothers of typically developing children as the child grows older (refer to Figure 1).

Discussion

The results of this study should not be used to generalize to all mothers of children with disabilities. The large variance in the number of hours that mothers of children with disabilities spent in child-care activities demonstrates that no two families were alike. In addition, there were more boys

Table 5. Descriptive Data for Weekly Hours Spent in Child Care, Recreation, and Participation/Socialization for Mothers of Children With and Without Disabilities

Categories	Less Than 5 Years of Age*		5 Years of Age and Older**	
	Disability	Typical	Disability	Typical
Child Care				
Mean (<i>SD</i>)	39.7 (10.7)	33.0 (9.9)	27.5 (13.7)	18.0 (10.6)
Low/High Scores	16.9–64.1	13.0–53.3	7.4–62.8	6.5–42.7
Passive and Active Recreation				
Mean (<i>SD</i>)	11.8 (5.1)	13.6 (6.7)	16.6 (6.7)	22.4 (6.6)
Low/High Scores	2.9–24.1	4.0–31.6	4.0–28.2	9.3–37.2
Participation/Socialization				
Mean (<i>SD</i>)	13.7 (5.7)	19.0 (5.7)	10.2 (6.4)	7.6 (4.9)
Low/High Scores	2.2–25.7	9.5–32.1	2.0–24.4	1.2–19.7

*Data from Crowe (1993) study.

**Data from current study.

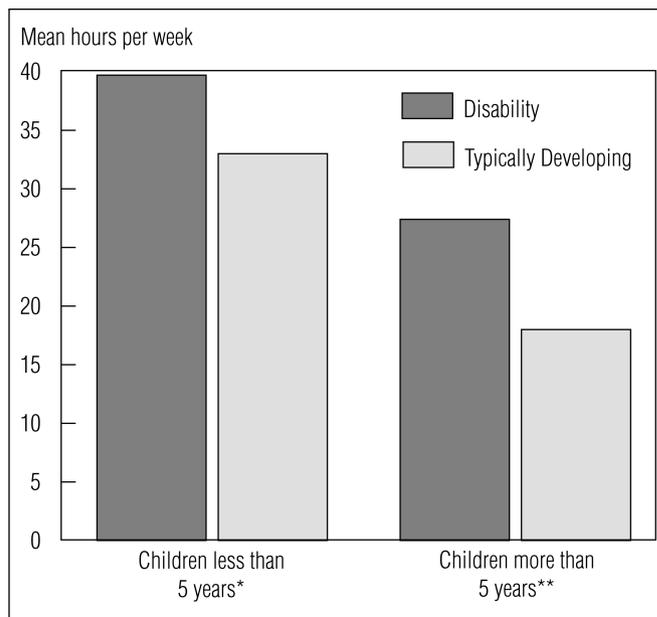


Figure 1. Mean hours spent per week in child care by subject group.

*Data from Crowe (1993) study.

**Data from current study.

in the disability group in comparison to the typically developing group. Although this gender difference is representative of children with disabilities, the child's gender may have influenced the mother's time use. However, a relative strength of this study is the carefully matched groups on a number of child and family demographic variables.

Mothers self-reported their daily events on the CARE Inventory resulting in a variance of the amount of detail in recorded diaries. Also, people rarely record frequent activities such as using the restroom. The amount of detail provided and the omission of some activities could have influenced coding results. In addition, the CARE Inventory does not have reported psychometric properties. The two data sets analyzed (children less than 5 years old and children 5 to 13 years old) were collected approximately 10 years apart. Some typical daily activities may have changed over this time period. Last, there is potential that the sample was too small to detect some significant differences.

Mothers' Time Use in Daily Occupations

The first major finding of the study was that mothers of school-age children with disabilities spent significantly more time performing child-care activities when compared to the mothers of children without disabilities. This finding concurs with results of several other studies (Barnett & Boyce, 1995; Crowe, 1993; Curran et al., 2001; Padelidu, 1998). Mothers of school-age children with disabilities spent on average 13.1 hours more a week (1.9 hours more per day) on child-care activities in comparison to mothers

of typically developing children. This is certainly a significant amount of time across a month, a year, or a lifetime fulfilling a mothering role. This may also limit the types and amounts of other occupations a woman may want to pursue.

Mothers of children with disabilities spent anywhere from 7.4 to 76.6 hours per week on child-care activities. The standard deviation of child care for mothers of children with disabilities was more than double that of the control group. This wide variance may have contributed to the fact that the amount of time spent in child care reflects not only having a child with a disability, but also the child's functional limitations. Curran and colleagues (2001) found that higher frequencies of child-care activities corresponded with the severity of children's disabilities. Crowe (1993) found that mothers of children (less than 5 years of age) with multiple disabilities spent significantly more time performing child-care activities than the mothers of children with Down syndrome. This also indicates that the child's level or type of disability impacts a mother's time spent in the occupation of child care.

The greatest amount of waking time spent by mothers of children with disabilities was on child care and the least amount of time was spent in active recreation. Interestingly, the greatest amount of time spent by mothers of typically developing children was on homemaking with the least amount of waking time also spent doing active recreational activities. However, mothers of children with disabilities spent significantly less time in recreational activities (both passive and active) when compared to mothers of children without disabilities. When further analyzing recreation, the time spent in active recreation was similar between the two groups. The differences were in passive recreation. Since mothers of children with disabilities were spending more hours in child care, they might have fewer hours to participate in other discretionary occupations involving passive recreation. Mothers of children with disabilities spent on average 5.7 fewer hours per a week in recreational activities in comparison to the control group. However, wide variability was again seen in both groups. In contrast, Crowe (1993) found no significant difference between groups of mothers with and without younger children with disabilities in the number of hours spent in recreational activities. It appears that as children get older, discretionary time may be further compromised by child-care demands for mothers of children with disabilities. These findings also suggest that the maternal role is multidimensional. It is interesting that while mothers of typically developing children spent less time in child care, they increased their time spent in homemaking rather than adding recreational occupations.

Another finding of this study was that there was no difference between groups in the time spent in socialization

activities with other people. In contrast, several studies (Barnett & Boyce, 1995; Cant, 1993; Crowe, 1993) have found that mothers of children with disabilities were involved in significantly fewer socialization activities than the comparison group. Cant reported that mothers of children with disabilities socialized less due to the difficulty of tending to child-care responsibilities while socializing. The current study may have found no difference because the children (with and without disabilities) were in school for much of the day allowing for women to participate in similar socialization activities. Again, great variability was seen in both groups.

It was also found that mothers with children with disabilities spent on average 8 hours less per week sleeping or resting. This equates to over 1 hour less of sleep per day, which may influence the quality of mothers' daily occupations. One mother in the study charted less than 19 hours of sleep for the entire week. Her child needed frequent care in the night that required the mother to have major interruptions in her sleep cycles. Crowe et al. (1996) found that many mothers of children with and without disabilities experienced numerous nightly sleep interruptions, particularly mothers of infants 6 to 12 months of age. Surprisingly, Crowe and colleagues found that mothers of children with multiple disabilities reported significantly more sleep than mothers of children with Down syndrome or typically developing children. However, they found no significant differences in the amount of weekly daytime sleep, frequency and duration of child-related interruptions per week, or number of nights of uninterrupted sleep per week, between mothers of typically developing children and mothers of children with disabilities from 6 months to 5 years of age.

Mothers' Perceptions of Quality of Time

The next major finding of this study was that mothers of children with disabilities reported fewer typical days and rated the quality of these days as poorer. As one mother of a child with multiple disabilities reported, "No day really is typical." Padeliadu (1998) found that mothers of children with Down syndrome reported a higher degree of stress than mothers in the typically developing group. She found that the more the mothers of children with Down syndrome reported their time demands as 'unpleasant', the more stressed they were. Increased demands from a child with a disability can lead to more stressful days that might then be classified as 'poor' or 'unpleasant'. Despite significantly lower ratings for quality of day, the mothers of children with disabilities on average rated their days to be at the midpoint indicating average or neutral quality.

Kellegrew (2000) reported that mothers "design and orchestrate" their daily routines around daily challenges and

the child's changing skill ability. The concept of "orchestrating" a daily routine to accommodate the needs of a child with a disability can possibly explain fewer typical days reported by mothers of children with disabilities. Mothers in the Kellegrew study reported constructing home routines in accordance to their present-time skill. If a mother's routines are dependent on the child's skill level, which may be impacted by medical conditions such as seizures or inconsistent behavior, it is no wonder that the mothers reported fewer typical days in comparison to mothers of children without disabilities.

Time Use Comparisons of Mothering Younger and Older Children

Another major finding of this study was that mothers of older children (5 years of age and older) with disabilities spent less time in child-care activities, more time in recreational activities, and less time in participation/socialization activities in comparison to mothers of younger children (less than 5 years of age) with disabilities (Crowe, 1993). The socialization activity results may be partly indicative of the changing times versus the changing ages of the children. Crowe's (1993) study, even though similar in design, had data collected almost an entire decade prior to the current study. Daly (1996) implies that technology plays a major role in reshaping the meaning of family time. The increasing availability of technology means an increase in the opportunities for leisure at home, possibly resulting in less participation in socialization activities.

Child care on the other hand may be more indicative of the child's age. Several studies have stated that the time demands of caring for a child with a disability do not decrease significantly as the child grows older (Barnett & Boyce, 1995; Curran et al., 2001). Of course as the child gets older, the child spends more time at school and less time at home. It is important to note that even though the current study reports decreased child care with the children's increased age, the time demands of caring for a child with a disability did not decrease as much as for mothers of children without disabilities. Mothers of children with disabilities spent significantly more time in child care regardless of the child's age. Mothers of children with disabilities less than 5 years of age spent on average 12 hours more a week doing child-care activities than mothers of older children with disabilities. However, the gap between mothers of older children with and without disabilities was 9.5 hours per week. The gap between mothers of younger children with and without disabilities was only 6.7 hours per week. Mothers of children with disabilities continue to spend more time in child care in comparison to mothers of typically developing children regardless of the child's age.

This may impact the types of roles they pursue such as student, worker, or volunteer and their choice of daily occupations. Restricted time use and limited role options may also impact health and well-being and quality of life (Clark, 1993; Wilcock, 1998). This is especially powerful when you view the long-term effects of mothering a child with a disability.

Implications for Professionals Working With Families

How family time is allocated and individual perceptions of the adequacy of time resources have direct implications for working collaboratively with families. The great variability in mothers' time use is a reminder that every family is unique. Professionals need to take time to understand the meaningful occupations of family members, particularly mothers who typically serve as the primary caregivers. Professionals also need to work with families to accommodate to potential time constraints and design and deliver interventions that recognize the family's particular needs.

Although pediatric occupational therapists predominantly focus on working with the child with disabilities, it is important also to be concerned about other family members' needs, especially the mother who often carries out the majority of therapy suggestions. Brotherson and Goldstein (1992) discussed four issues that interfered with parents' effective use of time. These were: the inability of multiple professionals to coordinate activities; the overwhelming number of tasks parents were asked by professionals to complete; the lack of local and accessible services; and the lack of flexible and family-centered scheduling of services. Occupational therapists need to work with other professionals to coordinate services and not overwhelm already busy families with multiple, related time demands. In addition, interventions need to be viewed as partnerships between families and professionals that promote mutual trust and respect, recognizing individual family differences.

Occupational therapists need to focus attention on the mothers' occupational performance and satisfaction. Mothers' health and well-being can impact the children and the family as a unit. In addition, a parent's well-being is a necessary factor to consider when developing a plan to achieve goals for a child. Administering the Canadian Occupational Performance Measure (COPM) (Law, Baptiste, Carswell, McColl, Polatajko, & Pollock, 1998) may be one way of gathering insight into what a woman might want or need to change in her life. VanLeit and Crowe (2002) demonstrated that by simply administering the COPM and having women complete 7-day time diaries allowed them to make positive changes in their lives. This assisted the women to focus on their own needs within the family structure. The authors stated "that a single, yet

meaningful opportunity to reflect on daily occupational routines may sometime be enough to lead to positive changes” either perceptual, attitudinal, or behavioral (p. 407).

An 8-week psychosocial occupational therapy intervention program further assisted women with children with disabilities to increase their satisfaction with their time use and occupations (VanLeit & Crowe, 2002). In small groups of 4 to 5 women, the occupational therapist encouraged participants to reflect on their current and desired involvement in tasks and roles that were important and/or challenging to them. Group members were encouraged to provide emotional support to one another and to assist each other to problem-solve specific dilemmas related to daily routines and occupations. Shared strategies such as anticipating child-care demands, setting family ground rules that organize their caring in ways that are least likely to create daily struggles or relationship issues, recruiting others to assist in caring, reorganizing caring occupations, juggling time demands, consciously relinquishing certain occupations and adding other occupations that addressed physical, emotional, intellectual, and social needs were discussed. Occupational therapists should consider creating opportunities to link women with children with disabilities together. This could not only address women’s occupational needs but create opportunities for socialization. Occupational therapists attending to the needs of a parent can help individuals increase their self-awareness, adopt efficient time-use strategies, and prioritize effectively so that women can achieve occupational balance (McGuire et al., 2004). Since mothers’ time use continues to be impacted by parenting a child with disabilities over time, professionals should continue to attend to women’s changing occupational needs as the child gets older.

Directions for Future Research

Additional studies are needed to examine time requirements of parenting adolescents and adult children and the potential “lifelong” time implications of having a child with a disability. Examining the evolution of mothering by describing changing life experiences can assist professionals to work in a more sensitive and appropriate manner with families. Further intervention studies need to be conducted that address assisting women with competing time demands to facilitate health and well-being. In addition, the time use of fathers of children with and without disabilities needs to be studied.

Conclusion

This study emphasized that the role of a mother is a lifetime occupation that changes as the child matures. This study

found that the time demands are different for mothers with children with disabilities in comparison to carefully matched mothers with typically developing children. Mothers with children with disabilities spent more time in child-care activities and less time in recreational activities. In addition, as children get older, the gap between the time mothers devote to child care increases between mothers of children with disabilities and mothers of children without disabilities. Professionals need to recognize that time is both a resource and a constraint for parents. Partnerships between parents and professionals need to explore strategies to assist families (particularly mothers) to orchestrate their daily time use to enhance the health and well-being of all family members. ▲

Acknowledgments

First, we would like to thank all the women who generously shared their time and personal information with us to assist us in better understanding mothers’ time commitments. Second, we would like to thank the students who helped us with data collection, coding, and entry: Rose Abeyta, Kathy Hinson, Nicki Love, Raymond Malstead, Daniel Sanchez, April Sanderson, Marie Shiji, Sarah Picchiarini, Theresa Torres, Erin Tourek, Kimberly Wilson, and Jean Linarakinsi. Third, we would like to thank Dr. Clifford Qualls for statistical consultation and Dr. Betsy VanLeit for editorial assistance. Last, we would like to thank the American Occupational Therapy Foundation and the General Clinical Research Program (NCRR-GCRC) #M01 RR00997 for funding this research. This study was conducted to meet part of the requirements for a master’s degree in occupational therapy at the University of New Mexico.

References

- Barnett, W. S., & Boyce, G. C. (1995). Effects of children with Down syndrome on parent’s activities. *American Journal on Mental Retardation, 100*, 115–127.
- Bateson, M. C. (1996). Enfolded activity and the concept of occupation. In R. Zemke & Clark, F. (Eds.), *Occupational science: The evolving discipline* (pp. 5–12). Philadelphia: F. A. Davis.
- Bianchi, S. M. (2000). Maternal employment and time with children: Dramatic change or surprising continuity? *Demography, 37*, 401–414.
- Bird, C. E., & Fremont, A. M. (1991). Gender, time use, and health. *Journal of Health and Social Behavior, 32*, 114–129.
- Brotherson, M. J., & Goldstein, B. L. (1992). Time as a resource and constraint for parents of young children with disabilities: Implication for early intervention services. *Topics in Early Childhood Special Education, 12*, 508–527.

- Brown, G. (2004). Family-centered care, mothers occupations of caregiving and home therapy programs. In S. A. Esdaile & J. A. Olson (Eds.), *Mothering occupations: Challenge, agency and participation* (pp. 346–371). Philadelphia: F. A. Davis.
- Cant, R. (1993). Constraints on social activities of care-givers: A sociological perspective. *Australian Occupational Therapy Journal, 40*, 113–121.
- Clark, F. A. (1993). 1993 Eleanor Clarke Slagle lecture—Occupation embedded in a real life: Interweaving occupational science and occupational therapy. *American Journal of Occupational Therapy, 47*, 1067–1078.
- Crowe, T. K. (1993). Time use of mothers with young children: The impact of a child's disability. *Developmental Medicine Child Neurology, 35*, 621–630.
- Crowe, T. K. (2001). Caregiver's Activity and Recording of Events Inventory (CARE). Unpublished assessment, University of New Mexico, Albuquerque.
- Crowe, T. K., Clark, L., & Qualls, C. (1996). The impact of child characteristics on mothers' sleep patterns. *Occupational Therapy Journal of Research, 16*, 3–22.
- Crowe, T. K., VanLeit, B., & Berghmans, K. K. (2000). Mothers' perceptions of childcare assistance: The impact of a child's disability. *American Journal of Occupational Therapy, 54*, 52–58.
- Curran, A. L., Sharples, P. M., White, M., & Knapp, M. (2001). Time costs of caring for children with severe disabilities with caring for children without disabilities. *Developmental Medicine & Child Neurology, 43*, 529–533.
- Daly, K. J. (1996). *Families and times: Keeping pace in a hurried culture*. Thousand Oaks, CA: Sage.
- Darling-Fisher, C. S., & Tiedje, L. B. (1990). The impact of maternal employment characteristics on fathers' participation in child care. *Family Relations, 39*, 20–26.
- Ehrenberg, M. F., Gearing-Small, M., Hunter, M. A., & Small, B. J. (2001). Childcare task division and shared parenting attitudes in dual-earner families with young children. *Family Relations, 50*, 143–153.
- Francis-Connolly, E. (1998). It never ends: Mothering as a life-time occupation. *Scandinavian Journal of Occupational Therapy, 5*, 149–155.
- Helitzer, D. L., Cunningham-Sabo, L. D., VanLeit, B., & Crowe, T. K. (2002). Perceived changes in self-image and coping strategies of mothers of children with disabilities. *Occupational Therapy Journal of Research, 22*, 25–33.
- Hinson, K. L. (2004). Mothers' perceptions of childcare responsibility with school-age children: The impact of a child's disability. Unpublished thesis, University of New Mexico, Albuquerque.
- Individuals with Disabilities Education Act Amendments of 1991. Pub. L. 102-119, 20 U.S.C. § 1400.
- Kellegrew, D. H. (2000). Constructing daily routines: A qualitative examination of mothers with young children with disabilities. *American Journal of Occupational Therapy, 54*, 252–259.
- Law, M., Baptiste, S., Carswell, A., McColl, M. A., Polatajko, H., & Pollock, N. (1998). *Canadian Occupational Performance Measure* (3rd ed.). Ottawa, Ontario, Canada: CAOT Publications ACE.
- MacDermid, S. M., Huston, T. L., & McHale, S. M. (1990). Changes in marriage associated with the transition to parenthood: Individual differences as a function of sex-role attitudes and changes in the division of household labor. *Journal of Marriage and the Family, 52*, 475–486.
- Manke, B., Seery, B. L., Crouter, A. C., & McHale, S. M. (1994). The three corners of domestic labor: Mothers', fathers', and children's weekday and weekend housework. *Journal of Marriage and the Family, 56*, 657–668.
- McGuire, B., Crowe, T. K., Law, M., & VanLeit, B. (2004). Mothers of children with disabilities: Occupational concerns and solutions. *OTJR: Occupation, Participation and Health, 24*, 54–63.
- Mukhopadhyay, S. (1998). Role behaviours among urban women as revealed by time allocation. *Collegium Antropologicum, 22*, 241–246.
- Padeliadu, S. (1998). Time demands and experienced stress in Greek mothers of children with Down's syndrome. *Journal of Intellectual Disability Research, 42*, 144–153.
- Robinson, J. P., & Godbey, G. (1997). *Time for life: The surprising ways Americans use their time*. University Park, PA: Pennsylvania State University Press.
- Segal, R. (2000). Adaptive strategies of mothers with children with attention deficit hyperactivity disorder: Enfolding and unfolding occupations. *American Journal of Occupational Therapy, 54*, 300–306.
- Segal, R. (2004). Mother time: The art and skill of scheduling in families of children with attention deficit hyperactivity disorder. In S. A. Esdaile & J. A. Olson (Eds.), *Mothering occupations: Challenge, agency and participation*. Philadelphia: F. A. Davis.
- Taanila, A., Kokkonen, J., & Jarvelin, M. (1996). The long-term effects of children's early-onset disability on marital relationships. *Developmental Medicine and Child Neurology, 38*, 567–577.
- Traustadottir, R. (1993). Mothers who care: Gender, disability and family life. *Perspectives on disability*. Palo Alto, CA: Health Markets Research.
- VanLeit, B., & Crowe, T. K. (June 19, 2000). Promoting well-being in mothers of children with disabilities. *OT Practice, 5*, 26–31.
- VanLeit, B., & Crowe, T. K. (2002). Outcomes of an occupational therapy program for mothers of children with disabilities: Impact on satisfaction with time use and occupational performance. *American Journal of Occupational Therapy, 56*, 402–410.
- Wilcock, A. (1998). *An occupational perspective on health*. Thorofare, NJ: Slack.
- Wuest, J. (2000). Repatterning care: Women's proactive management of family caregiving demands. *Health Care for Women International, 21*, 393–406.