EXAMINING SOCIAL SETTING AND PRODUCT REFERENCE VIA CONJOINT ANALYSIS AN EMPIRICAL STUDY OF RESTAURANT PATRONAGE

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Abstract

This paper employs the conjoint measurement methodology to examine the impact of social setting on preferences for restaurants. It is shown that those who go to restaurants with friends differ from those who go with family in terms of importance attached to different restaurant attributes and demographic characteristics. Some managerial implications of the study are discussed.

Introduction

"Marketing could be defined as the study and employment of social influence processes by the marketer in order to satisfy the consumer's needs at profit" (Zaltman and Wallendorf, 1979, p. 200). While some critics may disagree with this definition, few would deny the influence of social processes and settings on the formation of consumer preferences and decision making. In fact, most modern consumer behavior texts devote substantial space to emphasize the role and importance of social groups and family in understanding consumer choice behavior (Berkman and Gilson, 1978; Engel, Blackwell and Kollat, 1978; Loudon and Della Bitta, 1979); Schiffman and Kanuk, 1978; Walters, 1978; Zaltman and Wallendorf, 1979). Consistent with this perspective is an emerging stream of research on consumer socialization (Churchill and Moschis, 1979; Moore and Stephens, 1975; Moschis and Churchill, 1978, 1979; Moschis and Moore, 1978; Ward, Wackman, and Wartella, 1977). A common thread observed in this piece of literature has been the need to undertake further empirical research to examine the impact of social factors on consumer decision making (Moschis and Moore, 1979).

In keeping with this exhortation, this paper attempts to examine the impact of social setting in preferences for restaurants. Two different social settings or scenarios are considered: eating with friends or eating with family. Conjoint measurement methodology is used to measure the utilities of the attributes from preference data. While this technique has been widely used in marketing (Green and Srinivasan, 1978), its use to examine the influence of social factors on consumer choice behavior has been limited (Wind, 1976). The design, analysis and results of the empirical study conducted are described in the following sections.

Research Design

The first step in the research design process was to identify the salient attributes of restaurants. As noted by Wilkie and Pessemier (1973), an entirely satisfactory method for attribute generation and selection has not yet been developed. A particularly attractive approach to attribute identification is Kelley's repertory grid (Kelley 1955). Hence this procedure was adopted. In a pretest, respondents were presented with triplets of restaurants. Each respondent was asked to think of a dimension along which any two of the three restaurants were similar to each other and different from the third. This process was continued with new triplets of restaurants until the respondent had exhausted his repertoire of alternative bases for differentiation. The respondent was also required to provide the relative salience of each attribute he/she had identified. On the basis of the frequency of attribute mentions, and the average importance ratings, five attributes were selected. Furthermore, two of these attributes were conceptualized in terms of four levels each while each of the remaining attributes was defined in terms of two levels. The levels of attributes were selected so as to reflect the variety of restaurants available in the local area. The attributes identified and the corresponding levels are indicated in Table 1. These attributes relate to the type of restaurant, price of meal, level of service, entertainment and acceptance of major credit cards.

TABLE 1
LIST OF ATTRIBUTES AND THEIR LEVELS

Attributes	Level	
Type of Restaurant	1.	BBQ
	2.	Steak
	3.	Mexican
	4.	Chinese
Price of Meal	1.	2.75
	2.	4.00
	3.	5.25
	4.	6.50
Service	1.	Table
	2.	Buffet
Entertainment	1.	Yes
	2.	No
Credit Card	1.	Accepted
	2.	Not Accepted

The next step was to generate hypothetical profiles (Green and Srinivasan 1978) of restaurants using the attributes and levels identified. From Table 1 it can be seen that for a completely crossed design 4x4x2x2x2 = 128 different profiles will be needed. Having the respondents evaluate these many profiles is clearly not a feasible task (Green and Srinivasan 1978). Hence, it was necessary to reduce the number of profiles to a manageable subset. For this purpose, a special type of design called an orthogonal array was employed (Green 1974a, 1974b). The use of an appropriate orthogonal array resulted in the selection of 16 profiles. Each of these profiles was described on a separate index card. An example of one such profile is shown in Figure 1.

Data Collection

The data for this study was obtained by personal interviews with male and female members of households in a major metropolitan area in the U.S. The interviewers were asked to survey every third house in randomly

chosen blocks. A total of 314 useable questionnaires were obtained.

FIGURE 1
AN EXAMPLE OF A TYPICAL RESTAURANT PROFILE

> A primarily Chinese restaurant, with service at your table and featuring live entertainment. All major credit cards are accepted. A typical meal costs $6.50 per person.

During the course of the interview, each respondent was presented with the 16 profiles of restaurants. He/she was asked to rank these profiles in terms of his/her preference to patronize the restaurants described by the profiles for dinner. Furthermore, the respondent was asked to indicate the social setting under which he/she generally made visits to the restaurants in the local area. The social setting was to be described in terms of whether the visits to the restaurants were made generally alone, with family or with friends. Finally, data pertaining to standard demographic characteristics were obtained.

Data Analysis

A flow chart of the data analysis strategy adopted is given in Figure 2. The individual level preference rankings were analyzed via MONANOVA (Kruskal, 1965) to develop part worth function associated with each attribute by each respondent. By comparing the relative ranges of parth worth utilities across attributes for each respondent, the importance weights attached to the different attributes by the individual were determined (Jain et al., 1979). Based on the social setting, the respondents were classified into three groups: eat alone, eat with friends and eat with family. As there were only 8 respondents who ate alone, this group was not considered in further analysis. Two group discriminant analyses and t-tests were conducted to determine which restaurant attributes and demographic characteristics distinguished between the two groups.

Results

The relative importance attached to the different attributes by those who patronize restaurants mainly with friends and by those who eat out generally with their family is indicated in Table 2. It can be seen that those who visit restaurants with friends regard type of restaurant, price and service as the more important factors influencing their choice. Of these, the type of restaurant is considered as the most important factor. Price and service are next in order, both being considered equally important. While those who visit restaurants with their family consider only the type of restaurant and price as being the more important factors in their choice of restaurants and unlike their counterparts do not consider service to be relatively important. This group also considers type of restaurant to be the most important. In fact, far more than those who eat with friends. The availability of entertainment and credit card policies are considered to be relatively unimportant by both the groups.

TABLE 2
RELATIVE IMPORTANCE OF ATTITUDES

Attribute	Group	
	Eat with Friends	Eat with Family
Type of Restaurants	0.42	0.56
Price	0.26	0.32
Service	0.27	0.06
Entertainment	0.03	0.06
Credit Card Policy	0.02	0.00

Although the two groups do not significantly differ in terms of relative importance accorded to price and type of restaurant, there may be differences in their respective parth-worth utilities. The respective part-worth utilities are given in Table 3. From the table it can be seen that only the part worth utilities of price are significantly different across the two groups. The similarities and differences between the two groups with respect to price can be observed by examining the part-utilities plotted in Figure 3.

Over the range of prices both the groups show preference for restaurants where a typical meal costs more. That is, both the groups are displaying a price-perceived quality effect. Such price-perceived quality relationships have been observed in several studies. An excellent review in this topic is provided by Olson (1977). However, those who visit restaurants with their families have a much greater preference for a medium price ($5.25) meal than those who visit with their friends.
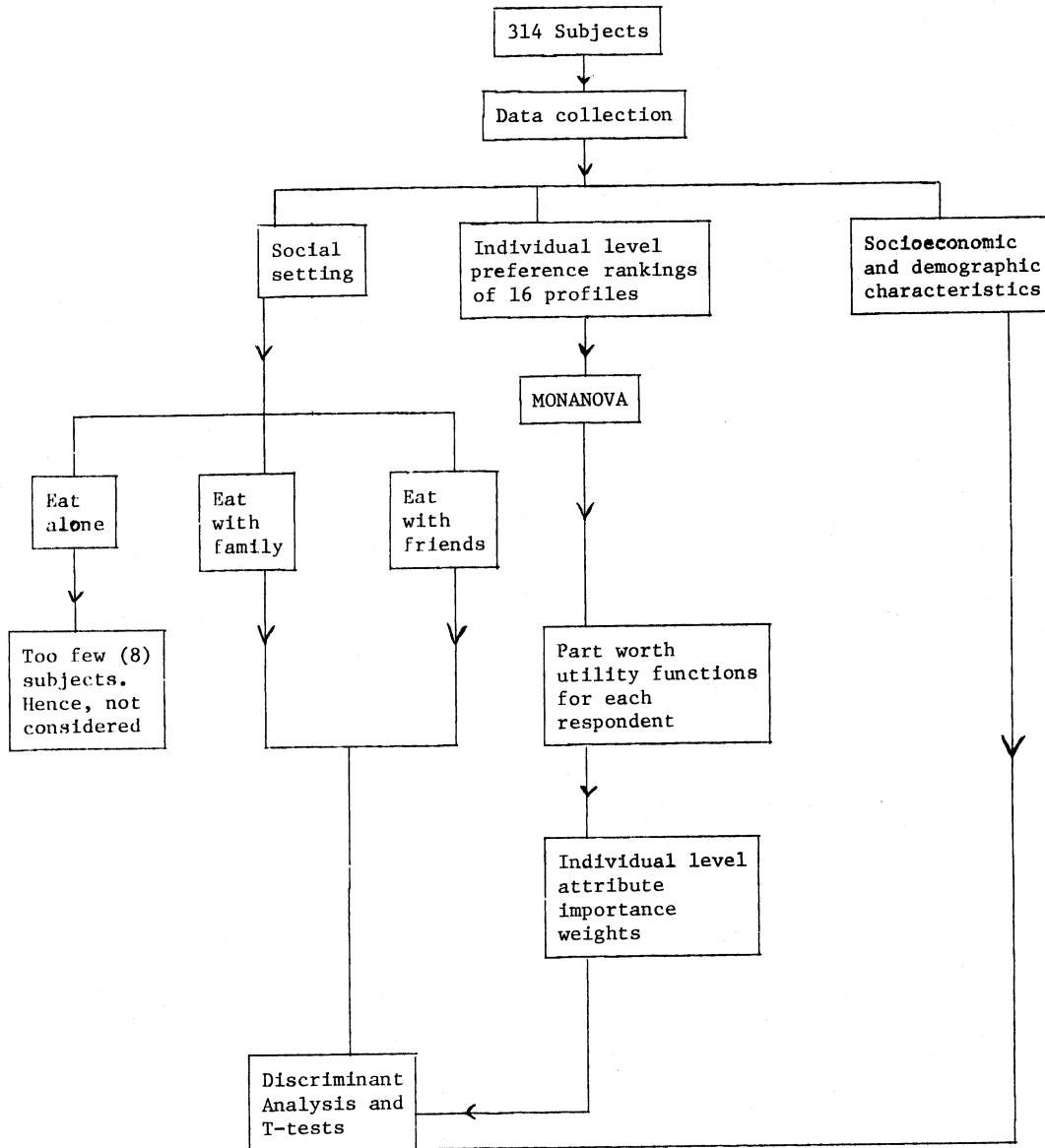
TABLE 3
PART-WORTH UTILITIES FOR PRICE AND TYPE OF RESTAURANT

	Group	
Attributes	Eat with Friends	Eat with Family
Price:		
$2.75	-.326	-.358
$4.00*	-.186	-.380
$5.25	-.015	.251
$6.50	.527	.487
Restaurant		
BBQ	-.114	-.187
Steak	-.553	-.691
Mexican	-.135	.038
Chinese	.802	.844

*
p < .05

The salient demographic characteristics of the two groups are given in Table 4. It can be seen that those who go to restaurants primarily with family are married, older, have more children and greater income. On the other hand, those who eat primarily with friends are younger, single, if married have no children, and have less income.

FIGURE 2
A FLOW CHART OF DATA ANALYSIS STRATEGY

314 Subjects

Data collection

Social setting

Individual level preference rankings of 16 profiles

Socioeconomic and demographic characteristics

MONANOVA

Eat alone

Eat with family

Eat with friends

Too few (8) subjects. Hence, not considered

Part worth utility functions for each respondent

Individual level attribute importance weights

Discriminant Analysis and T-tests

Discussion

The results of this study have certain implications for the marketing manager. Since respondents who go to restaurants with family differ from those who go with friends, the social setting of the respondents could be a meaningful way of segmenting the market for restaurants.

Those who eat with family are more sensitive to the type of restaurant as compared to those who eat with friends. However, this factor is the most important to both the groups. Since the type of restaurant was defined as BBQ, Steak, Mexican or Chinese, it is important for the restaurant management to emphasize a certain definite image.

Also, it was found that different levels of service and price have different utilities for the two groups. Hence it is important that a restaurant has a wide variety of menu at different prices in order to attract a large percentage of the market.

In conclusion, it must be pointed out that this study was of an exploratory nature and is not without limitations. The social setting was conceptualized in limited terms. Other aspects and dimensions of the social setting need to be explored. Even though the attributes were chosen using the repertory grid, we cannot be certain that these attributes are indeed representative. Also, it must be pointed out that an additive main effects model was employed to estimate part worth utilities via conjoint measurement. While the use of main effects models in conjoint analysis is more or less the norm (Green and Srinivasan, 1978), consideration must be given to the various interactions while estimating consumer preference functions. However, it is hoped that this study was useful in addressing an important area in consumer behavior and in illustrating the application of conjoint measurement to assess the impact of social setting on preference formation.

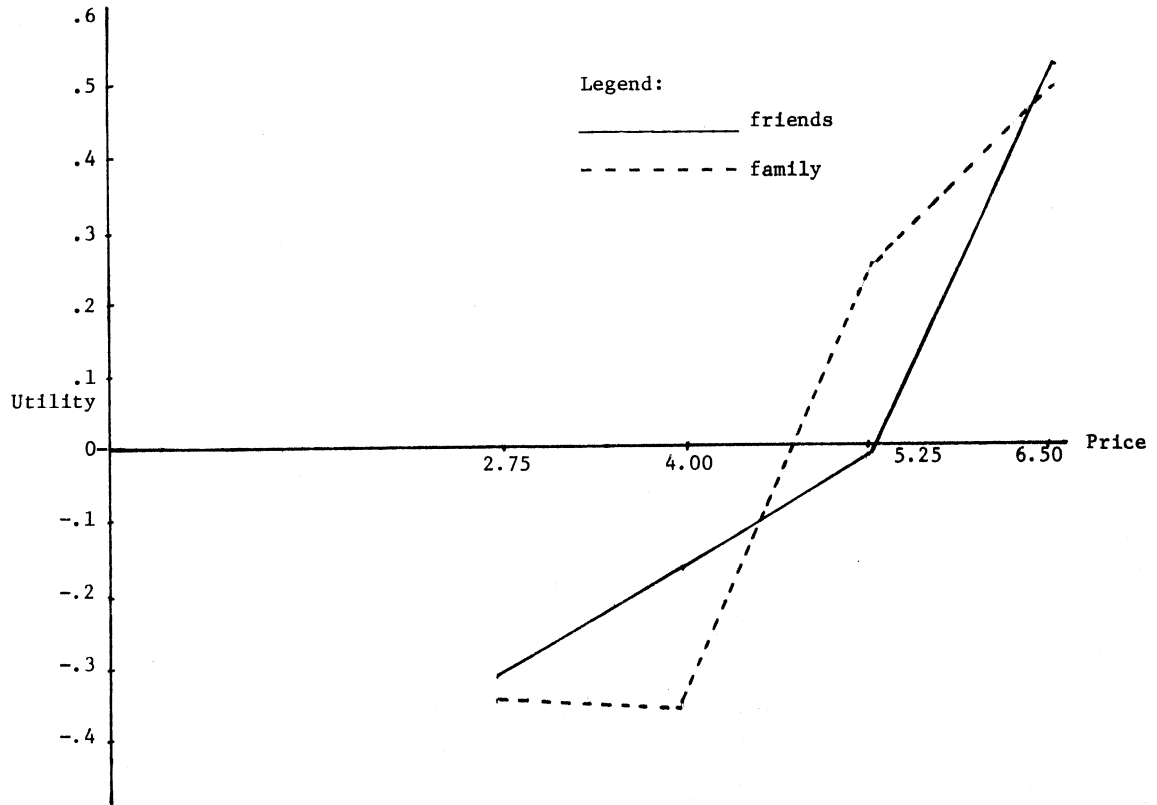FIGURE 3
UTILITIES FOR DIFFERENT LEVELS OF PRICE

TABLE 4
DEMOGRAPHIC PROFILE OF THE TWO RESPONDENT GROUPS

Demographic Characteristic	Group	
	Eat with Friends	Eat with Family
Married	31.3	68.7
Not Married	94.4	5.6
No Children	73.2	26.8
With Children	30.9	69.1
Age 18 - 24	83.2	16.8
Age 25 - 35	61.0	39.0
Age 36 - 45	21.0	79.0
Age > 45	54.3	45.7
Income < $6,000	94.6	5.4
Income $6,000 - $14,999	71.3	28.7
Income > $15,000	44.0	56.0

References

Harold W. Berkman and Christopher C. Gilson, *Consumer Behavior*, (Belmont, California: Dickenson Publishing Co., Inc., 1978).

Gilbert Churchill, Jr. and George P. Moschis, "Television and Interpersonal Influences on Adolescent Consumer Learning," *Journal of Consumer Research*, 5 (June, 1979), 23-35.

James F. Engel, Roger D. Blackwell and David T. Kollat, *Consumer Behavior* (Hinsdale, Illinois: Dryden Press, 1978).

Paul E. Green, "On the Design of Choice Experiments Involving Multifactor Alternatives," *Journal of Consumer Research*, 1 (September, 1974a), 61-8.

_____, "On the Design of Multiattribute Choice Experiments Involving Large Numbers of Factors and Factor Levels," in *Advances in Consumer Research*, Vol. I, Scott Ward and Peter Wright, eds. (Urbana, Illinois: Association for Consumer Research, 1974b), 228-241.

_____ and V. Srinivasan, "Conjoint Analysis in Consumer Research: Issues and Outlook," *Journal of Consumer Research*, 5 (September, 1978), 103-23.

A. K. Jain, Frank Acito, Naresh Malhotra, and V. Mahajan, "A Comparison of Predictive Validity of Alternative Parameters Estimation Methods in Decompositional Multiattribute Preference Models," *Journal of Marketing Research*, (August, 1979), 313-322.

George A. Kelley, *Psychology of Personal Constructs*, Vols. I and II, (New York: Norton, 1955).

J. B. Kruskal, "Analysis of Factorial Experiments by Estimating Monotone Transformations of the Data," *Journal of the Royal Statistical Society*, Series B, (March, 1965), 251-263.

David L. Loudon and Albert J. Della Bitta, *Consumer Behavior: Concepts and Applications* (New York: McGraw-Hill Book Co., 1979).

Roy L. Moore and Lowndes F. Stephens, "Some Communication and Demographic Determinants of Adolescent Consumer Learning," *Journal of Consumer Research*, 2 (September, 1975), 80-92.

George P. Moschis and Gilbert A. Churchill, "Consumer Socialization: A Theoretical and Empirical Analysis," *Journal of Marketing Research*, 15 (November, 1978), 599-609.

_____ and _____, "An Analysis of the Adolescent Consumer," *Journal of Marketing*, 3 (Summer, 1979), 40-48.

_____ and Roy L. Moore, "An Analysis of the Acquisition of Some Consumer Competencies Among Adolescents," *Journal of Consumer Affairs*, 12 (1978), 276-291.

_____ and _____, "Decision Making Among the Young: A Socialization Perspective," *Journal of Consumer Research*, 6 (September, 1979), 101-112.

Jerry C. Olson, "Price as an Information Cue: Effects on Product Evaluation," in *Consumer and Industrial Buying Behavior*, Arch G. Woodside, J. N. Sheth, P. D. Bennett, Eds. (New York: North-Holland, 1977).

Leon G. Schiffman and Leslie Lazar Kanuk, *Consumer Behavior* (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1978).

C. Glenn Walters, *Consumer Behavior: Theory and Practice* (Homewood, Illinois: Richard D. Irwin, Inc., 1978).

Scott Ward, D. B. Wackman and E. Wartella, *How Could Children Learn to Buy* (Beverly Hills, California: Sage Publications, 1977).

William L. Wilkie and Edgar A. Pessemier, "Issues in Marketing's Use of Multi-attribute Attitude Models," *Journal of Marketing Research*, 10 (November, 1973), 428-441.

Yoram Wind, "Preference of Relevant Others and Individual Choice Models," *Journal of Consumer Research*, 3 (June, 1976), 50-57.

Gerald Zaltman and Melanie Wallendorf, *Consumer Behavior: Basic Findings and Managerial Implications* (New York: John Wiley & Sons, 1979).