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HOUSING VALUES PATTERNS AND ORIENTATION OF HOUSEHOLDS

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Abstract

This article assesses the housing value patterns and the impact of socio-demographic characteristics on housing value orientation. With a paired-comparison format which included family, personal, economy, and social value statements, two popular housing value patterns were identified based on ranking orders: "FEPS" (family-economy-personal-social) and "FPES" (family-personal-economy-social). When a paired comparison of the statement of economy and personal values was used for determining the housing value orientation, 57.5 percent selected the economy value and 42.5 percent selected the personal value. Generally, rural residents were economy value oriented, while urban residents were personal value oriented. Income and education appeared as positive factors impacting on personal value orientation.

Introduction

According to Lanier (1986), values are in the consciousness of the individual and affect the attitude of the individual, which provides a basis for action. The concept of values has taken on a variety of meanings over time and has been used in different contexts. Identifying housing value patterns of households has been a difficult task for researchers. In the past, housing researchers have utilized information about values to explain housing preferences and as a basis for design criteria. Several significant studies about housing values have been conducted since the 1940s (Cutler,1947; Beyer, Mackesey, and Montgomery, 1955). In recent years, research related to values and their relevance to housing decisions have been scarce. Recently, Beamish, McCray, Weber, and Brewer (1989) conducted research to define the patterns of housing values. Value ranking patterns were identified by assigning a relative rank to each of four value statements (family, economy, personal, and social) based on the number of times each statement was selected in a paired comparison format (Beamish et al., 1989).

Because value studies have developed through the years, an historical perspective is important. Cutler (1947) conducted an extensive study of housing values and developed a survey instrument to assist families and individuals in identifying values that were important in their housing selections. The study identified the following housing related values: beauty, comfort, convenience, location, health, personal interests, privacy, safety, friendship activities, and economy. Paired comparison statements for the items resulted in 45 choices in which each value was compared with every other value. The value chosen most often was considered the highest ranking value for the individual. The value orientations of individual household members were examined. Patterns of value preferences among social classes were also examined, and some differences in the rankings of individuals in different social strata were found.

Several researchers have used Cutler's scale, or a revised version, to investigate values and housing choices or preferences. Ayars (1973) used a revised version of the scale to examine goals that influenced the purchase of a home. McCray and Day (1977) also used a revised scale in studying housing values, aspirations, and satisfaction of rural and urban residents. Rural residents indicated a higher preference for convenience than did the urban residents. Humphries (1976) also used a revised Cutler scale to examine the housing val-

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ues, satisfactions, aspirations, and goal commitments among multi-unit housing residents. Variations in value cluster patterns were found between apartment renters and townhouse/ condominium owners.

Values which have explained variance in housing preference or the housing decision process have been defined in previous research as follows:

> Values are thus "things" in which people are interested--things that they want, desire to be or become, feel as obligatory, worship, enjoy. Values are modes of organizing conduct--meaningful, effectively invested pattern principles that guide human action. (Williams, 1951, p. 375)

> Value is the totality of a number of factors, such as an individual's ideals, motives, attitudes, and tastes. These factors are determined by his cultural background, education, habits, and experiences. (Beyer et al., 1955, p. 49)

Beyer et al. (1955) studied values and their relationship to housing. The theory that families can be grouped according to the primary values that govern their lives was confirmed. Nine values of housing were developed using Likert statements indicating respondents' agreement/disagreement. These nine values included economy, family centrism, physical health, aesthetics, leisure, equality, freedom, mental health, and social prestige.

The results from Beyer et al.'s (1955) study indicated that respondents had a hierarchy of values that could be grouped into four clusters. The first cluster ranked economy above the other values and was identified as the "economy" group. Families in the economy cluster emphasized economic uses of goods and services. The second cluster included physical and mental health and family centrism and was identified as the "family" group. The third cluster stressed aesthetics, leisure, and equality and was termed the "personal" group. The value "freedom" was ranked consistently high by almost everyone; therefore, it did not cluster with any particular value orientation and was not used in the analysis. Similarly, social prestige was ranked low by nearly everyone and was not incorporated into the above value clusters. Because the researchers felt that social prestige was important but that respondents were reluctant to acknowledge this value in themselves, the value was used as a separate category in their discussion of the implication of values on housing design. As a result, social prestige became the fourth value orientation. Families with the social prestige cluster were considered upwardly mobile and viewed the house as a symbol of social standing.

Follow-up studies were conducted by Beyer (1959) and Stoeckeler and Hasegawa (1974). Beyer (1959) continued the in-depth study of the nine values. Two values-profiles were newly clustered for the possible application to planning or housing design. The reclassified values clusters were: 1) aesthetics, freedom, and mental health; and 2) economy, family centrism, equality, and physical health. Leisure and prestige were related to both clusters. Stoeckeler and Hasegawa (1974) studied Beyer's nine values and the two values-clusters to identify behavioral potentials in consumer housing decisions. By applying Beyer's (1959) new scoring formula to measure value orientation, the balanced group from each side of two values-clusters was identified as an additional cluster.

Based on the concepts identified by Beyer and the format of paired comparison created by Cutler, Beamish et al. (1989) expanded the study of housing values. An instrument with the new measurement scale was refined by using a survey of four value statements which were representative of the four cluster values of Beyer (economy, family, personal, and social prestige) and verified to substitute for the nine values statements. A paired-comparison technique was utilized in a questionnaire. The two major value patterns that emerged from ranking order were: FEPS (family-economy-personal-social) with 46 percent and FPES (family-personal-economy-social) with 38 percent.

The purpose of the present study is to identify the value patterns and the effects of socio-demographic characteristics on housing values orientation in households. Specifically,

the objectives were 1) to develop a housing values profile of households, 2) to identify the difference in housing values rankings between urban and rural households, and 3) to identify the effects of socio-demographic characteristics on housing values orientation.

Research Design

Sample. Household data were collected from eight rural counties stratified geographically and two urban counties in a southwestern state. Approximately 300 households from each county were selected via telephone directories using a systematic sampling method. With a total of 3,031 (urban=600, rural=2,431) questionnaires mailed to households, response rate was 40.5 percent with 1,041 (urban=199, rural=842) responses used for data analysis.

Data Collection. A version of the Total Design Method (Dillman, 1978) was utilized in the survey. The survey packet, which included a questionnaire, a cover letter, and a return envelope, was mailed to the sample during September 1988. A follow-up postcard and a follow-up survey packet were sent at two weeks intervals.

Instrument. The instrument and measurement which Beamish et al. (1989) developed and validated were considered as a proper measurement scale and applied in this study to identify the housing values patterns. A paired-comparison format of value cluster statements was utilized in the questionnaire. This result is shown in Table 1.

Table 1. Paired comparison questions of housing values.

Look at each pair of value questions below and circle the number for the value that is most important in that pair to you. It may be difficult to decide, but you should make a choice for each pair.
1. Social standing and formal social life are important to me. 2. Personal enjoyment, self expression and beauty are important to me.
1. Physical and mental health and the well-being of my family are important to me. 2. Durability and economy are important to me.
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1. Personal enjoyment, self expression and beauty are important to me. 2. Durability and economy are important to me.
1. Physical and mental health and the well-being of my family are important to me. 2. Social standing and formal social life are important to me.

Research and Discussion

Housing Values Rankings

Values ranking patterns were identified within the data set by assigning a relative rank to each of the four value statements based on the number of times selected. The most preferred value would be indicated by three selections. The next most salient value would be indicated by two, the third value would be indicated by one, and the least dominant value

was assigned a zero. These results are shown in Table 2. "Family well-being" appeared as the highest ranking value of the households, "economy" value was the second ranking value, and "personal/self-expression" the third. Eighty-one percent of respondents ranked family value as the most important value (3), 49 percent indicated economy as the next dominant value (2), while 38 percent indicated economy as the third (1); and, 52 percent indicated the personal/self-expression the third important value (1), while 38 percent indicated personal/self expression as the second (2). Ninety-two percent of respondents did not select social value as an important value (0). About 90 percent of respondents selected economy and personal values as the second or the third important value. The ranking order of economy, personal, and social agrees with findings of Meeks and Deacon (1972), Beyer (1959) and the research of Beamish et al. (1989).

Table 2. Ranking scores of housing values.

Values	Frequency of selection							
	0		1		2		3	
	n	%	n	%	n	%	n	%
Family Well-being	39	3.7	47	4.5	113	10.9	842	80.9
Economy	59	5.7	403	38.7	507	48.7	72	6.9
Personal/ Self-expression	58	5.6	541	52.0	394	37.8	48	4.6
Social	957	91.9	53	5.1	27	2.6	4	.4

*Ranking is based on the number of times selected.

The rankings of four housing values were analyzed to determine housing values ranking patterns. In sequential combination, 24 values ranking patterns were reported and depicted in Table 3. To indicate the value rank pattern family value goes to first; economy value, second; personal value, third; and social value, last. Of the 24 value ranking patterns, 46 percent were of the "3210" pattern. This "3210" pattern shows the family value was the most important value (3); economy, the next preferred (2); and personal/self-expression having less value (1); and social value as the never chosen (0). These results are consistent with previous research. The "3210" value pattern, which had been defined as "FEPS" in Beamish et al.'s (1989) research, accounted for 45 percent of their research respondents. Thirty-four percent of the respondents had a "3120" value pattern: family value, the most important (3); personal/self-expression, the next preferred (2); economy, the third (1); and social value, never indicated. Beamish et al. (1989) defined the "3120" pattern as "FPES" and 38 percent of their sample held this value pattern.

Value Patterns in Rural and Urban Residents. The four house values scores were compared and tested by using Cochran-Mantel-Haenszel statistics (SAS Institute, 1990). The results are depicted in Table 4. Among four value rankings scores, the personal/self-expression value showed a significant location (home in rural versus urban) effect. Urban residents placed a higher ranking on personal/self-expression value than did rural residents ($p < .001$). "FEPS" was the representative pattern for the total, as well as the rural respondents, but "FPES" was the representative pattern for urban residents.

Table 3. Housing values ranking patterns.

Values Patterns F/E/P/S[a]	Frequency f	Percent %
0 1 2 3	2	.2
0 1 3 2	1	.1
0 2 3 1	1	.1
0 3 1 2	2	.2
0 3 2 1	2	.2
1 2 0 3	10	1.0
1 3 0 2	1	.1
1 3 2 0	20	2.0
2 0 1 3	1	.1
2 0 3 1	1	.1
2 1 1 2	2	.2
2 1 2 1	3	.3
2 1 3 0	34	3.5
2 2 2 0	16	1.6
2 3 0 1	1	.1
2 3 1 0	43	4.4
3 0 1 2	7	.7
3 0 2 1	10	1.0
3 1 0 2	8	.8
3 1 1 1	10	1.0
3 1 2 0 b	334	34.2
3 2 0 1	16	1.6
3 2 1 0 c	452	46.2

a pattern represents frequency of values chosen: F=family, P=personal/self-expression, E=economy, and S=social values
b "3120" represented as "FPES" in Beamish et al. (1989)
c "3210" represented as "FEPS" in Beamish et al. (1989)
d Total n = 977

Logistic Model of Housing Value Orientation

Tables 2, 3, and 4 show that family well-being was the dominant value while social value was the lowest ranking value. This result is consistent with the result of a previous study (Beamish et al., 1989). To define the housing value orientation, the above two values (family and social), which were general or common in ranking pattern, were excluded for further analysis. The family value with the predominant ranking and the social value as seldom ranked were excluded so a comparison could be made between the values with differences. In a paired comparison question of economy and personal values, the person who selected economy value as important was defined as economy-value oriented, while the other was defined as personal-value oriented. Over 57 percent (n=576) of the respondents selected the economy value and 42.5 percent (n=426) selected the personal value as the more important in the paired-comparison.

Table 4. Housing values patterns: comparison between rural and urban.

Values		Frequency of selection 0	1	2	3	Chisq[a]
Family						
Rural	f	36	37	91	678	1.402
	%	4.28	4.39	10.81	80.51	
Urban	f	3	10	22	164	
	%	1.51	5.03	11.06	82.41	
Economy	f	51	308	422	61	2.507
Rural	%	6.06	36.58	50.12	7.24	
Urban	f	8	95	85	11	
	%	4.02	47.74	42.71	5.53	
Personal						
Rural	f	55	454	300	33	20.521 ***
	%	6.53	53.92	35.63	3.92	
Urban	f	3	87	94	15	
	%	1.51	43.72	47.24	7.54	
Social						
Rural	f	770	46	23	3	.794
	%	91.45	5.46	2.73	.36	
Urban	f	187	7	4	1	
	%	93.97	3.52	2.01	.50	

a Cochran-Mantel-Haenszel statistics
*** $p<.001$
rural n=842, urban n=199

Location (rural versus urban), tenure (own versus rent), house value ($), respondent's education, age, race, marital status, household income, and household size were introduced as independent variables for the housing values orientation model. As the housing values variable was a dichotomous dependent (economy versus personal) variable, the logistic regression analysis developed by Walker and Duncan (1967) and implemented by Harrell (1986), was considered suitable and was utilized for the analysis. The major analysis consisted of building a multiple logistic regression model of housing values estimated by the maximum likelihood method.

Model fit. The probability of selecting the economy housing value is defined as P, while the probability of personal value is 1-P. The logistic regression was used to identify sociodemographic characteristics that would distinguish between personal and economy value orientation. For the analysis that examined differences between those who have the personal housing value orientation and those who have the economy housing value orientation, the logistic model had as its dependent variable the logarithm of the odds of economy housing value orientation, where odds=P (economy value)/(1-P). The logistic model is: $\log(P_j/(1-P_j) = B_O+B_1X_{1j}+...+B_pX_{pj}$. The model which included the above nine independent variables and their two-way interaction terms (36) did not fit any better than the main effects model (Chisq(df=36)=42.560, P>.10). Thus, only the result of the main effects model is reported (see Table 5). The full main effects model with nine variables is reduced after logistic stepwise regression analysis to reduce the multi-colinearity. After the stepwise procedure, the

respondent's education and income were selected for the multiple logistic model of housing values orientation. Table 5 presents the comparison of two models of full and reduced. The reduced model fits the data well (Chisq(df=7)=6.661, P>.30).

The classification accuracy for this model is shown in Table 5 and explained in Table 6. Classification accuracy, the correct prediction rate with the selected logistic model, is (418+63)/793=60.7 percent. It is higher than that of a random model, which yields a hit rate of $a_2 + (1-a)_2$ where a is the prior probability of personal (or economy) value (Morrison 1969; Rae and McLaughlin, 1989). Using the observed personal value rate of .425 (426/1002) as an estimate of a, 51 percent of the classification accuracy for the random model was found.

Table 5. Logistic regression model for housing value orientation: Economy vs. Personal.

	Full Model	Reduced Model		
	log odds-ratio	log odds-ratio	odds-ratio	
Intercept	2.0047 **	2.7538 ***	15.702	
Location Urban	-.3112			
House value ($)				
Education	-.1442 ***	-.15531 ***	.8561	(1/1.1680)
Hld Size	.1081			
Income $1,000=1	-.0089 #	-.0109 **	.9892	(1/1.0110)
Tenure Own	.0123			
Race Non-white	.2094			
Marital status Single	.2094			
-2Log L	56.844 ***			
df	9	2		
G		6.661		
df		7		
P-value		>.30		
% correct	60.4	60.7		
% false positive	39.3	39.3		
% false negative	41.2	39.4		

n=793, observations having missing values were excluded from the analysis
*** p<.001, **p<.01, and # p<.10

Table 6. Classification table of prediction and actual housing values.

Actual	Prediction		Total
	Economy f	Personal f	n
Economy	418	41	459
Personal	271	63	334
Total	689	104	793

Discussion. The estimated coefficients of the variables of the logistic model for the analysis are reported in Table 5. The model chi-square (-2Log L) is highly significant. Further, the coefficients of two variables are in the predicted direction. Persons with lower education and a lower income are significantly more economy value oriented than others.

The log odds in favor of the economy value decreased .011 for every $1,000 increase in household income, which meant that the odds ratio was 1.01 times higher for every $1,000 decrease in income. The log odds of having economy housing value orientation decreased .155 for one year increase in education, which meant that the odds ratio was 1.17 times higher for one year decrease in education. The log odds-ratio in Table 5 can be used to predict the probability of economy housing value orientation. For example, for a high school graduate with a household income of $30,000, the predicted log odds of economy value oriented was: 2.7538-(.1553*12)-(.0109*30)=.5632. The odds of economy value oriented were exp (.5632)=1.75628, and the probability of economy value orientation (given by odds/(odds+l)) was .6372. The predicted log odds for a college graduate with the same amount of household income was 2.7538-(.1553*16)-(.0109*30)=-.058, with odds of .9436 (1/1.0597), and a probability of .4855. Thus, under the condition described, a college graduate has a .1517 less probability than a high school graduate to be economy housing value oriented.

Summary and Conclusions

The purpose of this study was to find the pattern of housing values and socio-demographic characteristics of housing values groups. The research results indicated 46.2 percent of the total respondents have "FEPS" housing values ranking pattern and 34.2 percent have the "FPES" pattern. The general values pattern of rural residents was "FEPS," while urban residents had a pattern of "FPES."

Since the generally preferred value is family and the least preferred is the social value, the two values of personal and economy were considered as characterizing the value orientation. When a paired-comparison of the statements of economy and personal values was used for determining the housing values orientation, 57.5 percent selected the economy values orientation and 42.5 percent selected the personal value.

The results of the logistic regression model indicated that lower educated and lower income persons were significantly more likely to select the economy value than others. This result may explain the value pattern difference between rural and urban residents. Rural residents were economy oriented, while urban residents were personal value oriented. Urban residents' level of education and income were higher than rural residents.

The main contribution of this study is the confirmation of previous research findings of general housing values patterns (Beamish et al., 1989) and the development of a simpler method to identify the housing value orientation between economy and personal values. This study also supports the results of the previous research that the socio-economic status determines the housing values (Beyer et al., 1955; Beyer,1959; and Cutler, 1947). The results of the study could help housing designers and/or policy makers to understand how socio-economic characteristics relate to housing values patterns when consulting the customer and/or public in the decision process. However, both this study and the Beamish et al. (1989) study limited their sample to the southern region; future research should be expanded to include other regions. Future study on housing values is needed to develop a more comprehensive model that includes the current housing situation, consumer expectations of housing, and experience with housing. Further studies also need to emphasize the social values group, even though this value appeared as the lowest ranked value or remained as a never selected value. The paired comparison may not be the best way to measure the social value. Even though respondents appeared reluctant to select the social values (Beyer, 1955) as the more important value in the paired comparison, this value might be important or influential in the selection or remodeling of their homes.

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