HOMEMAKERS' USE OF SHARED TIME IN HOUSEHOLD ACTIVITIES

by

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

Introduction

The study of time use has been of interest to researchers since the turn of the century. Why should one study time and of what importance is it to society? In Management in the Home, Gilbreth (1954) suggests:

> Budgeting money is important. Budgeting time is twice as important. After all you can get more money if you are determined. You can't get any more time. There are twenty four hours in a day and that's all. What you do with them makes your life. (p. 22)

The study of time use has several purposes which are of value for society. "What people do with their time is of ultimate concern to every society...the matter of whether time is wisely or unwisely spent bears heavily on the quality of societal life" (Robinson, 1977, p. 3). Time studies have several uses, including: a measurement of household production (Gage, 1961; Gauger, 1973; Marlowe, 1980; Kilpio, 1981; Walker and Woods, 1976), to study how individuals function within their environment (Kranz, 1970; Robinson, 1977; Sorokin and Berger, 1939; Szalai, 1972), to examine husband-wife sharing of family tasks (Bird, Bird, and Scruggs, in press; Nickols and Metzen, 1978; Sanik, 1981), a measure of quality of life (Geobel, 1981; Robinson, 1977; U.S. Dept. of Commerce, 1973), to make comparisons of the amount of time spent in household work over several decades (Hall and Schroeder, 1970; Vanek, 1974), and to determine certain management techniques used to complete household tasks (Steidl and Bratton, 1968; Warren, 1940; Weigand, 1954).

According to many, time is becoming a scarce resource, often with conflicting activities competing for the same time (Linder, 1970; Walker, 1979). The present study of time use examined one technique for allocating time - shared time - which homemakers may use to complete household activities. Shared time in this study was defined as a management technique involving the performance of two activities simultaneously by one household member, in other words, doing two tasks at the same time. For example, a homemaker may be preparing the dinner meal as the primary activity, and also be watching a child play. In this example, child care would be considered a secondary activity and the homemaker would be using the management technique of shared time.

Justification

According to Steidl and Bratton, 1968:

> Basically there are two methods of proceeding with tasks: separately or together - one at a time or more than one at a time. The nature of household work is such that some tasks can be done one way, some the other. (p. 210)

Shared time is a management technique used either consciously or unconsciously by homemakers to complete the household activities given limited time, and therefore, should be studied for use in helping families to manage their time. Steidl and Bratton propose three methods of overlapping household work time: alternate active and inactive work times on two tasks, overlap active work times, and interrupt and interweave active work on independent tasks. Yet they ask, "What characteristics of tasks permit a homemaker to do them concurrently? (and) Do homemakers differ in their ability to dovetail tasks and to do tasks which share time and attention?" (pp. 213-214). They

conclude the discussion of "combining tasks" with suggestions for further research.

> If we as specialists suggest the concurrent performance and dovetailing of tasks, we must be careful that we provide guidelines to avoid engaging in too many activities that require judgement and decisions about how to proceed. Research is needed to provide these guidelines. (p. 214)

The Walker and Woods (1976) study from Cornell University conducted in 1968 may be viewed as a significant time use study which offered many suggestions for further research. Three variables were found to have an impact on use of time, they were: the number of children, age of the youngest child, and employment of the wife. Their findings were very important for researchers of time, but they "found no satisfactory way of accounting for double use of time" (Walker, 1973, p. 9).

The Northeastern Regional Research Project (NE-113): Family Time Use, which will be discussed in detail later, is a direct outgrowth of the Walker and Woods study. The use of secondary time (or double use of time) was recorded in this study with a recommendation to identify:

> those activities which tend to be primary activities and those which tend to be secondary... Also knowledge of the activities that tend to occur in tandem is needed. Exploration of types of families (e.g. ...dual-career compared to single-earner, and families of various life cycle stages) most frequently using their time in simultaneous activities would provide additional insights into family resource management. Such information will be useful in designing programs to increase efficiency in household management. (Lovingood, 1981, pp. 50-51)

The NE-113 study provides a time use data base and recommendations for an update in 1988. This study may be helpful in refining and developing instruments for future studies.

Definitions

At this point a few of the main terms used in this study are defined for clarification purposes.

Family - four person families consisting of two adults and two children under the age of eighteen who are full-time residents of the household.

Homemaker - the person with primary responsibility for home care and management of the household.

Family Types by Employment - determined by the status of the homemaker.

Full-time Homemaker - the homemaker is not gainfully employed outside of the home.

Part-time Employed Homemaker - the homemaker is gainfully employed less than 35 hours per week.

Full-time Employed Homemaker - the homemaker is gainfully employed 35 hours or more per week.

Age of the Youngest Child - age by years at last birthday, classified as under 1, 1, 2-5, 6-11, and 12-17.

Shared Time - a term used to denote a management technique involving the performance of two activities simultaneously by one household member.

Primary Time - time used for activities which require more focused attention and in which the respondent is primarily involved.

Secondary Time - time spent in an activity which occurs at the same time as a primary activity and requires less attention from the respondent.

Problem Statement and Objectives

The purpose of this study was to analyze the extent to which homemakers reported the use of the management technique of shared time to complete household activities. The specific objectives of this study were:

1. to identify the activities reported by homemakers as being primary and secondary.
2. to compare the amount of shared time and types of activities reported by the homemakers as secondary, grouped according to the age of the youngest child.
3. to compare the amount of shared time and the types of activities reported by the homemakers as secondary, grouped according to family types by employment.

Questions and Hypotheses

In order to achieve the objectives of this study the following questions needed to be answered.

1. How much time do homemakers report as secondary and which activities tend to be primary and secondary?
2. What impact does the age of the youngest child have on the amount of time and types of activities homemakers reported as secondary?
3. What impact does the employment status of the homemakers have on the amount of time and types of activities homemakers reported as secondary?

After reviewing the related literature four hypotheses have been developed to answer these questions.

1. The total amount of time homemakers reported as secondary will decrease as the age of the youngest child increases.
2. The amount of time homemakers reported spent on the specific activities of food preparation, laundry, physical and nonphysical care of family members, will decrease as the age of the youngest child increases.
3. The proportion of total secondary time reported, with the exception of paid work time, will be higher for the gainfully employed homemakers than the full-time homemakers.
4. The proportion of secondary time reported spent in the specific activities of food preparation, dishwashing, laundry, nonphysical care of family members, and management, will be higher for the gainfully employed homemakers than the full-time homemakers.

NE-113 Data Bank

This study was based on data from a collaborative research project (NE-113) entitled "An Interstate Urban/Rural Comparison of Families' Time Use" established in 1977 under the Regional Research Program of the U.S. Department of Agriculture. The eleven states that participated in the study conducted interviews in 2100 urban and rural households with the purpose of determining how families allocate their time among a variety of activities. The research project had three objectives.

1. To establish a data bank for urban and rural families on use of time for household, paid and volunteer work and for nonwork activities;

2. to compare similarities and differences in use of time in work (household, paid, and volunteer) among urban and rural populations in various geographic areas in the United States; and

3. to determine the extent of change in time use for household work, paid work, and volunteer work, and the total of these kinds of work over the past decade. (Lovingood, 1981, p. 5)

The data from all eleven states were merged on tape in 1982 and are available through the Interuniversity Consortium for Political and Social Research, Institute for Social Research at the University of Michigan. A summary of the study (including the purpose and objectives, methodology, findings regarding household time use, and recommendations for further work) is available in a basebook entitled Family Time Use: An Eleven State Urban/Rural Comparison (Lovingood, 1981).

This study dealt specifically with the data concerning the amount of secondary time reported by homemakers and the types of activities which were performed. The activities were categorized as follows:

Food Related Tasks
- Food Preparation
- Dishwashing

Shopping

House
- Cleaning
- Maintenance of home, yard, care and pets

Clothing and Household Linens
- Care (laundry)
- Construction

Household Members
- Physical Care
- Nonphysical Care

Management

Work (other than household)
- School Work
- Paid Work
- Unpaid Work

Nonwork Activities
- Organization Participation
- Social and Recreational Activities

Personal Maintenance
    Personal Care
    Eating
Other
Time Unaccounted For (missing)

(See Appendix A for the complete description of each category of activity). A detailed discussion of the methodology used in the NE-113 project will be presented in a later section as well as the specific variables chosen for this study.

CHAPTER II

Review of Related Literature

This chapter presents a review of some of the related literature in the area of time use. An introduction to the study of time use with an emphasis on household activities will be discussed first. The impact of two specific variables (age of the youngest child and employment status of the homemaker) on use of time by homemakers will follow. The last section consists of a review of the literature dealing with the concept of shared time followed by the theoretical framework upon which this study was based.

Time Studies

Gross (1959) stated that "time is that (research) which received the earliest attention of home economists" (p. 261). With the passage of the Purnell Act of 1924, many experiment stations developed research projects to examine the total use of time and the patterns of its use by homemakers in rural households. The early studies of time established time norms for household activities while looking at time demands. It was found that food activities led in demand for time followed by clothing activities, while purchasing and management ranked low in demand.

Gross (1959) stated that a trend in time use research was in the refinement of some of the earlier problems investigated. She cited three types of refinement: (1) the concept of the work unit or the quantity of work performed in a given time (Walker, 1959), (2) the

use of time in leisure activities, and (3) the pattern of use of time by the gainfully employed homemaker. Walker and Woods (1976) suggested that early research on time provided excellent historical information, but often has limited uses. One of the benchmark studies, Use of Time by Oregon Farm Homemakers, was conducted by the Oregon Experiment Station (Wilson, 1929). Other studies looked at time spent in specific household activities such as dishwashing, laundry, and child rearing (Carruth, 1915; Woodbury, 1918; Cushman, 1930; and Wilson, 1930a,b).

In the 1950's there was an increased interest in the homemaker's use of time. Walker and Woods (1976) suggested that:

> this may have been spurred by the increased participation of women in the labor force, technological developments that changed household work, and changes in the roles of family members. These developments have made resources of time, energy, and money more and more interchangeable for carrying out the work of homemaking. (p. 4)

Research during the 1950's and 60's emphasized the economizing of time, space, and motion. The terms "work simplification" and "motion-mindedness" were developed, applying the ideas of efficiency engineering (originally used in industry) to the home. The concern was for the number of "steps" required to complete household tasks and work fatigue, both physical and psychological (Gilbreth, 1954; Bratton, 1959; and Richardson and McCracken, 1960).

Research on the effects of the wife's employment outside of the home and her use of time was also popular during this period and continues so today. One study by Girad (1958) examined employed women in France and concluded that their work days were as long as farm

women had had in an earlier period when they worked in the home and on the land.

Steidl (1963a, 1963b, 1975) has contributed extensive research in the area of work simplification. One of her earlier publications is an evaluation of methods for studying the "human costs" of household work. She cited "time" as well as "type of activity" and "rate of work" as measures of the "task." She suggested that:

> Knowledge of when and where the greatest time costs occur help to evaluate the use of time. Knowledge of time periods may be useful in studying the shifts in attention and the maintenance of attention - both fatigue factors. (1963a, p. 9)

Based on previous research in this area Steidl (1963a) explained the idea of use of time as a measure of the continuity of work.

> The duration of activity at a workplace provides one general measure of the continuity of work - the amount of starting and stopping - and the organization for work. Increased continuity of work may reduce time for work and make it easier to do because less shifting of attention is required. (p. 10)

Steidl's further research has been based on these ideas. One study (1963b) was concerned with the continuousness of action during a given task from its start to completion. She identified three factors which control the continuity of household work: the activity itself, the homemaker, and external factors such as interruptions.

In a later study, Steidl (1975) asked 208 homemakers questions such as the following to help clarify the continuity of household work:

> How complex are household tasks? How much of the complexity stems from the characteristics of the work itself, from the coordination of tasks within the home or between those within and outside the home, or from the physical or social context within which the tasks are done? (p. 224)

The responses suggested homemakers need to learn more about timing and organizing their tasks if they wish to achieve an optimal level of complexity.

The implications of Steidl's work will be described further in the presentation of the theoretical framework at the end of this chapter. An examination of other literature more specific to this study was necessary to develop the framework.

Age of the Youngest Child and Employment Status of the Homemaker

Gross, Crandall, and Knoll (1980) concluded that "the trend of research in time patterns for household tasks has been toward analysis of factors affecting them" (p. 271). They go on to say that these factors can be "loosely grouped" as external and internal to the worker. Factors such as life span, environment, composition of the household, and gainful employment of the homemaker are considered external, while attitudes toward household work and likes and dislikes are internal. "Of these factors, composition of the household, especially the effect of children, and gainful employment of the wife are the more important" (p. 273).

Feldman and Hornik (1981) in developing a conceptual model for time use proposed that a "person's activities are the result of a complex mix of incentives, personal characteristics and constraints" (p. 411). They suggested these variables serve to mediate consumer choice of time allocation. Other variables (personality, socio-economic, and demographic) are also relevant to time use analysis. The combination of these variables makes up the "consumer space" and

indicates individual differences in choice-making. "Thus, people will participate in activities considering the perceived needs that the activities satisfy. This implies that time is efficiently used" (p. 411). Employment, family characteristics (such as the presence and age of children), and stage in the family cycle are some of the variables which make up the "consumer space" and can be used as a predictor of time use.

Steidl and Bratton (1968) identified constraints or "special conditions" which can affect the work time of homemakers.

> Women who are employed either part time or full time in the labor force have not only the hours of paid employment and work-related time but also the homemaking time added together...Women with children under six years of age are usually kept busy with homemaking work on a full time basis. As the children grow older the homemaking time can be decreased as little as 20 hours a week when necessary. (p. 102)

Several studies have focused on these factors and their impact on the homemaker's use of time. Hook (1963) selected 190 Indiana families to study the "factors in the family and physical environment which may affect use of time" (p. 9). Three factors affecting time spent on regular care of house were significant, one of which was the composition of the family, specifically age of the youngest child. Another study (Myers, 1966) looked at 50 homemakers from New Jersey to discover factors causing homemakers to spend varied amounts of time on activities. The sample was small and there were no statistical differences, but the data suggested that employed homemakers spent less time on homemaking activities, with the exception of washing clothes,

than non-employed homemakers.

Several more recent studies on factors which affect time use have been conducted using larger samples (Hafstrom and Schram, 1983, Manning, 1968; Stafford, 1983; Walker, 1969). Robinson's (1977) study explored how the American society spent their time by analyzing the data from the 1965-66 Survey Research Center survey of American's Use of Time. The original study involved 2,000 randomly selected, employed adults from an urban area in Mighigan. The subjects completed time diaries of their activities for a single day. Secondary and primary activities were recorded as well as "where and with whom the activity occurred." The purpose of Robinson's (1977) study was to examine the factors which distinguish how people spend their time. The results indicated that sex and employment status are predominate predictors of time use, for both men and women, while the number and ages of children affect the household and family care activities for women. Social class was found to be an influential factor in how free time is to be spent, specifically the use of the television and other mass media. He found that:

> Mass media were also a most important locus of secondary activities, which by their nature are thought to 'deepen' or expand the time we have available....Most of this secondary media use accompanied obligatory activities, rather than leisure, such as work (in the case of radio), housework (in the case of radio and television), and eating (in the case of reading). (p. 100)

Szalai et al. (1972) also analyzed data from the 1965-66 Michigan time use study and found that 83% of secondary radio time, 57% of television time, and 42% of reading time were associated with obligatory rather than free-time activities. Television usage as a secondary

activity was most frequently associated with visiting, housework, child care, and eating; while radio listening was associated with work, housework, eating, and travel. They found that reading was generally accompanied by activities such as television viewing and eating (pp. 707-709).

In 1975-76 the Survey Research Center (SRC) of the University of Michigan repeated the time use study with 1,391 families. Using a diary method of data collection, a "synthetic week" was developed showing homemakers' and spouses' allocation of time. In 1978, the U.S. Dept. of Commerce initiated a program to measure the value of non-market (household) work using the SRC data base. This program examined households consisting of families with two parents and two children which is comparable to the NE-113 data.* The project examined several variables which may cause variation in a woman's use of time for household work. It was found that "employment has a major effect on the allocation of time" (Peskin, 1982, p. 21). Non-employed women averaged 42.6 hours a week for household activities, while the part-time employed women averaged 31.4 hours and full-time employed women averaged 20.1 hours. There were three ways employed women made up for this decline in number of hours:

(1) the woman might accomplish the work more efficiently, that is, in less time;

(2) other household members might increase their household work hours; and

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* The sample used in the University of Michigan study consisted of a variety of family types, even though the U.S. Dept. of Commerce project only used data representing the households with the traditional two parent, two child family.

> (3) market-purchased goods or services might be substituted for the unpaid household work. (but) apparently, no evidence is available concerning the efficiency of employed and nonemployed women. (p. 21)

The presence of children was also found to be an important determinant of time use. "It leads directly to the devotion of sizeable blocks of time to child-care and indirectly to increased amounts of other household work" (p. 23). When the age of the youngest child was between 1-4, 12.4 hours per week were spent in child-care activities; at age 5-12, 5.4 hours; and age 13-17, only 2.9 hours.

Walker and Gauger (1973) also used time use data to put a monetary value on household work. Based on the data from a sample of 1,296 randomly selected New York households in 1967-68 (Walker and Woods, 1976), three variables were identified which influence the extent of household production done by the family members: the number of children, age of the youngest child, and employment of the homemaker. The study indicated that on the average, employed women used 2.4 hours less time per day in household activities than non-employed. Walker and Woods (1976) suggested that the reduction may be due to "more efficient use of time, leaving some of the work undone, buying the services of industry (as in ready prepared food), or hiring the services of a helper" (p. 4). Also, there were increased time costs in families with young children. Non-employed homemakers with children under 1, 1, 2-5, 6-11, and 12-17 years old averaged 9.6, 816, 8.2, 7.6, and 7.0 hours per day, respectively; while the employed homemakers averaged 7.5, 7.0, 6.0, 5.8, and 4.8 hours per day, respectively. The number of hours per day decreased as the age of the youngest child increased; also

there were differences by the employment status of the homemaker. The employed homemaker spent about 2 hours less per day on household activities.

The research of Davis (1979) examined 200 female university employees with the purpose of identifying the effects of employment on home management activities. Fifty-five percent of the sample indicated a great deal of change in the management practices as a result of their employment. Some of the more common changes she found were:

> Do household work more efficiently.
> Have less time for self, family, creativity, and entertaining.
> Have less time for sports, shopping, sewing, cooking, and ironing.
> Seldom do thorough housecleaning.
> Have constant, hurried, rushed housecleaning. (p. 201)

She continues with the statement "that women are frustrated with the traditional role expectation (and) are recognizing limitations" (pp. 201-202). Davis (1979) concluded by suggesting three ways professionals can provide assistance:

> Helping the working woman and other family members adjust to role changes.
> Guide the dual career homemaker in recognizing and accepting limitations.
> Help the dual career homemaker set priorities for use of time and energy. (p. 202)

One method of achieving the third suggestion is by helping homemakers to use their time more efficiently, perhaps by using the shared time approach. The following section will look at the few studies which have been done on the management technique of shared time.

Shared Time

Strober and Weinberg (1980) stated five strategies that wives can use to economize time. One strategy, relevant to time use, suggested that wives should do the housework more efficiently.

> Reduce the quality or quantity of household production and or use own labor more intensively or efficiently when engaging in such production. (p. 338)

Work simplification, based on motion economy, can help in reducing the time used for household tasks (Goetz, Purcell, Manning, and Fitzsimmons, 1966). Gross et al. (1980) stated that work simplification "has value for the well woman who is bowed down with work if she is gainfully employed or has heavy family responsibilities" (p. 302). Gross and Crandall (1963) developed three classifications of examples for work simplification, adapted from Mundel's (1950) five classifications of change, which can influence time in the home: Class A, changes in the product; Class B, changes in household equipment; and Class C, changes in activities of the body. Class C involves only the worker changing the body position and/or activity while the work place, tools, and final product remain the same. "Altering the sequence of steps in a task is a more important Class C change than motions alone" (Gross et al., 1980, p. 309). One method of "altering the sequence" is to fit steps closely together by overlapping or dovetailing tasks.

Deacon and Firebaugh (1981) also recommend the dovetailing or overlapping of tasks as a part of the "action sequencing" component of the planning process in their management system. Dovetailing is defined by Deacon and Firebaugh as "giving intermittent attention to two

or more tasks until they are completed," and overlapping as "giving concurent attention to two or more tasks" (p. 64). The concept of shared time in this study incorporated the use of both of these sequencing techniques. Deacon and Firebaugh included in their discussion of sequencing the suggestion that "skillfully ordering the parts of an activity (arranging the steps) can improve the flow of the activity" (p. 62).

Although the importance of using shared time is apparent, it is difficult to measure and thus makes the valuing of household production more complex (Hefferan, 1982). Becker's (1965), Michael's (1972), Schultz's (1974), and Gronau's (1977) theories of household production were critized because their models assumed no joint production. Walker (1979) suggested this time should be examined when determining a value for household production and that "measurement of secondary attention time, such as 'on call' time, is possible and could be combined in some way with primary time for measurements" (p. 125).

Grossman (1971) recognized a need for measuring joint production. He defined joint production as occurring when one input simultaneously produces two outputs. For example, when eating a steak in a nice restaurant one produces two commodities, the commodity "nutrition" as well as "entertainment." Grossman developed a model for measuring joint production, but did not test it empirically.

Marlowe (1980) utilized a sample of 603 respondents of the SCR time use study from the University of Michigan (1976-77) to analyze the extent of "joint production" within the household. Joint production

is the "performance of two or more home production tasks simultaneously" (p. 1). A time allocation model was developed to accommodate the complexities of joint production. The model was then used to test a set of hypotheses concerning the degree to which households used joint production. Several variables were associated with the demand for joint production time: education, unearned income, hours worked in the market, and number of children.

The variables, hours worked in the market and number of children, were relevant to the present study. Marlowe (1980) hypothesized that "increased hours worked in the market places increased demand for joint production" (p. 93). This variable was significant for males, thus supporting the hypothesis, but not so with females. One explanation given for these results is that women "must devote much time to home production whether they work in the market or not, especially when young children are present in the household" (p. 93). Further analysis indicated that employed women, either with no children or with teenagers, engage in more joint production than the non-employed women; but there was no difference between employed and non-employed women with children under five.

Marlowe (1980) also found that differences in the amount of secondary time use can be attributed to age of the children. The results indicated: children's age is a significant variable for the average weekend secondary time for women, females with children less than five years of age allocate more time for joint production, and more joint production occurs on weekends and holidays (probably because

more family members are home and more activities are being performed).

Marlowe's final conclusion was:

> that with women's educational levels increasing and more women entering the labor force, along with the corresponding decrease in family size, there will be less time allocated to home production, but more time allocated to joint production...(therefore)... Home management literature which focused on performing more than one task within the same time period may be even more useful today than in the past. An effort to update this type of literature could be advantageous in helping families cope with the need for increased joint production. (pp. 99-100)

Marlowe (1980) suggested that future research:

> should include joint production, as it has been shown to be another alternative along with substituting goods for time and with eliminating certain home production tasks... research focusing on types of activities as well as time use would identify which tasks are typically done in conjunction with others, and could provide insight into changes which are occurring because of increased pressure to perform joint production. (pp. 102-103)

Dolan (1980) used the NE-113 data to determine the influence of certain variables (personal, familial, and environmental) on the allocation of time for organization participation and social/recreational activities. She included an examination of secondary time in her study of these two activities. Though very little secondary time use was reported by the homemakers for the two activities it was found that:

> full-time homemakers were more likely to engage in social/recreational activity as a secondary activity than others. In addition, parents of young children were more likely to record social/recreational activity as secondary time than parents of older children. (p. 68)

It is evident from the review of literature that very little research has been done using time studies to examine the use of shared

time as a management technique. The final section of this chapter is a discussion of the theoretical framework developed for this study.

Theoretical Framework

This framework was based primarily on work done by Steidl and Bratton (1968), with ideas from other sources being incorporated. Their main framework was concerned with the idea of continuity of action.

> The general manner of proceeding with household tasks is determined by the continuity of action. Managing a home requires coordination of a variety of activities and the parts of each activity. (p. 195)

Continuity of action deals with the intermittency or continuousness of action on a given task from beginning to end. Four factors can control the continuity of household work: the activity itself, external factors, the homemaker, and changes in the work place.

Steidl and Bratton (1968) stated that "How continuously a homemaker can work varies with the household task. Intermittency of action is inherent in the nature of some tasks" (p. 195). Some tasks require little attention from the homemaker; she need not be present to complete the task. For example, after loading the washing machine with laundry, the homemaker is not required to be present while the clothes are washing; time must elapse before the next part of the task can be completed. Other tasks do require the constant presence of the homemaker, such as dishwashing by hand or making the bed. Because of the varying nature of tasks the homemaker is faced with periods of inactive and active work.

Steidl and Bratton (1968) indicated "interruptions in the action may occur that are not necessary for task completion" (p. 195). Interruptions such as having to answer the doorbell and respond to children are external to the task and may be dealt with quickly. Other interruptions from emergencies may require prompt attention from the homemaker. These authors suggested that some of the interruptions may be eliminated by using various management techniques, such as having small children answer the telephone or run small errands for the homemaker so the task can be continued without interruptions.

Homemaker's preferences and changes in the work place are the final two factors which can affect continuity of action, although they were not included in this present study of shared time. The first factor, the homemaker's preferences, deals with homemaker's attitudes and desires for completion of the tasks. "A fourth source of discontinuity in work comes from the need to change the place of work. Every time a trip must be made from on location to another, a break in rhythm of the work occurs" (p. 196). These trips to other locations will cause a change in the attention from the task being performed and represents a stop and start in the work.

Awareness of factors contributing to continuity and discontinuity is important when analyzing the timing of tasks by homemakers. By identifying the causes of starts and stops and the homemaker's views toward them, relationships between input (time) and output (completion of task) can be analyzed. "Thus, the intermittency of the action on a job, the duration of action in the various work periods, the tasks done

together, and the order of doing them are important considerations" (Steidl and Bratton, 1968, p. 197). Some factors, such as the characteristics of the task including the total time required and the necessary elapsed time, are associated with continuity and were considered in this present study. Other factors which affect continuity of action include composition of the family, employment of the homemaker, and the number and ages of people either participating in or present during the activity. Two of these factors, employment status of the homemaker and age of the children, were examined in this study.

Organization of tasks is also an important factor to examine when looking at time allocation for household activities, according to Steidl and Bratton (1968).

> A description of the organization of tasks is actually a description of the outcome of one or more plans or the lack of a plan. Planning may be done with respect to what to do, when to do it, how to do it, what resources to use, where to do it, who to do it. By the same token, organization must be in some terms or another, for when we organize, we make a plan for proceeding, arranging, coordinating, grouping, delegating. (p. 207)

Organizing may be identified very broadly, such as planning activities for the day, week, month, etc., or more specifically, such as ordering (or sequencing) activities as first, second, third, and so on. One important method of organization, on which this study focused, is the general style or method of carrying out the plan. Steidl and Bratton suggested that tasks can be completed either independently or simultaneously due to the nature of certain tasks. Proceeding with two tasks done together has been termed as "overlapping", "dovetailing", "combined time", and "shared time." Shared time was chosen for this

study because it did not limit the study to one specific method for engaging in two activities simultaneously.

Steidl and Bratton (1968) propose three methods of proceeding with two tasks concurrently: alternate active and inactive work times on two tasks, overlap active work times, and interrupt and interweave active work times on independent tasks. The following is a brief description of each overlapping method.

1. Alternate active and inactive work times on two tasks. Active work time requires the presence of the homemaker to keep the task going, while inactive work time does not. The task process continues even with the absence of the homemaker. Because tasks are either active or inactive by nature they can be dovetailed or fitted together so the homemaker can perform two tasks simultaneously. "They share time in the sense that they are going on at the same time although the homemaker is actively engaged in only one" (Steidl and Bratton, 1968, p. 211). Although exact timing may not be critical, the homemaker must use both short-term and long-term memory to remember to return to the inactive task.

2. Overlap active work times. This method enables the homemaker to do two active tasks simultaneously, but the authors stated "physical action must generally be required by only one of the tasks, and the worker must be able to think - to process information intermittently for the two tasks" (pp. 211-212). In order for two tasks to occur together, different senses must be used to receive the information for the tasks and different senses must be used to respond. For example, a

homemaker may be washing dishes and teaching a child spelling at the same time. Both the visual and speech senses are needed to receive the information (looking at the dishes and calling out the spelling words), while the manipulative (feeling) and auditory senses are needed to respond or complete the task (actually washing dishes and listening to the child's answer).

3. Interrupt and interweave active work times on tasks that only have active work times. The tasks in this method are independent, often of short duration, and do not have to be sequenced. The homemaker can work back and forth among these tasks in order to complete the activities more efficiently. An example of this method is the homemaker who interweaves all the small tasks needed in one room, such as making the bed, folding and putting away clothes, dusting, and straightening, before moving on to the next room. Advantages of this method are that the tasks can be performed during inactive work periods of other tasks and often interruptions do not affect the final product.

A review of Steidl and Bratton's theory of the continuity and organization of work has been presented. The present study focused on organizing by engaging in two tasks simultaneously. The first part of this study was aimed at identifying the tasks which are primary and secondary by nature. The second part examined the impact of two of the factors identified by Steidl and Bratton which can control the continuity or discontinuity of household work, age of the youngest child and employment status of the homemaker.

CHAPTER III

Methodology

The purpose of this research was to explore the extent to which homemakers used the management technique of shared time to complete household activities. The data bank chosen for this study came from the U.S. Dept. of Agriculture - Science and Education Administration (USDA-SEA) NE-113 project, entitled "An Interstate Urban/Rural Comparison of Families' Time Use." This chapter includes the methodology used in the NE-113 project followed by a discussion of the variables and statistical methods used in this study. A section on the limitations concludes the chapter.

NE-113

As an outgrowth of the 1967-68 household time use study (Walker and Woods, 1976), the NE-113 project used the same design so that comparisons could be made. Refinements in the instruments, data collection, and sampling procedures were prepared. Each of the eleven states used the same design, sampling methods, instruments, and codebook including detailed definitions of the activities.

Population/Sample. The sampling populations were defined as four-person families composed of two adults and two children under the age of 18 who were full-time residents of the household. The samples were drawn from either urban areas (cities with a population of 100,000 or more and areas surrounding them with a population of 2500 or more) or rural areas (population of less than 2500). Nine states, California,

Connecticut, New York, Oregon, Oklahoma, Texas, Utah, Virginia, and Wisconsin, collected data in both urban and rural areas, while Louisiana's sample was strictly urban and North Carolina's rural. Technical committees from each state identified eligible families using such sources as school census records, birth records and announcements, city and telephone directories, knowledgeable persons and organizations, and general area mailings. The families in each area were then classified by age of the youngest child: under 1, 1, 2-5, 6-11, and 12-17. Random selection was used to insure equal distribution in both the urban and rural areas and by age of the youngest child. The total sample included 2110 families from eleven states. No differentiation was made between urban and rural families in this present study.

Instruments. The two instruments used in the project included a time-use chart and a survey questionnaire. The instruments were originally developed at Cornell in 1967 for the Walker and Woods time study, and were modified and revised for NE-113. The time-use chart (See Appendix B) was provided for homemakers to record the activities of five minutes or longer for the homemaker, spouse, and other family members six years of age or older. The survey questionnaire (See Appendix C) was designed to collect information on the family's demographic characteristics, need-related activities, housing environment, level of household technology, use of household help other than family members, and special circumstances which may affect time use.

Data Collection. Initial contacts with the families were made by either telephone calls or mail. Both methods included an introduction,

explanation of purpose, and a solicitation for consent to participate. Four states offered stipends: Utah and Wisconsin, ten dollars; North Carolina, a silver dollar; and Texas, a token gift of stationery. All states sent out a letter of gratification.

After checking the eligibility of each family, two personal interviews with the homemaker (person with the primary responsibility for the household care and management) were set up. The homemaker was assisted by a trained interviewer to "recall" the previous day's activities for each family member. The interviewer went over the definitions of the activities and gave the homemaker a dictionary of these terms. The homemaker was taught how to record the information on the time-use chart and asked to complete a second chart for the following day. The homemaker could consult with family members to check the report for accuracy.

There were ten household tasks plus schoolwork, paid work, unpaid work, organization participation, socialization and recreation, personal care, eating, and "other" identified on the chart. A method of recording data was set up to differentiate between primary and secondary time so that no one day could be recorded as longer than twenty-four hours. Travel time was recorded as the specific activity the person was enroute to, and the return trip was recorded under the last activity completed.

The interview was completed after the interviewer administered the section on the survey questionnaire for meal preparation on Day I, scheduled the final interview for two days later, and thanked the participant. During the second and final interview, the time-use chart

for Day II was collected and checked for completeness, any questions from the homemaker were answered, and the rest of the survey questionnaire was administered.

Certain controls were used in the project. One control served to insure consistency in the data collection techniques. The researchers from Cornell developed a manual and video cassette of the procedures and guidelines for data collecting and coding. The interviewers had the opportunity to read the manual and view the cassette prior to the actual interviews as well as participate in several training sessions. The interviews were also scheduled so that each day of the week was to be equally represented in three segments of the year (January - April, May - August, September - December). The scheduling was done to allow for natural variation due to seasonal changes which was considered essential to determine the families' overall activities and time allotments. A third control helped to catch most of the recording errors at the time of collection. During the second interview the interviewers went over the time-use chart to make sure all twenty-four hours were accounted for. Any clarifications or answers to questions were provided at this time.

Data Analysis

Variables. The dependent variables in this study were secondary time, both the amount of time and type of activity performed as secondary. The amount of secondary time was identified and coded into intervals of five (5) minutes per day. The classifications for activities were presented in Chapter 1 (see page 7). There were a

total of 19 categories including "other" and "missing".

The independent variables were age of the youngest child and family type by employment. The age of the youngest child was broken down into five (5) divisions: under 1, 1, 2-5, 6-11, and 12-17. The family types were based on the employment status of the homemaker, and were classified as: full-time homemaker, part-time employed homemaker (less than 35 hours/week), and full-time employed homemaker (35 or more hours/week).

Analysis. Tables identifying the mean number of minutes homemakers reported as primary and secondary for each activity were designed. A ranking of the means in descending order was then developed to determine which activities tended to be primary or secondary by nature.

To determine the acceptance of the four hypotheses, descriptive as well as statistical analysis was necessary. First, frequency tables of each variable were developed and set up in the following manner.

Age of the Youngest Child X Total Time Spent on Secondary Activities

Age of the Youngest Child X Secondary Time Spent in Each Specific Activity

Employment Status of Homemakers X Total Time Spent on Secondary Activities (adjusted for paid work time)

Employment Status of Homemakers X Percent of Secondary Time Spent in Each Specific Activity

Next, a one-way analysis of variance test was completed to determine whether there was a significant difference among the sets of variables (age of the youngest child and employment status of the homemaker) and secondary time and activities. A Duncan's new multiple range test

(Senter, 1969) was also performed to identify significant differences between the individual groups within each independent variable. A significance level of .05 was set to determine the acceptance of each hypothesis.

To determine the acceptance of the third hypothesis, a variable representing the ratio of secondary to primary time minus paid work time was developed. A few mathematical calculations were necessary in order to create this variable. The NE-113 data bank had data reported in hours per week of paid employment (XEMPHWK). These data were divided by 5, to change it to hours per day (HRSDAY), then multiplied by 60, to change it to minutes per day (MINDAY). This number was then subtracted from the total amount of primary time (1440 minutes) to determine the total primary time adjusted for paid work (PTPWT). The final variable (PERC) was determined by dividing the adjusted primary time (PTWPT) by the total secondary time (TOTMINS), and represented the ratio of secondary time spent in all activities combined. The following is a summary of these calculations:

```
HRSDAY = XEMPHWK */. 5
MINDAY = HRSDAY * 60
PTPWT = 1440 - MINDAY
PERC = TOTMINS */. PTPWT
```

The fourth hypothesis required the development of a figure before performing the statistical tests. A ratio of secondary to primary time was created by dividing the amount of secondary time by the amount of primary time for each activity. These ratios were used for both the analysis of variance and Duncan's tests in the analysis of data.

Further data were determined such as age of the homemaker, educational level, occupation, and income for use in description of the sample. Specific responses from the questionnaire concerning the use of hired help and major appliances to complete household activities were used to aid in the discussion of findings.

Limitations

Several limitations of this study were recognized. This study was limited to existing data which have already been collected. The basic methodology was already developed, therefore, no changes could be made in the sample, instruments, and collection of data.

A second limitation dealt with the family structure of the sample selected. For comparison purposes the NE-113 used households of similar structure; therefore, any generalizations and conclusions represented a limited household structure of four persons, two adults and two children under age 18.

A third limitation of this study was that unless the researcher went back to the raw data, the two activities being done simultaneously could not be identified. Due to the method of recording data, there is no way to determine what specific secondary activity was being combined with a certain primary activity.

A final limitation of this study resulted from the mathematical calculations used to test hypothesis #3. The variable PERC was created to describe the ratio of secondary to primary time adjusted for paid work time. Since the NE-113 data on homemaker's employment was based on hours per week, the data had to be manipulated so that the variable

would be in minutes per day. The assumption was made at this point that the homemakers generally worked 5 days per week. This generalization puts some limitation on the results of this hypothesis, because in actuality some of the part-time employed homemakers may only work one or two days a week, not five.

In conclusion, with support from the review of related literature, shared time was proposed as a management technique used by homemakers to allocate their time more efficiently. It was hypothesized that age of the youngest child and employment status of the homemaker will have an affect on the amount of time and type of activity reported as secondary. The NE-113 time use data bank was used with both descriptive and statistical analysis to test the hypotheses presented in this study.

CHAPTER IV

Findings

The sample used in this study consisted of 2100 families from eleven states which participated in the Urban/Rural Comparison of Families' Time Use regional research project, 1977. Each family was made up of two parents, the homemaker and spouse, and two children under the age of 18. Each family was grouped according to the age of the youngest child so that the sample would cover several different stages of the family life cycle: ages less than 1, 1, 2-5, 6-11, and 12-17. For purposes of this study, the sample was also grouped according to the employment status of the homemaker: full-time homemaker, part-time gainfully employed homemaker (1-34 hours per week), and full-time gainfully employed homemaker (35+ hours per week). The findings were based on the average of the two-day time records which were reported by the homemakers during each of three sampling seasons. The first section of this chapter deals with the demographics of the households in the sample followed by an introduction to the data on primary and secondary time. The statistical findings as well as a discussion of the results will be presented for each of the hypotheses,which are:

1. The total amount of time homemkaers reported as secondary will decrease as the age of the youngest child increases.
2. The amount of time homemakers reported spent on the specific activities of food preparation, laundry, physical and nonphysical care of family members, will decrease as the age of the youngest child increases.

3. The proportion of total secondary time reported, with the exception of paid work, will be higher for the gainfully employed homemakers than the full-time homemakers.
4. The proportion of secondary time reported spent in the specific activities of food preparation, dishwashing, laundry, nonphysical care of family members, and management, will be higher for gainfully employed homemakers than full-time homemakers.

Description of Sample

The demographic variables of age, education, employment status, occupation, and income are presented in Table 1. A discussion of these data and their possible relationships to this study are presented in this section.

The age of the homemaker was classified into intervals of five years, with the youngest grouping of less than 25 years and the oldest grouping of 55 years or more. The data indicated that almost 75% of the sample fell between 30-39 years of age. The youngest homemaker in the sample was 18 and the oldest was age 74, with a range difference of 52 years. The median age of the homemakers was 31, while the mean age was 32.5. It was apparent that most of the homemakers were in the expanding stage of the family life cycle (Gross et al., 1980).

Only 7% of the sample of 2100 homemakers reported having no high school diploma and/or further education. The highest level of education for almost 40% of the entire sample was high school, and slightly over 20% had some college, but no degree. There were 136 homemakers (6.5%) with technical or vocational training and almost 2% with an Associate's

TABLE 1

Demographic Description of Homemakers, n=2100

	n	Percent
Age		
under 25 years	200	9.5
25-29 years	588	28.0
30-34 years	632	30.1
35-39 years	353	16.8
40-44 years	174	8.3
45-49 years	86	4.1
50-54 years	56	2.7
55 years and over	11	0.5
Education		
grade school	21	1.0
partial high school (-11)	125	6.0
high school	816	38.8
vocational or technical training	136	6.5
partial college, no degree	447	21.3
associates degree	39	1.8
bachelors degree	399	19.0
masters degree	105	5.0
doctoral degree	5	0.2
professional degree	4	0.2
Employment status		
full-time homemaker	1211	57.7
part-time employed homemaker	457	21.8
full-time employed homemaker	432	20.6
Occupation		
full time homemakers	1236	58.8
service workers and laborers	201	9.6
operatives	42	2.0
craftsmen and foremen	24	1.1
clerical workers	261	12.4
sales workers	72	3.4
managers and administrators	38	1.8
professionals and technical workers	226	10.8

TABLE 1 (continued)

Demographic Description of Homemakers, n=2100

	n	Percent
Household income		
less than $5,000	22	1.0
$5,000 - 9,999	168	8.0
$10,000 - 14,999	511	24.3
$15,000 - 19,999	482	23.0
$20,000 - 24,999	370	17.6
$25,000 - 49,999	376	17.9
$50,000 and over	68	3.2
don't know, not given	103	4.9

degree. Nineteen percent (19%) of the sample had earned a Bachelor's degree and 5% a Master's. Less than 1% of the homemakers had either Ph.D.,'s or some other professional degree. Since 54% of the homemakers had better than a high school education and 40% had high school diplomas, the assumption was made that this sample of homemakers was a fairly educated group.

In examination of the employment status of the homemakers almost 60% of the sample were found to be full-time homemakers not gainfully employed in the market. The remainder were almost equally divided between the part-time (0-34 hours per week) and full-time (35+ hours per week) employment. To get a better perspective of the employment status of the homemakers, the sample was also divided by household area (urban and rural) and employment status (Table 2). Of the full-time homemakers, 29% of the sample were living in a rural area, and 29% were urban. These data also suggested that there was little or no difference in the employment status of the homemakers by household area (urban and rural). A closer look at the specific occupation in which the homemakers were employed indicated that about three-fourths of the employed homemakers were in the more service-oriented occupations, while the remaining one-fourth were in professional and technical or managerial type occupations.

Of the incomes in the 2100 households represented in the sample, the median income fell in the $15,000 - $19,999 range (See Table 1). Nine percent (9%) of the sample had incomes of less than $10,000 (1% with less than $5,000) and only 3% with incomes over $50,000. Five

TABLE 2

Employment Status of Homemakers, by

Household Area (Urban and Rural)

Household area	Employment status		
	0 hrs/wk	1-34 hrs/wk	35+ hrs/wk
Rural	n=601	n=229	n=220
	28.62%	10.90%	10.48%
Urban	n=610	n=228	n=212
	29.05%	10.86%	10.10%
Total	n=1211	n=457	n=432
	57.67%	21.76%	20.58%

percent (5%) of the homemakers either did not respond to the question concerning income or did not know. Since these income figures are comparable to the 1978 Current Population Reports on consumer income (U.S. Department of Commerce, 1980), the sample was considered to be representative of all the households in the U.S.

Primary and Secondary Time

The average amount of primary time homemakers reported spent in each specific activity ranged from a high of 554.16 minutes per day (personal care of self) to a low of 5.72 minutes per day (schoolwork). The mean number of minutes spent in a primary activity was 75.85 (Table 3). The mean minutes per day homemakers reported spent in secondary activities was smaller, ranging from a high of 115.07 (non-physical care) to a low of 0.2 (schoolwork). For secondary time the mean number of minutes per day spent in an activity was 10.35 (Table 4). A rank ordering of the mean minutes per day spent in each activity from highest to lowest, was set up to determine whether activities tend to be primary or secondary by nature (Table 5).

The ranking for primary time was as expected. The largest amount of time was spent in personal care of self (over 9 hours per day) which includes activities such as sleeping, bathing, dressing, and relaxing. Socialization ranked next in order at about 4 hours per day. Food preparation and eating were next in decreasing order with a total of 145.58 minutes. Cleaning averaged slightly less than 1 hour a day, while shopping averaged almost 50 minutes. The other household activities such as dishwashing, laundry, and home maintenance averaged

TABLE 3

Average Primary Time Homemakers

Spent in Each Activity, n=2100

Activity	Mean minutes per day	Standard deviation
Food preparation	78.21	42.67
Dishwashing[a]	33.42	22.44
Shopping	49.33	51.88
Cleaning	59.82	52.37
Household maintenance	26.93	48.28
Laundry	28.88	29.44
Sewing	15.08	38.86
Physical care	57.98	71.00
Nonphysical care	49.63	53.12
Management	17.70	34.87
Schoolwork	5.72	35.68
Paid work	99.37	158.82
Unpaid work	23.48	57.38
Organization participation	27.41	55.16
Socialization/recreation	240.12	123.34
Personal care of self	554.16	78.94
Eating	67.36	30.82
Other	4.44	26.18
Missing	2.18	10.43

[a]Only 2099 observations in the data set could be used due to the presence or absence of missing values.

TABLE 4

Average Secondary Time Homemakers

Spent in Each Activity, n=2100

Activity	Mean minutes per day	Standard deviation
Food preparation	3.38	18.56
Dishwashing[a]	1.60	7.72
Shopping	.59	5.37
Cleaning	1.98	8.35
Household maintenance	1.47	8.92
Laundry	7.02	25.45
Sewing	1.20	8.00
Physical care[a]	5.92	17.92
Nonphysical care[b]	115.07	285.77
Management	3.19	12.33
Schoolwork	.20	3.33
Paid work	8.10	51.33
Unpaid work	3.24	24.40
Organization participation	.58	4.84
Socialization/recreation	32.36	53.22
Personal care of self	3.29	12.21
Eating	7.01	18.03
Other	.26	3.69
Missing	.27	9.11

[a]Only 2099 observations in the data set could be used due to the presence or absence of missing values.

[b]Only 2098 observations in the data set could be used due to the presence or absence of missing values.

TABLE 5

Rank Ordering of Average Primary and

Secondary Time Homemakers Spent in Each Activity

Primary time		Secondary time	
Activity	Mean minutes per day	Activity	Mean minutes per day
Personal care	554.16	Nonphysical care	115.07
Socialization	240.12	Socialization	32.36
Paid work	99.37	Paid work	8.10
Food preparation	78.21	Laundry	7.02
Eating	67.36	Eating	7.01
Cleaning	59.82	Physical care	5.92
Physical care	57.98	Food preparation	3.38
Nonphysical care	49.63	Personal care	3.29
Shopping	49.33	Unpaid work	3.24
Dishwashing	33.42	Management	3.19
Laundry	28.88	Cleaning	1.98
Organizations	27.41	Dishwashing	1.60
Maintenance (home)	26.93	Maintenance (home)	1.47
Unpaid work	23.48	Sewing	1.20
Management	17.70	Shopping	.59
Sewing	15.08	Organizations	.58
Schoolwork	5.72	Missing	.27
Other	4.44	Other	.26
Missing	2.18	Schoolwork	.20

around a half an hour each. Care of family members, both physical and nonphysical, took up a little less than 2 hours a day. Participation in organizations (27.41) and volunteer work (23.48) follow next in descending order, with management (17.70), sewing (15.08), and schoolwork (5.72) using the least amount of time. These findings indicated that homemakers spend approximately 43% of their primary time in personal care and eating; 21% in household work including food preparation, cleaning, shopping, dishwashing, laundry, management, sewing, and home maintenance; 20% in socialization, organizations, and unpaid work; 7% in care of family members, and 7% in paid work (Figure 1).

While personal care of self consumed the largest amount of primary time, nonphysical care of family members used the highest amount of secondary time at 115.07 minutes per day or slightly less than 2 hours. Next in decreasing order was socialization, consuming about a half an hour of secondary time. Paid work was next with 8.10 minutes per day followed by laundry and eating, each about 7 minutes. Physical care of family members as a secondary activity was performed almost 6 minutes, while food preparation, personal care of self, unpaid work and management averaged around 3 1/2 minutes each. The remaining household activities including cleaning, dishwashing, home maintenance, sewing, and shopping ranked next in descending order totaling about 6 1/2 minutes per day. The least amount of secondary time was spent in participation in organizations and schoolwork.

Although it is assumed the homemaker has 1140 minutes per day (24 hours) for primary activities, theoretically the amount of secondary

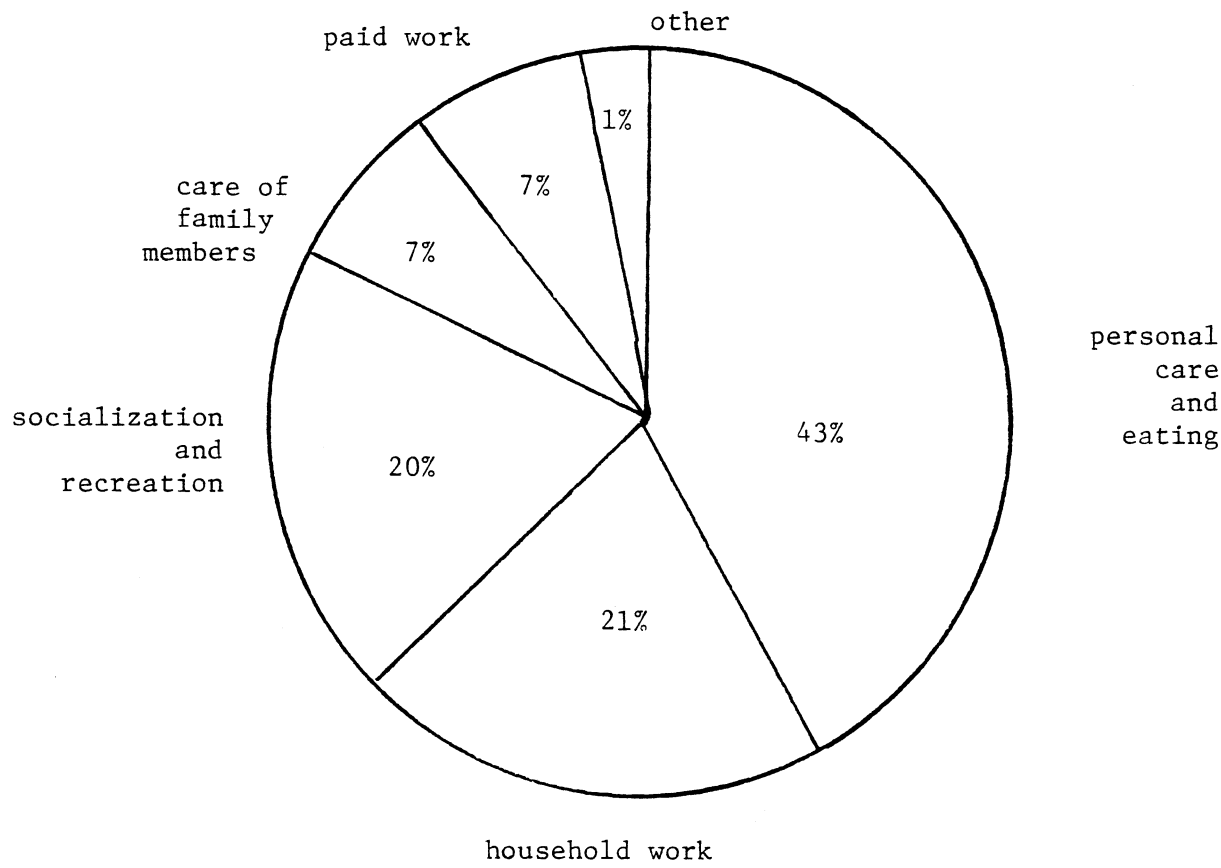

Figure 1. Primary time daily activity distribution.

time could vary from 0 to 1440 minutes. The total amount of secondary time homemakers reported spent in all activities combined was a mean of 196.73 minutes or 14% of a day. Breaking down this percentage into certain types of activities indicated that approximately 62% of their secondary time was spent in care of family members; 18% in socialization, organizations, and unpaid work; 10% in household work including food preparation, cleaning, shopping, dishwashing, laundry, management, sewing, and home maintenance; 5% in personal care and eating; and 4% in paid work (Figure 2).

It was reasonable that personal care took up the largest amount of primary time because people generally sleep 6-8 hours a day, and the remaining 1-3 hours could be spent dressing, bathing, visiting the doctor, or relaxing. Personal care as a secondary activity ranked low, however. This was understandable for when someone is sleeping they are not doing anything else.

Eating was also generally a primary activity since it requires both physical and mental activity. Eating which was ranked fifth among secondary activities consumed 7.01 minutes. Snacking could be considered a secondary activity while reading or watching television, and may have contributed to this higher number.

Social and recreational activities took up a large portion of the primary time. When organization participation and volunteer work are included, this segment covered 20% of the day. As suggested by previous research of time use (Marlowe, 1980; Robinson, 1977), the homemakers probably spent much of this time in activities such as watching

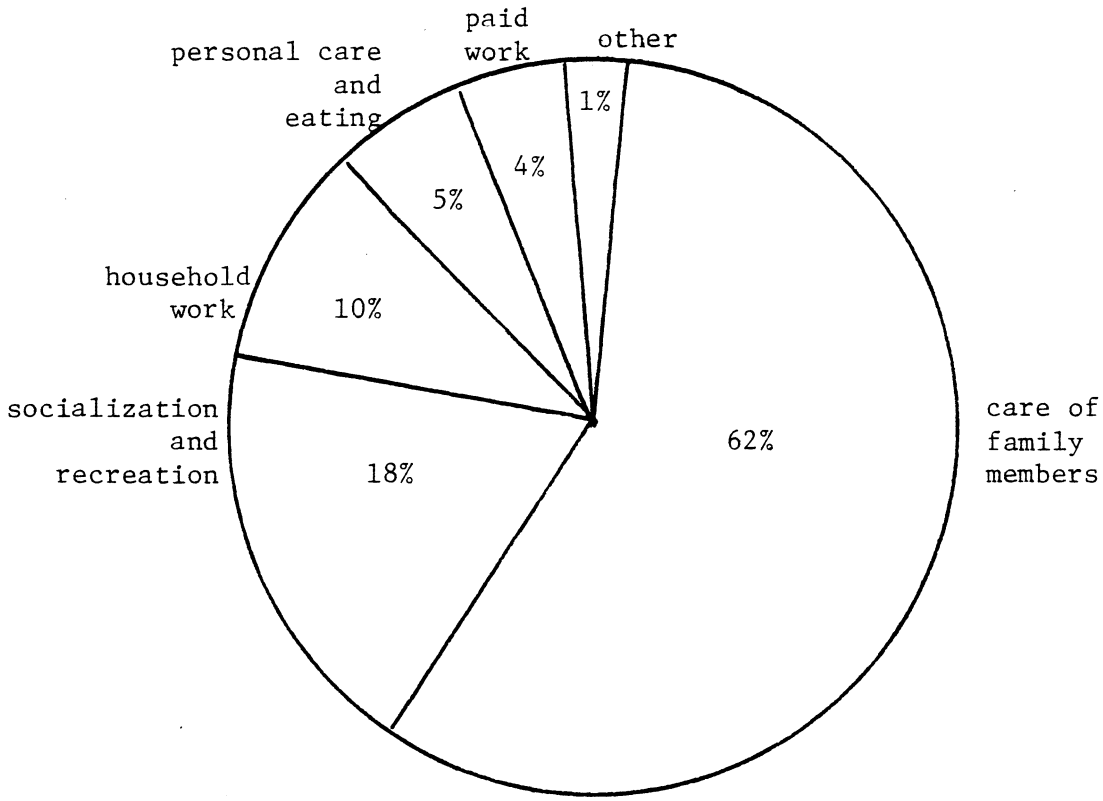

Figure 2. Secondary time daily activity distribution.

television, visiting with friends, or talking on the telephone. Socialization was also the second activity in the rank ordering of secondary time with 32.36 minutes. Socialization activities such as radio listening or television viewing could easily be secondary activities since they only require the respondent to use senses such as hearing or seeing, leaving one free to participate in a physical activity such as ironing. Robinson's (1977) findings were similar to these, suggesting radio listening and television viewing to be secondary activities by nature. As secondary activities, organization participation and unpaid work ranked lower at .58 and 3.24 minutes, respectively. Since both of these activities generally involve working with or for others, they tend to be primary by nature and require more focused attention.

Household work activities, which consist of food preparation, cleaning, shopping, dishwashing, laundry, management, sewing, and home maintenance, took up 21% of the homemaker's primary time. Housework generally requires physical activity such as cooking, sweeping, dusting, etc. and/or a large amount of concentration or attention, such as shopping. Therefore, the data suggested that most household activities tended to be primary by nature.

Approximately 10% of all secondary time was spent in housework, with laundry (7.02 minutes) contributing to the highest proportion of this time. This was explainable in that the homemaker could be doing other activities while the laundry was in the washer or dryer. Food preparation ranked seventh for secondary activities with 3.38 minutes.

Perhaps the homemaker was doing another activity while the food was cooking. Management ranked in the middle (10th) of the secondary activities with an average of 3.19 minutes. Management has been said to be a "mental process," therefore can easily be a secondary activity. Perhaps when the homemaker was in the shower (a primary activity), planning a day or deciding what to prepare for dinner could be a secondary activity. The other household activities had relatively small numbers, less than 2 minutes each. This may be explained in that they generally require both physical and mental activity. It would be difficult to perform these types of activities as secondary.

Although physical and nonphysical care of family members, as primary activities, took only 7% of the day and ranked seventh and eighth in order, it contributed to 62% of the total secondary time with nonphysical care ranking first and physical care sixth. Nonphysical care included activities such as playing with or attending to children, reading aloud to the family, chauffering family members, and other forms of child care. Often a homemaker puts an infant or toddler in a playpen while cleaning. In this example, the act of cleaning is primary while watching the child is secondary. Also, homemakers often take children shopping with them, thus child care again would be a secondary activity. Physical care as secondary did not rank as high perhaps because this activity deals more with the physical aspects of child care such as bathing, feeding, and dressing, as well as supervising a child's own personal care. These activities require more focused attention, thus are generally primary activities.

Paid work represented only 7% of the primary time, but this figure should not be misunderstood. These figures were derived from the average of a large sample of homemakers. Since almost 60% of the sample were described as full-time homemakers, only about 40% of the sample were employed for paid work. Therefore, this 7% figure was low due to the large number of full-time homemakers who were not gainfully employed. The number of hours per week full-time employed homemakers spent in paid work ranged from 35 to 77 hours per week, or approximately one-third of the day could be considered paid work. As a secondary activity paid work ranked third, with a mean of 8.10 minutes, representing only 4% of all secondary time. Perhaps driving time to and from work was considered secondary by some homemakers, or work may be secondary during a break. One other possible explanation may be that one was thinking about something dealing with work, such as a certain deadline. This could be considered a secondary activity to some.

In conclusion, these data suggested that the activities which tended to be primary by nature required the homemaker to use both a physical and mental action or a large amount of attention. Activities such as personal care, recreation, and shopping were generally primary activities. Activities which required physical work also tended to be primary, such as cleaning, physical care, etc. The secondary activities in this study tended to be more of a mental nature or required very little physical effort, such as management, radio listening, and watching children. Senses other than touch, such as hearing and seeing, were used in secondary activities (ie. viewing television). The

secondary tasks which are physical were generally tasks which could be dovetailed or overlapped and left unattended, such as laundry or food preparation.

Hypothesis #1

The minutes per day of secondary time reported by the homemakers ranged from a mean of 292.67 for those with children in the less than 1 year age group to a mean of 69.28 for the 12-17 year group, with a range difference of 223.38 minutes (Table 6). A one-way analysis of variance test created an F-value of 43.58 indicating that there was a significant difference between the means ($p < .0001$). The Duncan's new multiple range test suggested that most of the classes of the independent variable, age of the youngest child, were significantly different from each other. There was no significant difference found between the homemakers in the two youngest age groups and also between those in the second and third age groups. The mean number of minutes per day was not significantly different between the less than 1 year old and 1 year old group or the 1 year old and preschoolers (ages 2-5) group, but the less than 1 and preschoolers were significantly different. The 6-11 and 12-17 age groups were significantly different from all the other age groups. There was a dramatic reduction in the homemakers' secondary time use once the children reach school age (6-11), as well as when the children enter their teens. These findings were in agreement with Marlowe (1980) in that the ages of the children did have an impact on the homemakers use of secondary time. Therefore, the findings supported the first hypothesis that the total amount of secondary time would

TABLE 6

Mean Minutes per Day Homemakers Spent on All Secondary Activities, by Age of the Youngest Child*

Age of the youngest child	n[a]	Mean minutes per day[b]
less than 1 years	420	292.67 A
1 year	419	272.41 AB
2-5 years	418	232.45 B
6-11 years	419	117.94 C
12-17 years	419	69.29 D

*$F=43.58$, $p < .0001$.

[a]Only 2095 observations in the data set could be used due to the presence or absence of missing values.

[b]Means with the same letter are not significantly different ($p < .05$) based on Duncan's new multiple range tests.

decrease as the age of the youngest child increases.

Hypothesis #2

This hypothesis dealt with the impact of the youngest child's age on secondary time usage in each of the specific activities. One-way analysis of variance tests were performed for each activity followed by a Duncan's new multiple range test to analyze the differences between the age groups (Table 7). Several activities were significant at $p < .01$, they are: food preparation, laundry, sewing, physical care, nonphysical care, paid work, and socialization. Both physical and nonphysical care were also found to be significant at $p < .0001$. In order to determine whether to accept the hypothesis that the amount of secondary time spent in food preparation, laundry, physical care, and nonphysical care will decrease as the age of the youngest child increases, a more detailed examination of each of the four activities is presented followed by a discussion.

Food preparation. As seen in Table 8, the mean number of minutes per day of secondary time homemakers spent in food preparation for the five age groups ranged from a low of 2.93 to a high of 6.15, with a range difference of 3.67 minutes. The F-value of 2.98 was significantly different at $p < .0181$. The Duncan's test revealed a significant difference between the less than 1 age group and each of the other groups. There was a significant decrease in the amount of secondary time homemakers used in food preparation as the ages of children increased. This may be accounted for by the fact that an infant must be fed several times a day and more often than older aged children. The

TABLE 7

Mean Minutes per Day Homemakers Spent on Secondary Activities, by Age of the Youngest Child, n=2100

Activity	Age of the youngest child					F
	1	1	2-5	6-11	12-17	
Food preparation	6.15	2.48	2.67	2.65	2.93	2.98*
Dishwashing[a]	2.33	1.33	1.35	1.87	1.11	1.74
Shopping	.74	.81	.52	.53	.36	.48
Cleaning	2.85	1.46	1.78	2.24	1.58	1.94
Maintenance	1.71	1.62	1.48	1.04	1.51	.35
Laundry	10.94	4.91	5.13	7.01	7.12	3.81*
Sewing	.65	1.87	.56	2.05	.89	3.24*
Physical care[a]	14.41	9.30	4.02	.93	.96	48.74+
Nonphysical care[b]	187.77	185.18	151.30	47.03	4.26	39.20+
Management	3.21	2.99	4.46	3.20	2.11	1.94
Schoolwork	.46	.14	.04	.24	.12	1.02
Paid work	5.62	13.37	13.72	5.62	2.15	4.29*
Unpaid work	4.24	1.90	4.19	3.25	2.52	.78
Organizations	.70	.09	.64	.51	.93	1.70
Socialization	40.29	32.87	30.05	28.32	30.28	3.32*
Personal care	3.24	4.11	3.24	2.46	3.43	.97
Eating[a]	7.01	7.23	7.19	7.04	6.56	.09

*Significantly different at $p < .05$.

+Significantly different at $p < .0001$.

[a] n=2099

[b] n=2098

TABLE 8

Secondary Time Homemakers Spent in

Food Preparation, by Age of the Youngest Child*

Age of the youngest child	n	Mean minutes per day[a]
less than 1 year	420	6.15 A
1 year	420	2.48 B
2-5 years	420	2.67 B
6-11 years	420	2.64 B
12-17 years	420	2.93 B

*$F=2.98$, $p < .0181$.

[a]Means with the same letter are not significantly different ($p < .05$) based on Duncan's new multiple range test.

homemaker could be preparing a baby's bottle as a secondary activity while attending to the infant. Another possible explanation for this difference could be that some homemakers breast feed their babies as a secondary activity while reading, watching television, etc.

Laundry. The means for the secondary activity of laundry ranged from 10.94 (less than 1 years) to 4.91 (1 year olds), with a difference of 6.03 minutes (Table 9). The F-value was 3.81 and significant at $p < .0043$. The Duncan's grouping showed no significant differences between the means of homemakers in the four older age groups, however, there was a significant difference found between the less than 1 year and the other age groups. These findings were to be expected in that the youngest age group has special extra laundry needs that the others do not, such as diapers, bibs, bedding, etc. The homemaker must increase the amount of secondary time spent in laundry to wash these extra items. As the babies reach age 1, the amount of time homemakers used for secondary laundry activities decreased by over half and then increased up to a second peak during ages 12-17. Although these numbers are not significantly different, an explanation could be that younger children do not own as many clothes as the older teenagers. The homemakers' laundry load would decline slightly then increase as the children get older. The homemaker may choose to use more secondary time in order to complete the task.

Physical care. Physical care as a secondary activity was also found to be significant with an F-value of 48.74 at $p < .0001$ (Table 10). The mean number of minutes per day decreased as the age of the

TABLE 9

Secondary Time Homemakers Spent in

Laundry, by Age of the Youngest Child*

Age of the youngest child	n	Mean minutes per day[a]
less than 1 year	420	10.94 A
1 year	420	4.91 B
2-5 years	420	5.13 B
6-11 years	420	7.01 B
12-17 years	420	7.12 B

*$F=3.81$, $p < .0043$.

[a]Means with the same letter are not significantly different ($p < .05$) based on Duncan's new multiple range test.

TABLE 10

Secondary Time Homemakers Spent in

Physical Care, by Age of the Youngest Child*

Age of the youngest child	n	Mean minutes per day[b]
less than 1 year	420	14.41 A
1 year	419	9.30 B
2-5 years	420	4.02 C
6-11 years	420	.93 D
12-17 years	420	.96 D

*F=48.74, $p < .0001$.

[a]Only 2099 observations in the data set could be used due to the presence or absence of missing values.

[b]Means with the same letter are not significantly different ($p < .05$) based on Duncan's new multiple range test.

youngest child increased or more specifically, ranged from a peak of 14.41 (for less than 1 year) to 0.93 (for ages 6-11). Each group was found to be significantly different from the others except the two oldest groups, according to the Duncan's test at $p < .05$. These findings supported the hypothesis with the exception of homemakers with the school age children who were not found to be significantly different. Since the activity of physical care of family included tasks such as bathing, dressing, and supervising the personal care of children, these findings would appear reasonable. As a child gets older and gains some independence, the homemaker is needed less for physical care. It may be easier for the homemaker to perform routine physical care tasks, such as diapering or dressing an infant, as secondary. As the child gets older and becomes more active or needs verbal supervision the homemaker must pay more attention to the task, thus physical care becomes primary. A child of school age becomes increasingly independent in the performance of physical care tasks. Also, the homemaker spends less time with the child because of the time the child is in school. This would also explain this decrease in secondary time. These figures are in agreement with Peskin (1982) and Walker and Woods (1976) in that younger children do require sizeable blocks of time for child care.

Nonphysical care. The secondary activity of nonphysical care, which was ranked first in mean minutes per day, was also found to be significantly different at $p < .0001$ for age of the youngest child (Table 11). With an F-value of 34.20, the means ranged from 187.77 (less than 1 year) to 4.26 (12-17 years) minutes or a difference of

TABLE 11

Secondary Time Homemakers Spent in

Nonphysical Care, by Age of the Youngest Child*

Age of the youngest child	n	Mean minutes per day[b]
less than 1 year	420	187.77 A
1 year	420	185.18 A
2-5 years	418	151.30 A
6-11 years	420	47.03 B
12-17 years	420	4.26 C

*F=39.20, $p < .0001$.

[a]Only 2098 observations in the data set could be used due to the presence or absence of missing values.

[b]Means with the same letter are not significantly different ($p < .05$) based on Duncan's new multiple range test.

183.41 minutes. The Duncan's test indicated no significant differences between the first three age groups, but ages 6-11 and 12-17 were both significantly different from each of the others, at $p < .05$. These figures also supported the hypothesis in that the mean number of minutes spent in nonphysical care decreased as the youngest child's age increased. There was a drastic decrease in the number of minutes, from 151.30 (ages 2-5) to 47.03 (ages 6-11), when the children enter school age and another decrease, to 4.26 minutes, as the children enter their teen years. This was explained in that the preschoolage children need constant attention from someone, generally the homemaker. The less than 1 and 1 year olds can easily be put in a playpen and watched, thus making nonphysical care a secondary activity. The 2-5 year olds are more active, and need more physical attention, such as playing games or answering their questions, which require the homemaker's primary attention. Thus, the amount of nonphysical care as secondary time decreased slightly. These findings support Steidl and Bratton's (1968) studies which suggested that children under the age of 6 demand more of the homemaker's time than the older children. When the children are of primary school age there is a decrease in need for nonphysical attention, but they do require some attention such as helping with schoolwork or chauffering to activities. The secondary time in this age group was probably associated with tasks such as supervising school assignments or play with friends. By the time the children are 12-17 they have increased independence and spend more time away from home. Therefore, it was logical that the homemakers with children in this

age group did not spend much time in nonphysical care as secondary activity.

In conclusion, three of the four activities examined in hypothesis #2 could be accepted, they are: food preparation, physical care, and nonphysical care. The three activities showed a significant decrease in secondary time as the age of the youngest child increased. Although the secondary activity of laundry did have significant differences it did not support the hypothesis. The number of minutes did decrease between the less than 1 age group and 1 year olds, but then increased steadily as the age of the youngest child increased. Therefore laundry as a secondary activity in the hypothesis was not accepted. Although the hypothesis did not require the examination of the other secondary activities which were found to be significantly different (sewing, paid work, and socialization), a table presenting the results of the Duncan's test for each activity can be found in Appendix D.

Hypothesis #3

To determine the acceptance of this hypothesis, calculations were performed to develop a variable describing the ratio of secondary to primary time minus paid work time. These ratios were used for an analysis of variance test by the employment status of homemakers, followed by a Duncan's new multiple range test. The ratios of secondary time over adjusted primary time were .15, .17, and .16 for full-time homemakers, part-time employed homemakers, and full-time employed homemakers, respectively (Table 12). The F-value was 1.19 with $p < .3030$. In other words, these data were not significantly different by

TABLE 12

Ratio of Total Secondary Time Over

Primary Time Adjusted for Employment Time,

by Employment Status of Homemakers*

Employment status	n[a]	Ratio[b]
full-time homemakers	1208	.1466 A
part-time employed	456	.1658 A
full-time employed	431	.1607 A

*F=1.19, $p < .3030$.

[a]Only 2095 observations in this data set could be used due to the presence or absence of missing values.

[b]Means with the same letter are not significantly different ($p < .05$) based on Duncan's new multiple range test.

employment status, even though the employed homemaker did use a higher percentage of time. The Duncan's test did not show any further results. Therefore this hypothesis could not be accepted; the percentage of secondary time was not significantly different for the employed homemakers than the full-time homemakers. These findings are similar to Marlowe's (1980) in that employment does not have an impact on secondary time use. Marlowe proposed that homemakers with young children must use more secondary time whether they are employed or not, and also the employed homemakers generally have no say in the number of hours they wish to work. These two factors need to be considered when examining the relationship between employment status and use of shared time.

Hypothesis #4

This hypothesis dealt with the impact of the employment status of the homemaker on secondary time reported spent in each of the specific activities. It was hypothesized that the percentage of secondary time spent in food preparation, dishwashing, laundry, nonphysical care of family members, and management, would be higher for the gainfully employed homemakers than the full-time homemakers. A ratio of secondary to primary time for each activity was developed and used in an analysis of variance test, followed by the Duncan's new multiple range test. The activities of dishwashing, cleaning, and physical care of family members (Table 13) were found to be significantly different by employment status ($p < .0001$). Shopping, household maintenance, sewing, management, schoolwork, and organization were significantly different,

TABLE 13

Ratio of Secondary to Primary Time

Homemakers Spent on Each Acitvity,

by Employment Status of Homemkaers, n=2100

Activity	Ratios by Employment Status			F
	0 hrs/wk	1-34 hrs/wk	35+ hrs/wk	
Food preparation	.0593	.0569	.0707	.28
Dishwashing[a]	.0941	.1460	.1950	10.68+
Shopping	.2484	.1460	.2906	3.46*
Cleaning	.1003	.2042	.2343	13.75+
Maintenance	.4396	.4591	.5630	7.53*
Laundry	.5573	.6505	.6390	.34
Sewing	.7377	.7615	.8385	8.15*
Physical care[a]	.2948	.4390	.5611	36.12+
Nonphysical care[b]	3.4229	2.9512	2.0488	2.57
Management	.5927	.4854	.7786	4.95*
Schoolwork	.9483	.9259	.9722	3.16*
Paid work	.9086	.9875	1.3914	1.03
Unpaid work	.7400	.7433	.7496	.01
Socialization	.2443	.1743	.2282	1.53
Personal care	.0081	.0052	.0059	1.19
Eating	.545	.2104	.1868	.99

*Significantly different at $p < .05$.

+Significantly different at $p < .0001$.

[a]N=2099

[b]N=2098

at $p < .05$, while nonphysical care was found significantly different at $p < .10$. A detailed explanation of the findings dealing with the five activities proposed in this hypothesis follows.

Food Preparation. There were no significant differences found for food preparation by employment status (Table 14). The F-value for the ratios of secondary to primary time was .28 with $p < .7569$. Although not significant, the findings did suggest the full-time employed homemakers used a higher proportion of secondary time in food preparation than the full-time homemakers, and part-time employed homemakers used the smallest proportion of secondary time. One explanation for these results, which could be supported by Davis' (1979) findings, was that the full-time employed homemakers have less time to cook and may have to use more convenience foods which can be cooking while the homemaker dovetails other activities, thus making food preparation a secondary activity. Since these findings are similar to Marlowe's (1980), it may also be suggested that due to increased time pressures, the full-time employed homemakers will double up on their food preparation time, even if it creates a decrease in the quality of the final product. Mundel (1950) also mentioned that one means toward work simplification is a change in the final product. Thus, it is possible that homemakers dovetail food preparation with other activities to help manage their time more efficiently.

Dishwashing. Although food preparation as a secondary activity did not statistically support the hypothesis, the ratio of secondary to primary time spent in dishwashing was found to be significantly

TABLE 14

Ratio of Secondary to Primary Time Homemakers Spent in Food Preparation, by Employment Status of the Homemaker*

Employment status	n	Ratios[a]
Full-time homemakers	1211	.0593 A
Part-time employed	457	.0569 A
Full-time employed	432	.0707 A

*$F=0.28$, $p < .7569$.

[a]Means with the same letter are not significantly different ($p < .05$) based on Duncan's new multiple range test.

different by employment status at $p < .0001$ (Table 15). The ratios ranged from .19 for the full-time employed homemakers to .09 for the full-time homemakers. The Duncan's test also indicated a significant difference between each of the classes of employment status ($p < .05$). These findings supported the dishwashing portion of the hypothesis and therefore was accepted. One possible explanation for these results was that the full-time homemakers may do more food preparation requiring several cooking utensils which must be washed by hand. Dishwashing by hand tends to be a primary task because it requires both physical and mental activity, whereas using a dishwasher could be secondary, once the appliance is loaded and in operation. Thus, the use of the dishwasher to perform a secondary activity was considered an important suggestion from the findings.

This leads to another possible explanation for the results. The two-earner families (with gainfully employed homemakers) are more likely to own dishwashers because they have two incomes. Therefore, employed homemakers could perform the activity of dishwashing as secondary while the full-time homemakers without dishwashers must wash by hand or perform the task as primary time. A further examination of this idea identified 62% of the total sample as owning a dishwasher. When classified by employment status of the homemaker, it was found that 61% of the full-time homemakers owned dishwashers, while 65% and 64% of the part-time employed and full-time employed homemakers owned dishwashers, respectively. A chi-square test was performed on these data, but no significant difference was found. In other words, there

TABLE 15

Ratio of Secondary to Primary Time Homemakers Spent in Dishwashing, by Employment Status of the Homemakers*

Employment status	n	Ratios[a]
Full-time homemakers	1210	.0941 C
Part-time employed	457	.1460 B
Full-time employed	432	.1950 A

*F=10.68, $p < .0001$.

[a]Means with the same letter are not significantly different ($p < .05$) based on Duncan's new multiple range test.

was no difference of dishwasher ownership by employment status of the homemaker.

Laundry. There were no significant differences found for the ratios of secondary to primary time spent in laundry by employment status. The analysis of variance test indicated an F-value of 0.34 with $p < .7145$ (Table 16). Although these findings are not significantly different, the high numbers suggest that laundry is an activity which tends to be secondary by nature. The figures for laundry were very high as compared to some of the other activities, ranging from .65 for the part-time employed homemakers, to .56 for the full-time homemakers. In other words, for every 1 minute of primary time spent in laundry, over a half of a minute of secondary time was spent performing laundry activities. Further examination of the data indicated almost 97% of the total sample of homemakers owned automatic washers and 91% owned dryers. This could explain why laundry was not significantly different for employment status, in that almost all the homemakers used appliances to perform laundry as a secondary time use.

Although the data were not significantly different, the figures do indicate an increase in the use of secondary time as the number of hours gainfully employed increased. As suggested by Davis' (1979) study, a possible explanation may be that full-time homemakers do more laundry tasks which tend to be primary, such as ironing, than full-time employed homemakers. Since employed homemakers in Davis' study mentioned a decrease in the amount of time spent ironing due to work, they probably will wear permanent press or "wash and wear" clothing

TABLE 16

Ratio of Secondary to Primary Time Homemakers Spent in Laundry, by Employment Status of the Homemaker

Employment status	n	Ratios[a]
Full-time homemakers	1211	.5573 A
Part-time employed	457	.6506 A
Full-time employed	432	.6390 A

*$F=0.34$, $p < .7145$

[a]Means with the same letter are not significantly different ($p < .05$) based on Duncan's new multiple range test.

items to eliminate the time it takes to perform the primary task of ironing. Again, this could be supported by one of Mundel's (1950) classes of work simplication, a change in the final product.

Nonphysical care. Nonphysical care of family members by employment status was found significantly different at $p < .0767$ with an F-value of 2.57 and therefore could not be accepted (Table 17). The Duncan's test ($p < .05$) indicated a significant difference between the full-time homemakers and full-time employed homemakers, but no significant differences between the part-time employed homemakers and the other two classes of employment. Although these findings indicated significant differences they did not support the hypothesis in that the ratios decreased as the number of hours gainfully employed increased. The full-time homemakers had a ratio figure of 3.24 for nonphysical care of family members, while the full-time employed homemakers had a ratio of 2.05*. An explanation for this might be that the full-time employed homemakers spent more of their nonphysical care time as primary because working away from home they do not spend as much of their time with their children. The types of nonphysical care activities may differ from full-time homemakers in that they may be more primary in nature, such as helping with homework, chauffering to activities, or playing with children.

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*The reason these figures appear high for ratios is that the homemakers actually spent a larger amount of nonphysical care time as secondary time than primary. Thus, when the ratios were calculated the numbers were over 1.00.

TABLE 17

Ratio of Secondary to Primary Time

Homemakers Spent in Nonphysical Care,

by Employment Status of the Homemakers*

Employment status	n	Ratios[a]
Full-time homemakers	1210	3.4229 A
Part-time employed	457	2.9512 AB
Full-time employed	431	2.0488 B

*F=4.95, $p < .0767$.

[a]Means with the same letter are not significantly different ($p < .05$) based on Duncan's new multiple range test.

One other explanation for the findings being opposite from that expected, is supported by the findings of Peskin (1982) and Walker and Woods (1976) that employed homemakers may substitute market services for unpaid household work to make up for the decline in number of hours available. In other words, perhaps more employed homemakers used child care services to perform this task while working, thus spending less time with their children. To examine this possibility, data from several of the questions which the homemakers were asked concerning child care were analyzed. Table 18 indicates that the highest percentage of child care by someone other than family members was performed in someone else's home, ranging from about 35% (for full-time homemakers) to 38% (for part-time employed homemakers). A chi-square test indicated no significant difference by employment status for this form of child care. Child care by someone outside the household taking place within the home was found to be significantly different at $p < .05$. The part-time employed homemakers had the highest percentage (31%), while the full-time employed homemakers had the lowest (12%). This variable was found to be significantly different by employment status using a chi-square test ($p < .0001$). These findings suggested that while child care in someone else's home was used most often for all the employment groupings, child care in the home was used more by the part-time employed and daycare centers by the full-time employed homemakers.

Although these data did not support the hypothesis, the findings do suggest that nonphysical care was generally a secondary activity.

TABLE 18

Number and Percent of Homemakers Having Someone From Outside the Household Take Care of Children, by Employment Status of the Homemakers

Where child care was performed	Employment status		
	0 hrs/wk	1-34 hrs/wk	35+ hrs/wk
Someone else's home	n=408 34.90%	n=166 38.25%	n=148 36.27%
In the home*	n=319 27.31%	n=136 31.24%	n=92 22.55%
Daycare center+	n=59 5.21%	n=30 7.33%	n=45 11.57%

*Significantly different at $p < .05$.

+Significantly different at $p < .0001$.

The ratios indicated that the homemakers spent 2-3 minutes in the secondary activity of nonphysical care for every 1 minute of primary time. Thus, these data do have important implications for the homemakers.

Management. The ratios of secondary to primary time for management were also found to be significantly different by employment status, at $p < .0071$ (Table 19). These findings partly supported the hypothesis in that the full-time employed homemakers had the highest ratio (.78) and the full-time homemakers had a lower ratio (.59), but it was the part-time employed homemakers that had the lowest of all three groups (.48). The Duncan's test found a significant difference ($p < .05$) between the full-time employed homemakers and both the part-time employed homemakers and full-time employed homemakers. These results suggested that the full-time employed homemakers reported more of their management activities as secondary. Perhaps full-time employed homemakers did more mental planning than the others because of the increased time pressures associated with their work. These ratios also supported the idea that management is a secondary activity by nature because of the high numbers which indicated that for every 1 minute of primary time in management, one-half to three-fourth of a minute would be spent in management as a secondary activity.

In conclusion, two out of five parts of hypothesis #4 were accepted; they are: dishwashing and management. Food preparation and laundry were not accepted because there were no significant differences found by employment status. Nonphysical care of family members was

TABLE 19

Ratio of Secondary to Primary Time Homemakers Spent in Management, by Employment Status of the Homemakers*

Employment status	n	Ratios[a]
Full-time homemakers	1211	.5927 B
Part-time employed	457	.4854 B
Full-time employed	432	.7786 A

*F=4.95, $p < .0071$.

[a]Means with the same letter are not significantly different ($p < .05$) based on Duncan's new multiple range test.

also not accepted because the findings were not as hypothesized, instead; the full-time homemakers had the highest percentage of secondary time. Although it appears that statistically employment status does not have an impact on the secondary time homemakers reported for each activity, it should be noted that the data indicated a trend which supports the hypothesis. There is a consistency in the direction of the ratios as proposed in this hypothesis; the employed homemakers did spend a higher proportion of secondary time in each activity than the full-time homemakers (See Table 13). The hypothesis did not require the examination of other secondary activities which were found to be significantly different (shopping, cleaning, home maintenance, sewing, schoolwork, and organizations), but a table presenting the results of the analysis of variance and Duncan's test was developed (See Appendix E).

Summary

The results presented led to the acceptance of all of hypothesis #1, three parts of #2, and two parts of #4. The only hypothesis which was not accepted was #3. Therefore, it was concluded: total secondary time spent in household activities did decrease as the ages of the youngest child increased; the amount of time spent in the secondary activities of food preparation, physical care, and nonphysical care did decrease as the age of the youngest child increased, while laundry did not differ with the age of the youngest child; the total amount of secondary time (adjusted for paid work) was not higher for full-time employed homemakers than full-time homemakers; and the percentage of

time spent in the secondary activities of dishwashing and management were higher for the full-time employed homemakers than full-time homemakers, but food preparation, laundry, and nonphysical care of family members were not higher. Overall, the findings from the data could be supported by several sources cited in the review of literature and were in agreement with the past study on shared time by Marlowe (1980).

CHAPTER V

Summary, Implications, Recommendations

Summary

Shared time was defined as a time management technique involving the performance of two activities simultaneously by one household member. The purpose of this study was to analyze the extent to which homemakers reported the use of this technique. Two independent variables, age of the youngest child and employment status of the homemaker, were analyzed to determine their impact on the homemaker's use of secondary time (the activity occurring simultaneously with another, but requiring less attention). This study was based on data from the USDA/NEW NE-113 project, "An Interstate Urban/Rural Comparison of Families' Time Use", 1977-78. Eleven states collaboratively sampled 2100 households, each consisting of 2 adults and 2 children under the age of 18, from both urban and rural areas. Each homemaker completed a time-use chart of the household for two 24-hour periods and answered the interview questionnaire. The interviews were scheduled to cover seven days of the week through all seasons of the year. The data from all eleven states were coded in a SAS computer data bank. The information from the NE-113 Time Use Data Bank on primary and secondary time and activities, age of the youngest child, homemaker's employment status, and other descriptive variables were used for analysis in this study.

Although time use studies have been conducted since the turn of the century, very little research on the concept of shared time could

be found. Secondary time is often a natural activity of which homemakers are unaware and can be difficult to measure accurately for research. However, the concept of shared time has been noted by several scholars (Deacon and Firebaugh, 1981; Gross et al., 1980; Strober and Weinberg, 1980). One research study which addressed this concept found several variables associated with secondary time use (Marlowe, 1980). Both Marlowe's and the present research examined the impact of the amount of time homemakers spent in market work and the ages of the children on secondary time use. The findings from both the studies were fairly consistent, thus strengthening the credibility of the results.

The dependent variables were the amount of secondary time, recorded in five minute intervals, and types of secondary activities, from a total of 19 household and work related classifications. Both descriptive and statistical analyses were used with the data. Frequencies and rank ordering of means were used to examine the nature of primary and secondary activities, while one-way analysis of variance and Duncan's new multiple range tests were performed on the sets of variables.

The sample consisted of 2100 homemakers with two children under the age of 18, from both urban and rural populations in eleven states. The households were equally grouped by age of the youngest child (under 1, 1, 2-5, 6-11, and 12-17 years) so that different stages of the family life cycle could be examined. The descriptive data suggested the homemakers to have an average age of 32.5 years and to be a fairly

well-educated sample. Sixty percent (60%) of the sample identified themselves as full-time homemakers, while the remainder were almost equally divided between part-time (0-34 hours per week) and full-time (35+ hours per week) gainfully employed. The median household income in this sample was in the range of $15,000 to $19,999.

An examination of the data using frequencies and a rank ordering of the activities based on the means of primary and secondary time, supported Steidl and Bratton's (1968) framework that activities tend to be primary and secondary by nature. Theoretically, any activity can be performed as primary time use, but certain activities tend to be primary by nature and can not be performed as secondary time easily. In this present study, primary activities tended to require physical activity or the homemaker's immediate attention. Personal care of self (ie. sleeping), eating, shopping, cleaning, and volunteer work were some of the activities found to be primary by nature.

Secondary activities, on the other hand, tend to be more passive in nature and can often be left unattended. Sometimes the homemaker is required to use the senses other than touch, such as hearing and seeing, when performing tasks as secondary. Although secondary time is generally spent on nonphysical or inactive tasks, some active tasks can be overlapped or dovetailed. Activities such as nonphysical care of family members, socialization, food preparation, dishwashing, laundry, and management, were suggested by the data to be secondary by nature. These findings are in agreement with those of Robinson (1977) and Marlowe (1980). Child care is frequently a secondary activity

because the homemaker can use the sense of sight to "keep an eye on" the child while attending to another activity. Socialization and recreation probably consisted of radio listening and television viewing; activities also requiring the use of the senses. Certain tasks involving appliances can be dovetailed with other activities, such as dishwashing and laundry. While the dishes or clothes are in the machine washing, the homemaker is free to complete other tasks. In other words, the homemaker is overlapping active and inactive work times. Activities which require only the use of mental thought, such as management, can also be performed as secondary time use.

The first hypothesis was supported by the findings in that as the age of the youngest child is increased, the total amount of secondary time reported by homemakers decreased. While there was a difference between all of the age groups, the most notable decline occurred at the age of entering school and continued to decline as children grew older.

Three of the four secondary activities hypothesized to increase when the age of the youngest child decreased were accepted; they were: food preparation, physical care, and nonphysical care of family members. There were no significant differences found for the variable of laundry activities. The homemakers in the less than 1 age group spent a larger amount of secondary time in food preparation than the other four groups. Infants often require special food preparation as well as constant attention, thus food preparation could be a secondary task while the homemaker cares for the infant.

Physical and nonphysical care of family members were also found to be significantly different by age of the youngest child. The younger age children need more attention and are home all day, therefore the homemaker must spend more time caring for them. Infants can be placed in a playpen where a homemaker can watch yet perform other tasks. Once a child reaches school age, there is a decrease in the amount of secondary time homemakers spent in care of family members. Since the child is away at school and has gained some independence, the time required of the homemaker for child care will decline.

Although the secondary time homemakers spent in laundry decreased after the less than 1 age group, the mean number of minutes increased to a second peak for homemakers with children in the 12-17 year group. It could be concluded that infants and school age children require extra laundry loads, thus the homemaker spends more time performing clothing care tasks which tend to be secondary by nature.

The analysis of data concerning age of the youngest child led to the conclusion that homemakers with children less than school age use more secondary time to perform household activities, especially those activities which pertain to children. The management technique of shared time can be used as one means of dealing with the increased time pressures and "endless" work associated with rearing young children.

The third hypothesis examined the impact of the employment status of the homemaker on total time spent in secondary activities, adjusted for paid work time. A variable of the primary time minus paid work time was divided into total secondary time to develop a ratio to be

tested with the employment status of the homemaker. Although the full-time employed homemaker did use a higher proportion of secondary time than full-time homemakers, no significant differences were found between these two variables, therefore, the hypothesis was not accepted. The findings were again in agreement with Marlowe's (1980) and suggested that the employment status of the homemakers did not affect the amount of time spent on all secondary activities.

The fourth hypothesis looked at the effect of the homemaker's employment status on the amount of secondary time spent in each specific activity. Five activities were chosen to study; they were: food preparation, dishwashing, laundry, nonphysical care of family members, and management. Only dishwashing and management supported the hypothesis, suggesting that employed homemakers spend a higher proportion of their secondary time in these two activities than full-time homemakers. Since there is a natural tendency for homemakers to use a dishwasher in secondary time use, it was suggested that full-time homemakers do more dishes by hand than employed homemakers. Perhaps full-time homemakers use more utensils which require hand washing for food preparation. Also, the full-time employed homemaker may eat lunch out, thus eliminate the need to wash dishes. The data also suggest that full-time employed homemakers do more management activities as secondary time than full-time homemakers. The employed homemaker may be doing more mental planning, such as thinking about the schedule for the following day or deciding what to serve for dinner.

Food preparation as a secondary activity indicated no significant differences among homemakers grouped by employment status. This

suggested that homemakers prepare foods similarly and dovetail a portion of this time. With the use of easy-to-prepare foods and convenience items, dovetailing food preparation with other activities can easily be achieved. Perhpas the homemakers use these food products to complete the task more efficiently.

The secondary task of laundry did not support the hypothesis: there were no significant differences among the homemakers grouped according to employment status. It was suggested that all three groups performed the same proportion of the laundry task as secondary. Since over 90% of the sample owned washers and dryers, which allows for overlapping laundry with other tasks, it was concluded that much of the laundry was performed as secondary time regardless of employment status.

The findings on the secondary activity of nonphysical care of family members were the opposite of what was expected. The full-time homemakers spent a higher proportion of secondary time in nonphysical care of family members than employed homemakers. This can be explained in that full-time homemakers are with their children all day, thus may spend much of their child care time as secondary. The employed homemaker may hire the services of a daycare centerto perform this task. The time the employed homemaker does spend with the children may be in primary tasks, such as helping with schoolwork or playing games.

Although only two out of five parts of the fourth hypothesis dealing with employment status supported the hypothesis, a trend in the data should be noted. There is a consistency in the direction of the ratios as proposed in the hypothesis: the employed homemakers did

spend a higher proportion of secondary time in each activity than the full-time homemakers. In conclusion, it has been suggested that the homemaker regardless of employment status performs most of the household activities. The findings of this study supported the idea that the technique of shared time can be used to help the employed homemaker perform two activities within a single time span, thus leaving more time for other activities. The employed homemaker could then be better able to complete all the household activities within the time available.

Implications and Recommendations

The findings of this study indicated several implications for both the consumer/homemaker and the professional, as well as many recommendations for further work in this area. The major implication deals with helping homemakers cope with increasing time pressures resulting from young children and/or employment. The saying "a homemaker's job is never done" is relevant to this concept of shared time in that the homemakers could use less primary time to complete their household work by using this management technique. By becoming consciously aware of this technique, the homemaker may be better able to overlap or dovetail more activities and feel less hurried or leave less work undone. When rearing preschoolers, the homemaker could perform more of the physical and nonphysical child care tasks and food preparation as secondary activities, which could leave more primary time for relaxation or socialization with friends (a common complaint among homemakers with young children). For employed homemakers, shared time could be used to alleviate the pressures associated with covering two roles (career

woman and homemaker). More of the household activities, such as cleaning, care of family members, and management, could be performed as secondary time and reduce many of the homemaker's pressures. Also, certain appliances could be beneficial when dovetailing activities. Dishwashers, washers, and dryers were discovered to be some of the major appliances used in secondary activities. The consumer/homemaker should become aware of the usefulness of these appliances in sharing time to complete tasks.

This study also had several implications for professionals in home management, family economics, family counseling, equipment, sociology, child psychology, and others that work with families, households, and time management. The findings suggested that professionals should become more aware of shared time, and the need to promote this management technique. Extension and education professionals need to teach the use of shared time and employ this technique to help homemakers better manage their time. Since there is a natural tendency to utilize certain appliances in secondary time use, equipment specialists and educators could also introduce the concept of shared time when teaching about major appliances; especially the dishwasher, washer, and dryer.

This area of household equipment and shared time needs to be researched further. By examining the timing of certain tasks (ie. washing a load of dishes), perhaps certain controls could be developed to help the homemaker overlap the household tasks better. For example, a signal might be designed on a washing machine to remind the homemaker that the laundry is finished washing and needs to be put in the

dryer or hung on a line, so that laundry can be a secondary task requiring less memory and attention. Other research in this area could deal with studying certain methods of overlapping household activities using the equipment found in the home. For example, with the use of a simple timer a homemaker can leave the food to cook, as a secondary activity, and be working on a primary activity. The use of household equipment in managing time is of utmost importance to homemakers, especially when they have young children to watch and/or full-time jobs.

Other suggestions for further study apply to researchers in the area of time use. This study on secondary time use or shared time should be repeated using other time use data banks for comparison purposes. Perhaps looking at households other than the traditional two-parent, two-child family, would be beneficial. A study of the one-parent family or single-person household and the use of secondary time could possibly provide interesting results.

This study examined only two of the variables describing the sample, age of the youngest child and employment status. Researchers in the social sciences may want to study possible relationships between use of secondary time and other descriptive variables, such as education, occupation, and income.

Of interest to professionals in home management would be the study of secondary time use by the spouse or children. Examining the use of this management technique by the spouse may identify some differences between homemakers and spouses and their management of time.

If the NE-113 project is to be repeated, an extension of the present method of coding the time spent in both primary and secondary activities would provide additional information, but not eliminate comparison with the past two decades. Due to the method of coding primary and secondary time separately, there was no way to tell which two activities were being performed simultaneously. Perhaps "sets" of primary and secondary activities could be distinguished. This type of coding would be very helpful to the researcher of shared time in the future.

Another recommendation for the future would be to compare the findings from this study with the findings from a future study on time use. As more women enter the workplace and the roles of society change, it would be of interest to see what differences may occur in the next decade. Will more of the household tasks be allocated to other family members, or will the homemaker still be responsible for the majority of the household work? The use of secondary time should be more relevant in the future with an increase in the number of women working. This study should be repeated to see what changes may occur.

Finally, the measurement of secondary time should also be considered when valuing household production. Previous studies have been unable to incorporate this time into their monetary value of the homemaker. This study has made it apparent that secondary time is being used, and should be taken into account. Those researchers involved in this area of family economics should find this information useful when evaluating the worth of the homemaker's time.

REFERENCES

Becker, G. S. A theory of the allocation of time. The Economic Journal, September 1965, 493-517.

Bird, G. W., Bird, G. A., & Scruggs, M. Determinants of family task sharing: a study of husbands and wives. Journal of Marriage and the Family, in press.

Bratton, E. C. Concepts of energy and work in home management. Journal of Home Economics, 1959, 55, 102-104.

Carruth, E. F. A time study in dishwashing. Journal of Home Economics, 1915, 7, 35-38.

Cushman, E. M. A study of time spent in dishwashing. Journal of Home Economics, 1930, 22, 295-297.

Davis, R. M. Working women, home management, and quality of life. In C. Hefferan (Ed.), The Household As Producer--A Look Beyond the Market. Washington, D. C.: American Home Economics Association, 1980.

Deacon, R. E., & Firebaugh, F. M. Family Resource Management Principles and Applications. Boston: Allyn and Bacon, 1981.

Dolan, L. M. Discretionary time of homemakers and spouses in two-parent, two-child families. Unpublished doctoral Dissertation, Virginia Polytechnic Institute and State University, 1980.

Feldman, L. P., & Hornik, J. The use of time: an integrated conceptual model. Journal of Consumer Research, 1981, 7, 407-419.

Gage, M. G. Housework: what it's worth. Changing Times, March 1961, pp. 21-23.

Gauger, W. Household work: can we add it to the GNP? Journal of Home Economics, 1973, 65, 12-15.

Gilbreth, L. M., Thomas, O. M., & Clymer, E. Management in the Home. New York: Dodd, Mead and Company, 1954.

Girard, A. Le budget-temps de la femme mariee dans les agglomerations urbaines (Time budgets for urban married women). Population, 1958, 13, 591-618.

Goebel, K. P. Time use and family life. Family Economics Review, Summer 1981, 20-25.

Goetz, H. M., Purcell, E., Manning, S. L., & Fitzsimmons, C. Quantity and quality measures for homemaking work units (Progress Report 217). Indiana: Purdue University Agricultural Experiment Station, 1966.

Gronau, R. Leisure, home production, and work -- the theory of the allocation of time revisited. Journal of Political Economy, 1977, 85, 1099-1123.

Gross, I. H. Research in home management. Journal of Home Economics, 1959, 51, 260-263.

Gross, I. H., & Crandall, E. W. Management for Modern Families (2nd ed.). New York: Appleton-Century-Crofts, 1963.

Gross, I. H., Crandall, E. W., & Knoll, M. M. Management for Modern Families (4th ed.). Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1980.

Grossman, M. The economics of joint production in the household. Paper presented at the meeting of the Econometeric Society, New Orleans, 1971.

Hafstrom, J. L., & Schram, V. R. Housework time of wives: pressure, facilitators, constraints. Home Economics Research Journal, 1983, 11, 251-254.

Hall, F. T., & Schroeder, M. P. Time spent on household tasks, Journal of Home Economics, 1970, 62, 23-29.

Hefferan, C. What is a homemaker's job worth?--too many answers. Journal of Home Economics, 1982, 74, 30-33.

Hook, N. C. Use of time in regular care of the house in selected Indiana families. Unpublished master's thesis, Purdue University, 1963.

Kilpio, E. Housework Study. Part I: The Concept of Unpaid Housework and the Determination of Its Value. Helsinki: Ministry of Social Affairs and Health, Official Statistics of Finland XXXll:71, 1981.

Kranz, P. What do people do all day? Behavioral Science, 1970, 15, 286-291.

Lovingood, R. P. (Ed.). Family time use: an 11-state urban/rural comparison (Bulletin VPI-2). Blacksburg, Virginia: Virginia Agricultural Experiment Station, 1981.

Linder, S. B. The Harried Leisure Class. New York: Columbia University Press, 1970.

Manning, S. L. Time use in household tasks by Indiana families (No. 837). Indiana: Purdue University Agricultural Experiment Station.

Marlowe, J. Joint production in the theory of household production. Unpublished doctoral dissertation, University of Tennessee, Knoxville, 1980.

Meyers, C. B. A study of factors influencing time spent on selected household tasks. Unpublished master's thesis, Southern Illinois University, 1966.

Michael, R. T. The Effect of Education on Efficiency in Consumption. New York: Columbia University Press, 1972.

Mundel, M. E. Systematic Motion and Time Study. Englewood Cliffs, New Jersey: Prentice-Hall, 1950.

Nickols, S. Y., & Metzen, E. J. Housework time of husband and wife. Home Economics Research Journal, 1978, 7, 85-97.

Peskin, J. Measuring household production for the GNP. Family Economics Review, 1982, 3, 16-25.

Richardson, M., & McCracken, E. C. Energy expenditures of women performing selected activities (Home Economics Research Report No. 11). Agricultural Research Service, USDA, 1960.

Robinson, J. P. How Americans Use Time: A Social-Psychological Analysis of Everyday Behavior. New York: Praeger Publishers, 1977.

Sanik, M. M. Division of household work: a decade comparison--1967-1977. Home Economics Research Journal, 1981, 10, 175-180.

Schultz, T. W. Fertility and Economic Values. In T. Schultz (Ed.), Economics of the Family: Marriage, Children, and Human Capital. Chicago: University of Chicago Press, 1974.

Senter, R. J. Analysis of Data Introductory Statistics for the Behavioral Sciences. Glenview, Illinois: Scott, Foresman, and Company, 1969.

Sorokin, P. A., & Berger, C. Q. Time-Budgets of Human Behavior. Cambridge, Mass.: Harvard University Press, 1939.

Stafford, K. The effects of wife's employment time on her household work time. Home Economics Research Journal, 1983, 11, 257-266.

Steidl, R. Research methods for study of human costs of household work (Bulletin No. 988). New York: Cornell University Agricultural Experiment Station, 1963a.

Steidl, R. E. Continuity of household work (Memoir 383). New York: Cornell University Agricultural Experiment Station, 1963b.

Steidl, R. E. Complexity of homemaking tasks. Home Economics Research Journal, 1975, 3, 223-240.

Steidl, R. E., & Bratton, E. C. Work In The Home. New York: John Wiley and Sons, 1968.

Strober, M. H., & Weinberg, C. B. Strategies used by working and non-working wives to reduce time pressures. Journal of Consumer Research, 1980, 6, 338-348.

Szalai, A. (Ed.) The Use of Time. The Hague: Mouton, 1972.

U. S. Department of Commerce. Current Population Reports Consumer Income (Series P-60, No. 121). Washington, D. C.: U. S. Government Printing Office, 1980.

U. S. Department of Commerce, Office of Management and Budget. Social Indicators, 1973. Washington, D. C.: U. S. Government Printing Office, 1973.

Vanek, J. Time spent in housework. Scientific American, November 1974, 116-120.

Walker, K. E. New York state homemaking work units (misc. bulletin 28). Ithaca, New York: New York State College of Home Economics, 1958.

Walker, K. E. Homemaking still takes time. Journal of Home Economics, 1969, 61, 621-624.

Walker, K. E. Household work time: its implications for family decisions. Journal of Home Economics, 1973, 65, 7-11.

Walker, K. E. Time measurement and the value of non-market household production. In C. Hefferan (Ed.), The Household As Producer--A Look Beyond the Market. Proceedings of the Family Economics/ Home Management section of the American Home Economics Association, 1979, 119-138.

Walker, K. E., & Gauger, W. H. The dollar value of household work (Information Bulletin 60). New York: New York State College of Human Ecology, 1973.

Walker, K. E., & Woods, M. E. Time Use: A Measure of Household Production of Family Goods and Services. Washington, D. C.: Center for the Family of the American Home Economics Association, 1976.

Warren, J. Use of time in its relation to home management. New York: Cornell University Agricultural Experiment Station, 1940.

Weigand, E. Use of time by full-time and part-time homemakers in relation to home management (Memoir 330). New York: Cornell Agricultural Experiment Station, 1954.

Wilson, M. Use of time by Oregon farm homemakers (Bulletin no. 256). Oregon Agricultural Experiment Station, 1929.

Wilson, M. Laundry time costs. Journal of Home Economics, 1930a, 22, 335-340.

Wilson, M. Time costs of children. Journal of Home Economics, 1930b, 22, 836-837.

Woodbury, M. Time required for housework in a family of five with small children. Journal of Home Economics, 1918, 10, 226-230.

APPENDIX A

DEFINITION OF TIME-USE ACTIVITIES OF HOUSEHOLD MEMBERS

Food Related Tasks

Food Preparation

All tasks relating to the preparation of food for meals, snacks, and future use. Include time spent setting the table and serving the food and other activities related to family meals such as preparation of formula and food for baby, barbecuing, canning or freezing food, jam and jelly making, outdoor cooking, making and serving refreshments.

Dishwashing

Washing and drying dishes, loading and unloading dishwasher or dish drainer, aftermeal cleanup of table, leftovers, and refuse, putting leftovers away after meal, putting away kitchen equipment.

Shopping

Shopping

All activities related to shopping for food, supplies, equipment, furnishings, clothing, durables, and services, whether or not a purchase was made (by telephone, by mail, or at the store). Also include comparison shopping, putting purchases away, getting or sending of mail and packages, hiring of services (cleaning, repair, maintenance, other), picking fruits and vegetables to purchase, rewrapping, labeling food for storage, window shopping.

House

Housecleaning

Any regular or periodic cleaning of house and appliances, including such tasks as mopping, vacuuming, sweeping, dusting, waxing, shampooing rug, washing windows or walls, cleaning the oven, defrosting and cleaning the refrigerator or freezer, making or changing beds, putting rooms in order.

Maintenance of Home, Yard, Car, and Pets

Any repair and upkeep of home, appliances, and furnishings such as painting, wallpapering, redecorating, carpentry, rearranging furniture, repairing equipment, plumbing, or furniture, caring for or putting up storm windows or screens, taking out garbage and trash, care of houseplants, flower arranging.

Daily and periodic care of outside areas such as yard, garden, tennis court, sidewalks, driveways, patios, outside porches, garage, tool shed, swimming pool.

Maintenance and care of family motor vehicles (car, truck, van, motorcycle, snowmobile, boat) such as washing, waxing, changing oil, rotating tires and other maintenance and repair work, taking motor vehicle to service station, garage, or car wash.

Feeding and care of house pets. Also include trips to kennel or veterinarian.

Also include chopping wood and picking vegetables, fruit, and flowers from garden.

Clothing and Household Linens

Care

Washing by machine at home or away from home, including collecting and preparing soiled items for washing, loading and unloading washer or dryer, hanging up items and removing from the line, folding items.

Hand washing

Ironing and pressing. Also include getting out equipment, sprinkling

Putting away cleaned items and equipment

Preparing items for commercial laundry or dry cleaning

Seasonal storage of clothing and textiles

Waterproofing leather or fabrics
Dyeing fabric
Jewelry cleaning
Polishing shoes

Construction

Making alterations or mending.

Making clothing and household accessories (draperies, slipcovers, napkins, etc.). Include such activities as sewing by hand and machine, knitting, crocheting, macrame, embroidering, jewelry making, quilting, weaving.

If these activities are to make product for self, immediate family members, or to give as gift, include in this category.

If activity is primarily to produce product for sale, include time under paid work.

If activity is primarily as recreation rather than goal motivated, include time under "recreation".

Household Member

Physical Care

All activities related to physical care of household members other than self such as bathing, feeding, dressing, and other personal care, first aid or bedside care, taking household members to doctor, dentist, barber, supervising child brushing teeth or getting dressed.

Nonphysical Care

All activities related to the social and educational development of household members such as playing with children, giving them attention, teaching, talking, helping children with homework, reading aloud to family members, chauffering and/or accompanying children to social and educational activities, attending functions involving your child.

Management

Management

Making decisions and planning such as thinking about, discussing, and investigating alternatives, looking for ideas and seeking information, assessing resources available (space, time, money, etc.), planning--family activities, vacations, menus, shopping lists, purchases and investments.

Supervising and coordinating activities

Checking plans as they are carried out

Thinking back to see how plans worked

Financial activities such as personal or financial recordkeeping, making bank deposits and checking bank statements, paying bills and recording receipts and expenses, figuring income taxes, applying to college, food stamps--applying or buying, public assistance, applications or information, applying for unemployment compensation.

Seeking or applying for job

Renewing licenses

Registering motor vehicles

Work (Other than Household)

School Work

Attending school

Classes related to present or future employment

Include all time spent in preparation for each of the above. For example, work or reading done at home or at the library relating to job or classes, typing a paper, writing school work.

Paid Work

Paid employment and work-related activities, such as work brought home, professional, business and union meetings, conventions, etc.

Paid work for family farm or business, babysitting, paper route.

Also include making items to sell, growing crops to sell, jury duty, military reserve training.

Unpaid Work

Work or service done either as a volunteer or as an unpaid worker for relatives, friends, family business or farm, social, civic, or community organizations. Include making donations for club sale, canvassing for political candidate, committee work for organization.

Nonwork Activities

Organization Participation

Attending and participating in religious activities and services, extracurricular school activities, civic and political organizations, fraternal groups, other clubs and organizations.

Social and Recreational Activities

Activities for one's personal enjoyment. Include reading (other than required for school or work), watching TV, listening to radio, stereo, etc., "going out" to movies, car shows, museums, sporting events, concerts, etc., participating in any sport, hobby or craft, jogging, exercising, taking a class or lesson for personal interest, walking, cycling, boating, "taking a ride," training animals, talking with friends or relatives, either in person or by telephone, entertaining at home or being entertained away from home, playing games, musical instruments, etc. (if adult is playing with child, include such activities under nonphysical care).

Personal Maintenance

Personal Care (of Self)

Sleeping, bathing, getting dressed, other grooming and personal care, making appointments and going to doctor, dentist, beautician, and other personal services, relaxing, loafing, resting, meditation.

Eating

Eating any meal or snack, alone, with family or friends at home or away from home.

Other

Any activity not classified elsewhere.

Any block of time use which you cannot recall, do not know, or do not wish to report.

Time Unaccounted For

Any portion of 24 hours not accounted for in another category (Food Related Tasks, Shopping, House, Clothing and Household Linens, Household Member, Management, Work (Other than Household), Nonwork Activities, Personal Maintenance, Other).

APPENDIX B

TIME-USE CHART

The time-use record form (Figure 2) was used by families to record activities of each family member six years of age and older. The chart provided space to record activities of five minutes' duration or longer for a 24-hour period. Definitions of activities (Appendix E) were used to determine categories in case of questions.

Every participating family completed two time charts--one for the recall day and one for the record day. Each chart was carefully checked to be sure that the record was complete; i.e., that time spent in all activities by each person was equal to 1440 minutes (24 hours).

12 midnight
11 pm
FOOD
Food Preparation
Dishwashing
SHOPPING
Shopping
HOUSE
Housecleaning
Maintenance of Home, Yard, Car, and Pets
CLOTHING AND HOUSEHOLD LINENS
Care
Construction
HOUSEHOLD MEMBERS
Physical Care
Nonphysical Care
MANAGEMENT
Management
WORK (other than household)
School
Paid
Unpaid
NONWORK
Organization Participation
Social and Recreational Activities
PERSONAL MAINTENANCE
Personal Care (of self)
Eating
OTHER
Other

APPENDIX C

SURVEY QUESTIONNAIRE

This nine-page instrument was used by interviewers to record information about meals at home and away, appliance ownership and use, housing environment, food preservation, use of help or services from outside the household, demographic characteristics, transportation, major household maintenance, and unusual conditions or situations that may have affected time use in the household.

The questionnaire was designed and printed by Cooley Business Forms, Inc., 1010 James Street, Syracuse, New York 13203.

HOUSEHOLD CODE: DO NOT WRITE IN THIS SPACE

Would you give me information about the meals prepared at home yesterday, whether they were eaten at home or elsewhere. If the total time for preparing the meal or snack was less than 3 minutes, do not include it. Start with the first meal of the day.

1. Recording Day I Recording Day II
2. What meal was it? 1 morning 2 noon 3 evening 4 snack 5 packed lunch 6 other
3. How many persons were served? 1 2 3 4 5 6 7 8 9+
4. Time preparation started :

5. Number of items prepared	6. What were the items prepared or eaten at this meal?	7. How much preparation was required for each item? None / Very limited / Simple / Moderate / Extensive	8. What kind of cooking was done? No cooking done / Top of range / Oven / Broiler / Microwave / Charcoal / Small Appliance
1			
2			
3			
4			
5			
6			
7			
8			

9. Recording Day I Recording Day II
10. What meal was it? 1 morning 2 noon 3 evening 4 snack 5 packed lunch 6 other
11. How many persons were served? 1 2 3 4 5 6 7 8 9+
12. Time preparation started :

13. Number of items prepared	14. What were the items prepared or eaten at this meal?	15. How much preparation was required for each item? None / Very limited / Simple / Moderate / Extensive	16. What kind of cooking was done? No cooking done / Top of range / Oven / Broiler / Microwave / Charcoal / Small Appliance

HOUSEHOLD CODE

	0 1 2 3 4 5 6 7 8 9
	0 1 2 3 4 5 6 7 8 9
	0 1 2 3 4 5 6 7 8 9
	0 1 2 3 4 5 6 7 8 9
	0 1 2 3 4 5 6 7 8 9
	0 1 2 3 4 5 6 7 8 9
	0 1 2 3 4 5 6 7 8 9

1. Yesterday did you or any household member eat a meal away from home that had NOT been prepared at home?

YES NO

2. IF YES, how many times were meals eaten away? 1 2 3 4 5 6 7 8 DK

(USE SEPARATE COLUMNS FOR EACH MEAL EATEN, WHETHER BY ONE OR MORE THAN ONE FAMILY MEMBER)

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3. Recording Day I Recording Day II		1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2
4. Starting with the first meal eaten away was it? a morning meal a noon meal an evening meal a snack	 (1) (2) (3) (4)	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
5. How many household members ate this meal?		1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
6. From which of the following was this food obtained? fast food school cafeteria industrial cateteria private cafeteria a restaurant private club or resort social gathering friend's or relative's house D.K. ____________	 (1) (2) (3) (4) (5) (6) (7) (8) (9)	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9
7. What was the approximate cost including the tip, of this meal for all household members who ate it?										

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1. 2. 3. 4.

5. 6. 7. 8.

9.

HOUSEHOLD CODE:

1. Do you own or rent your home?
   Own or buying Rent Other _____

2. About what year was your home built? _____

3. Is your household responsible for care of the yard? YES NO
   IF YES, what is the approximate size of the lot that you take care of? _____

4. How many rooms are in your home? (DO NOT COUNT BATHROOMS OR HALLS) 0 1 2 3 4 5 6 7 8 9+

5. How many full bathrooms do you have? 0 1 2 3 4+

6. How many partial bathrooms do you have? 0 1 2 3 4+

7. What is the main source of heat for your home? Electric Gas Oil Coal Wood Other D.K.

8. What is the main source of heat for cooking? Electric Gas Oil Coal Wood Other

9. How many motor vehicles do you have that are used for transportation by members of your household? 0 1 2 3 4 5 6 7+

10. How many drivers are in your household? 0 1 2 3 4 5 6 7+

11. Do you have any household pets? YES NO

12. What is approximate size of your refrigerator(s)?

a. Refrigerator 1	b. Refrigerator 2
small (less than 7 cu. ft.)	small (less than 7. cu. ft.)
medium (7-12 cu. ft.)	medium (7-12 cu. ft.)
large (12.1-19 cu. ft.)	large (12.1-19 cu. ft.)
extra large (19.1+ cu. ft.)	extra large (19.1+ cu. ft.)
not applicable	not applicable

13. Is your refrigerator(s) unit:

a. Refrigerator 1	b. Refrigerator 2
1 door model?	1 door model?
2 door model?	2 door model?
not applicable	not applicable

14. Is your refrigerator/freezer a frost-free model?

a. Refrigerator 1	b. Refrigerator 2
Yes, refrigerator only	Yes, refrigerator only
Yes, both freezer/ refrigerator	Yes, both freezer/ refrigerator
Not applicable	Not applicable
No	No

15. Do you have a separate freezer(s) (free-standing)? YES NO

16. IF YES, is your freezer space
    small (less than 12 cu. ft.)?
    medium (12-19 cu. ft.)?
    large (19.1+ cu. ft.)?
    not applicable

17. IF 1 OR MORE FREEZERS, ASK:
    How many of your free-standing freezers are frost-free? 0 1 2 3 4 5

18. Is your oven continuous cleaning? self cleaning? neither?

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YEAR

SQ FEET

HOUSEHOLD CODE:

1. On how many of the last seven days were the following done by someone in your household?

canning, pickling, making jams, and jellies ----------
freezing food ----------
preparing food for another day ----------
shopping for food ----------

2. On how many of the last seven days have the following been consciously used to avoid some dishwashing or laundry?

disposable cooking or serving dishes ----------
alumimum foil or disposable baking pans ----------
disposable diapers ----------
disposable household textiles ----------

3. Do you have a	YES	NO	4. IF YES, on how many of the last 7 days has it been used for your household work?
microwave oven?			
dishwasher?			
garbage disposer?			
trash compactor?			
washing machine--automatic?			
washing machine--nonautomatic?			
clothes dryer?			
sewing machine?			
vacuum cleaner?			
power garden and/or yard equipment?			
air-conditioner?			

IF YES, identify: Central 1 2 3+ room units

5. How many loads of clothes were washed on Day I ------
on Day II ------
during last 7 days ------

6. Where was washing done?

Day I home someone else's house apartment house laundromat other_____
Day II home someone else's house apartment house laundromat other_____

7. On how many of the last seven days did someone in your household:

take items to commercial laundry or dry cleaner? ----------
use coin operated laundry or dry cleaning equipment? ----------
do hand washing? ----------
iron? ----------
do sewing? ----------

HOUSEHOLD CODE:

____	0	1	2	3	4	5	6	7	8	9
____	0	1	2	3	4	5	6	7	8	9
____	0	1	2	3	4	5	6	7	8	9
____	0	1	2	3	4	5	6	7	8	9
____	0	1	2	3	4	5	6	7	8	9
____	0	1	2	3	4	5	6	7	8	9
____	0	1	2	3	4	5	6	7	8	9

1. On how many of the last seven days were the following done by a household member for your family:

shopping for items or services priced over $100?	0	1	2	3	4	5	6	7	NA
special housecleaning?	0	1	2	3	4	5	6	7	NA
painting, redecorating?	0	1	2	3	4	5	6	7	NA
washing or waxing motor vehicles?	0	1	2	3	4	5	6	7	NA
repairing appliances?	0	1	2	3	4	5	6	7	NA
working in the yard, garden, including harvesting?	0	1	2	3	4	5	6	7	NA
working on outside areas of the house or property?	0	1	2	3	4	5	6	7	NA

2. On how many of the last seven days was any household member ill? — 0 1 2 3 4 5 6 7

3. On how many of the last seven days did any household member chauffeur another household member:

to and/or from doctor, dentist or barber?	0	1	2	3	4	5	6	7
to and/or from paid work?	0	1	2	3	4	5	6	7
to and/or from school or classes?	0	1	2	3	4	5	6	7
to and/or from a social function?	0	1	2	3	4	5	6	7
to and/or from an organization, including church?	0	1	2	3	4	5	6	7
to and/or from an educational or athletic activity?	0	1	2	3	4	5	6	7
to and/or from a store?	0	1	2	3	4	5	6	7

4. On how many of the last seven days were the following modes of transportation used by one or more household members:

family car?	0	1	2	3	4	5	6	7	NA
company car?	0	1	2	3	4	5	6	7	NA
school bus?	0	1	2	3	4	5	6	7	NA
car pool?	0	1	2	3	4	5	6	7	NA
city bus?	0	1	2	3	4	5	6	7	NA
taxi?	0	1	2	3	4	5	6	7	NA
bicycle?	0	1	2	3	4	5	6	7	NA
other, ? ______	0	1	2	3	4	5	6	7	NA

5. In the last seven days, did you or any family member have someone from outside the household do any of the following:	YES	NO	NA	6. How many hours did it take?	7. How much did it cost?
take care of your children -- in your home?					
take care of your children -- in someone else's home?					
take care of your children -- in day care center?					
take care of other household member(s)?					
do housecleaning?					
do lawn or yard work?					
do painting, redecorating?					
service appliances?					
work on your motor vehicles?					
do house maintenance?					
other services? ______					

HOUSEHOLD CODE:

1. How many of your children, 12-17 years of age, worked for pay last week? 0 1 2 3 4 5 6 NA
   If none or NA, go to next page.

		CHILD I	CHILD II	CHILD III
2.	What is the age and sex of the child?			
3.	What kind of work did he/she do?			
4.	How many hours did he/she work last week?	_____hrs	_____hrs	_____hrs
5.	Approximately how much did he/she earn last week?	$_____	$_____	$_____

		CHILD IV	CHILD V	CHILD VI
2a.	What is the age and sex of the child?			
3a.	What kind of work did he/she do?			
4a.	How many hours did he/she work last week?	_____hrs	_____hrs	_____hrs
5a.	Approximately how much did he/she earn last week?	$_____	$_____	$_____

DO NOT WRITE BELOW THIS LINE--FOR OFFICE USE ONLY

WAGES

1.

2.

3.

4.

HOURS

1.

2.

3.

4.

WAGES

5.

HOURS

5.

WAGES

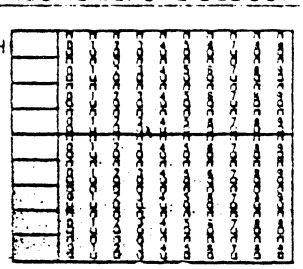
6.

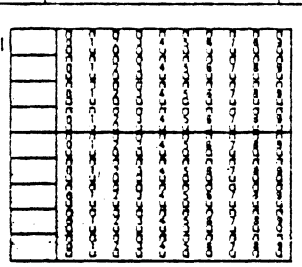
6.

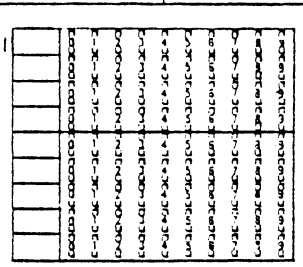
HOUSEHOLD CODE:

(FOR EACH ADULT ASK THE FOLLOWING QUESTIONS)

	HOMEMAKER	ADULT II	ADULT III
1. What was the highest grade in school you completed? (IF DEGREE MENTIONED NOTE)			
2. Last week were you employed? FOR EACH EMPLOYED ASK:	YES NO	YES NO	YES NO
3. Was this for pay? (CODE 1) For pay, but not at work, example, illness or vacation? (CODE 2) Without pay, example, family farm or business? (CODE 3)	1 2 3 4	1 2 3 4	1 2 3 4
4. What kind of work did you do? (IF MORE THAN 1 JOB, ASK FOLLOWING QUESTIONS ABOUT THE FIRST OR PRIMARY JOB			
5. What kind of industry or business were you employed in?			
6. How many hours did you work for pay last week? H II III			
7. What is the usual number of hours you work for pay a week?			
8. Are you: an hourly wage earner? (CODE 1) salaried? (CODE 2) on commission? (CODE 3) self-employed? (CODE 4) other?_____ (CODE 5) GO TO Q. 9 GO TO Q. 10	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
9. What is your hourly wage rate?	$_____	$_____	$_____
10. If you were salaried, self-employed, or on commission, what amount did you earn last week? (USE INCOME BEFORE DEDUCTIONS)	$_____	$_____	$_____

H 

II 

III 

HOUSEHOLD CODE:

	HOMEMAKER	ADULT II	ADULT III
1. Did you have more than one paid job last week? (IF NO, GO TO Q 9)	YES NO	YES NO	YES NO
2. (IF YES,) What kind of work was this?			
3. What industry or business was it in?			
4. How many hours did you work for pay last week on this job?			
5. What is the usual number of hours you work for pay per week on this job?			
6. For this second job are you: an hourly wage earner (CODE 1) salaried? (CODE 2) on commission? (CODE 3) self-employed? (CODE 4) other?_____ (CODE 5) GO TO Q. 7 GO TO Q. 8	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
7. What is your hourly wage for your second job?	$_____	$_____	$_____
8. If you were salaried, self-employed, or on commission for a second job, what amount did you earn last week? (USE INCOME BEFORE DEDUCTIONS)	$_____	$_____	$_____

9. If you worked without pay in family business or farm, how many hours did you work last week?			

10. Which category on this card represents the total income before taxes for your household in the past twelve months? This includes wages and salaries, net income from business or farm, pensions, dividends, interest, rent, Social Security payments and any other money received by members of your household?

BLOCK OUT ONE LETTER ONLY

A B C D E F G H I J K L M N OR

HOUSEHOLD CODE:_____

Were there unusual weather conditions that affected household members' time use?

on the 1st day _____

_____

on the 2nd day _____

_____

Were there any unusual physical conditions or situations regarding your residence that affected household members' time use?

on the 1st day _____

_____

on the 2nd day _____

_____

Were there any unusual activities of your family or household members that affected household members' time use?

on the 1st day _____

_____

on the 2nd day _____

_____

Are there any special situations in your home, for example: handicapped or chronically ill family members, that affected household members' time use?

_____

_____

_____

_____

Are there special ways your household members "save" time on household activities? _____

_____

_____

_____

APPENDIX D

Secondary Time Homemakers Spent in Sewing, Paid Work, and Socialization, by Age of the Youngest Child

Age of the youngest child	n	Mean minutes per day[a]
Sewing		
less than 1 year	420	.65 C
1 year	420	1.87 AB
2-5 years	420	.56 C
6-11 years	420	2.05 A
12-17 years	420	.89 BC
F = 3.24*		
Paid work		
less than 1 year	420	5.62 B
1 year	420	13.37 A
2-5 years	420	13.72 A
6-11 years	420	5.62 B
12-17 years	420	2.15 B
F = 4.29+		
Socialization		
less than 1 year	420	40.29 A
1 year	420	32.87 B
2-5 years	420	30.05 B
6-11 years	420	28.32 B
12-17 years	420	30.28 B
F = 3.32+		

*Significantly different at $p < .05$.

+Significantly different at $p < .01$.

[a]Means with the same letter are not significantly different ($p < .05$) based on Duncan's new multiple range test.

APPENDIX E

Ratio of Secondary to Primary Time Homemakers Spent in Each Significant Activity, by Employment Status of Homemaker

Employment status	n	Ratio[a]
Shopping		
full-time homemaker	1211	.2484 AB
part-time employed	457	.2137 B
full-time employed	432	.2902 A
F = 3.46*		
Cleaning		
full-time homemaker	1211	.1003 B
part-time employed	457	.2042 A
full-time employed	432	.2343 A
F = 13.75+		
Home maintenance		
full-time homemaker	1211	.4396 B
part-time employed	457	.4591 B
full-time employed	432	.5630 A
F = 7.53*		
Sewing		
full-time homemaker	1211	.7377 B
part-time employed	457	.7615 B
full-time employed	432	.8385 A
F = 8.15*		
Physical care		
full-time homemaker	1210	.2948 C
part-time employed	457	.4390 B
full-time employed	432	.5611 A
F = 36.12+		
Schoolwork		
full-time homemaker	1211	.9483 AB
part-time employed	457	.1259 B
full-time employed	432	.9722 A
F = 3.16*		

APPENDIX E (continued)

Employment status	n	Ratio[a]
Organizations		
full-time homemaker	1211	.6758 B
part-time employed	457	.6845 B
full-time employed	432	.7501 A
F = 3.89*		

*Significantly different at $p < .05$.

+Significantly different at $p < .0001$.

[a]Means with the same letter are not significantly different ($p < .05$) based on Duncan's new multiple range test.

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ABSTRACT

HOMEMAKERS' USE OF SHARED TIME IN HOUSEHOLD ACTIVITIES

by

Trudi Elisabeth Hamilton

The USDA-SEA NE-113 Time Use Data Bank was used to examine 2100 homemakers' use of shared time to complete household activities. Shared time was defined as a time management technique involving the performance of two activities simultaneously. Inspection of primary and secondary time use indicated that primary activities tend to require the homemaker's immediate attention and physical activity, while secondary activities are often nonphysical activities requiring the use of the senses and can be left unattended. Two independent variables, age of the youngest child and employment status of the homemaker, were analyzed to determine their impact on the homemakers' use of secondary time. Analysis of variance and Duncan's multiple range tests were performed for each of nineteen activities to determine the acceptance of four hypothesis. It was found that as the age of the youngest child increased the total amount of secondary time reported by homemakers decreased, and the amount of secondary time spent in food preparation, physical and nonphysical care also decreased as the age of the youngest child increased. Although the full-time employed homemakers did use a higher percentage of secondary time (adjusted for paid work time) than full-time homemakers, no significant differences were found. However, there was a significant difference found for the activities of dishwashing and management by employment status, suggesting employed homemakers spend a higher percentage of secondary time in these activities than full-time homemakers.