

Changes in American Children's Time, 1981-1997

**Sandra L. Hofferth
John F. Sandberg
University of Michigan**

September 11, 2000

Forthcoming in T. Owens and S. Hofferth (eds.), 2001. *Children at the Millennium: Where have we Come From, Where are we Going?* Advances in Life Course Research. New York: Elsevier Science.

Funding for this research was provided by grant #U01HD37563 from the National Institute of Child Health and Human Development and by the Center for the Ethnography of Everyday Life, an Alfred P. Sloan Center for the Study of Working Families.

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Abstract

The purpose of this paper is to examine changes between 1981 and 1997 in how a representative sample of American children spends their time on a weekly basis, focusing on overall differences in time use. We also examine how the time of specific children varies depending on the age and gender of the child, presence of and employment status of parents, the number of children in the family, and the level of parental education. Data come from the 1981 Study of Time Use in Social and Economic Accounts and the 1997 Child Development Supplement to the Panel Study of Income Dynamics. Results show a pattern of increased time in structured activities such as school, day care, sports, and art activities, and reduced time in unstructured play, television viewing, visiting, and passive leisure. While a few of these changes are related to increased maternal employment, most tend to be related to demographic characteristics such as increased education and reduced family size.

Introduction

In the past twenty years, American families have experienced major demographic and economic changes. Such changes include increased maternal employment, increased rearing of children by single parents, the completion of more years of schooling by mothers and fathers, and declines in family size. At the same time there has been increased concern about children's development of the skills needed to successfully negotiate childhood and the transition to adulthood. The ways children spend their time are an indicator of the values parents place on the attainment of various skills and contexts for learning which may have long-term consequences for their development (Larson & Verma, 1999). These values are likely to have changed over time along with the demographic characteristics. In spite of the great interest of educational and health institutions in the well-being of children and the demographic changes described above, almost no previous research has been conducted to see exactly how American children's lives have changed over the past decade and a half (Robinson & Godbey, 1997). An understanding of how children spend their time at present, changes over time, and variations by family characteristics is a critical first step in studying demographic change and child well-being.

Demographic Context

Among the most important of the demographic changes is that of increased maternal employment. In 1997 two-thirds of the mothers of preschool children were working, compared with 47 percent in 1980. Because of increases in maternal employment, the

enrollment of children in early education and care programs has risen (Hofferth, 1995). Most studies have found that employed mothers spend less time caring for children than those not employed (Nock & Kingston, 1988; Robinson & Godbey, 1997). However, the differential may be declining. A study using U.S. data from the 1920s to the 1980s reports that parental time caring for children rose rather than declined over the period, in spite of increased maternal employment (Bryant & Zick, 1996). Another study using recent data shows an increase in the time employed mothers spent in child care as a primary activity between 1965 and 1985 (compared with a decrease for nonemployed mothers) (Robinson & Godbey, 1997). Changes in the ways both parents allocate time and their balance of decision-making power may have important impacts on children (Nock & Kingston, 1988; Bryant & Zick, 1996). McLanahan 1988; McLanahan & Bumpass 1988}. In 1997 28 percent of children were living with only one parent (U.S. Bureau of the Census, 1998). Many are concerned about the ability of single mothers and fathers to adequately supervise their children and keep them focused on their schooling. Single mothers have been found to spend 3 fewer hours per week in child care than married mothers (Robinson & Godbey, 1997). Thus we might expect differences in how children in two-parent and single parent families spend their time.

Increased maternal employment has also led to a shift from home production of goods and services for a family's own use to their purchase (Jacobs, Shipp & Brown, 1989). Between 1965 and 1985, the shopping time of both employed and nonemployed women increased, with the largest increase (26 percent) among employed women (Robinson & Godbey, 1997). This is consistent with the increased purchase of goods and services outside

the home. Between 1992 and 1997 alone, service industries created more than half of all new jobs (U.S. Bureau of the Census, 2000).

A second important demographic trend is the rise in divorce. Today it is estimated that two-thirds of first marriages will end in divorce, more than twice as many as two decades ago (Martin & Bumpass, 1989). Almost one-quarter of white and more than half of black children are currently born to unmarried mothers. These two changes lead to a very high proportion of children—60 percent according to recent estimates—who are expected to spend at least part of their childhood with only one parent (Hernandez, 1993). Parental divorce and single parenthood have been identified as risk factors for socioemotional problems, school failure, school drop-out, early parenthood, and becoming a female family head (Hetherington, 1989; McLanahan, 1985).

In contrast to the sociodemographic changes discussed so far, increased parental schooling levels should raise parental investments in their children. Besides monetary advantages, education affects the values, knowledge, experience, time allocation, and aspirations that parents bring to childrearing. Previous research has shown that high-income mothers invest more heavily in their children by spending more time with them in educational activities (Leibowitz, 1974b; Leibowitz, 1974a; Leibowitz, 1977). About one-fifth of mothers had completed some college in the 1950s, compared with two-fifths in the 1980s. Fewer than one in ten black mothers and fathers had completed some college in the 1950s. In the 1980s that percentage had climbed to one out of three black fathers and one out of four black mothers (Hernandez, 1993). These changes suggest that a larger proportion of children may be better

off today than several decades ago. This trend may be offset by the increased concentration of immigrant children in American schools. In contrast to the native-born, immigrants often have lower educational levels. They bring diverse cultural habits and languages and may have different preferences for their own and their children's activities.

Finally, reduced fertility might influence children in a positive way. The number of children born to the average woman has declined substantially. Each woman born after 1945 is expected to bear about two children by the time she completes childbearing (U.S. Bureau of the Census, 1984; U.S. Bureau of the Census, 1988). In contrast, the average woman born between 1930 and 1939 had about three children. Children in small families consistently perform better academically than those in larger families; it has been argued that this is due to the greater time and resources that can be devoted to the former (Blake, 1989; Zajonc & Markus, 1975). One explanation Robinson and Godbey (1997) offer for finding decreased parental time for nonemployed mothers is smaller family size. When results are adjusted for family size, parental time per child actually increases over time.

The aforementioned economic and demographic changes have also had profound effects on institutions that are charged with caring for children—child care providers, preschool programs, and schools. As the time children spend out of the home increases, how out-of-home time is spent will be crucial to child well-being. If they play less at home, do they play more somewhere else? While this paper does not describe activities in out-of-home settings, we gain at least an idea of the relative distribution of time in the home and in other out-of-home environments. In other research we will examine the activities occurring in those other

environments. We discuss the implications of trends in activities at home in the context of all children's environments.

This paper also does not focus upon the implications of time allocations for children's well-being. Although most research has focused upon cognitive scores, recent research (Eccles & Barber, 1998) has found that determining how well children do is not a simple matter of examining time spent in learning and achievement test scores. In fact, children who do well are those who are involved in a variety of activities during their school years and who are able, consequently, to develop competencies and skills in those areas (Larson & Verma, 1999). Hofferth and Sandberg (2001) find reading to be associated with higher achievement test scores and sports participation with both less aggressive behavior and higher test scores.

How Might Children's Activities Change?

The major demographic changes discussed above include increased maternal employment, increased parental education, the reduced fraction of children living in two-parent families, and reduced family size. How might we expect changes in maternal employment to affect children's activities? First, given that children need care, we expect an increase in the time children spend in school and in child care. The latter includes preschool programs, day care, and babysitters for young children and before- and after-school programs for school-age children. Second, the lives of young children may be as tightly scheduled as the lives of their working parents. Thus, we may see an increase in structured activities. By structured activities we mean activities that generally are scheduled at a certain time and place on a regular basis,

such as team sports, music and dance.¹ These may come at the expense of unstructured activities such as free play and outdoor activities. As mothers spend more time in the work force, other activities are bound to decline. The time women spend in household work has declined significantly over the past several decades (Gershuny & Robinson, 1988). While children and other family members may contribute more time to offset this decline, housework time may simply decline overall. Maternal employment time may increase at the expense of informal family time such as time spent eating meals, with fast-food and carry-out substituting for home-cooked meals. Other discretionary activities, such as church attendance and visiting, and time spent reading with or helping children do homework may also decline. Even time children spend sleeping may suffer if parents' schedules become more important than children's. One study (Bianchi & Robinson, 1997) failed to find an association between children's time spent reading, studying or doing household work and maternal employment net of other factors, but further examination is needed.

Given the increased schooling of parents and greater encouragement for children's reading by more highly educated parents, today's children may spend more time reading and studying. Bianchi and Robinson (1997) found children spent more time reading or being read to in households with more educated parents relative to those in households with less educated parents. On the other hand, if children spend less time at home and reading tends to be a home-based activity (Hofferth & Jankuniene, 2000), even private reading time may suffer. It is

¹ While ideally we would like to be able to measure the regularity of schedules to more precisely define "scheduled" and "unscheduled," we did not ask parents about scheduling and we have only one weekday and one weekend time diary, not enough to establish regularity precisely. While activities may have both structured and some unstructured aspects, for the most part, as we have defined them, sports are structured and play and outdoor activities are unstructured.

unclear how television watching may have changed over time. Greater parental education may lead to less television viewing (Robinson & Godbey, 1997). Bianchi & Robinson (1997) found an inverse relationship between parental education and children's television viewing, suggesting that television viewing may decline as average levels of schooling rise. If parents substitute educational programs for noneducational ones, however, it may lead to more viewing.

The positive effects of increased parental schooling may be offset by the increased proportion of children living in single parent families. With less total parental time available for their children, we expect a number of activities to suffer, including mealtimes and free play. Single mothers spend less time in meal preparation and household cleaning than married mothers (Zick & Allen, 1996). Under these circumstances, whether children contribute more or whether everyone will do less is not clear. Television watching, an inexpensive entertainment option, may increase. The increase in nontraditional families, including single working parent and dual earner families may be associated with declines in traditional family activities such as church attendance and participation in church-related activities. Previous research (Bianchi & Robinson, 1997) failed to find a relationship between the number of parents and the time children spend reading, watching television, studying, and doing household work. While representative of California, that study was not nationally representative. Activities of a sample of California children may differ from those in other parts of the United States either because of climatic differences or because of cultural differences in the population.

As family sizes decline, on the one hand children should reap the advantages of more parental time, which may translate into increased time spent in educational and leisure time activities. On the other hand, having fewer children also means that the availability of siblings to

play with and help with homework declines. The resources to raise a large family need to be spread among more children; consequently, we expect that children in large families will be less likely to participate in costly activities and more likely to participate in free or low-cost activities. There will be more household work in a large family and each child may be expected to do more. Consistent with this expectation, Bianchi & Robinson (1997) found that children in large families spent more time in household work than children in small families.

Significance and Focus of the Paper

The purpose of this paper is, first, to examine how American children spent their time in 1981 and 1997, focusing on overall differences in time use by child age and gender in a set of 18 key activities of children between ages 3 and 12. This research focuses upon children's activities during the school year, and does not represent the activities of children during the summer months.

Second, we examine how the time of American children in 1997 varies depending on the presence of and employment status of parents, the number of children in the family, and the level of parental education. How these factors affect the time children spend in educational activities such as studying and reading, in family activities such as household chores, or in leisure activities such as watching television, playing sports, and visiting with others will help us understand how demographic changes might have produced the changes in activities we described earlier. In addition, if we find overall differences among children of different characteristics in how they use time, differences that relate to later health and achievement, we gain important policy and programmatic levers to use in improving such outcomes.

Finally, we discuss the implications of our findings for parents, policy makers, and for research. Parents have little to go on in making important decisions regarding their daily activities. Policy-makers likewise have been operating in the dark regarding the educational activities of children.

Methods and Data

The measurement of children's time is an issue that a number of researchers have wrestled with. In this section we describe measurement issues, then describe our two sources of national information on children's time.

Measurement of Children's Time

There are several ways of assessing how much time and in what activities children engage. The most accurate way to collect such data would be through observation. However, such methods are costly, intrusive, and limited in the amount of a day that can be covered. Another accurate way to collect information is by time sampling, in which respondents write down the activity they are engaged in whenever a beeper sounds. This methodology is also costly and intrusive. The most common method in survey research is to ask parents directly how much time they spend in certain activities, such as reading to their child. While simple and widely used, this method is known to be biased. First, it is subject to social desirability bias. Parents will report more time spent on desirable activities (such as reading with the child) than on less desirable ones. Second, there is no baseline against which to check consistency, validity, or reliability. Times have been shown to be quite inaccurately reported in some cases

(Juster & Stafford, 1985; Marini & Shelton, 1993). In contrast, substantial methodological work has established the validity and reliability of data collected in time-diary form (Juster & Stafford, 1985). The present study is based upon complete 24-hour time diaries collected from parents and their 0-12 year old children in 1981 and 1997.

Two Data Sets

Data for this study on children's time use come from 24 hour time diaries used in two surveys of the American population; the *1997 Child Development Supplement to the Panel Study of Income Dynamics*, and from a small 1981 follow-up to the *1976-77 Study of Time Use in Social and Economic Accounts*,² *The Time Use Longitudinal Panel Study, 1975-1981*,³ both collected by the University of Michigan using a similar methodology.

The Time Use Longitudinal Panel Study, 1975-1981

Prior to 1997, the only nationally representative data on U.S. children's time use had been collected in 1981 by the University of Michigan from a sample of 620 families, with diaries from 620 respondents, 376 spouses, and 492 children aged 3-17 years old as part of the *Time Use Longitudinal Panel Study, 1975-1981* (Timmer, Eccles & O'Brien, 1985). Eligible

² Time Use in Economic and Social Accounts, 1975-1976; data originally collected by F. Thomas Juster, Paul Courant, Greg J. Duncan, John P. Robinson and Frank P. Stafford of the Survey Research Center, Institute for Social Research, The University of Michigan. Data furnished by the Inter-university Consortium for Political and Social Research, ICPSR study #7580. Neither the collectors of the original data nor the Consortium bear any of the responsibility for the analyses or interpretations presented here.

³ Time Use Longitudinal Panel Study, 1975-1981; data originally collected by F. Thomas Juster, Martha S. Hill, Frank P. Stafford, and Jacquelynne Eccles Parson of the Survey Research Center, Institute for Social Research, The University of Michigan. Data furnished by the Inter-university Consortium for Political and Social Research, ICPSR study #9054. Neither the collectors of the original data nor the Consortium bear any of the responsibility for the analyses or interpretations presented here.

households for this study were the 920 heads and wives interviewed in at least 3 out of 4 waves in the 1975-76 Study of Time Use in Economic and Social Accounts. While adults were interviewed in 1981 up to four times, from most children only 2 time diaries, one for a school day and one a non-school-day, were obtained. Child diaries were obtained during the school year only. Many studies continue to utilize estimates based on these data for lack of a recent alternative (Task Force on Youth Development and Community Programs, 1992). Until 1997 no national time diary data were available to document changes since 1981, though results of a California study have been reported (Bianchi & Robinson, 1997).

For this paper, we use the 1981 data to build a child level file with time diary measures and demographic characteristics. Individual child records are weighted by the product of 1981 sample attrition weight (which adjusts the sample for loss of respondents from the 1975-1976 study), a post stratification factor (by race and education of the head of the household) derived from comparison to the March 1981 Current Population Survey⁴ to make the sample more comparable to the U.S. population in 1981, and a sub-selection weight that adjusts for the probability that a child in a given household was sampled, and also for non-response of sampled children.

⁴ The data from the *Current Population Survey, March 1981: After-tax money income estimates* were originally collected by the U.S. Dept. of Commerce, Bureau of the Census, and were made available for these analyses by the Inter- university Consortium for Political and Social Research, ICPSR study #8269. Neither the collectors of the original data nor the Consortium bear any of the responsibility for the analyses or interpretations presented here.

The Child Development Supplement to the Panel Study of Income Dynamics

The study sample was drawn from the 1997 Child Development Supplement (CDS) to the Panel Study of Income Dynamics (PSID). The PSID is a 30-year longitudinal survey of a representative sample of U.S. men, women, children, and the families in which they reside. In 1997, the PSID added a refresher sample of immigrants to the United States (since 1968) so that the sample represents the U.S. population in 1997. When weights are used, the PSID has been found to be representative of U.S. individuals and their families (Fitzgerald, Gottschalk & Moffitt, 1998a). With funding from the National Institute of Child Health and Human Development (NICHD), data were collected in 1997 on up to two randomly selected 0-12-year-old children of PSID respondents both from the primary caregivers and from the children themselves. The CDS survey period began in March 1997 and, with a break from mid-June through August, ended on December 6, 1997. As in the 1981 study, child interviews took place only during the school year. Interviews were completed with 2,380 households containing 3,563 children. The response rate was 90% for those families regularly interviewed in the core PSID and 84% for those contacted the first time this year for the immigrant refresher to the sample, yielding a combined response rate for both groups of 88%. Post-stratification weights based upon the 1997 Current Population Survey are used to make the data nationally representative. The individual level child file used in this analysis is weighted by the product of the core PSID family weight, a post-stratification factor (by race and education of household head) based on comparison to the 1997 Current Population Survey, and again, a sub-selection

weight that adjusts for the probability that a child in a given household was sampled and also for non-response of sampled children.

Time Diaries

As did the 1981 Study of Time Use in Social and Economic Accounts, the Child Development Supplement collected a complete time diary for one weekday and one weekend day for each child age 0-12 in the family. The time diary, which was interviewer-administered to parent and child, asked several questions about the child's flow of activities over a 24-hour period beginning at midnight of the designated day. These questions ask the primary activity that was going on at that time, when it began and ended, and whether any other activity was taking place. In the coding process, children's activities are classified into ten general activity categories (paid work, household activities, child care, obtaining goods and services, personal needs and care, education, organizational activities, entertainment/social activities, sports, hobbies, active leisure, passive leisure), and further subdivided into 3-digit subcategories (such as parent reading to a child) that can be recombined in a variety of ways to characterize children's activities. For comparison purposes, the primary activities of children 3 to 12 were classified into the 18 major categories used by Timmer and colleagues in the early 1980s (Timmer, et al., 1985). These categories were expanded to separate shopping from household work and to separate day care from school. Youth groups were also distinguished from the broader "visiting" category. Time spent traveling for the purposes of engaging in a specific activity is included in that category. Secondary activities are not measured. For example, time spent doing housework with the television on where housework was the primary activity is not

counted as time “watching television.” Thus, some activities that are often secondary may be underestimated.⁵ Given that many activities are occasional, we would not expect all children to engage in most of these on a daily basis. However, we want to abstract from this to describe the activities of American children in general. Since not all children do every activity each day, the total time children spend in an activity is a function of the proportion who engage in the activity and the time those participating spend in it. An estimate of weekly time is computed by multiplying weekday time (including those who do not participate and have zero time) by 5 and weekend day time by 2, after removing children who do not have both a weekend and weekday diary.⁶ Selecting children ages 3 to 12 with two diaries, sample sizes were reduced to 2,148 cases; missing data on some of the demographic variables further reduced the sample to 2,132.

Time use data are by its nature quite sensitive to errors resulting in extreme or unusually large values for a particular activity; an error in reporting not only has ramifications for estimates of time spent in that particular activity, but in all other activities in the day as well. Such problems are less troublesome in our 1997 data due to the large sample size, but potentially quite problematic for the 1981 data. In addition, imputing daily values to a hypothetical week as we do here exacerbates these problems. Though care was taken during the data coding and cleaning stage to assure that all activities were temporally contiguous and that they summed to 24 hours for a given day, there are some outlying values in major activities that deserve special attention. Time use estimates were analyzed for both years for extreme values, and where the

⁵ The specific activities that make up each of the 21 categories are available from the authors.

⁶ Two children who, in 1997, spent the entire week visiting were also excluded.

authors deemed there to be a substantial probability of data error, that case was removed from the forthcoming analyses completely.⁷ After removing these cases, the analytic sample sizes for 1981 and 1997 were 222 and 2119, respectively.

Robinson and Godbey (1997) distinguish among contracted time (work, school), committed time (household and child care obligations), personal time (eating, sleeping, personal care), and free time (everything else). We generally use this model with some small changes because we are concerned with children, not adults. Since they have to be in school but don't have to work, we treat school rather than work as children's "contracted" time. Personal care time is time spent eating, sleeping, and caring for their personal needs. Few children have "committed" time; we include household work along with free time. Young children simply accompany their parents in this activity. Free or discretionary time, therefore, consists of household work and shopping, studying, church attendance, youth groups, visiting, sports, outdoors activities, hobbies, art activities, which includes dance and music lessons, playing TV watching, reading, household conversations, and other passive leisure (which includes going to movies and sports events as a spectator).

Measurement of the Demographic Variables

⁷ The most obvious examples of such likely errors were children whose weekly hours of sleep fell below 21 hours, or above 112. Another obvious example would be the 3 year old in 1981 whose imputed weekly market work time was 58 hours. A complete list of cases removed from the analyses and rational for these decisions is available from the second author on request.

The demographic variables used to analyze the impact of family factors on the time of children 3-12 include age of child, gender of child, number of parents (1 or 2), employment of wife (not employed vs. employed), education of mother (no college vs. some college), and number of children (1 or 2 vs. 3 or more).

Results

Number of Activities

The results presented first are based upon a total of 2,119 children between age 3 and age 12 whose parents had completed time diaries for them (or with them) for two days in the previous week in 1997 and 222 children with 2 diaries in 1981. The larger the number and variety of activities the more valid the data. That is, diaries with more detail are assumed to represent children's days better than those with fewer activities. In addition, the degree of detail should be comparable between 1981 and 1997. We found that children were reported to have 23 activities on an average weekday and 24 activities on an average weekend day in 1997 compared with 28 activities on an average weekday and 25 activities on an average weekend day in 1981. Thus the earlier survey documented more activities. However, the number of different (nonrepeated) activities reported, the "variety of activities," averaged 13 on a weekday or on a weekend in both years. Therefore, the two years seem reasonably comparable. In addition, the amount of time that was not ascertained (1 percent) is comparable across the two years.

An Overview of Changes in Children's Time between 1981 and 1997

Table 1 lists detailed categories and the percentage of children engaging in each primary activity in their estimated week. From this table it is clear that all children sleep, eat, and engage in or receive personal care (bathing, etc). Almost all play and watch television but few engage in market work or hobbies.

There are some significant changes: Household work showed both increases and decreases. The proportion who do the basic household tasks such as cooking and cleaning has declined 11.5 percent, from 78 to 69 percent, while the proportion who shop has increased 21 percent, from 43 to 52 percent. There were declines in participation in many activities. The proportion studying declined 15 percent, from 54 to 46 percent; attending church declined 30 percent, from 37 to 26 percent; participating in youth groups declined 34 percent, from 38 to 25 percent; visiting declined 31 percent, from 75 to 52 percent; and participating in other passive leisure declined 24 percent, from 66 to 50 percent. Increases in participation occurred in some cases. The proportion participating in sports increased 21 percent, from 59 to 75 percent; participation in art activities increased 37 percent, from 19 to 26 percent; reports of reading increased 31 percent, from 32 to 42 percent; and day care attendance increased five-fold, from 2 to 13 percent.

(Table 1 about here)

Weekly Hours of Nondiscretionary Time

Participation is only part of the picture; increases or declines in time spent may outweigh declines in participation. To examine the total change in time due to changes in both

participation and time spent in activities, we focus on hours from our weekly estimates. Table 2 shows the average weekly hours and minutes 3 to 12-year-old children spent in major activities, from the 1997 and 1981 data. Consistent with the increase in maternal employment over the period, the time spent in school increased about 2 hours per week, or 25 minutes per school day, from 24 hours and 45 minutes to 26 hours and 48 minutes in an average week. Day care time increased from about 14 minutes to almost 3 hours per week over the period, due both to increased participation and to greater time spent. Personal care time also increased over the period, from just over 6 hours a week to 8 hours per week. The increase in personal care time, which besides bathing includes preparation to go places, packing up, and getting dressed, is consistent with a larger proportion of time spent away from home. The more time spent away from home, the more time it takes to get ready to go. Time spent sleeping increased about 1 hour and time spent eating decreased about 1 hour. While the increase in time spent sleeping is not consistent with an increased time pressure, the decline in time spent eating is. Other research suggests that families are reducing the frequency with which they sit down together to share a family meal (Kinney, Dunn & Hofferth, 2000). With many activities for children conflicting with the dinner hour, families are often unable to eat together at home. They may eat on the run or in shifts, which cuts down on meal time. Consistent with this story, we show later on that time spent eating has dropped for children with employed but not with nonemployed mothers.

(Table 2 about here)

Subtracting time spent eating, sleeping, in personal care, school, and child care from the 168 total weekly hours in 1981 and then in 1997, our first finding is that children's free time as a

proportion of total weekly time declined from 1981 to 1997, from 56.5 hours in 1981 to 49 hours in 1997, a decline of approximately 12 percent (Figure 1). (If you remove sleep and make it relative to non-sleep hours (Larson & Verma, 1999), it amounts to a decline from 58 to 52 percent of the child's day.). The decline in free time (7.5 hours per week) is largely due to increased time spent in school and child care (Table 1). But it is also due to increased personal care time.

(Figure 1 about here)

Discretionary Time

If there were no other changes in how time is spent, because of the decline in discretionary time of 12 percent, we would expect an average decline of 12 percent in discretionary activities. In fact, there were other shifts in the use of free time from 1981 to 1997 which differ from the overall change in discretionary time (Figure 2).

(Figure 2 about here)

Consistent with our hypotheses, the time children spent playing declined 16 percent between 1981 and 1997, only slightly more than the decline in free time overall. Participation itself did not change; almost all children play. Television viewing as a primary activity declined by 23 percent, more than the decline in free time. This was not due to a decline in the proportion who watch; almost all children watched television during both 1981 and 1997. The time spent attending church, participating in youth groups, passive leisure, and other household conversations also declined significantly and by more than discretionary time. These are due partially to declines in participation. Of the household work categories, housework declined, while shopping increased. These are partially but not totally a function of changes in

participation. The time spent in hobbies, organized sports, and arts activities increased. Studying and reading both increased over time. Changes in studying are due to increases in time spent, since participation actually declined. Changes in reading are due both to increased participation and to increased time. As a result, we see the composition of children's free time changing. Less time is now spent in unstructured activities such as playing and passive activities such as television viewing and more time is spent in structured activities such as art and sports and in educational activities such as studying and reading.

(Figure 3, Figure 4 about here)

Our overall hypothesis that activities requiring substantial parental input would decline is supported. Church attendance and time in youth groups, visiting, and other household conversations declined. The press for time and lowered home production are reflected in lower children's time in household work and greater time spent shopping. Support is provided for our hypothesis of an increase in structured activities such as the arts (lessons) and sports and a decline in unstructured play. Support is also shown for the hypothesis that there would be increases in activities such as studying and reading. However, we cannot tell from this table whether these are a result of increased maternal employment or some other demographic change between 1981 and 1997.

Maternal Employment as Reason for Change

To what extent changes in time use are due to changes in maternal employment can be determined by examining whether similar changes occurred among non-working and working mothers between 1981 and 1997. In fact, only a few of the above-described changes in time

use are linked to changes in maternal employment. The decline in time spent eating is related to employment; this decline across the period did not occur among children of mothers who were not employed and time spent eating meals was lower among children of employed compared with nonemployed mothers in 1997 (Table 3). As anticipated, the increase in day care time is related to employment; however, the increase in time spent in school is not. There was no change among children of employed mothers in school time; the change occurred among children of nonemployed mothers. Thus the increase in time spent in school is likely to be due to a preference for greater use of schools and school activities by families of nonworking mothers as well as by families of working mothers. While these data show a significant difference in the time children 3-12 spent in school in 1997 by maternal employment status, the difference is considerably smaller than it was in 1981. Other data show that, in fact, the use of preschool programs has converged among working and nonworking mothers over the past several decades (Hofferth, Shauman, Henke & West, 1998).

(Table 3 about here)

Most other changes are not linked to maternal employment. Time spent in personal care increased among both groups and there is no difference in personal care between children of employed and nonemployed mothers in 1997. The decline in household work, the increase in shopping, the decline in time spent in church, and the increase in art activities occurred among children of nonworking as well as working mothers. Increases in sports participation were largest among children of nonemployed mothers as well, equalizing the sports participation of children of working and nonworking mothers in 1997. In sum, changes occurred for children of both employed and nonemployed mothers over this period. Described in cultural terms, these

may be related to changing preferences for activities for children of all ages, not just as a form of child care but to achieve other goals families have for their children (Kinney, et al., 2000).

Because of these converging trends, the time use of children of working mothers was similar to the time use of children of nonworking mothers in 1997. There were a few differences, however. Compared with children of nonemployed mothers, in 1997, children of employed mothers spent less time shopping, sleeping, eating, playing, and watching TV, and more time in school and day care.

Differences by Family Structure

Increased single parenthood is the second major demographic trend that could potentially have influenced children's time use over the past decade and a half. Most of the trends in children's time are similar for those living with one parent and those living with two parents (Table 4). Trends for children in single parent families were not always statistically significant because of the small number of children living with one parent in 1981. One interesting difference is that the time children of single parents spent in school declined (from a previously high level), while that of two parents rose, making the overall levels of enrollment similar in 1997. Another interesting difference is that time in sports rose for children of two parents but not for children of single parents. Because the latter was already at a high level, sports time converged for the two groups between 1981 and 1997. Finally, the decline in church time occurred for children in single parent and in two-parent families; their levels were closer in 1997 than in 1981.

(Table 4 about here)

There are, however, some differences in levels of time spent in activities by family structure. Children living with one parent spend more time in day care due to the greater chance their mother is employed. As a result, their time at home is reduced as are almost all other activities. Compared with children living with two parents, children living with one parent spend less time eating, attending church, in youth groups, in hobbies, art activities, playing, reading, in household conversations, and more time in other passive leisure. One exception is that they spend more time watching television. There is no differences in the time children spend in household work, though they spend less time shopping. Presumably they have less money to shop or, alternatively, shopping on the part of parents becomes more intensive and less leisurely as other constraints increase. Our hypothesis that children spend more time assisting single mothers with household work was not supported.

Maternal Education and Changes in Children's Time

Increased maternal education is the third key change of interest to have occurred over the past decade and a half. The data indicate the diffusion of cultural norms and values regarding expenditures of time that were formerly concentrated among families with an better-educated mother. Most trends were similar for children of mothers with no college compared to those with some college in terms of declines in time spent in housework, and increases in time spent shopping, in personal care, and in day care (Table 5). Also similar for both groups are increases in active leisure (sports) and declines in passive leisure (passive leisure, TV, household conversations). In general, these changes made the activities of children of less-educated mothers to be similar to those of children of educated mothers. Even though more differences

by maternal education in levels of activity time are observed in 1997 than they were in 1981, these are most likely due to the large sample size in 1997 compared with 1981. The major differences in children's activities in 1981 by maternal education were participation in youth groups, art activities, television viewing, and reading. In 1981, children of mothers with some college spent more time in art and reading, and less time in TV than children of mothers with no college. In 1997, these same differences held and, in addition, children of mothers with some college also spent more time in market work, sports, outdoor activities, hobbies, household conversations, studying, and other passive leisure, and day care. Such differences represent differences in values, certainly, but also may reflect differences in the ability to afford such activities. Passive leisure, which includes going to paid entertainment such as movies, for example, declined for both groups of children; however, levels of passive leisure remained higher for children of college-educated compared with noncollege-educated mothers. One interesting shift in children's activities is that, in 1981, children of mothers with some college were significantly less likely to be enrolled in youth groups. In 1997, in contrast, children with mothers with some college were more likely to be enrolled in youth groups than children of mothers with no college education. Participation in youth groups increased (though only marginally) for those with some college while declining for those with no college.

(Table 5 about here)

These results support the argument that better-educated mothers make a greater investment in children's learning through encouraging reading and studying. They also support the hypothesis that better-educated mothers make a greater investment in children's structured activities such as sports and arts, but this extends to include a variety of other skill-based

activities such as hobbies and youth groups. Additionally, we see a convergence in activities. With the sole exception of television viewing, which is still much higher for children of college-educated mothers, differences in activities between children of college and non-college educated mothers are small.

Differences by Family Size

The fourth demographic trend of interest here is the decline in family size. Again, the same overall trends hold for large and small-sized families (Table 6). There are, however, several interesting differences between small and large families both in 1981 and in 1997. Children do more household work in large than in small families and they spend less time shopping. It is more efficient due to economies of scale to produce goods and services at home than to purchase them when the family is large. This is the only group, however, in which we see children do more household work. Children spend more time watching television in large compared with small families in 1997. Television serves as an inexpensive form of entertainment. Because of the large number of alternative forms today, family size affects television viewing more than it did in 1981. Compared with children in small families, children in large families spend less time eating meals, less time sleeping, less time in day care and more time in school. The smaller amount of time children from large families spend in day care is consistent with other data on day care use (Hofferth, Brayfield, Deich & Holcomb, 1991); in large families, caring for children at home is more efficient than paying for out-of-home care. However, the increased time in school may reflect the use of free or low-cost before and after-school activities which may or may not be considered “school.” Children in large families spend

less time visiting and they spend less time in conversation with adults, both of which are probably due to the fact that they have playmates among their siblings.

(Table 6 about here)

Age Differences in trends over time

So far we have focused upon differences between 1981 and 1997 across all age groups. However, we know that how children spend time changes as they grow older. One issue is the extent to which our overall findings on changes in time hold for children of some or all age groups. This is particularly important to know, since some activities are age-specific. For example, we find that household work declined overall, but particularly for the 6-8 and 9-12 year-olds, who were more likely to do such work (Figures 5-7). Shopping, in contrast, increased for the 3-5 and 6-8 year-olds but not for the 9-12 year-olds. The increase reflects primarily the increased proportion of young children who accompany their parents shopping, rather than increased time spent doing so. Age differences in the proportion who shop have disappeared since 1981 (Table 1).

(Figure 5-7 about here)

While there is evidence of increased studying and reading over all children, significant increases in studying occurred only among 6-8 year-olds and significant increases in reading only among 3-5 year-olds. The main reason for the increase in studying among 6-8-year-olds was an increase in the proportion who did some studying at all, from 1/3 to more than 1/2. The fact that significant increases in reading occurred among 3-5 year-olds probably reflects parents' increasing concern with preparing children for school. Increased enrollment in day care

centers and preschools may also be associated with children doing more reading at early ages. There is certainly no evidence that 6-12-year-olds are doing any more reading than in 1981. The reason for the increased time 3-5 year-olds spend reading is the increased proportion reading or being read to, which doubled between 1981 and 1997 (Table 1) . Only about 1/3 of 6-12 year-olds read for pleasure in 1981 and 1997, with no significant change over time.

While the overall increase in time spent in sports was not significant, we see that sports participation increased dramatically among both 3-5 and 9-12 year-olds. The major reason for the increase among the 3-5 year-olds was the increased proportion engaging in sports, which almost doubled over the period. There was an increase in participation among 9-12-year-olds, but it was smaller. The decline in time spent in church attendance, youth groups, and visiting is a function primarily of the smaller proportion of children who participate. The declines are consistent across all age groups.

Art activities increased among children of all ages. The increase in time spent in art activities among 3-5-year-olds reflects increased participation, whereas the increased time by older children reflects increased time spent. Household conversations and other passive leisure declined primarily for the 9-12-year-olds.

While playing declined overall, playing actually increased among 9-12-year-olds. This may reflected increased used of video and computer games among this age group.

Gender Differences

Some sex-stereotyped gender differences in children's activities are quite evident and have not declined over time. Girls report doing more household work in both years and more

shopping in 1997 than do boys and they spend more time at it (Table 7). Girls also spent more time in personal care than did boys in 1997. Boys are more likely to be involved in sports and they also spend more time in such activities. Girls, in contrast, are more likely to participate in and spend more time in less strenuous activities such as art and music in 1997. Girls also spent less time than boys in free play in both years.

(Table 7 about here)

Some of the trends have led to greater similarity in the activities of boys and girls in 1997. In particular, while girls were more likely than boys to study in 1981, the two were similar in 1997 – about 45-46% studied. This is because the proportion of girls who studied actually declined between 1981 and 1997 while the proportion of boys who studied stayed the same. Increased studying time occurred primarily among boys, as a result. This increase may be due to the use of computers for homework and Internet research. Boys' spend significantly more time using computers than girls (not shown).

There was a convergence in school time, church attendance, and other passive leisure as well. In 1981 girls spent more time in school. Boys increased their time at school more than girls between 1981 and 1997; the difference was no longer significant in 1997. Girls were more active than boys in church activities in 1981; by 1997 the difference in time was not significant. A third area in which boys and girls are converging is in other passive leisure. In 1981 girls spent more time in passive leisure than boys. Girls' use declined between 1981 and 1997 such that the two did not differ significantly on passive leisure in 1997.

Areas of nonconvergence include household work, shopping, personal care, sports, art, play, and day care. For example, while participation in sports increased for both boys and girls,

the level was greater for boys to begin with and the gap did not diminish. Differences widened for the arts, where girls increased both participation and time while boys did not. Trends in activities for boys and girls are similar, for the most part, with both spending more time shopping, in personal care, and in day care between 1981 and 1997.

Summary and Conclusions

Between 1981 and 1997 two major changes in children's time occurred. First, the proportion of time that is nondiscretionary, that is, which is taken up by school or day care, personal care, eating, and sleeping increased significantly. This increase occurred across the board, for every group of children. A portion of this change, particularly the increase in day care time and the decline in time spent eating, was due to maternal employment. However, other changes represent changed values. For example, children of nonemployed mothers spent more time in school in 1997 compared with 1981. Children of both employed and nonemployed mothers spent more time in personal care in 1997 than in 1981. As a result of these changes, the proportion of time that is discretionary declined.

Children's time use changed in other important ways between 1981 and 1997. One major change is the increase in structured activities such as sports and art activities and the decline in unstructured play and television viewing. Many of these changes may be due to overall changes in societal preferences. The decline in household work, the increase in shopping, the decline in time spent in church, the decline in play and television viewing and the increase in art activities occurred among children of nonworking as well as working mothers. Increases in sports participation were largest among children of nonemployed mothers as well,

thus not linked directly to work. Maternal work contributed only to declines in meal time and to increased day care.

The contribution of cultural values is seen in differences by maternal education. Children of mothers with some college education spent more time in art activities, reading, sports, outdoor activities, hobbies, youth groups, household conversations, studying, and other passive leisure and less time watching television than children of mothers without any college. As the educational levels of the population rise, we expect continued increases in structured and educational activities.

Family structure and family size are important correlates of how children spend their time. Children in single-parent families are disadvantaged in that they spend less time shopping, attending church, in youth groups, in hobbies, playing, reading, in household conversations, and more time in other passive leisure, day care, and television viewing than children in two-parent families. Children in large families also have a different experience of childhood than children from smaller families, spending more time in household work, less time shopping, and more time watching television.

What are the implications of these changes for families and children? First, families are a lot busier today; with two parents working and children's structured activities increasing, to accomplish everything requires very tight scheduling. Declining time spent eating meals reflects these pressures and constraints. Families also may spend more time running errands to purchase goods at stores rather than making things at home. This is reflected in the increased time children spend shopping, the largest chunk of which is explained as the time children spend

accompanying parents on errands and shopping trips, and the declining time spent in traditional household work.

What is surprising is that television time has not increased; in fact, it has declined for all groups of children, and it has declined more than the overall decline in free time. Television is a passive activity that does not contribute to children's achievement test scores (Hofferth & Sandberg, 2001) so this can be interpreted as a positive trend. On the mixed news side, the total time spent reading, only about 1 hour per week, has increased significantly over the period, but the base level was small and that change is mostly among children 3-5-years of age. Other research find reading to be the activity that is most strongly associated with better reading comprehension (Hofferth & Sandberg, 2001) and, consequently, with success in school. While studying increased significantly between 1981 and 1997, the time spent studying is still small, only about 2 hours per week, and the increase was concentrated only among 6-8-year-olds. In addition, studying is not necessarily associated with doing better in school because children who study more include those are having school problems.

While we found that children spend less time playing, this mostly reflects decreased time spent at home; the decline in play time is about the same as the overall decline in free time. It should be pointed out, however, that this estimate may be biased because we focused solely on home time. Children may be playing in their preschool programs and have some free time at school. Thus, this study provides only a partial picture of children's time. Current research is examining what children do at school as well as at home. There is one cautionary note. We found that children spend less time eating meals. This is not the only time children and parents spend talking, but since time spent just sitting and talking as the main activity (household

conversations) also declined significantly between 1981 and 1997, there may a basis for concern that shared family activities are declining.

This study presented a picture of children's time in 1997 and trends since 1981, but it is only the first look. We will be collecting a second wave of data from these same children and their families in the year 2001. The question of the relationship of time to child behavior and well-being which could not be addressed in this paper may be better addressed in the future with longitudinal data.

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Figure 1. Percentage of Weekly Time Spent in Nondiscretionary and Discretionary Activities

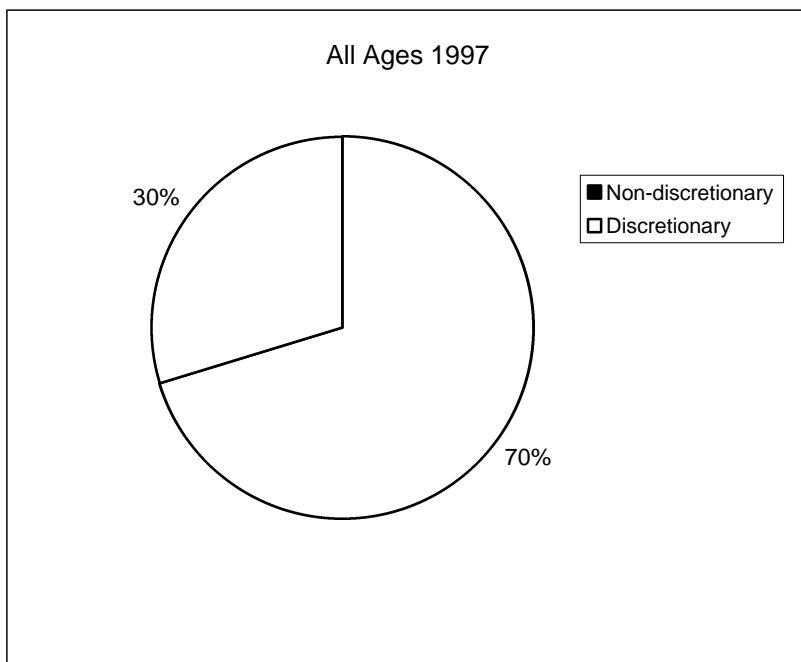
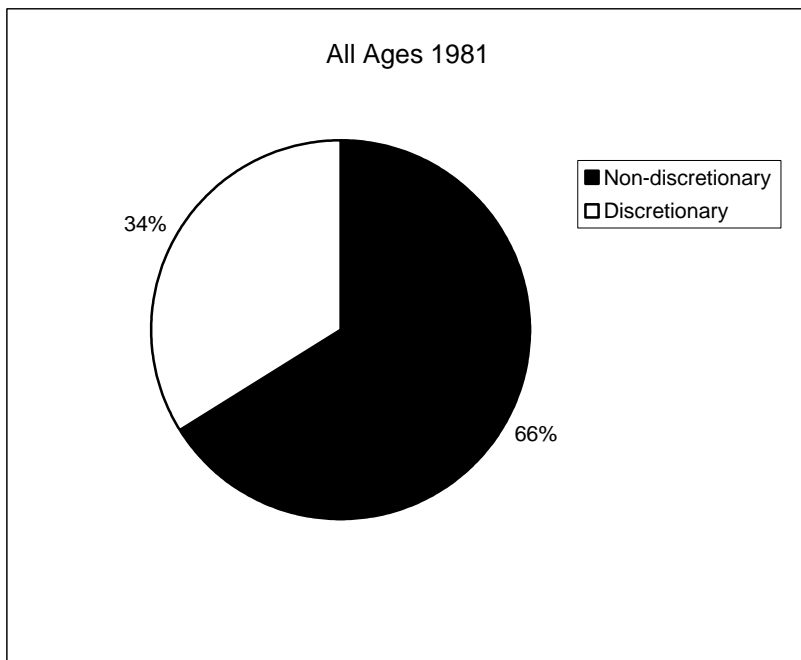


Figure 2. Changes in Weekly Hours by Age from 1981 to 1997
(All Ages)

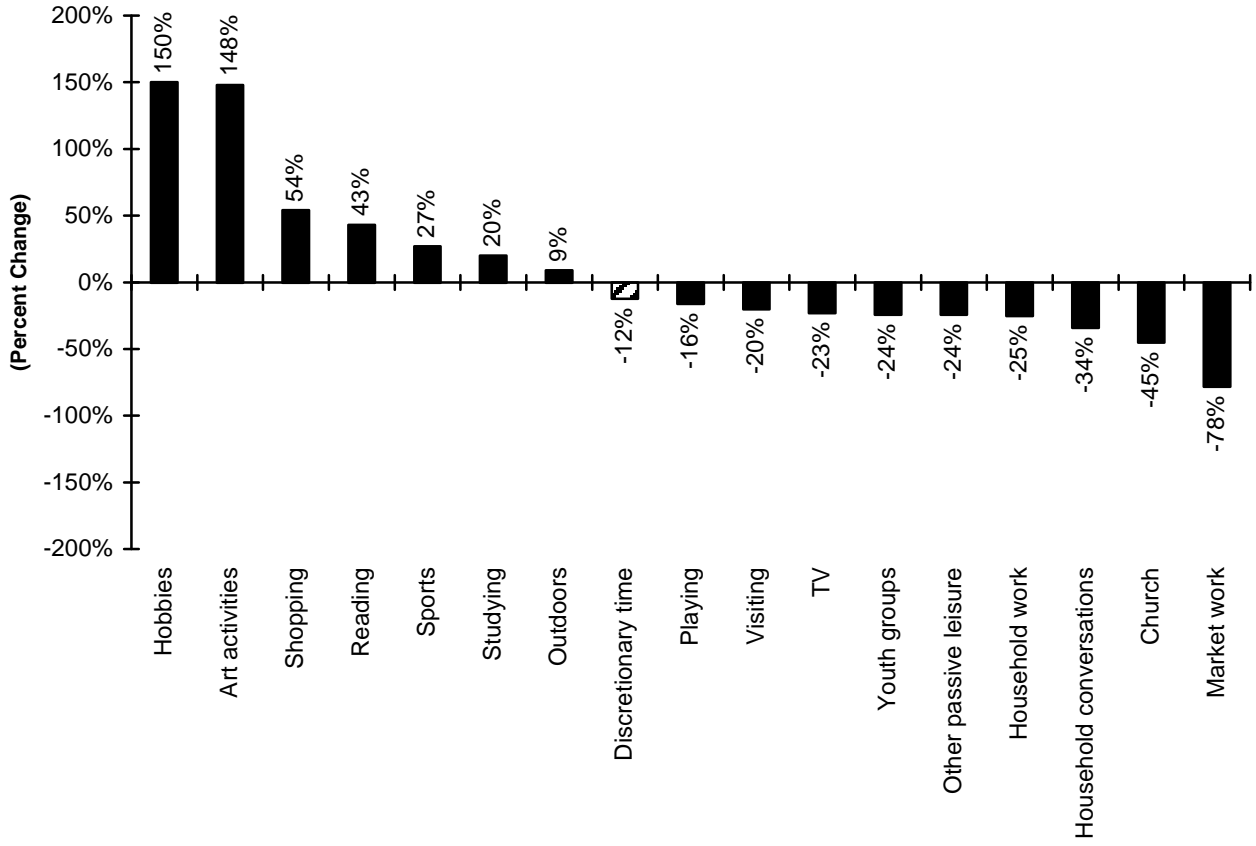


Figure 3. Percentage of Discretionary Weekly Time in Activities, All Ages, 1981

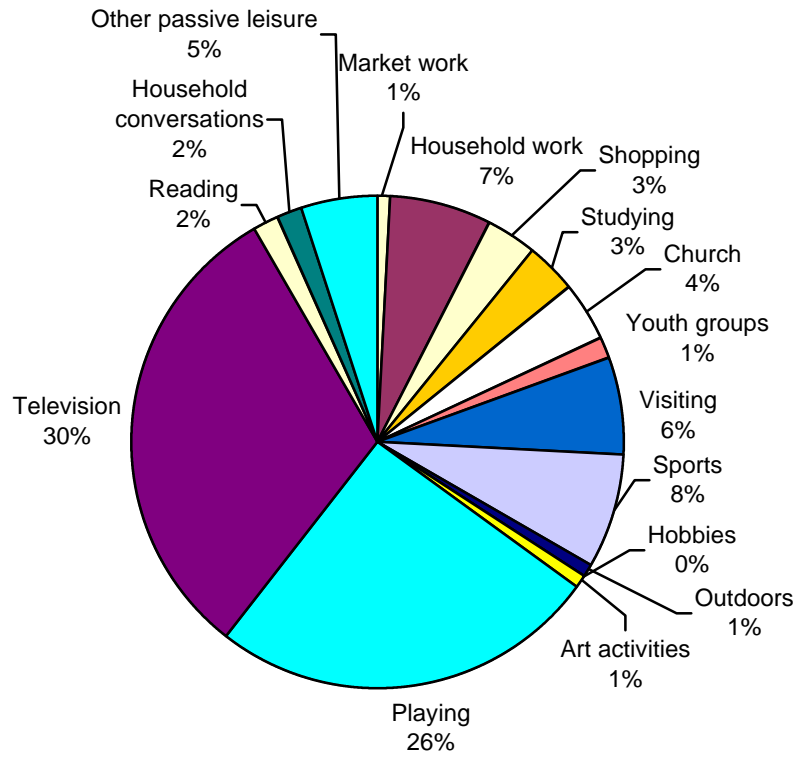
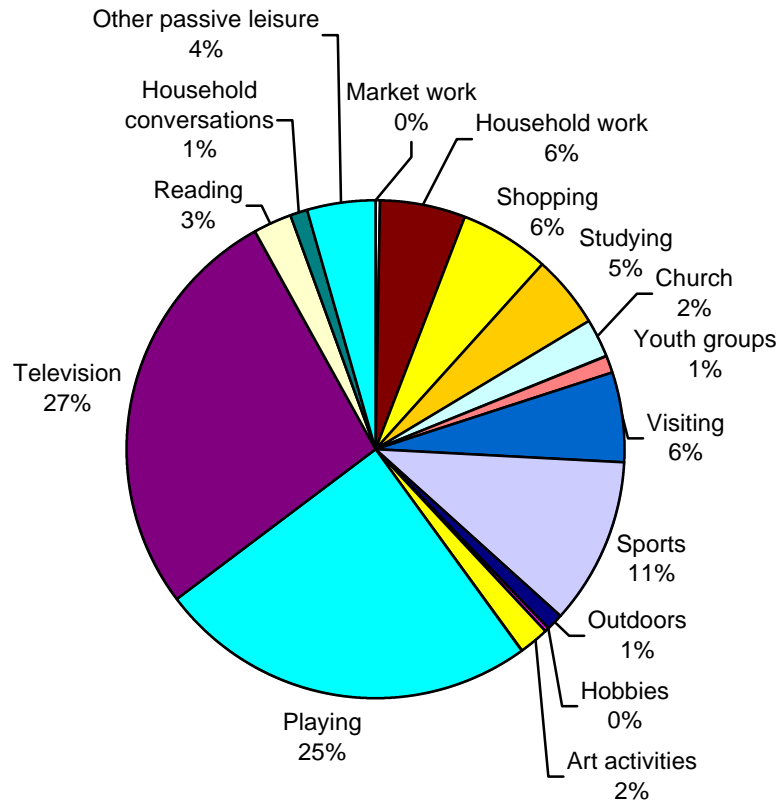
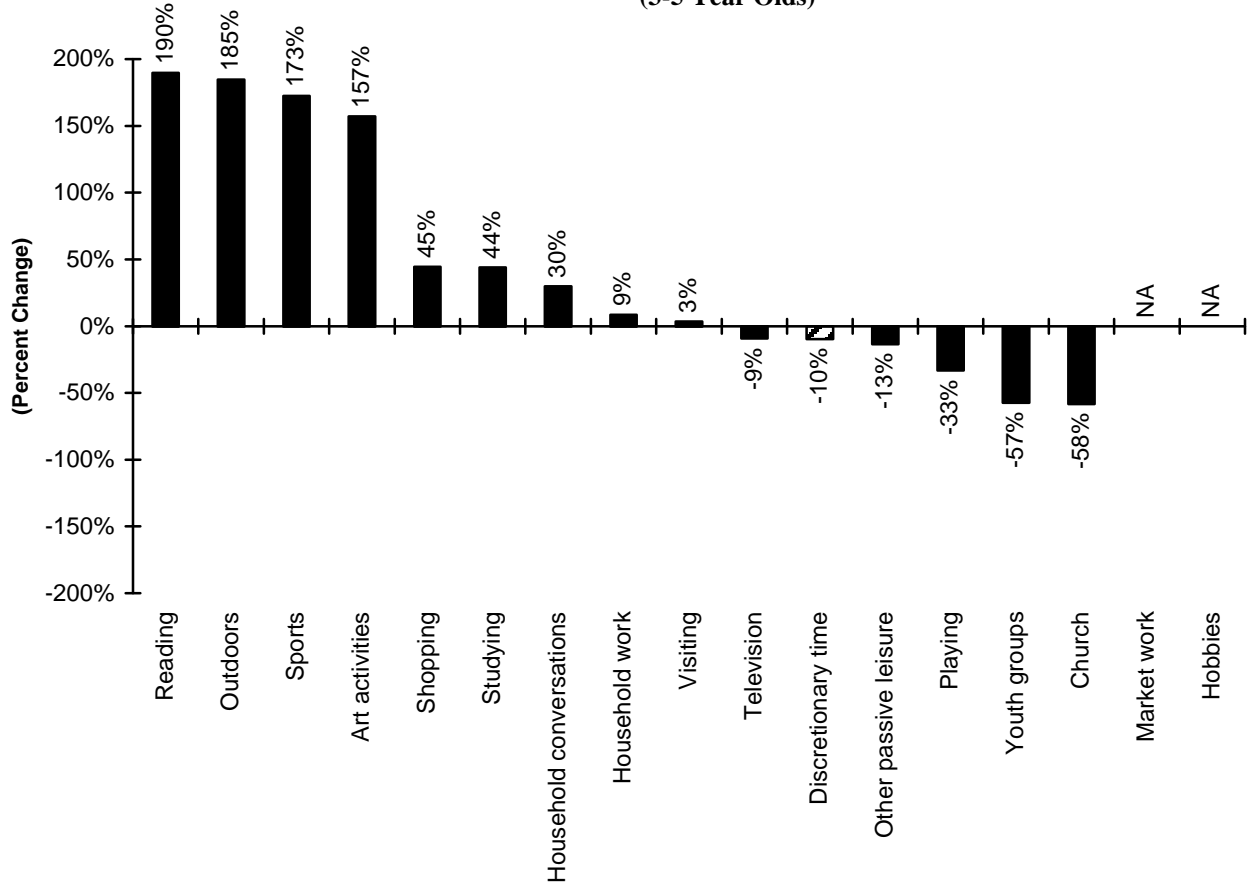


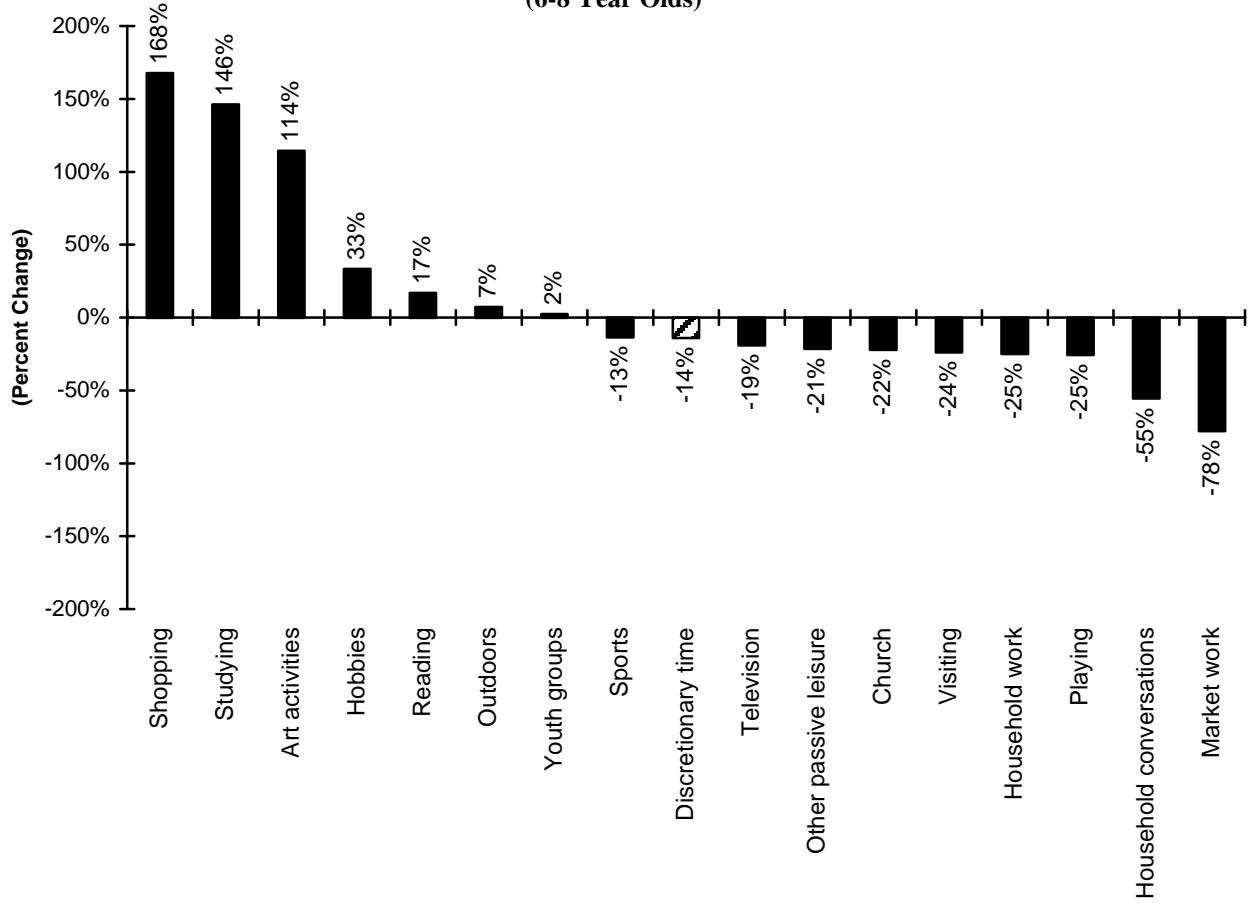
Figure 4. Percentage of Discretionary Weekly Time in Activities, All Ages, 1997



**Figure 5. Changes in Weekly Hours by Age from 1981 to 1997
(3-5 Year Olds)**



**Figure 6. Changes in Weekly Hours by Age from 1981 to 1997
(6-8 Year Olds)**



**Figure 7. Changes in Weekly Hours by Age from 1981 to 1997
(9-12 Year Olds)**

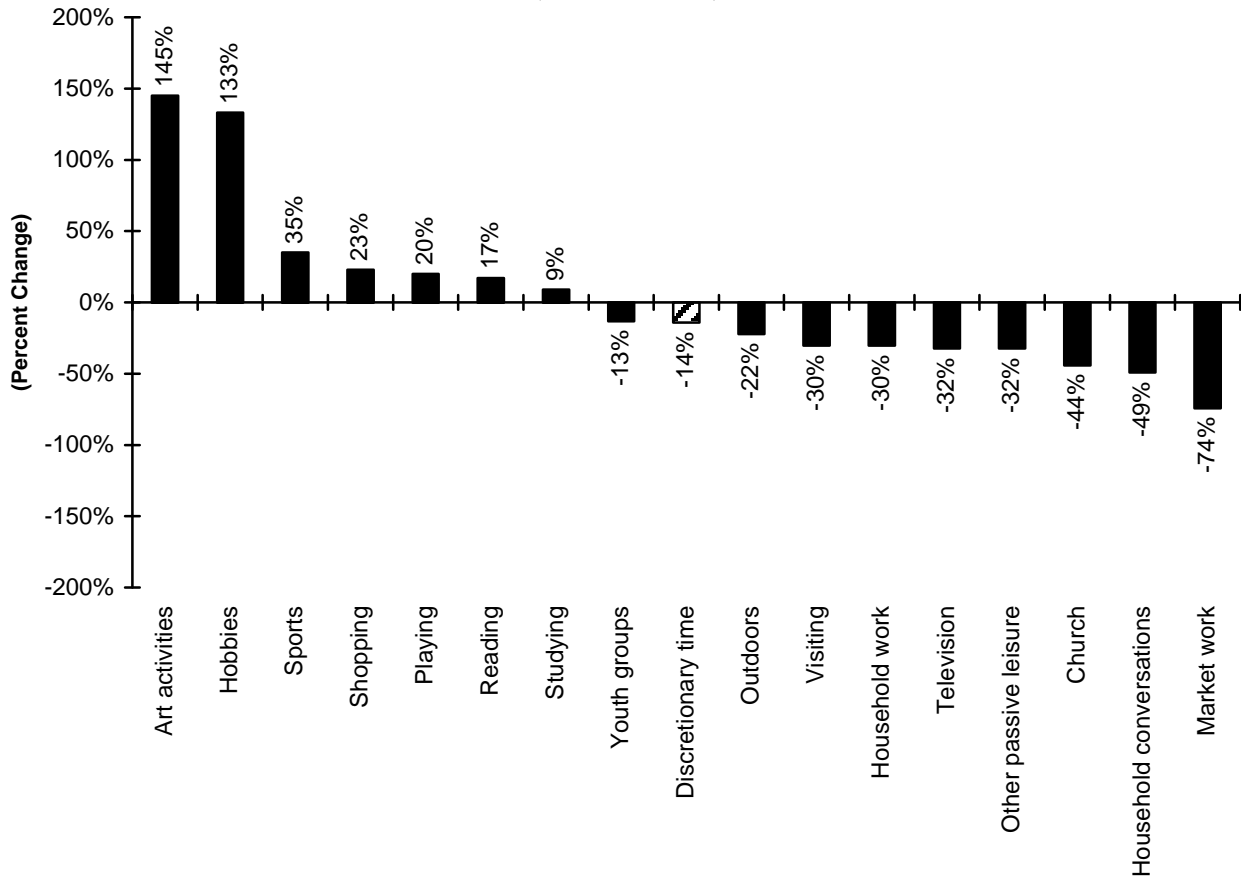


Table 1. Percentage of Children Participating in 21 Daily Activities, 1981-1997, by Age (3-12 year olds)

	Age 3-5		Age 6-8		Age 9-12		All Ages		
	1981	1997	1981	1997	1981	1997	1981	1997	
N	61	665	60	602	101	851	222	2119	
Market work	0%	0%	3%	2%	12%	3% ***	6%	2% ***	
Household work	54%	63%	79%	65% **	92%	78% ***	78%	69% ***	
Shopping	39%	60% ***	36%	50% **	50%	47%	43%	52% **	
Personal care	100%	100%	98%	100%	100%	100%	99%	100%	*
Eating	100%	100%	100%	100%	100%	100%	100%	100%	
Sleeping	100%	100%	100%	100%	100%	100%	100%	100%	
School	53%	51%	88%	93%	88%	91%	78%	79%	
Studying	26%	17% *	34%	55% ***	82%	62% ***	54%	46% **	
Church	35%	24%	37%	24% **	37%	28% **	37%	26% ***	
Youth groups	36%	21% ***	33%	25%	42%	27% ***	38%	25% ***	
Visiting	66%	50% *	69%	48% ***	83%	56% ***	75%	52% ***	
Sports	41%	74% ***	69%	75%	65%	76% **	59%	75% ***	
Outdoors	18%	19%	13%	14%	21%	17%	18%	17%	
Hobbies	0%	2%	2%	2%	2%	3%	2%	3%	
Art activities	20%	35% **	20%	24%	17%	21%	19%	26% **	
Playing	100%	98%	93%	91%	90%	88%	93%	92%	
Television	98%	98%	96%	96%	97%	94%	97%	96%	
Reading	25%	53% ***	37%	43%	32%	34%	32%	42% ***	
Household conversations	28%	37%	41%	31%	37%	28% *	36%	32%	
Other passive leisure	69%	53% **	53%	45%	73%	51% ***	66%	50% ***	
Daycare	2%	24% ***	3%	12% **	2%	4%	2%	13% ***	

*p<.05, **p<.01, ***p<.001

Table 2. Weekly Time Children Spent in 21 Activities, 1981-1997, by Age (3-12 year olds)

	Age 3-5		Age 6-8		Age 9-12		All Ages	
	1981	1997	1981	1997	1981	1997	1981	1997
N	61	665	60	602	101	851	222	2119
Market work	0:00	0:00	0:27	0:06	0:43	0:11 *	0:27	0:06 **
Household work	2:09	2:20	2:49	2:07	5:18	3:42 ***	3:46	2:49 ***
Shopping	2:35	3:44 *	0:59	2:38 ***	1:57	2:24	1:52	2:53 ***
Personal care	6:18	8:32 ***	6:13	7:53 ***	6:21	7:53 ***	6:18	8:05 ***
Eating	9:43	9:24	9:08	8:05 **	8:13	7:23 **	8:52	8:13 ***
Sleeping	77:19	76:11	70:04	70:49	65:36	67:24 **	70:01	71:07 *
School	14:30	12:05	27:52	32:46 **	29:02	34:03 ***	24:45	26:48 **
Studying	0:25	0:36	0:52	2:08 ***	3:22	3:41	1:53	2:16 *
Church	2:30	1:03 ***	1:36	1:15	2:24	1:20 **	2:13	1:13 ***
Youth groups	0:49	0:21 **	0:41	0:42	0:56	0:49	0:50	0:38 **
Visiting	2:58	3:04	3:40	2:48	3:48	2:40 **	3:32	2:50 **
Sports	1:31	4:08 ***	6:01	5:13	4:51	6:33 **	4:15	5:25
Outdoors	0:13	0:37 *	0:28	0:30	0:46	0:36	0:32	0:35
Hobbies	0:00	0:05	0:03	0:04	0:03	0:07	0:02	0:05
Art activities	0:28	1:12 ***	0:21	0:45 ***	0:22	0:54 **	0:23	0:57 ***
Playing	25:50	17:21 ***	14:58	11:10 **	7:24	8:54 *	14:30	12:12 ***
Television	15:14	13:52	15:55	12:54 *	20:01	13:36 ***	17:35	13:29 ***
Reading	0:29	1:24 ***	0:59	1:09	1:03	1:14	0:53	1:16 **
Household conversations	0:37	0:48	1:07	0:30 *	0:53	0:27 *	0:53	0:35 ***
Other passive leisure	2:59	2:35	1:58	1:33	3:24	2:19 *	2:53	2:11 ***
Daycare	0:10	7:30	0:12	1:33 ***	0:18	0:24	0:14	2:57 ***
Not Ascertained (NA)	1:12	1:07	1:37	1:23	1:14	1:24	1:20	1:18
% of time accounted for	99%	99%	99%	99%	99%	99%	99%	99%

*p<.05, **p<.01, ***p<.001

Table 3. Weekly Time Children (Ages 3-12) Spent in 21 Activities, 1981-1997, by Maternal Work Status

	Not Working		Working		Not Working vs. Working	
	1981	1997	1981	1997	1981	1997
N	95	766	126	1267		
Market work	0:14	0:03 **	0:36	0:07 ***		
Household work	3:47	2:44 **	3:44	2:54 **		
Shopping	1:54	3:10 **	1:49	2:41 **		**
Personal care	6:41	8:04 ***	6:00	8:07 ***	*	
Eating	8:52	8:36	8:52	8:01 ***		***
Sleeping	71:44	72:22	68:42	70:31 **	**	***
School	20:35	25:37 ***	27:52	27:12	***	**
Studying	1:46	2:14	1:57	2:18		
Church	2:28	1:20 ***	2:00	1:09 ***		
Youth groups	0:37	0:32	0:59	0:39		
Visiting	3:44	2:29 **	3:22	3:02		**
Sports	2:37	5:11 ***	5:29	5:31	***	
Outdoors	0:25	0:29	0:36	0:37		
Hobbies	0:05	0:04	0:00	0:06	**	
Art activities	0:23	1:03 **	0:23	0:54 ***		
Playing	17:19	13:21 ***	12:22	11:28	***	***
Television	18:09	14:36 ***	17:09	12:53 ***		***
Reading	0:51	1:20 **	0:54	1:13		
Household conversations	1:08	0:35 ***	0:40	0:32	*	
Other passive leisure	2:33	2:09	3:08	2:12 **		
Daycare	0:01	0:33	0:24	4:30 ***		***
Not Ascertained (NA)	1:55	1:17	0:52	1:12		
% of time accounted for	99%	99%	99%	99%		
	168:00:00	168:00:00	168:00:00	168:00:00		

*p<.05, **p<.01, ***p<.001

Table 4. Weekly Time Children (Ages 3-12) Spent in 21 Activities, 1981-1997, by Number of Parents

	Two Parents		Single Parents		Two Parents vs. Single Parents	
	1981	1997	1981	1997	1981	1997
N	195	1570	27	463		
Market work	0:27	0:05 ***	0:18	0:09		
Household work	4:11	2:52 ***	0:42	2:42 ***	***	
Shopping	1:57	3:08 ***	1:11	1:57		***
Personal care	6:36	8:00 ***	4:06	8:26 ***	***	*
Eating	9:05	8:19 ***	7:20	7:55	***	**
Sleeping	70:01	71:17 **	69:56	70:59		
School	22:56	26:21 ***	37:54	27:28 ***	***	
Studying	1:57	2:18	1:21	2:12		
Church	2:00	1:17 ***	3:42	1:00 ***	**	**
Youth groups	0:43	0:40	1:36	0:22 ***	**	***
Visiting	3:45	2:49 **	1:54	2:50	*	
Sports	3:49	5:19 ***	7:26	5:41	***	
Outdoors	0:35	0:35	0:01	0:32		
Hobbies	0:02	0:06	0:00	0:01		**
Art activities	0:26	1:00 ***	0:00	0:47 *	**	*
Playing	15:24	12:35 ***	07:53	10:48	***	***
Television	17:12	12:56 ***	20:25	15:33 **		***
Reading	0:59	1:25 **	0:03	0:44 *	**	***
Household conversations	0:59	0:38 ***	0:01	0:18 *	**	***
Other passive leisure	3:09	2:22 **	0:52	1:32	**	***
Daycare	0:07	2:35 ***	1:03	4:29	**	***
Not Ascertained (NA)	1:30	1:11	0:04	1:24		
% of time accounted for	99%	99%	100%	99%		
	168:00:00	168:00:00	168:00:00	168:00:00		

*p<.05, **p<.01, ***p<.001