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PREVIEW

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**Constraining factors in the propensity to manage household
wastes: The effects of predispositions and resources**

Niemeyer, Shirley Marie, Ph.D.

The University of Nebraska - Lincoln, 1990

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PREVIEW

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CONSTRAINING FACTORS
IN THE PROPENSITY TO MANAGE HOUSEHOLD WASTES:
THE EFFECTS OF
PREDISPOSITIONS AND RESOURCES

by

Shirley Marie Niemeyer

A DISSERTATION

Presented to the Faculty of
The Graduate College in the University of Nebraska
In Partial Fulfillment of Requirements
For the Degree of Doctor of Philosophy

Major: Interdepartmental Area of Community and Human Resources

Under the Supervision of Professor Robert Florell

Lincoln, Nebraska

December, 1990

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BY

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GRADUATE COLLEGE
UNIVERSITY OF NEBRASKA

**CONSTRAINING FACTORS IN THE PROPENSITY TO MANAGE HOUSEHOLD WASTES:
THE EFFECTS OF PREDISPOSITIONS AND RESOURCES**

Shirley Marie Niemeyer, Ph.D

University of Nebraska, 1990

Adviser: Robert Florell

Waste management is a fundamental ecological issue that is impacted by attitudes and behavior of householders. The purposes of this research are: (1) to analyze the relative contributions of a number of the determinants of the intent to engage in household waste management behavior (recycling, reuse, reduction), and (2) to test the theoretical model of household waste management adjustment to explore whether the model provides a general theoretical framework for understanding household waste management adjustment behavior. Do resource, predisposition, knowledge, and market constraints constrain or facilitate the belief in the household waste management problem, existing waste management conditions, satisfaction with those conditions, and the intent to engage in future household waste management adjustment behavior?

The sample was a randomly selected sample of 1000 Nebraska households; 494 questionnaires were returned. A total sample of 474 was used for the initial data analysis. A subsample of 373 for inferential statistics resulted based on listwise procedures for missing cases. Path analysis was conducted using multiple regression.

The major findings include: (1) the household waste management adjustment model serves moderately well in the explanation of the intent to adjust waste management practices, (2)

predisposition constraints, as a group of variables, are key contributors to the variance in intent to manage waste, (3) higher levels of market constraints facilitate the belief in the existence and seriousness of the household waste problem, and inhibit the household waste management satisfaction, (4) knowledge of waste management is positively associated with belief in the waste management problem and existing waste management conditions, and (5) normative constraints influence belief in the household waste management problem and existing household waste management conditions. Belief and existing household waste management conditions, as intervening variables in the model, help explain the effects of the exogenous variables (resource, predisposition, market and knowledge constraints) on the variables satisfaction with the waste management conditions and the intent to manage household waste in the future. This research contributes to the body of literature focusing on attitude and behavioral intent.

PREVIEW

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Many special people made this dissertation possible through their friendship, encouragement, expertise, and assistance. They include: Ann Ziebarth, Rose Marie Tondl, Kathy Prochaska-Cue, Harriet Kohn, Leon Rottmann, Julie Albrecht, Virginia Gobeli, Herb Lingren, Linda Boeckner, Georgia Stevens, Pat Hendricks, Pat Steffens, Kay Rockwell, Beth Birnstihl, Marilyn Eichner, Terry Meisenbach, John Creswell, Robert Brown, Bruce Baugh, Linnea Fredrickson, Martha Gilliland, Nancy Johnson, Senator Spencer W. Morrissey, Jerry Dichert, Irene Hansen, Leona Barratt, Carol High, Judy Schwab, Kathy Parrott, and the Otoe County Home Extension Club Council. Dr. Raymond De Young graciously allowed adaptation of portions of his measurement instrument for use in the questionnaire. Dr. Earl W. Morris and Dr. Mary Winter are recognized for providing the theoretical foundation for this research through their Housing Adjustment Model. They also provided invaluable experiences at Iowa State University in research methods, statistical procedures, and critical thinking.

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The funding for this project was provided by Charles and Shirley Niemeyer. I dedicate this dissertation, with love and respect, to my Mother and deceased Dad, and to my husband . . . Hello, my friend, hello.

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PREVIEW

CHAPTER I. THEORETICAL ORIENTATION

Context of the Problem, Theory, and Model

Context of the Problem

On a per capita basis, the United States disposes of more waste than any other nation. Although existing disposal facilities for waste are reported to be dwindling, growth of the amount of household wastes has continued. The amount of waste generated each day per person in the United States has increased from 2.9 pounds in 1960 to 4.3 pounds in 1988, or to approximately 21 pounds per household per day (Older, 1989). Fridgen (1989) reported that the population growth increases now at less than one percent per year; however the quantity of solid waste produced is increasing at two to five percent per year (Fridgen, 1989; Harrison, 1989).

Currently landfills account for 80 to 90 percent of the disposal of waste (Older, 1989; Fridgen, 1989). Contamination of ground water, surface water, soil, and air frequently can be traced to improper disposal of hazardous and solid wastes (Fridgen, 1989). According to Fridgen (1989), landfills in the United States are estimated to produce as much as 45 billion gallons of leachate each year.

Landfills are closing faster than replacement facilities are opening (Older, 1989). By 1990, more than half of the cities in the United States will have exhausted their landfills (Fridgen, 1989). Harrison (1989) reported that between 1986 and 1987 the national average tipping fees per ton of waste increased from \$13.50 to \$20.00, and predicted that rates will escalate as wastes from urbanized areas are shipped across the nation. Effective strategies to manage solid waste is a problem of massive proportion to officials, urban planners, and environmentalists according to De Young (1984). Solving the issue will take more than technological expertise (De Young, 1984). Ruckelhaus (1972) suggested that "solid waste management is a fundamental ecological issue and illustrates, perhaps more clearly than any other environmental problem, that we must change many of our traditional attitudes and habits" (as cited in De Young, 1984:2).

Thus, it is important to examine factors associated with waste management - recycling, reuse, and minimization or reduction, and disposal. Differences in household waste management can be attributed in part to differences in available resources, services, and markets. But such factors account for only part of the difference. The remaining differences are related to such factors as attitudes, knowledge, and human behavior.

Management of household waste is viewed as necessary because of high disposal rates, environmental effects, lack of available disposal areas that meet current regulations, and potential unknown long term impact. However, little is known about perceptions, attitudes, and behavior related to household waste management, disposal, and waste minimization. Fisher (1989) reported that changing attitudes about waste management practices can be the hardest part of waste minimization. Likewise, Compton (1972) reported that trash recycling is a problem because many attempts to promote trash recycling have not been successful.

Although extensive research has been conducted in the area of attitude behavior consistency, and in particular, environmental issue areas, such as attitudes and behavior related to energy conservation, it is not known whether research findings related to energy conservation apply to corresponding environmental problems such as household waste management. Existing research tends to focus on the technical aspects of waste disposal. Little research has been conducted related to householders' behavior and constraining or facilitating factors in the management, disposal, and minimization of household waste.

The rationale for the focus on predisposition and resource constraints and the intent to engage in waste management behavior is based on the results of research on attitudes and behavior, particularly prior research conducted related to energy conservation, and on the growing dependence of families on waste disposal processes and landfills that are becoming scarce and costly.

Statement of the Problem

The purpose of this study is to analyze the relative contribution of a number of the determinants of the intent to engage in waste management and waste minimization behavior. The

intent to manage waste is based on four adjustment techniques available to households: (1) recycling, (2) reusing, (3) source reduction, and (4) disposal.

A secondary purpose is to test the theoretical model of household waste management behavior to explore whether or not the previously tested energy adjustment model provides a general theoretical framework for the understanding of waste management adjustment behavior.

Do resources, predispositions, knowledge, and market constraints related to household waste management serve to constrain or facilitate the belief in the household waste management problem, existing household waste management practices or conditions, satisfaction with those conditions, and the intent to engage in future household waste management adjustment behavior? Do belief, existing practices or conditions, and satisfaction intervene in the relationships between the resource, predisposition, market, and knowledge constraints and the intent to manage household waste?

Discussion of the Problem

To accomplish these purposes, an analysis is performed to discover to what extent differences that exist in the intent to manage or minimize waste can be attributed to differing resource, predisposition, knowledge, and market constraints. A key to the analysis is whether (1) the belief in the household waste management problem, (2) existing conditions for household waste management and minimization, and (3) satisfaction with the existing household waste management practices intervene in the relationship between the intent to engage in household waste management behavior and the resource, market and knowledge constraints and attitudinal predispositions.

The general theoretical basis for this dissertation is a social systems model of behavior. The specific theoretical basis is a static model of housing adjustment developed and partially tested in previous research. For a review of that research, see Morris and Winter (1978).

An Attitude-Behavior Model in Waste Management

In this study, the theoretical basis discussed and developed in previous works (Ajzen, 1988; Heberlein & Warriner, 1980; O'Riordan, 1976; Fishbein & Ajzen, 1975; Wicker, 1969; Fishbein, 1967) and the energy-adjustment model (Niemeyer, 1982, see Figure 1) serve as a theoretical framework. The theory of housing adjustment developed by Morris and Winter (1978) serves as the specific model for the previous developed household energy adjustment model (see Figure 1) and for the household waste management adjustment model (see Figure 2). The household waste management adjustment model and the hypothesized relationships are based on the findings of the previously tested household energy adjustment model.

Based on the literature it is postulated that if the individual's existing household waste management behavior fails to meet the individual or family norms for household waste management, a deficit exists. If the deficit is perceived and salient, dissatisfaction is high and a intent to engage in waste management adjustment behavior results. Factors influencing household waste management deficits include resource, market, knowledge, and predisposition constraints. The major hypothesis to be tested is that differences in resource, predisposition, knowledge, and market constraints produce differences in beliefs related to the waste problem and in existing waste management practices or conditions within the household, which in turn affect satisfaction with the existing conditions or practices and result in the intent to engage in waste management adjustment behavior.

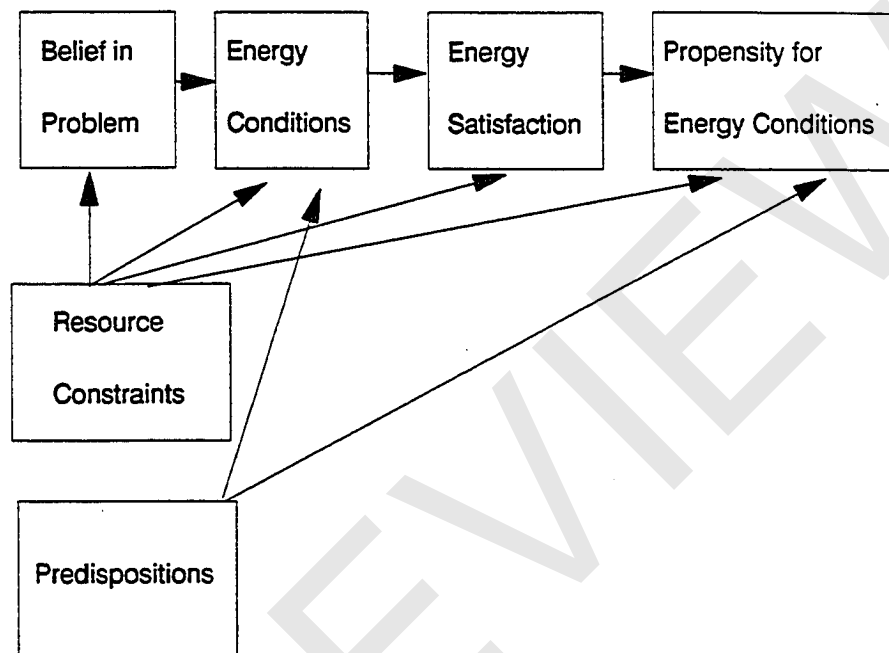


Figure 1. Household energy adjustment model (Niemeyer, 1982).

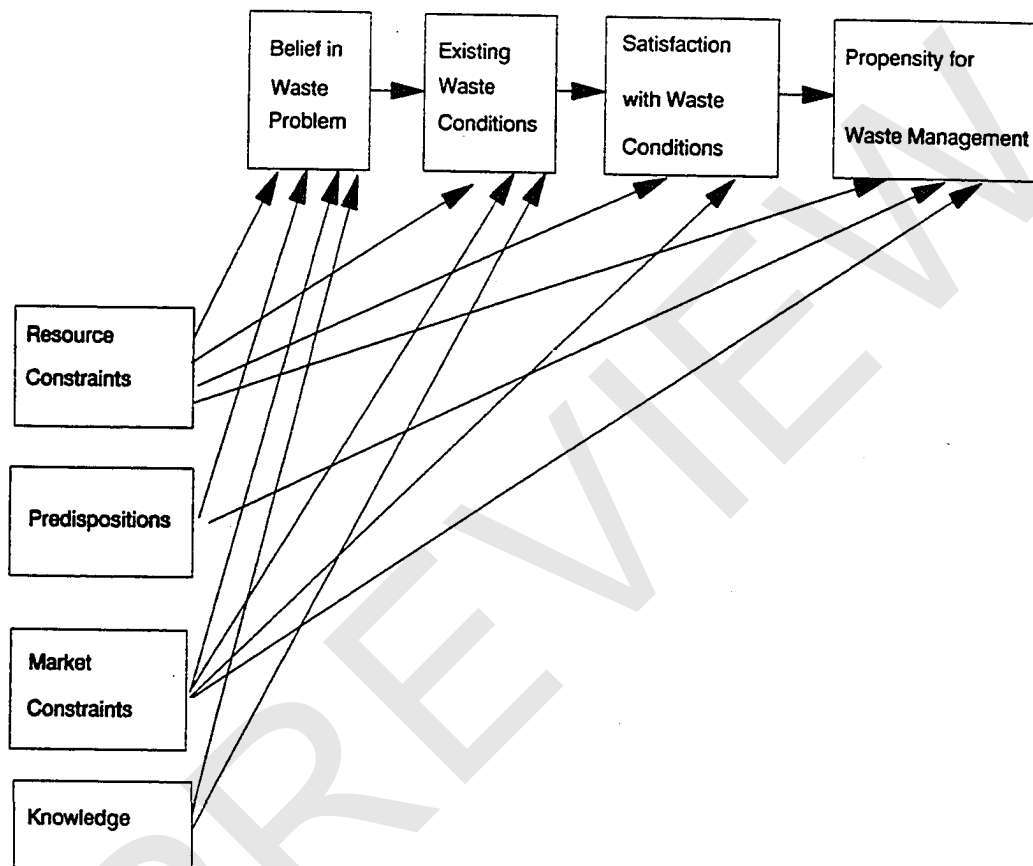


Figure 2. Household waste adjustment model (Niemeyer, 1990).