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THE ROLE OF THE HOME ECONOMIST IN THE DISSEMINATION OF INFORMATION CONCERNING THE USE OF HUMAN ENERGY AND NON-HUMAN ENERGY: A HISTORICAL CONTENT ANALYSIS OF THE JOURNAL OF HOME ECONOMICS, 1909-1977.
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Jeanne Alessi Ortiz

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By

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ABSTRACT

THE ROLE OF THE HOME ECONOMIST IN THE DISSEMINATION OF INFORMATION CONCERNING THE USE OF HUMAN ENERGY AND NON-HUMAN ENERGY: A HISTORICAL CONTENT ANALYSIS OF THE JOURNAL OF HOME ECONOMICS, 1909-1977.

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The major premise of this research was based upon the assumption that home economists have communicated information about the use of human and non-human energy over time. This study tried to identify the type of information which was disseminated by home economists in a historical context. Content analysis of the Journal of Home Economics from February 1909-December 1977 was used as the data base.

Three major questions were asked. Did the Journal include information which home economists discussed concerning the use of human and non-human energy? Which valued ends related to energy use did they mediate most frequently or least frequently? And, was there a difference in mediation of those valued ends?

A 45 percent proportional random sample of all articles stating a theme of human or non-human energy was analyzed for content. Each paragraph (N=2691) in the 122 articles was designated as the unit of analysis.

It was confirmed that the Journal did include information concerning human and non-human energy.

Jeanne Alessi Ortiz

The mediation of the twelve valued ends by home economists in the Journal was analyzed and presented with scatterplotts. Differences in the mediation of the valued ends did occur for both human and non-human energy and were explained.

Dedicated to Larry

. . . and the future Ortizs.

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CHAPTER I

INTRODUCTION

A Historical Look at the "Industrial Revolution" Which Took Place Within the Home

Often analogies have been made between the home and the factory. In many ways those analogies were founded, in other ways, unfounded. The home is a place of nurturance, development, growth and love by family members. The factory is a place of mechanism, work efficiency and profit. If the home and the factory are thought of in this light, how can they be related? Historically, they are related in one crucial factor and that is the improvement of organization and the elimination of wasted labor (Giedon, 1948). It is to this end, scholars and researchers concerned with household work dedicated themselves. As a result, it has been thought that the home was a nesting ground for an industrial revolution in its own right. Ruth Schwartz Cowan states that a

> . . . rather peculiar technological revolution has been going on right under our noses: the technological revolution in the home. This revolution has transformed the conduct of our daily lives, but in somewhat unexpected ways (Cowan, 1976, p. 1).

The purpose of industrialization in the home was twofold. By utilizing human and technological values it

was thought that efficiency and scientific management would result (Gross and Lewis, 1938; and Kneeland, 1928). The benefits of scientific management when applied to the home was that it brought "to its aid all the resources of science. Every possible method of performing a piece of work is carefully analyzed and the best elements of all the methods are combined in order to form a new method" (Cardullo, 1914, p. 523).

Prior to the "Industrial Revolution" in the home, the family was considered a basically self supporting unit. However, even during the pre-industrial revolution days, both the structure and function of the family appeared to be changing. The housing units and the size of the family were both growing smaller (Cowan, 1976).

Additionally, the economic function of the family was being transformed from an independent productive unit to a dependent non-productive unit. Roles of family members were being redefined and transformed to accommodate the impact of outside sources upon the family (Ogburn and Nimkoff, 1955).

Perhaps one facet which significantly contributed to the industrialization process of the home was the "servant problem" (Rubinow, 1911, p. 131). Historic research has not been able to document fully whether the influence of mechanization in the household or the declining supply of good household servants who were demanding higher wages

influenced the industrialization process. The acquisition of new labor-saving appliances within the home may have influenced the reduction of household staff, although it has not been supported conclusively (Cowan, 1976).

Regardless of the causality of the shift to industrialization in the home,

> . . . there was an intervening agent between social and technological changes, (which) comes immediately to mind: the advertiser-by which terms I mean a combination of the manufacturer of the new goods, the advertising agent who promoted the goods and the periodical that publishes the promotion (Cowan, 1976, p. 20).

She further states,

> Those national advertising campaigns were likely to have been powerful stimulators of the social changes that occurred in the household labor force. The advertisers probably did not initiate the changes, but they certainly encouraged them. Most of the advertising campaigns manifestly worked, so they must have touched upon areas of real concern for American housewives. Appliance ads specifically suggested that the acquisition of one gadget or another would make it possible to fire the maid, spend more time with children, or have the afternoon free for shopping (Cowan, 1976, pp. 20-21).

What role did the professional home economist play in the industrialization of the home? Home economists worked as teachers of the scientific management concept in the educational system (Huntington, 1911; and Gilbreth, 1912). They worked for government agencies as researchers and promoters of the concepts of scientific and efficient home management (Elifritz, 1920). Also, home economists were employed by utility companies and appliance

manufacturers to research, test, and promote their products (MacDonald, 1931; Miller, 1926; and Davison, 1929). Legitimately, this raised the question of what the result of this has been. Jean Schlater states,

> . . . that over time the home economist, along with other professionals have been concerned with developing and promoting social, economic, and technological innovations which at one level may have enhanced man's quality of life but which at another level may have unwittingly limited the potential for life (Schlater, 1967, p. 93).

Conceptual Framework

The Theory of Changing

As illustrated by the preceding statements, there seems to have been a conscious attempt by the government, manufacturers, advertisers, professional home economists and others to incorporate the concepts of scientific technology into the functioning of the home. The transfer of technology from inventor to user was considered fundamental to encourage economic growth. Scientific technology was directed towards the production of goods and services and was a factor which influenced the family's use of resources.

When an idea was conceived on the part of an inventor which would benefit the family, it was communicated to the persons who have the capacity to operationalize the innovation. When such a transformation takes place from idea to innovation and is expanded to consumption, economic growth is its consequences.

The result is social change. The concept of social change is known as the "Theory of Changing" and is defined by Elizabeth Crandall as the emphasis which is designed to bring about planned change (Crandall, 1959). A definition of the stages of social change within a system are as follows:

1. Invention--creation or development of ideas.
2. Diffusion--the process by which ideas are communicated from one source to many receivers in a social system, and
3. Structural Reorganization and its Consequences--changes that occur as a result of the adoption or rejection of an idea (Solo and Rogers, 1972 and Benne, 1957).

Philosophical Rationale for this Study

In a historical frame of reference, the question of the roles home economists had in disseminating information concerning human energy and non-human energy was asked. This question has gained even more meaning since the Energy Crisis of 1973-1974. Questions have been legitimately raised about whether or not home economists helped promote current levels of material and energy consumption. Although these questions were not answered conclusively by this study, light was shed on the ways home economics literature provided insights in the use of energy. As

Edward J. Metzen suggests,

> At minimum, home economists should not be part of the problem. Perhaps we have been. Have we not helped to develop the very attitudes and practices that created all these shortages of raw materials? (Metzen, 1975, p. 15).

In an even broader ecological perspective, the interdependence of humans on their environment has been an important relationship for human survival. A hierarchy of organisms in dynamic interaction with their environment causes transformations of energy. On a human level, energy is used by families to make decisions and reach family goals. Metzen further asks,

> To what degree have home economists promoted the general use of products and practices . . . inconsistent with society's long-run best interest in terms of raw material conservation, energy, resources, and the environment? (Metzen, 1975, p. 15).

Because home economists have an unique role in helping individuals and families in addressing energy related issues, "these questions merit our conscientious consideration as the future unfolds" (Metzen, 1975, p. 15).

If we are to critically address this issue, part of the investigation is to look at the historical statements of home economists. This can be done by analyzing the contents of the major vehicle of communication, the Journal of Home Economics. This historical perspective is important in understanding the roots of the profession. In addition, it helps promote an understanding of the framework of the

human ecological perspective as established at the Lake Placid Conference in 1902. Examination helps to explain the development of current day energy use patterns by family members and helps the home economist develop attitudes and practices which help families formulate new consumption and lifestyle patterns. Lastly, it helps to provide direction for future family energy decisions.

Problem Statement

This research was undertaken to indicate how one group of professional home economists communicated with "other" professionals (inside and outside the field) concerning the use of human and non-human energy. This was done over the history of home economics through a content analysis of the Journal of Home Economics: 1909 to 1977.

> What valued ends did home economists mediate related to the use of human and non-human energy over the history of the Journal of Home Economics?

Research Questions

Content analysis of the Journal of Home Economics was used to identify valued ends mediated by home economists related to the use of human and non-human energy. This analysis was designed to shed light on the following research questions:

1. Did the Journal of Home Economics include information concerning the use of human and non-human energy over the history of the Journal?

1a. How many articles dealt with the theme of human energy; how many with non-human energy between the decades of 1910's through the 1970's?

1b. Was there a difference in the number of articles focused on human and on non-human energy between the decades of the 1910's through the 1970's?

1c. Did the proportion of articles focused on human and non-human energy remain constant or change between the decades of the 1910's through the 1970's?

2. Did the Journal of Home Economics reflect a mediation of the twelve identified valued ends over the history of the Journal?

2a. Which valued ends were mediated most frequently; least frequently by home economists between the decades of the 1910's and the 1970's?

2b. Was there a difference in the percentage of mediations for each of the twelve identified valued ends as related to human and non-human energy between the decades of the

1910's and the 1970's?

2c. Were the differences meaningful. . . . (greater than 10 percent)?

General Definitions

The following definitions were related to and/or analyzed in this research.

Energy--the capacity for doing work.

Non-renewable Energy Resources--fossil fuels such as coal, natural gas, and oil which cannot be replaced by nature in less than hundreds of thousands of years.

Resources--something which is useful to an individual and/or family and is limited in supply (Crandall, 1956).

Management of the Home--a series of decisions making up the process of using resources to achieve family goals--the complete process consisting of four more or less consecutive steps: planning, valuing, controlling the plan in action, and evaluating the results (Crandall, 1956).

Human Ecological Perspective--the interrelationship between humans, the built and the natural environments for maintenance and survival.

Human Resources--the resources derived from a human's capacity to solve problems, (examples--intellect, skills, knowledge, energy).

Non-Human Resources--the resources derived from non-human materials (such as natural resources, air, water, soil, timber, energy).

Operational Definitions

The following descriptively testable definitions were developed for this research.

Human Energy--derived, generated and converted into the capacity to do work by the consumption of the basic elements (food, water, air, sunlight), converted into the capacity of a human to expend force (energy) to do work.

Non-Human Energy--labor-saving energy which substitutes a mechanical device powered by a non-renewable resource for human work.

Valued Ends

The following descriptively testable definitions were developed for this research. Valued ends are desires or goals held by home economists and written about in the Journal of Home Economics.

Economy of Labor, Human Energy--minimizing or reducing household labor through the use of work simplification techniques or improved work methods.

Economy of Labor, Non-Human Energy--minimizing or reducing household labor through the use of labor-saving (mechanical) equipment or appliances.

Time Management, Human Energy--allocation and utilization of the limited resource of time in a judicious manner through the use of human skills (knowledge, talents, and energy) to effectively manage the home.

Time Management, Non-Human Energy--the allocation and utilization of the limited resource of time in a judicious manner through the use of non-human (labor-saving appliances and equipment) energy to effectively manage the home.

Convenience, Human Energy--the notion of utilizing human resources (such as skills, talents, and knowledge) by the homemaker to create leisurely, comfortable, and ease of living for the family.

Convenience, Non-Human Energy--the notion of utilizing non-human resources (money,

material possessions, and mechanical non-renewable energy driven equipment) by the homemaker to create leisurely, comfortable, and ease of living for the family.

Efficiency in the Home, Human Energy--the utilization of human, physical, and mental methods by the homemaker to reduce household time and labor to facilitate organization.

Efficiency in the Home, Non-Human Energy--the utilization of non-human methods such as labor-saving appliances or equipment by the homemaker to reduce household time and labor to facilitate organization.

Conservation of Resources, Human Energy--the wise, judicious, and conserving use of human resources to preserve the functioning of family life, to facilitate the meeting of family goals, and to maintain and enhance the inherent quality of the environment.

Conservation of Resources, Non-Human Energy--the wise, judicious, and conserving use of non-human resources to preserve the functioning of family life, to facilitate the meeting of family goals and to maintain

and enhance the inherent quality of the environment.

Overall Family Resource Management, Human Energy--the processes which are involved with the integration of human resources to make decisions and to reach family goals.

Overall Family Resource Management, Non-Human Energy--the processes which are involved with the integration of non-human resources to make decisions and to reach family goals.

CHAPTER II

REVIEW OF LITERATURE

Content Analysis Research in Home Economics

Historically, home economists have not used content analysis to conduct research in the field (American Home Economics Association, 1961-1966 and 1965-1975). A review of abstracts of theses and dissertation within the field of home economics revealed that in the 1960's content analysis was used infrequently (Ahern, 1965 and McConnell, 1965).

In the 1970's, Laura Sims (1977) used content analysis to examine seventeen nutrition textbooks to determine how they differed in message content and writing style. She analyzed authors' credentials and qualifications, the believability of the message and the physical appearance and characteristics of the books.

Janice Nixon (1978) used content analysis to identify home energy conservation information in 219 articles from seven women's magazines published from July 1972 through June 1978. Less than one-half of one percent of the total pages (N=99226) in those magazines dealt with home energy conservation information. Articles on space heating were written about most frequently with less emphasis on water heating and air conditioning.

Prior to conducting this research, a general analysis of the content of the Journal of Home Economics was undertaken. This content analysis served as a review of the literature on energy related issues in a historical frame of reference. This review was implemented by the development of the thesis problem undertaken in this research.

Little content analysis research has been undertaken looking critically at the major publication of the profession in its entirety or the use of resources and energy in a historical perspective. For this reason, it was necessary to look at the roots of home economics. From this, statements and guideposts concerning resource and energy use can be gleaned. One major source of information is the Lake Placid Conferences on Home Economics, 1899-1908. The record of statements at the Lake Placid Conferences on Home Economics not only reflected the views and beliefs of the participants, but set the stage for the development of the American Home Economics Association. These statements covered a broad range of topics of which resource and energy use played a major role. Because of their significance in understanding the roots of the profession and the ideologies of its founders, a summary of the statements concerning resource and energy use is presented.

Roots of Family Ecology--Early Resource Use Examined in Home Economics Literature

Writings during the early development stages of the profession of home economics dealt with the way in which resources were used to meet family goals over time and to improve the quality and standard of living. For this purpose, the resources which were examined were air, water, light, ventilation, human energy, money, material goods, non-human energy and health (Lake Placid Conference on Home Economics, proceedings of Conferences 1, 2, and 3, 1899-1901; 4, 1902; and 6, 1904).

Health and Hygiene as a Resource

Of the resources related to personal health, it was felt that there was a justification in the use of hygiene as a foundation for the study of domestic science. Through proper hygiene, better lives and better living could be promoted. As a result, much work in course development for school children was conducted to further the work of making hygiene the basis of domestic science (Lake Placid Conference on Home Economics. Proceedings of Conferences 1, 2, and 3, 1899-1901 and 7, 1905). This work was researched, documented, and recorded by the study of euthenics on college campuses across the country (Lake Placid Conference on Home Economics. Proceedings on Conferences 6, 1904; 7, 1905; 8, 1906; and 9, 1907). Through the study of euthenics,

which studied the development of the human being through improved living conditions, it was hoped that factors could be identified which would lead to an improved standard of living (Lake Placid Conference on Home Economics. Proceedings from Conferences 1, 2, and 3, 1899-1901, and 4, 1902).

Factors which influenced and were related to good personal health were air, water, sanitation, ventilation, light, and heat (Lake Placid Conference on Home Economics. Proceedings from Conferences 1, 2, and 3, 1899-1901).

Human Energy as a Resource

Human energy was delicately linked to other factors involved in the management of the home. Caroline Hunt stated in 1901 that human energy which was received in the form of food and oxygen provided the impetus for work. Only when the two were combined was a human capable of work (Lake Placid Conference on Home Economics. Proceedings from Conferences 1, 2, and 3, 1899-1901). The judicious use of human energy was necessary for the production and management of the household and the maintenance of personal health (Lake Placid Conference on Home Economics. Proceedings from Conference 6, 1904, and 8, 1906).

Non-Human Energy as a Resource

The use of non-human energy was thought to free the homemaker of the drudgery of household tasks. The first

mention of the use of electricity appeared at the tenth annual conference although reference was made to the benefits of labor-saving equipment prior to that time (Lake Placid Conference on Home Economics. Proceedings from Conference 10, 1908). Non-human energy was usually referred to as labor-saving equipment or appliances. Reference was made to the benefit of the substitution of non-human (mechanical) energy for human energy in the home to industry for the production of food, clothing, etc. (Lake Placid Conference on Home Economics. Proceedings from Conference 4, 1902 and 10, 1908).

Time as a Resource

As a result of the use of non-human energy as a resource, the question of the use of time arose. Not only was the question of the waste of time posed, but the question of the use of leisure time (Lake Placid Conference on Home Economics. Proceedings from Conferences 1, 2, and 3, 1899-1901 and 4, 1902). Interest was generated from the standpoint of how time was used to benefit the homemaker's family and community.

Money as a Resource

Money was considered a resource which needed skill and education to manage wisely and economically. Discussions focused mainly on the use of money as a resource to purchase food, to hire domestic service and to determine

the cost of living (Lake Placid Conference on Home Economics. Proceedings from Conferences 1, 2, and 3, 1899-1901; 6, 1904; and 10, 1908).

Materials as a Resource

Money also served a medium for the purchase of material goods. Those material goods, used as resources, were useful, efficient and were not to "enslave" the homemaker. The question of the value of material goods was addressed repeatedly (Lake Placid Conference on Home Economics. Proceedings from Conferences 1, 2, and 3, 1899-1901). This concept was culminated by a statement of what "Home Economics Stands For"

> The ideal home life for to-day unhampered by the traditions of the past.
> The utilization of all the resources of modern science to improve the home life.
> The freedom of the home from the dominance of things and their due subordination to ideals.
> The simplicity in material surroundings which will free the spirit for the more important and permanent interests of the home and of society (Lake Placid Conference on Home Economics. Proceedings from Conference 6, 1904, p. 70-71).

Skills as a Resource

Skills on the part of the homemaker, as a trade and as a value, were also emphasized as a resource. It was felt that the educational process which dealt with courses in home economics, sociology, economics, sciences, literature and the arts would adequately prepare a young woman with

the scientific skills to perform household functions (Lake Placid Conference on Home Economics. Proceedings from Conferences 1, 2, and 3, 1899-1901 and 8, 1906).

CHAPTER III

METHODOLOGY

Historical Research

The use of historical research for the home economist is a valuable tool for looking at past events related to the home and family. Historical research helps to identify the implications this has for the present home, family and contemporary life. Furthermore, the utilization of historical methods for research when applied to home economics can help identify problems and yield information and facts that are relevant and contribute to understanding the manner in which today's family functions in the environment.

The role of the historian is to interpret and reinterpret records of past times and events to gain greater insight and understanding of the past (Skjelver, 1971).

The method of analyzing the data presented in the Journal of Home Economics was through content analysis. Content analysis is defined as "multipurpose research method developed specifically for investigating any problems in which communication serves as the basis of inference" (Holisti, 1969, p. 104).

Content analysis is appropriately used when the accessibility of data is a problem and the type of data is

limited to documentary evidence. It is also useful in the research of the problem which "requires precise and replicable methods for analyzing the attributes of documents which may escape casual scrutiny" (Holisti, 1969, p. 52).

Four characteristics of the scientific method of content analysis as developed by communication specialists are:

1. The analysis is concerned with what is said, not how or why.
2. The categories of analysis are precisely defined so that different analysts can apply them to the same body of contents and obtain the same data.
3. All relevant content is analyzed in terms of all relevant categories to eliminate bias. The analyses are designed to obtain data directed to an hypothesis and the results have a measure of general application.
4. The analysis seeks to determine what information is emphasized or omitted (Berrelson, 1971).

Source of Data Collection

In recent years and especially since the Energy Crisis of 1973-74, there has been an increased awareness of one of the resources that the family utilizes to meet its

goals . . . fossil fuel energy. This resource which contributes to the management of the home and is affected by family decisionmaking, is non-renewable energy-petroleum fuel, oil, gasoline, and natural gas. The home economist has had and will continue to have an important role in helping the family cope and adapt to the changing use of non-renewable energy resources in the home. In order to better understand how the home economist can influence the family's allocation of resources and lifestyle now and in the future, it would seem important to understand how they have influenced resource and energy use in the past. One method of establishing this influence is to look at the major publication of the profession . . . the Journal of Home Economics. Helen Atwater stated in September, 1933 that "the Journal of Home Economics provides a permanent record of the development of home economics from its beginnings" (Washington, D.C., 1978, p. 1). The Journal of Home Economics Author's Guide states that,

> Since February 1909, the Journal of Home Economics has been the referred professional journal for home economics and the official organ of the American Home Economics Association. As a professional journal, it is addressed to and open to contributions from the entire field of home economics, as well as the general public. . . .
>
> . . . The general policy of the Journal is to include contents of interest to home economists and others by advancing or updating professional knowledge; by serving as a forum for the discussion of concerns and issues affecting the

> profession over the long term; and by informing readers of available resources (American Home Economics Association, 1972, p. 1).

As stated, historically this journal has provided information and research in many areas which, when utilized by the home economist, helped the family in its allocation of resources to meet goals. For this reason it was used as the data base in this study.

Research Procedure

Location of Journals

All issues of the Journal of Home Economics used in this investigation were located in the Michigan State University Library, the Human Ecology Library at Michigan State University, or the Educational Resource Center at Western Michigan University. Mary Ann Eichenberger in 1973-74 identified many of the original articles which served as a foundation for this research. Also, the American Home Economics Association provided the Table of Contents for the years which were unattainable at local libraries.

Intercoder and Intracoder Reliability Testing

During each phase of the research, intercoder and intracoder reliability tests were performed to validate the results of each step of the research as appropriate. Intercoder reliability tests were utilized when the researcher

coded the material the first time and an individual volunteered or was employed to code the same material a second time. The purpose of this task was to establish reliability between a first and second coding between individuals. A method of intracoder reliability was also employed by the researcher. In this event, three student coders were instructed to code selected materials and then, after several weeks, were asked to recode the same material a second time. This allowed a check on the reliability among the same coders over time.

Journal Content Analysis

Identification of Journal Content: Table of Contents

Prior to the content analysis focused on answering the research questions posed within this research, it was necessary to identify articles in the Journal of Home Economics (here after termed the Journal) which specifically met the criterion of human and non-human energy (see operational definitions on p. 10). This was accomplished in two phases.

Intercoder Reliability--Phase One

The first phase was to identify generally articles from the Journal which met the criterion of human and non-human energy from the Table of Contents.

The researcher perused all volumes and issues of the Journal between 1909 and 1977 to identify articles which

dealt with the theme of human energy or non-human energy. This task was performed twice by the researcher to insure selection of appropriate materials.

In an attempt to establish reliability for the researcher's work, a second coder was employed to perform a second check for the purpose of establishing intercoder reliability. The second coder was provided with unmarked copies of the Table of Contents for the years of 1926, 1929, 1958, 1966, 1970 of the Journal. She was also provided with a written criterion for selecting articles from the Journal meeting the definitions for human energy and/or non-human energy. (See definitions of human energy and non-human energy, pp. 8 and 9.) The second coder identified articles in those years which met the established criterion. The average score when comparing the researcher's results with the second coder's results was 78.2 percent when selecting articles from the Table of Contents for the six designated years (High--100.00 percent, Low--50.00 percent). A summary of the scoring is found in Appendix A, p. 86.

Intercoder Reliability--Phase Two

The next phase was to identify specifically each article which met the criterion for human energy and non-human energy. The researcher selected a 50 percent random sample from all articles which indicated the stated theme. The researcher read and identified each article in the sample

by decade according to the theme. The theme was determined by the title of the article, an introduction or summary of the article, and the general contents included. A second coder volunteered to assist as a coder in the intercoder reliability testing. Using the same articles, a second coder read and coded the same articles according to the theme of human or non-human energy. The average agreement within decades was 93.6 percent (High--100.00 percent, Low--66.8 percent). The test results are included in Appendix A, p. 87.

Article Content Analysis

Identification of Article Content: Human and Non-Human Energy

Each issue of the Journal was systemically analyzed beginning with the first issue in February 1909. Copies of all articles meeting the criterion for human energy and non-human energy were made. From this population of articles, a 45 percent random sample of each decade (N-122) was selected. Each article was assigned a three-digit consecutively ordered number from 001 to 122 according to the date and decade in which it fell. (See bibliographical listing of the Journal of Home Economics articles used in analysis in Appendix B, p. 90.) The month and year the article appeared in the Journal was recorded on each article. Since the paragraph was the unit being analyzed, each paragraph was numbered from 1 to N for coding purposes.

The purpose of the article content analysis was to determine more specifically the valued ends mediated by home economists. (See Appendix C, p. 101, for copies of the codebook, valued ends found in the Journal of Home Economics Articles, Vol. 1-69, and coding sheets.) The valued ends were thought to be values home economists held in common, but were mediated with varying emphasis over the years. Each valued end could be related to the type of energy (human or non-human) which the author of the article was writing about. Up to three valued ends could be identified in each paragraph.

The twelve valued ends used in this research were developed by the researcher. She had worked extensively with the concepts of human energy and non-human energy in a historical perspective when developing a chapter for the Energy Handbook (Morrison and Ortiz). In an attempt to quantify the concepts used in that chapter associated with energy use, she read and reread articles from the Journal. While reading, she noted individual words and concepts which were related to the general theme. Such words as convenience, labor saving, conserving energy, minimizing labor, time saving, and efficiency were documented. These concepts were grouped and transformed into twelve valued ends which were used in the tabulation of frequency of mediation by home economists in the Journal over time.

Intracoder Reliability--Phase One

Intracoder reliability testing was undertaken to determine the ability of the researcher to replicate coding. Five articles not in the sample were randomly selected from the population. They were:

1. Donham, S. Agnes. "The Need for the Application of Fundamental Principles of Economics in the Home." Journal of Home Economics 14 (November 1922): 560-562.

2. Fortenberry, Frances Elizabeth and Agan, Tessie. "Shall We Continue Teaching Work Simplification in Kitchen Planning?" Journal of Home Economics 56 (June 1964): 407-409.

3. Johnston, Betty Jane. "Equipment Preferences of a Group of College Students." Journal of Home Economics 45 (December 1953): 720-722.

4. Knowles, Eleanor Elaine. "Relation of Posture to Fatigue in Ironing." Journal of Home Economics 37 (November 1945): 584-587.

5. Nale, Clare O. "Home Economics in the Field of Rural Electrification." Journal of Home Economics 30 (April 1938): 223-225.

The average score after replicating the coding of articles was 85.8 percent for five articles (High--90.00 percent, Low--81.8 percent). A summary of the scoring is found in Appendix A, p. 88.

Intracoder Reliability--Phase Two

Intracoder reliability was accomplished by the use of a panel of coders consisting of three junior Consumer Services majors. Each coder was identified by a number 03, 04, and 05. The coders were each given two decades to code

plus three articles from the 1970's. Each coder had approximately forty articles to code.

Prior to their coding experience, each coder was given a copy of the chapter the researcher had written for the Energy Handbook. The purpose of this review was to familiarize the coders with the materials they would be coding.

The coders attended a training session where they were acquainted with the procedures for content analysis coding. As a group they coded several articles to help familiarize themselves with the content and consistant decisionmaking roles for coding. They met for four sessions and coded the forty articles they each were assigned. They were asked to code only overtly stated goal value concepts.

After two and one half weeks, the coders were asked to recode the material they had originally coded. The purpose of this task was to establish reliability for their coding.

According to Janda, it is essential to obtain as high a level of intercoder or intracoder reliability as possible. He proposes 90 percent as an acceptable level of agreement between coders (Janda, 1969). Kassarjian (1977), however, states that researchers can be satisfied with a reliability coefficient above 85 percent, but that studies whose reliability coefficient falls below 80 percent are to be questioned.

The purpose of the intracoder's reliability check was to establish overtime reliability (i.e., time 1 compared to time 2). This reliability check added legitimacy to answering the research questions posed in this investigation.

Twelve combined valued ends were established (C1 through C12) by comparing the first coding with the second coding. A relative percent agreement between the two codings was established. The lowest percent agreement between codings was 91.9 percent and that occurred in Variable C11 (Non-Human Energy, Conservation of Resources) in the decade 1950-1959. The highest percent agreement was 100 percent and occurred in Variable C3 (Human Energy, Convenience) in decades 1920-1929, 1940-1949, and 1960-1969. Also, 100 percent agreement between codings was established in Variables C8 (Non-Human Energy, Time Management), C9 (Non-Human Energy, Convenience) and C10 (Non-Human Energy, Efficiency in the Home) in the decade between 1970-1977. Lastly, 100 percent agreement was revealed for Variable C12 (Non-Human Energy, Overall Family Resource Management) for decades 1930-1939 and 1960-1969.

TABLE 1.--Average Percent Agreement Between First and Second Coding of Twelve Valued Ends (Combined)

Valued End	Human Energy	Non-Human Energy
Economy of Labor	97.6% (C1)	99.1% (C7)
Time Management	97.8% (C2)	99.5% (C8)
Convenience	99.4% (C3)	99.3% (C9)
Efficiency in the Home	99.0% (C4)	98.7% (C10)
Conservation of Resources	97.5% (C5)	96.5% (C11)
Overall Family Resource Management	96.9% (C6)	98.8% (C12)

For a complete summary of intracoder reliability scores, refer to Appendix A, p. 89.

Variables Identified and Observed

Four basic variables were identified for observation in this study.

Independent Variables

1. The years 1909 through 1977 in which the Journal of Home Economics was published.

Dependent Variables

1. The number of articles in the Journal which dealt with the theme of human energy.
2. The number of articles in the Journal which dealt with the theme of non-human energy.
3. The twelve valued ends mediated by home economists in the Journal of Home Economics.
   a. Economy of Labor--Human and Non-Human Energy.

b. Time Management--Human and Non-Human Energy

c. Convenience--Human and Non-Human Energy

d. Efficiency in the Home--Human and Non-Human Energy

e. Conservation of Resources--Human and Non-Human Energy

f. Overall Family Resource Management--Human and Non-Human Energy

Research Questions

The research questions stated in the Introduction Chapter (p. 8) serve as a method to test and quantify the results of this research. No hypotheses were empirically tested.

Statistical Analysis

After articles were coded, the coding sheets were keypunched and checked for accuracy. Using the University Computer Center and the Statistical Package for Social Sciences (SPSS), descriptive data in terms of percentages and frequencies for the goal value concepts and human and non-human energy were obtained.

Assumptions

1. Content analysis in a historical perspective is an appropriate method to gain insight into the human energy and non-human energy component written about in the

Journal of Home Economics, Volume 1-69.

2. The data obtained by documenting valued ends mediated by home economists in the Journal of Home Economics is a useful and reliable tool in providing information and insight into past history and providing direction for the future of the profession.

3. The use of descriptive analysis (frequencies and percentages) is an appropriate statistical method for testing the themes of human energy and non-human energy which were mediated by home economists in the Journal of Home Economics.

Limitations

The selection of the Journal of Home Economics as the data base for this study precludes its generalizability. As stated, the major intent of this research was to identify the valued ends home economists mediated related to the use of human energy and non-human energy through a historical content analysis of the written material (articles) in the Journal. The ability to generalize is therefore directed specifically towards the profession and the professional home economist.

Information on advertisements, the role of the advertiser, the role of the editor in the publication of the Journal, or the specific cultural, economic, social, or political events influencing energy use by the family was

not a consideration in this research. These events no doubt influenced energy consumption, but it was the major goal valued ends mediated by home economists which was the focus of this research.

Summary

Analysis of a random proportional sample of 122 articles from the Journal of Home Economics resulted in a summary of goal valued ends for seven decades. Findings are described in the following chapter.

CHAPTER IV

FINDINGS

Theme of Articles: Human and Non-Human Energy--Research Question 1

The findings from frequency and percent tabulation were used to provide the answer to the following research question.

1. Did the Journal of Home Economics include information which professional home economists could use concerning the use of human and non-human energy?

   1a. How many articles dealt with the theme of human energy; how many with the theme of non-human energy?

   1b. Was there a difference in the number of articles reflecting a focus on human energy and those reflecting a focus on non-human energy?

   1c. Did the proportion of articles focusing on human energy and non-human energy remain constant over the decades beginning at 1910 and ending at 1977?

Across all decades, and for all issues of the Journal a total of 271 articles were identified as having a theme which was either human or non-human energy. A

45 percent proportional random sample was made for each decade to insure selection of the appropriate number of articles to be coded.

Findings

The Journal included information contained in articles which addressed the theme of human or non-human energy. Table 2 and Figure 1 illustrates the number and proportion of articles which indicated the stated theme.

TABLE 2.--Overall Percentage and Frequency for Articles Meeting the Criterion for Human Energy or Non-Human Energy by Decade.

Decade	Human Energy	Non-Human Energy	Total
1909-1919	36.4% (N-8)	63.6% (N-14)	100.0%
1920-1929	33.3% (N-5)	66.7% (N-10)	100.0%
1930-1939	31.6% (N-6)	68.4% (N-13)	100.0%
1940-1949	31.3% (N-5)	68.8% (N-11)	100.0%
1950-1959	52.0% (N-13)	48.0% (N-12)	100.0%
1960-1969	43.8% (N-7)	56.3% (N-9)	100.0%
1970-1977	22.2% (N-2)	77.8% (N-7)	100.0%
TOTAL	37.7% (N-46)	67.3% (N-76)	100% (N=122)

Discussion

A total of 46 articles analyzed had a theme of human energy and a total of 76 articles had a theme of non-human

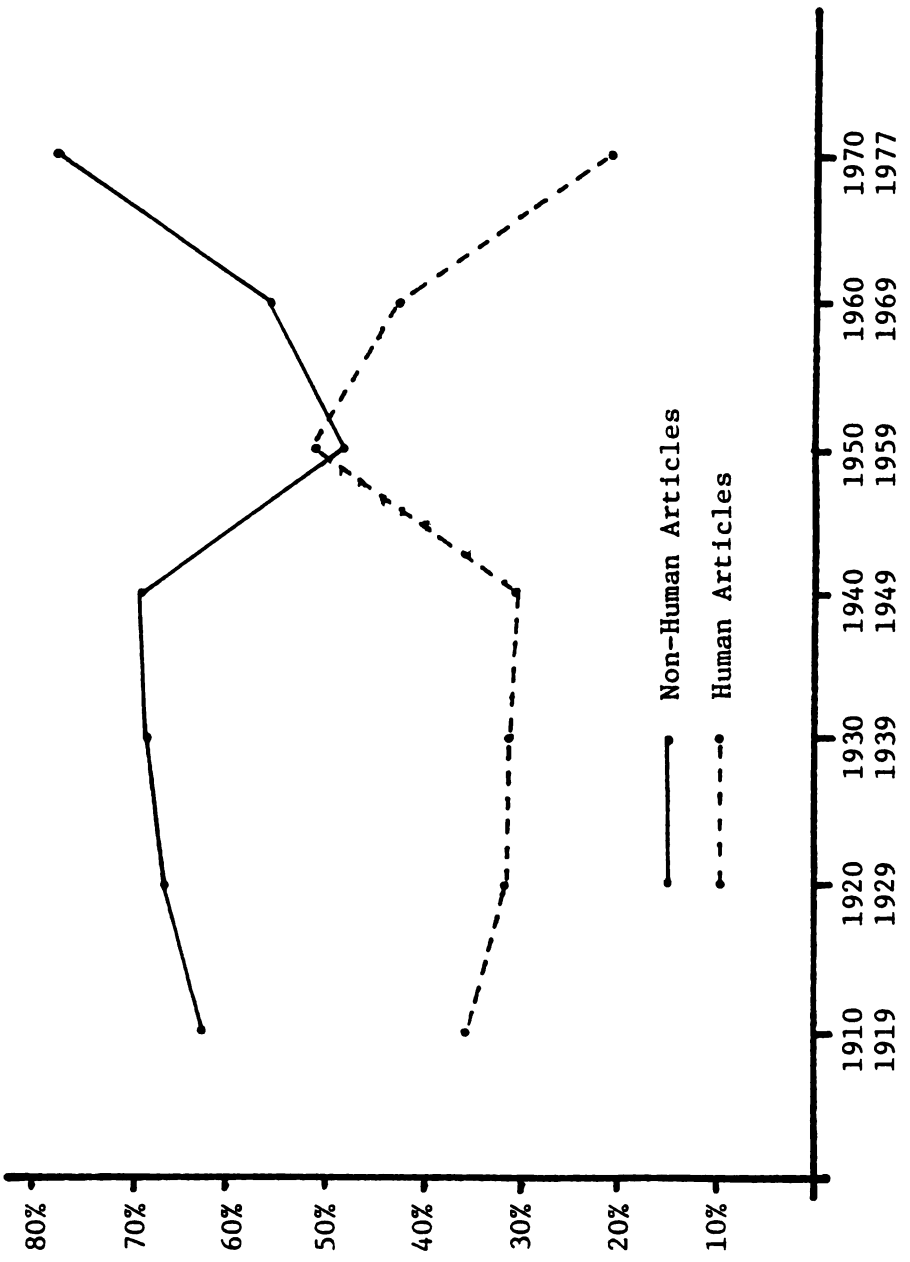

FIGURE 1.--Percentage Human and Non-Human Energy Articles by Decade.

energy. There were several possible explanations for this occurrence. First, some of the articles randomly selected encompassed the use of non-human energy in the form of labor-saving appliances and equipment. They dealt with the technical aspects of their operation rather than the valued ends which were designed to be measured in this research. Also, there seemed to be a recognition in the theme of articles of the substitutive value of non-human energy for human energy to save time and labor.

When analyzed by decade, there was a difference in the number of articles reflecting a theme of human and non-human energy. For every decade except the 1950's, there were more non-human energy related articles. In the 1950's, there were more articles which dealt with the theme of human energy; however, there was only one article difference (13 for human energy as compared to 12 for non-human energy). This change may have come about for several reasons and the following quotations are reflective of possible explanations. "More than half a century has passed since the first Lake Placid Conference in 1899. Yet home management has only recently taken a recognized place in home economics" (Warner, 1954, p. 716). Home management was considered a mental process using skills and resources to control the environment for the benefit of family members. "Thus, home management is strongly embedded in the foundation laid for home economics at Lake Placid" (Warner, 1954, p. 718).

During the 1950's, a number of the articles coded had to do with the concept of resource use within management. ". . . home management is a series of decisions made in relation to the use of family resources to reach family goals" (Bricher and Hayes, 1953, p. 101). Thus it was thought that human resources facilitated home management.

Just as the number of articles reflecting a focus on human energy or non-human energy did not remain constant over time, the proportion of articles meeting the criterion fluctuated also.

A relationship seemed to exist among the first four decades. Approximately 33 percent of all articles dealt with human energy and 66 percent dealt with non-human energy.

In the decade of the 1910's, two notions related to the use of non-human energy came into focus. (1) The effects of the Industrial Revolution had changed modes of production and distribution in the commercial sector. (2) The home, however, was still operating with antiquated methods of production.

> Ultimately, nothing less than complete and final emancipation of one-half of the human race from a physical drudgery as degrading as it is totally unnecessary is an age like ours. . . . this maladjustment is the lack of mechanical appliances in the home . . . caused by the dissertion of womankind from the home into industry (and) is largely responsible for the introduction of such appliances as are already finding their ways into our homes (Lebovitz, 1911, p. 143).

Emphasis on the conservation of non-human energy resources may have influenced the writings of the 1910's. This emphasis seemed to have been largely based upon World War I. "If we are to really economize, to live within our means in such a way as to conserve the country's resources, (then) this is a definite way in which we may give loyal valiant service . . ." (Johnson, 1917, p. 228).

In the second decade, emphasis on the use of non-human energy resources may have stemmed from concern over a crisis in natural gas. These concerns seemed to permeate the entire writings of that decade with statements such as,

> One who recklessly, definitely, persistently, and continuously wastes natural gas, and boldly declares his purpose to do so . . . ought not complain of being branded as the enemy of mankind. It is not the use of unlimited quantities of gas that is prohibited, but it is the waste of it that is forbidden. The object and policy of that inhibition is to prevent, if possible, the exhaustion of the storehouse of nature, wherein is deposited an element that ministers more to the comfort, happiness, and well-being of society than any other of the bounties of the earth (Indiana Supreme Court, 1921, p. 369).

Although the decade of the 1930's is often remembered by the "Great Depression" which brought about one of the most severe periods of economic and social deprivation, it was a time when home economists again wrote about the use of non-human energy within the home.

Even prior to the crash of the Stock Market in 1929, a new force had begun to have a substantial effect on the lifestyle of the American family. "Electric service has now become an integral part of our nation's standard of living . . . Not only are the benefits in comfort and convenience of electric service now available to the entire urban population, but they are rapidly being extended into rural and farming areas of the country" (Davison, 1930, p. 94). The Journal of Home Economics played a role in researching and examining the increasing use of electrical appliances and equipment within the home and the relationship between the use of labor-saving devices and time and human energy saved.

The decade of the 1940's was not uneventful and the consequences of World War II and the recovery from it had a major role in possibly explaining the greater incidence of articles in the Journal which had to do with non-human energy.

Even in this time of scarce resources for domestic use, electricity was seen as a "work simplification" method. Thus, even during World War II it was recognized that,

> . . . . there are many ways in which electricity in the home and on the farm can contribute directly to defense. Three specific and important ways are: labor-saving, increasing production and conservation of food resources, and better nutrition (Nale, 1941, p. 644).

As mentioned previously, the decade of the 1950's was one in which the number of articles dealing with human energy slightly outnumbered the articles dealing with non-human energy. It is interesting to note the increase in the number which have to do with the concept of resource use within management.

Specifically, writings seemed to suggest that,

> Home management considerations include simplifying and controlling the motions required of the worker by means of design of storage space and the location of inventory, as well as planning for effective motions in order that energy and time may be released for those activities which rank higher on the individual homemaker's value scale (Mize, et al., 1953, p. 105).

This research shows that 43.8 percent of all articles in the decade of the 1960's dealt with human energy and 56.3 percent dealt with non-human energy. This fairly equal balance was divided among several topics. Some of them were the use of modern equipment and its relationship to time management, the emergence of leisurely lifestyles, and general home management theory.

Many of the before mentioned valued ends seem to have been critically questioned during the decade of the 1970's. Although only eight years in this decade were analyzed, 78.8 percent of all articles analyzed during that decade dealt with the theme of non-human energy. These articles seemed to have focused on conservation and efficient use of non-human (non-renewable) energy resources.

Reevaluation of the fact that the family's use of energy may have possibly influenced this decade's writings, statements such as this were among those expressed.

> We have come to view throwaway goods such as paper towels, disposable diapers, styrofoam cups and plastic bags as irresistable products of our technological adaption of natural materials for man's comfort and convenience. In general, the family is a high energy use system, dependent on large amounts of physical (non-human energy) and processed materials to maintain current levels of consumption and diverse styles of living (Paolucci and Hogan, 1973, p. 13).

Summary

In conclusion, it was evident that the Journal of Home Economics included information which professional home economists could use concerning the use of human and non-human energy. This information was contained in articles. These articles focused primarily on the use of non-human energy. Until the 1970's, emphasis was placed upon the substitutive value of non-human energy to increase convenience, save time and human energy and to eliminate the drudgery of performing household tasks. In the 1970's, however, these values were critically questioned in light of the revelation that many resources were finite. This set the stage for a change in the types of ideas home economists were expressing in their literature.

Content of Paragraphs: Energy Related Valued Ends--Research Question 2

The findings from frequency and percent tabulations were used to provide the answers to the following research questions. These questions were answered for each of the twelve valued ends.

2. Did the Journal of Home Economics reflect a mediation of the twelve identified valued ends over the history of the Journal?

2a. Which valued ends were mediated most frequently; least frequently by home economists in the decades between the 1910's and 1970's?

2b. Was there a difference in the percentage of mediation for each of the twelve identified valued ends as related to human and non-human energy in each decade?

2c. Was there a meaningful difference. . . . (greater than 10 percent)?

Since each paragraph within the 122 articles was coded twice, a frequency count of valued ends was made twice for each decade being studied to establish reliability for the coding. The percentage mediation of one valued end in the first coding was added to the percentage mediation of the same valued end for the second coding. This total percentage was divided by the number of codings (2) and a mean percentage for both codings was arrived upon.

$$\frac{\%VE,\ \text{first coding} + \%VE,\ \text{second coding}}{2} = \text{Mean \% for 1st. and 2nd. Coding}$$

These mean percentages were tabulated and are displayed in Table 3. This table provides an overall picture of the percent frequency of mediations for each valued end in each decade.

In order to add further meaning to these figures, a scatter plot was devised to show how many paragraphs were analyzed in each decade along with what the total possible mediations of valued ends were. (See Figure 2.)

In analyzing each decade and the total number of paragraphs, it was observed that the number of paragraphs decreased from 539 in decade 1950-1959 to 465 in decade 1960-1969, and finally 304 in decade 1970-1977. This may have been a result of the development of the Home Economics Research Journal. Many of the research oriented articles now appear in the research journal, thus changing the focus and content of the Journal of Home Economics.

In addition, the total number of paragraphs for each decade of the 45 percent proportional random sample of articles meeting the criterion for human energy and non-human energy was plotted. A comparison was not made between the random sample of articles meeting the human energy and non-human energy criterion and a sample of the general contents of the Journal.

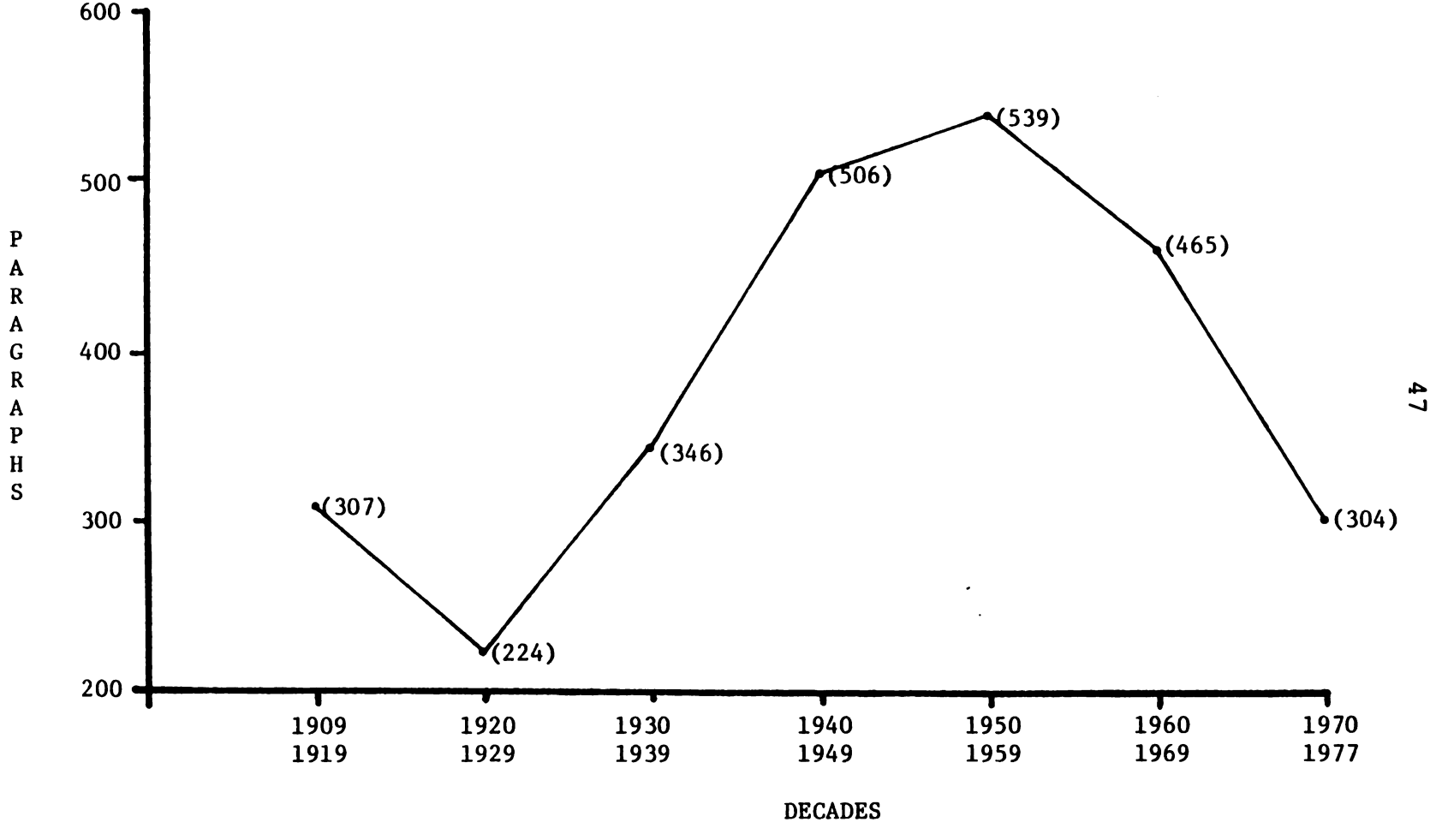

FIGURE 2.--Number of Paragraphs from a 45 Percent Random Sample of All Articles in the Journal of Home Economics Meeting the Criterion for Human and Non-Human Energy.

TABLE 3.--Percent of Twelve Valued Ends Mediated in Paragraphs by Decades[1]

	Economy of Labor		Time Management		Convenience		Efficiency in Home		Conservation of Resources		Overall Family Resource Management	
	HE	N-HE	HE	N-HE	HE	N-HE	HE	N-HE	HE	N-HE	HE	N-HE
1909 1919	25.0%	.5%	15.5%	1.2%	8.0%	.5%	7.7%	4.1%	13.4%	11.9%	18.8%	1.8%
1920 1929	17.0%	5.2%	10.3%	4.0%	1.3%	4.7%	5.0%	8.0%	9.2%	18.8%	8.5%	5.9%
1930 1939	4.2%	4.2%	12.2%	4.0%	.9%	4.2%	3.5%	7.0%	2.1%	9.5%	8.0%	0.0%
1940 1949	12.7%	2.3%	5.0%	.5%	.8%	3.0%	1.7%	2.1%	.5%	1.9%	9.8%	0.0%
1950 1959	14.3%	3.9%	14.0%	2.3%	.8%	2.6%	1.4%	.7%	4.6%	1.3%	17.0%	.2%
1960 1969	18.2%	0.0%	11.5%	7.2%	1.1%	.3%	2.0%	.9%	13.5%	3.2%	45.0%	4.3%
1970 1977	1.3%	.3%	10.6%	0.0%	.7%	0.0%	1.5%	3.9%	17.6%	15.8%	21.6%	1.8%

HE--Human Energy N-HE--Non-Human Energy

[1]These figures are an average of the first and second codings for each valued end. The sum of these percentages for any decade will not sum to 100 percent.

Economy of Labor
Human and Non-Human Energy

Findings

The Journal of Home Economics did reflect mediations of the valued ends of economy of labor, human energy and economy of labor, non-human energy. The percent mediations for these valued ends are illustrated in Figure 3.

Discussion

The valued end of economy of labor, human energy was mediated consistently more frequently than economy of labor, non-human energy across all decades except the decade of the 1930's. The frequency of mediation for economy of labor, non-human energy was mediated consistently less frequently and remained relatively constant in percentage across all decades.

There was a percent difference between the two valued ends of greater than 10 percent in the decades of the 1910's, 1920's, 1940's, 1950's, and 1960's.

One of the most meaningful differences fell in the decade between 1910 and 1919. In this decade, the valued end of economy of labor, human energy was mediated five times more than economy of labor, non-human energy. A possible explanation for this occurrence was the fact that during the decade of the 1910's, emphasis was placed upon economizing labor so that time, energy and the drudgery of

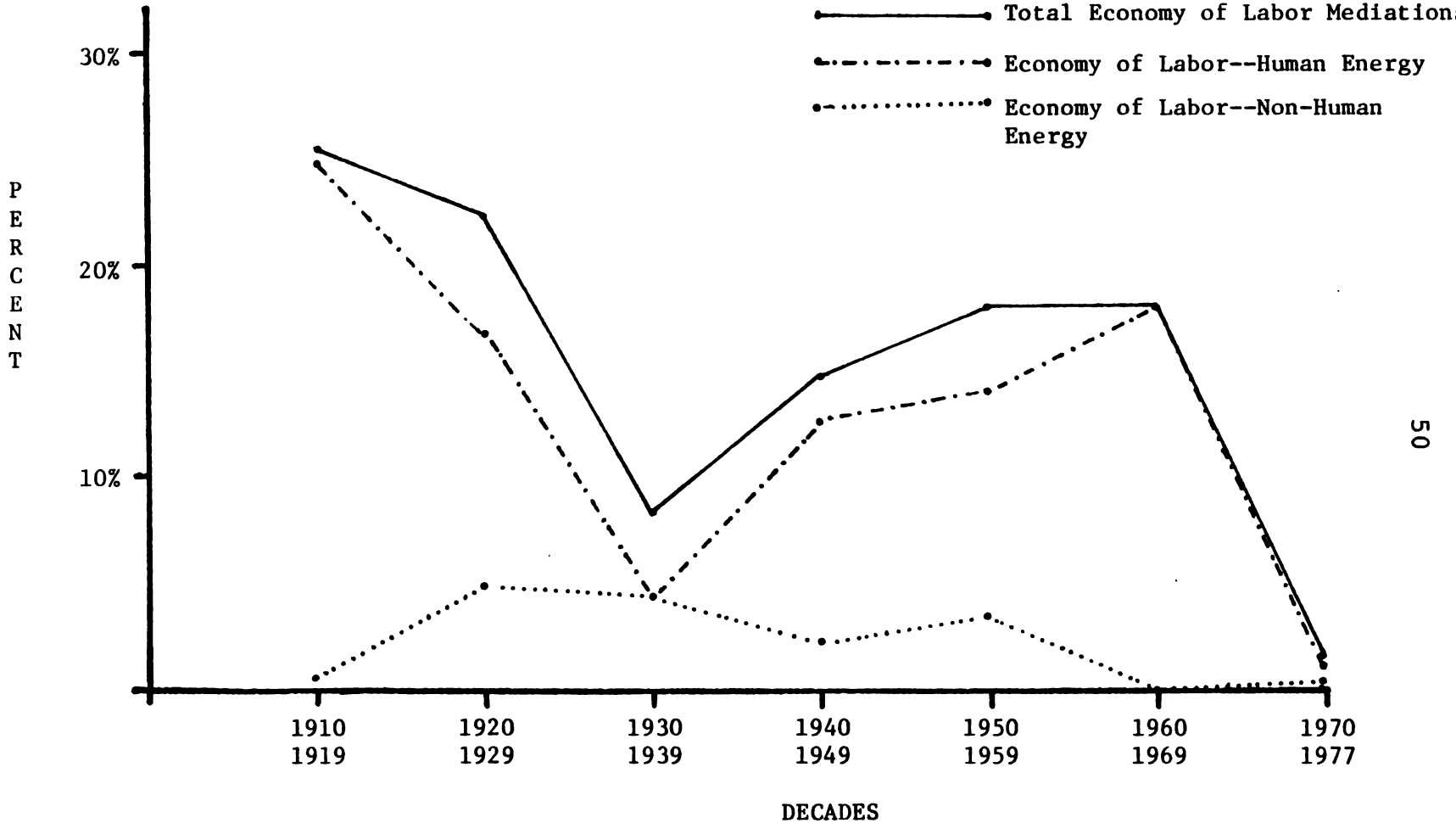

FIGURE 3.--Total Percentage of Non-Human and Human Energy--Economy of Labor Mediations in the Journal of Home Economics by Decade.

performing household tasks could be eliminated (Langworthy, 1914). "No one will deny the necessity of lessening the labor of the farmers' wives" (Journal of Home Economics, Report of the Committee of Laundry Management of the Institution Economics Section, 1911, p. 173). Consequently, many experiments were undertaken to look at the possibility of eliminating time and human energy from household tasks (Huntington, 1911).

In the decade of the 1920's, there was an 11.8 percent difference in the frequency mediation of the two valued ends with economy of labor, human energy being mediated more frequently.

During this decade, studies were conducted with the aim of eliminating household labor which was non-productive and wasteful. Motion studies to economize labor (that were commonly used in industry) were thought to have direct application to homemaking.

One major area within the home which contributed to the inefficiency of the homemaker was the defective lay-outs of kitchens and other rooms.

> One of the fundamental principles for securing diminution of labor is to eliminate useless articles from household equipment. Having done this, it is necessary to arrange and organize the essential equipment so that it can be reached, it has to be handled, with the minimum of movement, and that it can be cleaned with the minimum effort (Smail, 1922, p. 419).

The ultimate hope was "to answer the question, which are the duties of homemaking? If the problem is to be solved, our home management problem must extend its budget studies beyond the money income to a budgeting of woman power" (Harrington, 1924, p. 361).

In the 1940's, there was a 10.4 percent difference in the frequency mediation of the two valued ends with economy of labor, human energy being mediated more frequently.

As a result of the shortage of manpower due to the country's participation in a world war, efficient and economical utilization of human labor assumed an importance which was not previously recognized (Gross and Evertt, 1945). The idea of work simplification in economizing labor gained new meaning.

Studies were conducted which applied the techniques utilized by industry in "motion and time studies to develop easier, more effective ways of carrying out essential homemaking tasks" (Colling, 1943, p. 629).

In the decade of the 1950's, the notion of economizing human labor also prevailed. There was a difference in the frequency mediation of 10.4 percent. The concept of energy (particularly human energy) and work in home management gained new significance.

> The concept of energy as a resource for families is generally accepted in the field

> of home management. Education and research in the area of work simplification are popularly thought of as being aimed toward energy saving. Research aimed at providing "information about the costs of work" have usually either implicitly or explicitly acknowledged "energy saving" for the homemaker as one of the goals.
>
> This concern of management for economizing the energy resource and for providing information on which to base choices between alternate resources has been an important phase of home management research and training (Bratton, 1959, p. 102).

In addition, the writings in this decade focused on the challenge of work simplification which was designed to make working hours more productive and tasks easier and more pleasant for the homemaker.

> Work simplification is simply a common-sense approach to making work easier. Work, in the popular sense, usually involves the expenditure of non-productive effort, as well as energy which is utilized in actually producing worthwhile goods or services. Work simplification techniques are used to minimize the amount of wasted time and effort normally associated with worthwhile tasks (Martzloff, 1954, p. 720).

Several factors which were useful in simplifying work were the desire to improve homemaking tasks, the questioning attitude towards each task, and the tools of work simplification which were the process chart and the flow diagram. Once established, the work simplification "recipe" could be put into effect benefiting the homemaker and her family (Martzloff, 1954).

In the 1960's, there was an 18.2 percent difference between the frequency mediation of the two valued ends. Economy of labor, human energy accounted for almost 100 percent of the economy of labor valued ends mediated in that decade.

This may have been due in part to the heightened awareness and interest in the area of economizing labor. Studies of energy expenditures in the performance of certain tasks were again given attention. The ultimate desire was to eliminate and alleviate the considerable time and effort required to perform household tasks (Richardson, 1966) as well as the elimination of tasks which were disliked (Maloch, 1963).

Time Management
Human and Non-Human Energy

Findings

The Journal of Home Economics reflected mediations of the valued ends time management, human energy and time management, non-human energy. The percentages of frequency for both human and non-human energy mediations of the valued ends are visually described in Figure 4.

Discussion

The valued end of time management, human energy was mediated consistently more frequently than time management, non-human energy across all decades.

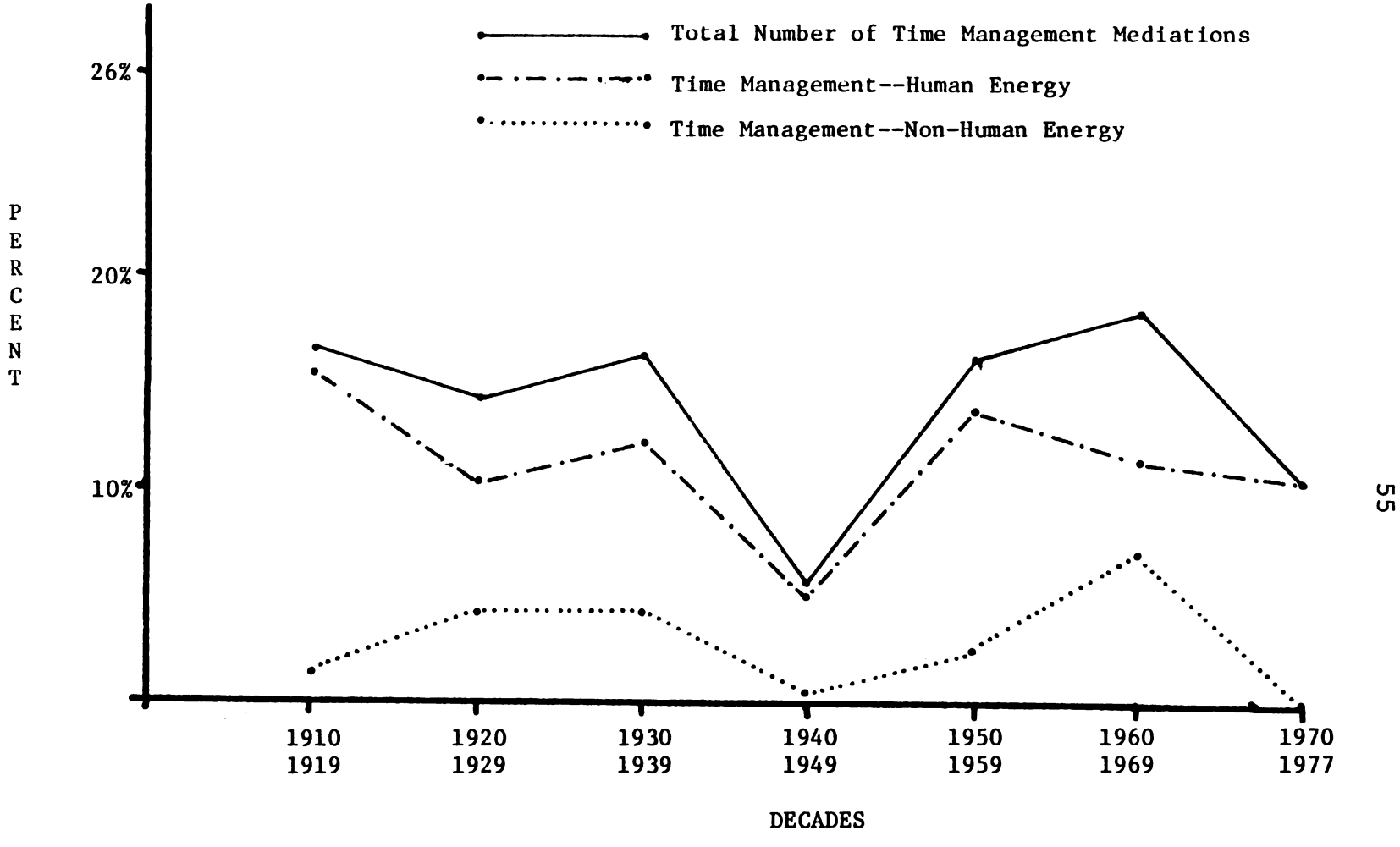

FIGURE 4.--Total Percentage of Non-Human and Human Energy--Time Management Mediations in the Journal of Home Economics by Decade.

There was a percent mediation difference between the valued ends of time management, human energy and time management, non-human energy. The decades of the 1910's, 1950's, and 1970's all experienced a difference in percent mediations between time management, human energy and time management, non-human energy in amounts greater than 10 percent. In those decades, time management, human energy was mediated more frequently.

In the decade between 1910 and 1919, time management, human energy may have been seen as a process which included human efforts. It may have also been mediated because the ownership of labor-saving equipment by homemakers was less predominant. As Lucy Griscom (1910, p. 292) suggests,

> The question of the waste of time in a household is the most discouraging, as it is due to the long years in which the housekeeper's time has been considered as the least valuable in the world. Some irregularity is unavoidable, but every woman should endeavor to run her affairs as punctually as possible, and eventually compel her family to realize the injustice of tardiness. One of the greatest aids to time saving is routine, but it must be so arranged as to give elasticity, and allow for emergencies.

In the decade of the 1950's, the use of time by family members in executing tasks in the home gained much attention. Among the areas of homemaking that were studied in relation to time were meal preparation and cleanup (Steidl, 1958) and the design of kitchen storage (Mize, et al., 1953).

The time spent in general homemaking activities was studied to ascertain which labor-saving conveniences may have contributed to the reduction in time spent.

> During the past quarter century a number of notable studies have reported the time spent by homemakers in homemaking activities. During this period, various changes have occurred which might conceivably cause considerable change in the amount of time spent in household work. The large number of appliances contained in the "mechanized" modern home, the use of ready-prepared foods and other goods in larger amounts, the increased purchase of goods formerly prepared at home, and the larger proportion of women employed outside the home may have affected the time spent in homemaking (Cowles and Dietz, 1956, p. 29).

In the 1970's, Kathryn Walker (1973) reported on a study of household work time and the relationship this had to family decisionmaking and societal planning for future families. She contended that although homemakers have been elevated from household work by the development of new products and services, today's family may have different goals. Therefore, their allocation of time may force them to seemingly be as busy. As a consequence, the family of the 1970's needs to decide its own way to share household work to benefit family members.

Convenience
Human and Non-Human Energy

Findings

The Journal reflected mediations of the valued end, convenience, human energy and convenience, non-human energy.

The percent frequencies for both human and non-human energy mediations of the valued end convenience are presented in Figure 5.

Discussion

The valued end of convenience, human energy was mediated by home economists in the Journal more frequently during the decades of the 1910's, 1960's, and 1970's. The percent mediations of this valued end in the 1960's and 1970's was less than 1.1 percent of the total mediations. The valued end of convenience, non-human energy was mediated more frequently in the 1920's, 1930's, 1940's, and 1950's.

There was a difference in the percentage of mediation for convenience, human energy and convenience, non-human energy in all decades. The earliest decade (1910-1919) had a percent difference of 7.5 percent between the mediation of convenience, human energy and convenience, non-human energy. The percentage differences decline as the decades progress indicating less emphasis being placed on convenience as a valued end by home economists.

Since both valued ends for all decades were mediated less than 10 percent for all decades, there were no decades with meaningful differences (greater than 10 percent). There is one difference, however, that is interesting to observe, but is not meaningful given the 10 percent difference criteria. In the decade of the 1910's, when

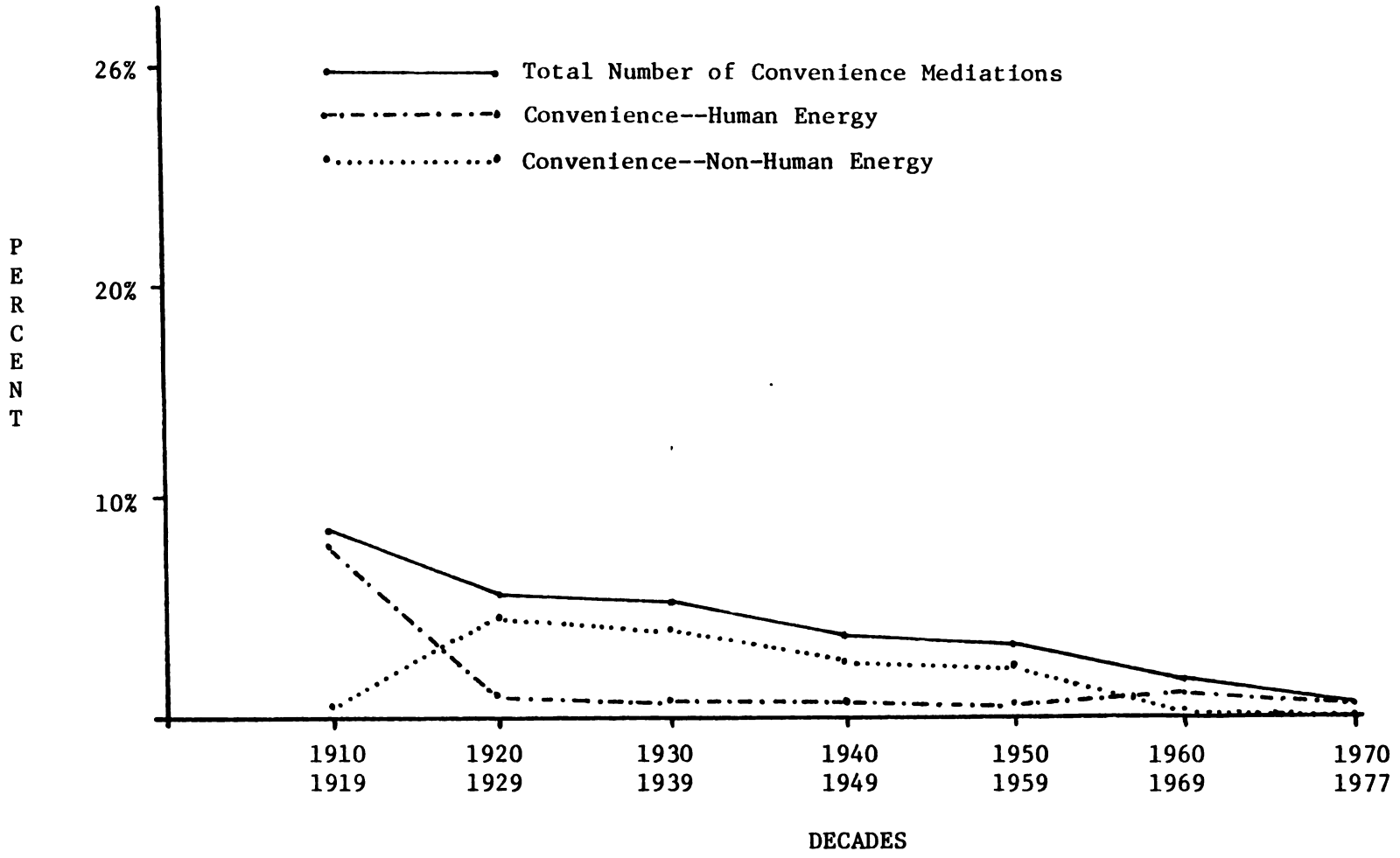

FIGURE 5.--Total Percentage of Non-Human and Human Energy--Convenience Mediations in the Journal of Home Economics by Decade.

labor-saving appliances and equipment were not commonly found in the home, the valued end of convenience may have been thought of as attainable through human resources (Elliot, 1910).

Efficiency in the Home Human and Non-Human Energy

Findings

The Journal reflected mediations of the valued end efficiency in the home, human energy and efficiency in the home, non-human energy. The percent frequencies for both human energy and non-human energy mediations of the valued end efficiency in the home are presented in Figure 6.

Discussion

The valued end of efficiency in the home, human energy was mediated more frequently in the decades of the 1910's, 1950's, and 1960's and the valued end of efficiency in the home, non-human energy was mediated more frequently in the decades of the 1920's, 1930's, 1940's, and 1970's. The valued ends of efficiency in the home, human and non-human energy overtly stated in all decades were mediated less than 10 percent of the total percentage of mediations.

There was a difference in the percentage mediations of efficiency in the home, human and non-human energy. These differences, however, were not meaningfully

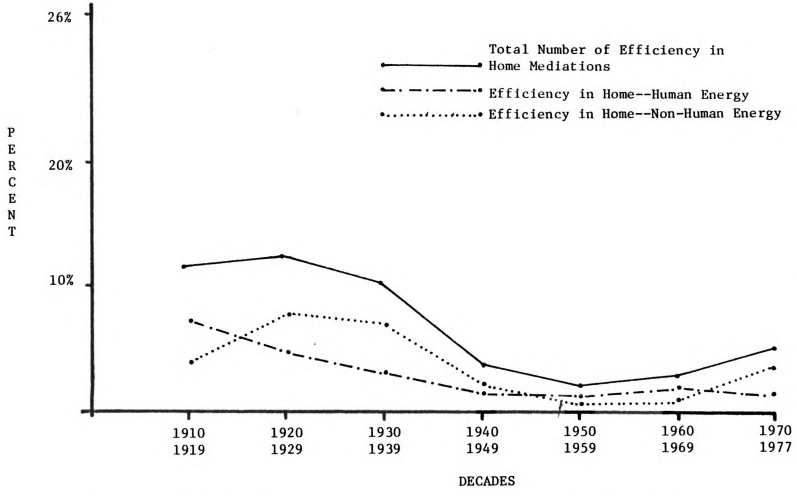

FIGURE 6.--Total Percentage of Non-Human and Human Energy--Efficiency in the Home Mediations in the Journal of Home Economics by Decade.

significant (greater than 10 percent). The largest difference was quite small (less than 3.6 percent).

During the decade of the 1910's, 1920's, and the 1930's the percent difference between human and non-human efficiency in the home mediations ranged from 3.0 to 3.6 percent. Although the percent difference does not appear to be particularly meaningful, this may have reflected an interest by home economists to help homemakers to become efficient in caring for the home so that wasted time and effort could be eliminated. This meant that the homemaker's time could be spent in leisurely pursuits and in the best interest of her family (Kneeland, 1928 and Gerhardt, 1928).

Conservation of Resources Human and Non-Human Energy

Findings

The Journal reflected mediations of the valued end conservation of resources, human energy and conservation of resources, non-human energy. The frequency percentages for both human energy and non-human energy mediations of this valued end are presented in Figure 7.

Discussion

The valued end of conservation of resources, human energy was mediated most frequently in the decades of the 1910's, 1950's, 1960's, and 1970's. In the decades of the

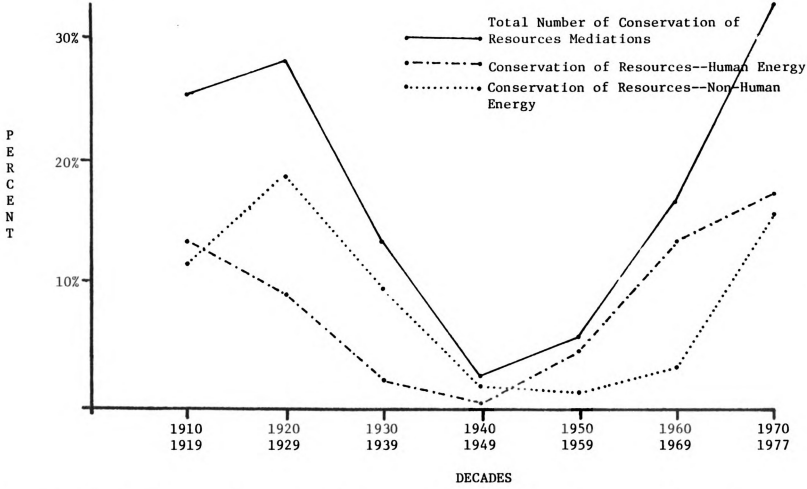

FIGURE 7.--Total Percentage of Non-Human and Human Energy--Conservation of Resources Mediations in the Journal of Home Economics by Decade.

1920's, 1930's and 1940's, the valued end of conservation of resources, non-human energy was mediated most frequently.

An interesting observation concerning the frequency of mediation of the valued end of conservation of resources, human and non-human energy was found in the beginning decades (1910 and 1920). They were both mediated in excess of approximately 10 percent.

Perhaps the most notable mediations occurred between 1920 and 1929 when 18.8 percent of all paragraphs indicated a theme of conservation of resources, non-human energy. There are several possible explanations for this occurrence. First, there appears to have been an "energy crisis" in natural gas. Home economists participated in helping families cope with this shortage.

A speech by Secretary of the Interior Lane to a conference of governors, public utility commissioners, geologists, home economists, utility companies, and appliance manufacturers states,

> . . . the fact is that the natural gas situation is acute, as there are over 2,400,000 domestic natural gas consumers, and they waste more than 80 percent of the gas received . . . (Colwell, 1920, p. 225).

> Natural gas, one of the most valuable mineral assets of the country, has been permitted to dissipate in such a manner that the public has derived relatively small value from it . . . although possibly the most flagrant and largest wastes have been in the field and along the transmission lines of the gas companies, there have been great wastes in the household of

> every consumer, and the public, therefore, has been a party to this crime . . . (Colwell, 1920, p. 225).
>
> It is time for the domestic consumer to realize that his duty is not done when he cried out against the flagrant wastes occurring in the gas field . . . he must realize that he himself is likewise at fault and that it is time for him to set his own house in order (Colwell, 1920, p. 226).
>
> Those who waste gas do so at the expense of others who would use it efficiently. Natural gas is not replaced by nature, and in comparison with the life of the nation the duration of supply will be brief (Colwell, 1920, p. 226).

Secretary Lane further suggested:

> . . . yet to reduce the waste in the home it is necessary to make the gas worth saving by increasing somewhat the price of gas. Increasing the price will not increase the revenue of the gas company because, as it proved by reports, as the price of gas goes up the amount used by the consumer is lessened (Colwell, 1926, p. 226).

It was also a time of general prosperity for many Americans and the consequences was the introduction of more labor-saving devices into the home. It appears that home economists were concerned that consumers "got what they paid for" and consequently many articles focused on the use, care, and maintenance of appliances (Davison, 1928; Watkins, 1928; and Miller, 1926). The materials which constructed the appliance were given much consideration. Materials such as insulation were important features for a homemaker to know about prior to the purchase of a refrigerator."The purchaser should insist on 'knowing' what is between the

inner or outer walls . . . if the box has not sufficient insulation to hold the cold, the machine will run too much of the time, thus increasing the cost of operation and shortening its useful life" (Miller, 1926, p. 305).

Although there seemed to be an increasing awareness of the benefit of labor-saving equipment, there was a consciousness towards using resources wisely.

In the 1930's, 1940's, and 1950's, the frequency of the mediations of both conservation of resources, human energy and conservation of resources, non-human energy was mediated less than 10 percent. Other valued ends were mediated more frequently in those decades and thus emphasis was not placed upon conserving human and non-human resources.

Another interesting observation concerning the valued end of conservation of resources, human and non-human energy was that they substantially increased in the percentage of mediations in the 1960's and in the 1970's.

What were home economists saying about conserving resources in the 1970's and what caused them to say it?

Perhaps one reason may have been the Oil Embargo of 1973-74. This event triggered the "energy crisis". Home economists rose to meet the challenge of dealing with families in this new and immediate energy shortage. The American Home Economic Association published three special editions of its journal on the topic of energy. Authors of articles focused on such topics as what the energy crisis

was, how long it would last, what could be done about it, energy conservation techniques, conservation of all resources, the effect of the energy crisis on housing technology and on the behavior of families (McCormack, 1973; Montgomery, 1973; Paolucci and Hogan, 1973; and Morrison and Gladhart, 1976).

Additionally, there seemed to be a strong recognition of the power of the wise and conserving use of human energy resources (Metzen, 1975; Field, 1973; Walker, 1973; and Hall and Schroeder, 1970).

In offering possible explanations for the type of mediations which occurred during the 1970's, it seemed to be a decade which challenged professional home economists to help others "live well while using less of a resource that is part of almost everything we consume" (Field, 1973, p. 26).

There was a difference in the percentage of mediations for the valued end of conservation of resources in all decades. In the decades of the 1910's, 1950's, 1960's, and 1970's there was a greater difference in favor of conservation of resources, human energy. In the decades of the 1920's, 1930's, and 1940's there was a greater percent difference in favor of conservation of resources, non-human energy.

In only one decade (1960) was there a meaningful difference of greater than 10 percent. This difference was

in favor of conservation of resources, human energy.

A possible explanation for this occurrence was that research in many areas of homemaking was undertaken to determine the possibility of reducing or conserving the expenditure of human energy as a resource.

> Although industry has given attention to energy expenditures of its workers as a scientific approach to improved work methods, little consideration of this nature has been given to household work. Yet household duties require considerable time and effort. . . . In the study reported here, the human energy costs for women to use vacuum cleaners of 3 designs are compared, thereby increasing our knowledge of physiological costs of household tasks as they are performed with modern equipment (Richardson, 1966, p. 182).

Overall Family Resource Management Human and Non-Human Energy

Findings

The Journal reflected mediations of the valued end overall family resource management, human energy and overall family resources management, non-human energy. The percent frequencies for both human and non-human energy mediations of this valued end are presented in Figure 8.

Discussion

The valued end of overall family resource management, human energy was mediated consistently more frequently across all decades studied. Conversely, overall family resource management, non-human energy was mediated less frequently

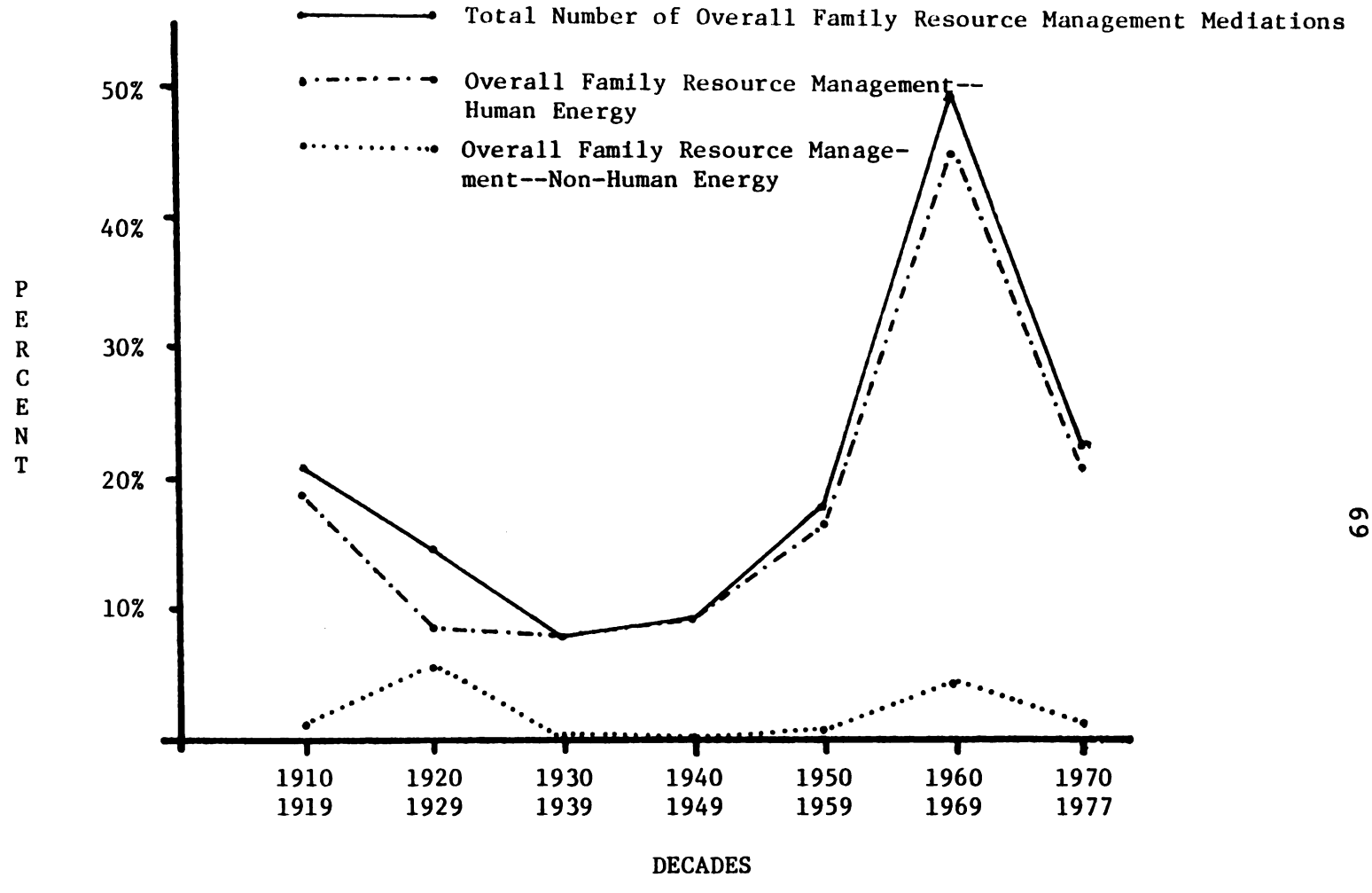

FIGURE 8.--Total Percentage of Non-Human and Human Energy--Overall Family Resource Management Mediations in the Journal of Home Economics by Decade.

for all decades.

There was a difference in the percentage of mediations for the valued end, overall family resource management, human energy and non-human energy in all decades. The percent difference ranged from 2.6 percent to 40.7 percent. In all cases, the percentage difference was in favor of the valued end, overall family resource management, human energy.

Several decades appear to have meaningful differences in their mediations (greater than 10 percent). They were the decades of the 1910's, 1950's, 1960's, and 1970's.

In the decade between 1910 and 1919, it appears that emphasis was placed on the processes which were involved with the integration of resources to make decisions and meet family goals. Even in 1917, home economists wrote about the "efficient home administrator" (Boylen, 1917, p. 233). It seemed to be a goal that home economists strived to help homemakers meet. Using all resources and skills wisely to benefit the home and family seemed to be a goal high on the list of priorities. Courses were developed in home management and were taught on the high school and college level (Bell, 1911).

In the decade of the 1950's, there was a difference of 16.8 percent in the frequency of mediation between the two valued ends. Overall family resource management,

human energy was mediated more frequently. There seemed to be renewed interest in the process of managing the home. The question was asked repeatedly,

> What is home management? Adapting a definition given at the National Conference on Family Life, home management is a series of decisions made in relation to the use of family resources to reach family goals. It is the major means by which families get what they want from the use of their resources throughout the family life cycle (Bricher and Haynes, 1953, p. 101).

Another definition was used in an article on the home management practices of 51 tenth and eleventh grade girls. It was,

> The concept of management used in this study is that management consists essentially of three steps: planning, controlling the plan in action, and evaluating. Management is decision-or choice-making in the light of personal or family goals and extends to all one's resources; time, energy, money, materials, and abilities (Clare, 1954, p. 37).

Finally, a statement by Elizabeth Crandall recapitulates the essence of the frequency of mediation of the valued end overall family resource management, human energy.

"Management Is a Mental Activity"

> Perhaps the most important single word in the definition I am using here is "mental". One of the most common misconceptions about home management held by the public at large is that it consists of performing physical activity or work. Though it is not a new concept that management is an intellectual activity, it is one which needs constant emphasis and which will, I believe, become

> more significant in the future (Crandall, 1956, p. 633).

In the decade between 1960 and 1969, the difference in frequency of mediations having to do with overall family resource management, human energy surged. Coders recorded that 45.0 percent of all paragraphs in that decade stated the theme and that there was a difference between the human energy valued end and the non-human energy valued end of 40.7 percent.

A major idea in the 1960's which was relevant to management was a notion of a

> . . . broader concept of home management . . . centers attention of family life as a whole, on the total goals of the family, and the ways in which decision-making and management in the home can help reach these goals. It begins with the broad question: How can all of our resources available to the family for living-house, home, furnishings and equipment, available money, time, mental and physical energy, special abilities and skills, community resources and all others--be used so that family members can have the kind of life and living they most prefer? (Riebel, 1960, p. 16).

This tended to broaden the scope of the home management process to include more than the traditional resources of time, energy, money and skills (Millar, 1961).

Elizabeth Crandall (1960) in her article "New Explorations in Home Management" noted that as the second fifty years of the American Home Economics Association begins, a publication called "New Directions" provided twelve fundamental competences to which home economics

contributed. Six of these had to do with the management process.

Crandall felt that decision making was the crux of management and was the smallest step in managing a process or system. Thus many of the articles in that particular decade provided coders with valuable clues to "overall family resource management".

In the decade of the 1970's, the valued end of overall family resource management, human energy and non-human energy had a percent difference of 19.8 percent. The valued end of overall family resource management, human energy was mediated more frequently.

One article which seemed to address the physical or mental home management problems which were the result of labor-saving equipment suggested that this

> . . . study reported here was designed to learn about consumer "satisfactions" and "problems" with electric heat. It was intended to yield information that might be useful to home economists and others who advise families about housing and home management problems, as well as those who design houses and heating systems.
>
> Families answered questions planned to reveal their satisfactions and problems with electric space heat and the possible effects of management and the physical situation on such satisfactions and problems (Philson, 1970, p. 235).

Throughout all decades studied, there was less than a 10 percent frequency mediation of the valued end of

overall family resource management, non-human energy. This indicated that home economists did not communicate this value often in the literature. Little emphasis was placed upon managing non-human resources, but rather on managing human resources. This may have been a result of the fact that when human energy was expended, the person expending the energy often felt its results . . . tiredness, time consuming, laborious, etc. The expenditure of non-human energy to manage the home may have historically had less of a direct impact on the attitudes of the person towards the task.

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Overview of Study

The major premise of this research was based on the assumption that home economists have disseminated information concerned with the use of human energy and non-human energy over time. A form of historical research, an indepth and comprehensive content analysis of the Journal of Home Economics from February 1909 through December 1977 was used as the data base for this study.

There are basically three stages of social change within a system. They are invention, diffusion, and structural reorganization and consequences (Solo and Rogers, 1972, and Benne, 1957). This research focused on the process of diffusion or dissemination whereby the ideas of the home economist writer were communicated to the members of the American Home Economics Association through their professional journal. This research focused on one aspect of the diffusion--the communication of ideas about the use of human energy and non-human energy. A 45 percent random sample of all articles in the Journal of Home Economics meeting the established criterion for human energy and non-human energy was used as the data base. Each paragraph

(N=2691) in the 122 articles was analyzed for content.

Prior to this investigation, it was necessary to determine how each paragraph would be analyzed. It was determined through a thorough examination of the literature that there were value ends held by home economists in relation to the use of energy. These value ends, reflected by home economists in their writing, were espoused by them in varying amounts as external social, economic and political constraints put emphasis upon them. The variables which were identified were:

1. Economy of Labor--Human Energy
2. Economy of Labor--Non-Human Energy
3. Time Management--Human Energy
4. Time Management--Non-Human Energy
5. Convenience--Human Energy
6. Convenience--Non-Human Energy
7. Efficiency in the Home--Human Energy
8. Efficiency in the Home--Non-Human Energy
9. Conservation of Resources--Human Energy
10. Conservation of Resources--Non-Human Energy
11. Overall Family Resource Management--Human Energy
12. Overall Family Resource Management--Non-Human Energy

The frequency of <u>overt</u> mediations of these valued ends was recorded by decade by three junior Consumer Services Majors who performed the coding of the same material

twice to establish reliability for their coding.

The major objectives were to determine if home economists did address energy related issues historically in the Journal of Home Economics and to what degree these valued ends were written about. Also, a second objective was to determine how many articles in each decade of the Journal dealt with the theme of human energy and non-human energy.

General Summary

Berrelson (1971) states that content analysis is (1) concerned with what is said, not how or why, (2) the categories of analysis are precisely defined so that they can be analyzed again, (3) relevant content is analyzed in terms of all relevant categories to eliminate bias, and (4) the analysis seeks to determine what information is emphasized or omitted.

It appears that in every decade certain valued ends were mediated more frequently than others. This may have been reflective of social, political, or economic constraints which were placed upon the family and perceived and written about by home economists.

Although across all decades there were less articles which focused on human energy, there were more mediations of human energy valued ends. (See Figure 9.) There are several possible explanations for this. First, many

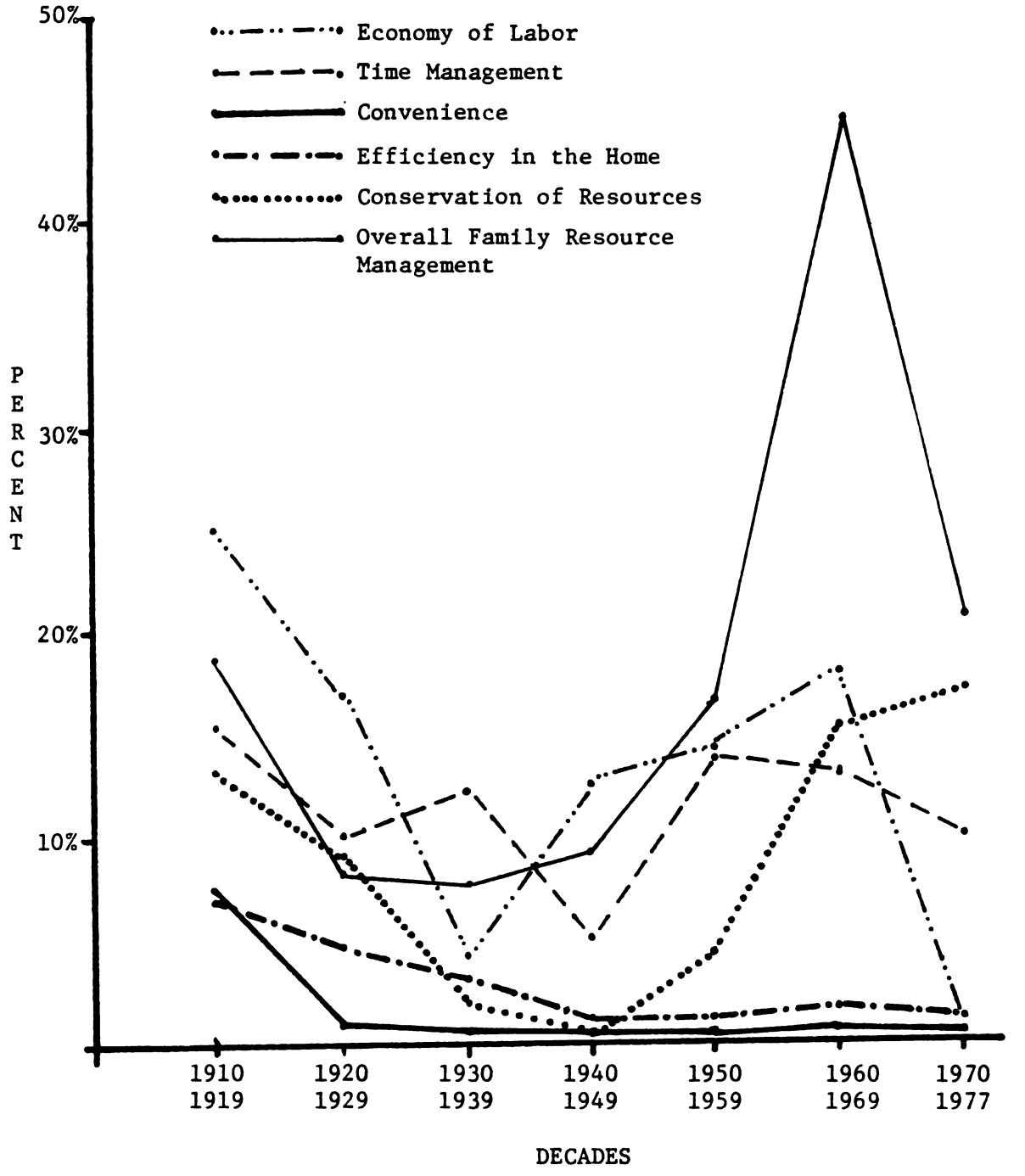

FIGURE 9.--Total Human Energy Valued Ends Mediated by Decade.

articles had a theme of non-human energy. In these articles, however, the valued ends (measured in this research) were not the focus of the article. Secondly, mediations seemed to emphasize the "substitutive" value of non-human resources for human ones. Consequently, emphasis was placed on such things as eliminating steps and motions, time, fatigue and drudgery . . . which are all human attributes.

Home economics literature did not historically reflect in as great a quantity such things as the necessity of conserving non-human resources, managing overall non-human family resources, or utilizing time wisely with non-human resources. (See Figure 10.) It would appear, however, that with the continuation of the energy problem (and its consequences) that home economists will have to address this aspect with greater emphasis than in the past.

Additionally, what was the goal of the mediation of the valued ends measures in this research? The literature researched seems to be quite vague concerning what the goals were of saving time, economizing labor, being an efficient home manager, conserving resources, or managing overall family resources. When the valued end of both convenience human and non-human energy were looked at, it appeared that home economists did not stress it as a desirable end. Were leisurely and creative pursuits, spending time with family and friends, community involvement, or freedom from

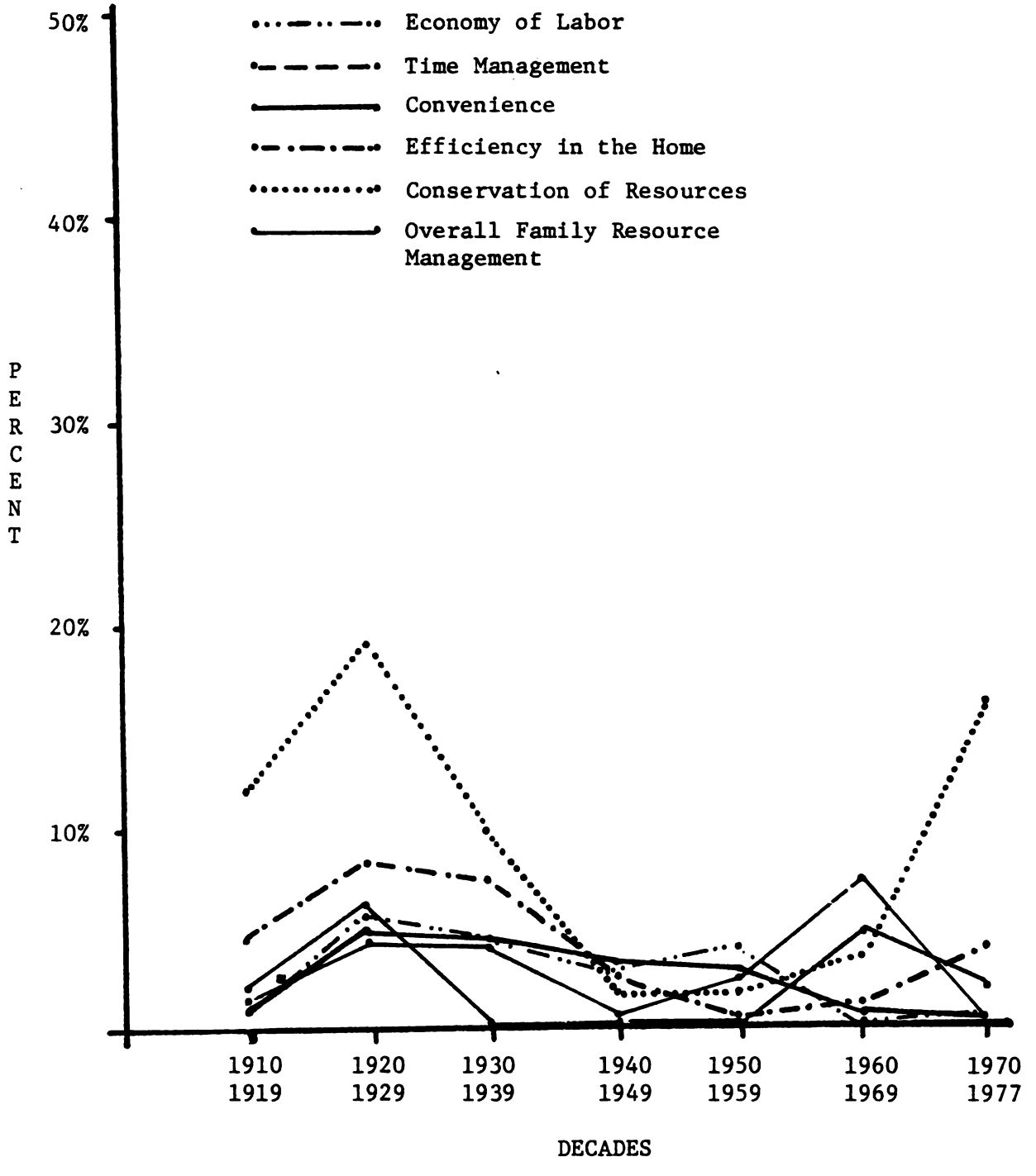

FIGURE 10.--Total Non-Human Energy Valued Ends Mediated by Decade.

household labor to find employment outside the home the goals? Perhaps it was assumed that homemakers knew what to do with their free time.

This raises the question, what should home economists be writing about the use of energy in the future? The future is generally unknown, but there are several clues which may be obtained by looking at the number of articles in the Journal which have focused on the use of non-human energy. In light of the "Energy Crisis" and the concern this has for family functioning, perhaps home economists should be writing about the resubstitution of human energy for non-human energy, the ways in which both human and non-human energy can be utilized more effectively within the home, the relationship energy use has to family functioning, or the effects of the family's energy use patterns on the finite resources available.

With more women entering the world of work and the increasing demands that placed upon their time and energy, perhaps home economists need to encourage families to examine closely the cost-benefit ratio of homemaker employment in relation to what family members are willing to pay in time and energy to reach the goals they have. Also, home economists can perhaps help shape the traditional stereotypes of mens' and womens' roles when family members are employed outside the home. The valued ends home economists have traditionally focused upon were geared for

the homemaker. As new roles for family members emerge, the home economist needs to rise to meet those needs.

Implications

Goal value concepts were mediated by home economists in the Journal of Home Economics. Although the effect of this discourse on families was not measured directly, historically home economists were able to use this information in their dealings with individuals and families. To what degree these writings and scholarly inquests aided the family is unknown. Critical analysis of the impact of home economists on families is essential in understanding the future direction of the profession. It is for this reason among others, that the following implications for this study are offered.

1. Constant evaluation of the profession through such methods as content analysis, constructive critique, introspection and critical discourse are necessary to fully understand the roots of home economics, the ideologies set forth by pioneers in the field, and why changes have taken place or need to take place.

2. Students of Home Economics/Human Ecology in their education and training as professional home economists need to be aware and knowledgeable of the history of the profession, the philosophy of its existence, the role home economists have played historically when addressing human

and non-human energy issues with families, and the social, political, and economic needs home economists attempted to address and the consequences of these interactions on families.

3. Home economists in their professional and personal lives need to constantly evaluate their own thoughts and practices in relation to the human ecological perspective. This recognizes that human beings interact and are interdependent upon their environment for survival. The effect of the home economist's research and teaching needs to be evalued in terms of whether it truly limits or enhances the potential for survival of family members.

4. The human energy and non-human energy component of human life should be critically examined by home economists to determine what effect this will have on family interaction and functioning and the effects this has on the availability of resources to maintain life and perserve the total environment for generations to come.

Research Recommendations

Historical research includes studies using content analysis as a method of inquiry. A review of historical research of the Journal of Home Economics using content analysis is limited (American Home Economics Association, 1965-1975 and the A.H.E.A. Journal of Home Economics, vol. 53-58 March issue, 1961-1966). Content analysis is

a time consuming research procedure and demands much attention to the details of definition, research design and analysis.

Replication of Study

For the above mentioned reasons, if this study were to be replicated, the following suggestions should be considered.

1. Identify a method for determining what percentages of total Journal of Home Economics articles between 1909 and 1977 dealt with the theme of human energy and non-human energy.

2. The use of graduate students as coders may be useful. It also might be interesting to determine accuracy in coding by using more than one coder and splitting samples.

3. Documentation of each step in the procedure is essential for accurate record keeping. Develop a method for recording each step of the research process.

Further Research

The following suggestions for research are extension of this study.

1. What is the policy of the American Home Economics Association for the inclusion of advertisements in their publication?

    a. What relationship(s), if any, exists between advertising in the Journal of Home Economics and the

type of articles which appeared in the Journal while they were editors?

3. What role has the Home Economics Research Journal played in mediating valued ends by home economists?

4. The format of presentation of the Journal of Home Economics has changed several times since its inception in February, 1909. Has this changing format influenced the number of articles which dealt with human energy and non-human energy?

5. What was the total percentage of articles dealing with human energy and non-human energy among the total number of articles written in the Journal of Home Economics between 1909 and 1977?

6. What education, background, and professional specialization did writers of articles in the Journal have when writing articles concerning human energy and non-human energy?

7. Given the unique role that home economists play in helping individuals and families formulate consumption and living patterns, what potentials exist for bettering human existence by eliminating natural resource waste including energy and preserving the natural environment? And finally,

8. How can the relationship between the frequency of mediation of valued ends by decade in the Journal of Home Economics and the occurrence of various national,

social, political, and economic events be put into historical perspective? Is there a relationship between the two, and how can it be empirically documented?

APPENDICES

APPENDIX A

INTRACODER AND INTERCODER RELIABILITY

APPENDIX A

INTRACODER AND INTERCODER RELIABILITY

TABLE 4.-- Intercoder Reliability Check of Articles Identified As Meeting the General Criterion for Human Energy and Non-Human Energy

	Agreements		
Year	Researcher's Results	Intercoder's Results	Agreement (%)
1926	4	4	100.0%
1929	3	3	100.0%
1945	4	2	50.0%
1958	7	6	85.7%
1966	6	5	83.3%
1970	2	1	50.0%

Average Agreement 78.2%
Low Agreement 50.0%
High Agreement 100.0%

APPENDIX A

TABLE 5.--Intercoder Reliability Check of a 50 Percent Random Sample of Articles Identified As Meeting the Established Criterion for Human Energy and Non-Human Energy by Decade

	Agreements				
Years by Decades	Researcher's Results		Intercoder's Results		Agreement
	HE	N-HE	HE	N-HE	(Percent)
1909-1919	9	14	10	13	95.7%
1920-1929	8	10	8	10	100.0%
1930-1939	5	16	5	16	100.0%
1940-1949	5	11	5	11	100.0%
1950-1959	13	15	12	16	92.9%
1960-1969	7	9	4	12	66.8%
1970-1977	1	9	1	9	100.0%

Average Agreement 93.6%
Low Score 66.8%
High Score 100.0%

APPENDIX A

TABLE 6.--Researcher's Intracoder Reliability Coding for Five Randomly Selected Journal of Home Economics Articles Meeting the Criterion for Human and Non-Human Energy by Valued Ends

Journal Article Author	Agreements		Agreement
	First Coding	Second Coding	(Percent)
1. Donham	11	9	81.8%
2. Fortenberry and Agan	10	9	90.0%
3. Johnston	19	16	84.2%
4. Knowles	15	13	86.7%
5. Nale	15	13	86.7%

Average Agreement 85.9%
Low Score 81.8%
High Score 90.0%

APPENDIX A

TABLE 7.-- Relative Percent Agreement Between First and Second Coding of Twelve Valued Ends (Combined)

	1909 - 1919	1920 - 1929	1930 - 1939	1940 - 1949	1950 - 1959	1960 - 1969	1970 - 1977	Average Agree. (Percent)
C1	96.4%	97.3%	99.1%	96.0%	96.4%	98.5%	99.3%	97.6%
C2	96.4%	97.3%	98.3%	99.4%	96.4%	98.1%	98.7%	97.8%
C3	98.4%	100.0%	99.4%	100.0%	98.4%	100.0%	99.3%	99.4%
C4	99.0%	99.1%	98.3%	99.0%	99.0%	99.1%	99.7%	99.0%
C5	95.4%	99.6%	98.0%	99.8%	95.4%	96.8%	97.7%	97.5%
C6	96.4%	97.3%	96.2%	96.6%	96.4%	97.2%	98.4%	96.9%
C7	99.7%	96.9%	98.6%	99.4%	99.7%	100.0%	99.7%	99.1%
C8	99.7%	99.1%	98.6%	99.8%	99.7%	99.4%	100.0%	99.5%
C9	99.7%	98.7%	97.4%	99.6%	99.7%	99.8%	100.0%	99.3%
C10	98.4%	96.4%	98.6%	99.4%	98.4%	99.6%	100.0%	98.7%
C11	91.9%	97.3%	98.3%	99.4%	91.9%	99.1%	97.4%	96.5%
C12	96.4%	99.1%	100.0%	100.0%	96.4%	100.0%	99.7%	98.8%

APPENDIX B

ARTICLES USED IN CODING

APPENDIX B

ARTICLES USED IN CODING

1909-1919

001. NHE Rinaker, Harriet Beckwith. "Fuels and Their Utilization in the Process of Cooking." Journal of Home Economics 1 (December 1909): 409-417.

002. NHE Commons, John R. "Standardizing the Home." Journal of Home Economics 2 (February 1910): 23-25.

003. NHE Hamilton, Joan. "Acelylene Gas As Fuel For A Domestic Science Kitchen." Journal of Home Economics 2 (December 1910): 654-655.

004. HE Bell, Martha T. "The Use Of A College Residence In Teaching Household Thrift." Journal of Home Economics 3 (April 1911): 149-152.

005. HE Richards, Ellen H. "The Ideal Housekeeping in the Twentieth Century." Journal of Home Economics 3 (April 1911): 174-175.

006. HE Griscom, Lucy. "The Elimination of Waste in the Household." Journal of Home Economics 2 (November 1910): 292-297.

007. NHE Balderston, L. Ray. "Courses of Instruction in Laundry Management." Journal of Home Economics 2 (November 1910): 538-541.

008. NHE Lebovitz, J. "The Home And The Machine." Journal of Home Economics 3 (April 1911): 141-148.

009. NHE "Report Of The Committee On Laundry Management Of The Institution Economics Section." Journal of Home Economics 5 (December 1913): 445-453.

010. NHE Cooley, M. E. "Electric Vacuum Cleaners." Journal of Home Economics 7 (November 1915): 497-498.

011. NHE "The National Conservation Exposition." Journal of Home Economics 5 (June 1913): 288.

012. HE Langworthy, C. F. "Distribution of Household Labor." Journal of Home Economics 6 (April 1914): 120-130.

013. NHE Hood, Grace Gordon. "Pressure Cooker Versus Fireless Cooker for Home Use." Journal of Home Economics 7 (August-September 1915): 375-379.

014. HE Richards, Ellen H. "Wanted, A Test For 'Man Power'." Journal of Home Economics 5 (February 1913): 57-60.

015. HE "Time Saving Methods In Housework." Journal of Home Economics 7 (April 1915): 208.

016. NHE "Model Kitchen To Illustrate Principles." Journal of Home Economics 7 (August-September 1915): 384.

017. NHE "A School Electric Equipment." Journal of Home Economics 9 (March 1917): 108.

018. HE "Mending." Journal of Home Economics 9 (April 1917): 182-183.

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APPENDIX C

CODING MATERIALS

APPENDIX C

CODING MATERIALS

Valued Ends Found in the Journal of Home Economics Articles, Volume 1-69.

1. Economy of Labor--minimizing labor, labor saving, reduction of household labor, elimination of steps, elimination of motions, reduction of household drudgery, organizating work, motion minded, work reducing, step saving, time and motion, reducing fatigue, work simplification, improved work methods, psychological fatigue, work simplification, improved work methods, psychological fatigue, labor saving equipment, mechanized modern home, mechanization, body motions, conservation of woman power, laborious work.

   Example from Journal of Home Economics--One general idea emphasized by this kitchen is that the size of the ordinary kitchen should be smaller rather than larger if the room is to be used only for the preparation of meals. It should be as compact as possible to save traveling back and forth.

2. Time Management--saving time, economy of time, time consuming, wasting time, reduction in time, time saving, time cost, household work time, great deal of time, leisure time.

   Example from Journal of Home Economics--The question of waste of time in a household is the most discouraging, as it is due to the long years in which the housekeeper's time has been considered as the least valuable in the world.

3. Convenience--comfort, built in convenience, leisure, organization, well organized, convenience, easy living.

   Example from Journal of Home Economics--It is not, very conveniently arranged in rooms since the way from the kitchen to the front door is through the dining room, living room and hall and the pantry and cupboards are in the wrong places.

4. Efficiency in the Home--efficiency methods, efficiency engineering, efficient home manager, efficient administrator, efficient storage.

   Example from Journal of Home Economics--This physical efficiency, as a basis of mental efficiency is fundamental to the point of human productions of the force which is surely the mover of the world.

5. Conservation of Resources--energy wasted, energy consuming, energy expenditure, wasted energy, consuming less energy, requiring less calories, saving energy, physical energy, energy expenditure, using resources wisely, conserving resources, energy efficient, energy consumption, reducing energy consumption, environmental impact, energy dependence, energy needs, conserving energy, energy costs.

   Example from Journal of Home Economics--Till within a few years there has been no thought of the possible failure of natural gas and there has been extreme waste that has brought about acute shortage.

6. Overall Family Resource Management--integration of resources to meet family goals, assessing resources, managing resources, effective management, home management, creative management, managerial skills, managerial resources, such as time, energy, money, values, goals, skills, talents, attitudes, knowledge, family resources, community resources; planning, controlling the plan in action, and evaluating the results; management as a mental activity, decisions, decisionmaking, satisfactory family living, etc.

   Example from Journal of Home Economics--The concept of energy as a resource for families generally is accepted in the field of home management.

Instrument to be Used for Determining Valued Ends of Human and Non-Human Energy by Home Economists as Portrayed in the Journal of Home Economics.

Purpose of this Instrument

You are being asked to identify the valued ends related to the use of human and non-human energy which have been mediated by home economists in the Journal of Home Economics, Vol. 1-69.

Methodology

Each randomly pre-selected article which you will code will deal with the theme of the use of human energy or non-human energy in the home.

The author of each article, besides talking about the use of human or non-human energy, was trying to introduce or establish a valued end which would make work in the home a little easier.

Your task is to identify the valued end written about by the author of the article from the list provided. In some of the articles, you may identify many valued ends, in others, only a few.

Each article will have its own coding sheet. Carefully read each article. The paragraph is the unit to be analyzed. Please read each paragraph and determine the valued ends present. A paragraph may have more than one valued end or it might not have any for the purposes of this study. Place the code or codes for each valued end in the margin beside the particular paragraph.

When you have finished reading each article, tally the number of valued ends you have counted for each of the five established valued ends and mark the results on the coding sheet.

You will be given a definition of each of the valued ends the researcher is looking for, some key words to look for, and some examples of its use from the Journal of Home Economics.

Several weeks from now you will be asked to reread some of the same articles and re-code them. The purpose of this exercise is to establish reliability for your coding.

Definitions

1. Energy--the capacity for doing work.

2. Human Energy--derived, generated, and converted into the capacity to do work by the consumption of the basis elements (food, water, air, sunlight); converted into the capacity of a human to expend force (energy) to do work.

3. Non-Human Energy--Labor saving energy which substitutes a mechanical device powered by a non-renewable natural resources for human work.

CODE BOOK

Information Requested	Column	Instructions
1. Article Number	1, 2, 3	Place article number in column 1, 2, 3.
2. Card Number	4, 5	Place 01 for first card and 02 for second card.
3. Coder's Identification	6, 7	03--Cindy Benezette 04--Lynn Burwell 05--Julia Delbridge
4. Year of Article	8, 9, 10, 11	Place year of article in column 8, 9, 10, 11.
5. Month of Article	12, 13	Place month of article in column 12, 13.
6. Category of Article	14, 15	Place 01--for human energy 02--for non-human energy
7. Paragraph 1	16, 17 18, 19 20, 21	Place 00--no value goal concept stated 01--human energy, economy of labor
Paragraph 2	22, 23 24, 25 26, 27	02--human energy, time management 03--human energy, convenience
Paragraph 3	28, 29 30, 31 32, 33	04--human energy, efficiency in home 05--human energy, conserv. of resources
Paragraph 4	34, 35 36, 37 38, 39	06--human energy, overall family resource management 07--non-human energy, economy of labor
Paragraph 5	40, 41 42, 43 44, 45	08--non-human energy, time management 09--non-human energy, convenience
Paragraph 6	46, 47 48, 49 50, 51	10--non-human energy, efficiency in house 11--non-human energy, conserv. of resources
Paragraph 7	52, 53 54, 55 56, 57	12--non-human energy, overall family resource management.

Information Requested	Column	Instructions
Paragraph 8	58, 59 60, 61 62, 63	
Paragraph 9	64, 65 66, 67 68, 69	
Paragraph 10	70, 71 72, 73 74, 75	
8, Card Number	79, 80	Place 01 here.

SECOND CARD

1.	Article Number	1, 2, 3	Place article number in column 1, 2, 3.
2.	Card Number	4, 5	Place 02 here
3.	Coder's Identification	6, 7	03--Cindy Benezette 04--Lynn Burwell 05--Julia Delbridge
4.	Paragraph 11	8, 9 10, 11 12, 13	00--no goal value concept stated 01--human energy, economy of labor
	Paragraph 12	14, 15 16, 17 18, 19	02--human energy, time management 03--human energy--convenience 04--human energy, efficiency in home
	Paragraph 13	20, 21 22, 23 24, 25	05--human energy, conserv. of resources 06--human energy, overall family resource management
	Paragraph 14	26, 27 28, 29 30, 31	07--non-human energy, economy of labor
	Paragraph 15	32, 33 34, 35 36, 37	08--non-human energy, time management 09--non-human energy, convenience
	Paragraph 16	38, 39 40, 41 42, 43	10--non-human energy, efficiency in the home

Information Requested	Column	Instructions
Paragraph 17	44, 45 46, 47 48, 49	11--non-human energy, conserv. of resources 12--non-human energy, overall family resource management
Paragraph 18	50, 51 52, 53 54, 55	
Paragraph 19	56, 57 58, 59 60, 61	
Paragraph 20	62, 63 64, 65 66, 67	
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THIRD CARD

1.	Article Number	1, 2, 3	Place article number in column 1, 2, 3
2.	Card Number	4, 5	Place 03 here
3.	Coder's Identification	6, 7	03--Cindy Benezette 04--Lynn Burwell 05--Julia Delbridge
4.	Paragraph 23	8, 9 10, 11 12, 13	00--no goal value concept stated 01--human energy, economy of labor
	Paragraph 24	14, 15 16, 17 18, 19	02--human energy, time management 03--human energy--convenience 04--human energy, efficiency in home
	Paragraph 25	20, 21 22, 23 24, 25	05--human energy, conserv. of resources

Information Requested	Column	Instructions
Paragraph 26	26, 27	06--human energy, overall family resource management
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	30, 31	
Paragraph 27	32, 33	07--non-human energy, economy of labor
	34, 35	08--non-human energy, time management
	36, 37	
Paragraph 28	38, 39	09--non-human energy, convenience
	40, 41	10--non-human energy, efficiency in the home
	42, 43	
Paragraph 29	44, 45	11--non-human energy, conserv. of resources
	46, 47	12--non-human energy, overall family resource management
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Paragraph 33	68, 69	
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FOURTH CARD

1.	Article Number	1, 2, 3	Place article number in column 1, 2, 3
2.	Card Number	4, 5	Place 04 here
3.	Coder's Identification	6, 7	03--Cindy Benezette 04--Lynn Burwell 05--Julia Delbridge

Information Requested	Column	Instructions
4. Paragraph 35	8, 9	00--no goal value concept stated
	10, 11	
	12, 13	01--human energy, economy of labor
Paragraph 36	14, 15	02--human energy, time management
	16, 17	
	18, 19	03--human energy--convenience
		04--human energy, efficiency in the home
Paragraph 37	20, 21	
	22, 23	05--human energy, conservation of resources
	24, 25	
		06--human energy, overall family resource management
Paragraph 38	26, 27	
	28, 29	
	30, 31	07--non-human energy, economy of labor
Paragraph 39	32, 33	08--non-human energy, time management
	34, 35	
	36, 37	09--non-human energy, convenience
Paragraph 40	38, 39	10--non-human energy, efficiency in the home
	40, 41	
	42, 43	11--non-human energy, conservation of resources
Paragraph 41	44, 45	12--non-human energy, overall family resource management
	46, 47	
	48, 49	
Paragraph 42	50, 51	
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Paragraph 43	56, 57	
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Paragraph 44	62, 63	
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Paragraph 45	68, 69	
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Paragraph 46	74, 75	
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FIFTH CARD

Information Requested	Column	Instructions
1. Article Number	1, 2, 3	Place article number in column 1, 2, 3
2. Card Number	4, 5	Place 05 here
3. Coder's Identification	6, 7	03--Cindy Benezette 04--Lynn Burwell 05--Julia Delbridge
4. Paragraph 47	8, 9 10, 11 12, 13	00--no goal value concept stated 01--human energy, economy of labor
Paragraph 48	14, 15 16, 17 18, 19	02--human energy, time management 03--human energy--convenience 04--human energy, efficiency in the home
Paragraph 49	20, 21 22, 23 24, 25	05--human energy, conservation of resources 06--human energy, overall family resource management
Paragraph 50	26, 27 28, 29 30, 31	07--non-human energy, economy of labor
Paragraph 51	32, 33 34, 35 36, 37	08--non-human energy, time management 09--non-human energy, convenience
Paragraph 52	38, 39 40, 41 42, 43	10--non-human energy, efficiency in the home 11--non-human energy, conservation of resources
Paragraph 53	44, 45 46, 47 48, 49	12--non-human energy, overall family resource management
Paragraph 54	50, 51 52, 53 54, 55	
Paragraph 55	56, 57 58, 59 60, 61	

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Paragraph 5	40 41
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Paragraph 10	70 71
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CODING SHEET
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Paragraph 7	52 53
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Paragraph 9	64 65
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Paragraph 10	70 71
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	74 75
8. Coding	79 80

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2. Card Number	4 5
3. Coder's Identification	6 7
4. Paragraph 11	8 9
	10 11
	12 13
Paragraph 12	14 15
	16 17
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Paragraph 13	20 21
	22 23
	24 25
Paragraph 14	26 27
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Paragraph 15	32 33
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	36 37
Paragraph 16	38 39
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Paragraph 17	44 45
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	60 61
Paragraph 20	62 63
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Paragraph 21	68 69
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	74 75		
	76 77		
	78 79		
5. Coding	80		

CODING SHEET
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Information Requested	Column
1. Article Number	1 2 3
2. Card Number	4 5
3. Coder's Identification	6 7
4. Paragraph 23	8 9
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Paragraph 24	14 15
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Paragraph 25	20 21
	22 23
	24 25
Paragraph 26	26 27
	28 29
	30 31
Paragraph 27	32 33
	34 35
	36 37
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Paragraph 30	50 51
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Paragraph 31	56 57
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	60 61
Paragraph 32	62 63
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Paragraph 33	68 69
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Information Requested	Column	Information Requested	Column
Paragraph 34			
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	76 77		
	78 79		
5. Coding	80		

CODING SHEET
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Information Requested	Column
1. Article Number	1 2 3
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3. Coder's Identification	6 7
4. Paragraph 35	8 9
	10 11
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Paragraph 36	14 15
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Paragraph 38	26 27
	28 29
	30 31
Paragraph 39	32 33
	34 35
	36 37
Paragraph 40	38 39
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Paragraph 41	44 45
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	48 49
Paragraph 42	50 51
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	54 55
Paragraph 43	56 57
	58 59
	60 61
Paragraph 44	62 63
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Paragraph 45	68 69
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5. Coding	80		

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