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HOUSING ASPIRATIONS: A CASE STUDY OF APPALACHIAN MINERS

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ABSTRACT

Housing has been a serious problem in the Appalachian coal fields. The situation demands not only a financial and technical commitment on the part of many organizations, but also an understanding of the miners' housing aspirations and desires. The purpose of this research is to examine the housing aspirations of the Appalachian coal miners. A questionnaire was mailed to a proportionate random sample of 687 coal miners in McDowell County, West Virginia. A total of 438 usable questionnaires (63%) was returned. The findings revealed that their aspirations closely approximate those of the typical American. Of the nine variables tested only family income was related to housing aspirations. Because most miners are unwilling to pay more than \$40,000 for new housing their choices are limited.

INTRODUCTION

The renewed emphasis on coal as a source of energy after the 1973 Arab oil embargo led to an improved economy in the Appalachian coal fields during the late 70s and early 80s. However, the improved economy did not eliminate many of the long-standing problems in the Central Appalachian region. One such problem is housing.

The solution to the housing problem of Central Appalachia is seen as two-fold: existing housing stock should be improved, and additional housing should be constructed to provide housing alternatives for new households and for families who want to move from their present housing into other dwellings. The lack of adequate income is a major constraint to the purchase or rental of high quality housing throughout the United States, and particularly in Central Appalachia. Because the incomes of miners have risen and many working miners can afford to improve their present housing or build new homes, an opportunity exists for improving housing conditions of the region. While some organizations recognize the need for improved housing, the situation demands not only financial and technical commitment on the part of labor, management, and government, but also an understanding of the miners' housing needs and wants.

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Although federal, state, and local surveys of housing reveal much about the current housing stock in general, few studies concentrate on housing conditions of coal miners as a group or on their housing needs, preferences or aspirations. Primary sources of information on miners' housing are three studies on the coal fields that include sections on miners' living conditions (U.S. Coal Commission, 1925; U.S. Department of the Interior, 1947; and the President's Commission on Coal, 1980). Given the lack of empirical data about the housing aspirations of the Appalachian coal miner, the need for additional research is apparent.

PREVIOUS RESEARCH

Popular media coverage of the Appalachian lifestyle such as "Li'l Abner" and the "Beverly Hillbillies" presents a stereotype of the mountaineer as an uneducated, barefoot moonshiner. Even Weller (1966), a noted writer on the region, describes the mountaineer as a person of fierce independence and traditionalism with a sense of fatalism that gives the mountaineer a different outlook on life from that of other rural societies. But a comprehensive study of the Southern Appalachians (Ford, 1962), conducted in the late 1950's, reveals a substantial change in the aspirations and values of the Appalachian people. Ford finds that passive resignation is rapidly disappearing.

Like other Americans, the people of the Region want the material comforts and social services that only an advanced economy can support. If they cannot get them in the Region, they will seek them elsewhere, but increasingly efforts are being made to secure such benefits in the Southern Appalachians. (Vance, 1962, p. 290.)

Schwarzweiler, Brown and Mangalam (1971) report similar findings in a more recent study of a mountain community in Kentucky. Individuals who want to improve their economic and social lifestyle move to industrialized, urban towns in Ohio. Those who remain behind are exposed to a more urban lifestyle through visits and correspondence with those who moved away. This interaction remains constant through the years because of the strong sense of familism on the part of the residents and those who had moved away.

Hansen (1970) views the aspirations and values of the Appalachian people as similar to those of contemporary America. He too reports that many are willing to migrate, or at least have their children migrate, to attain a higher quality life. The suggestion that exposure to more urban lifestyles is a result of contact with family and friends who moved away (Schwarzweiler et al., 1971) could explain the movement of the aspirations of mountain people toward the American norm (Hansen, 1970; Montgomery and McCabe, 1973).

Although the housing aspirations of various groups have been studied over the years (Rainwater, 1966; McCray, 1975; McKown, 1975; Dillman, Tremblay and Dillman, 1979; Hanna and Lindamood, 1979; Guy and Pol, 1983), only Montgomery and McCabe (1973) examine the housing values and aspirations of Appalachian families. Montgomery and McCabe use a weighted scale to measure the degree to which national housing images are reflected in Southern Appalachia. They conclude that the housing aspirations of Appalachian people are quite similar to

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the American norm. They report that only one-fifth of those surveyed are oriented toward a traditional mountain house. The higher the income, the more likely a family is to have a suburban housing image.

The housing aspirations of southern rural people are similar to American housing norms. In a study of differential aspirations for housing between blacks and whites in rural Georgia, Belcher (1970) reports that various social and economic factors are the important variables in aspiration. Race is largely irrelevant. Similar findings were obtained by Hanna and Lindamood (1979) and Guy and Pol (1983). McCray (1975) finds that low-income rural Florida residents and urban Tallahassee public housing tenants have similar housing aspirations. However, the urban group reports higher expectations. Similar to findings reported by Montgomery and McCabe (1975), McCray and Day (1977) find that both urban and rural respondents "desired a modern brick home with characteristics typical of the middle-class suburban single-family house" (p. 249).

THE CENTRAL APPALACHIAN REGION

Central Appalachia is composed of eastern Kentucky, northeastern Tennessee, southwestern Virginia and southern West Virginia. It is predominantly a rural region with very mountainous terrain and rich bituminous coal deposits. While it has grown faster than the national average, per capita income is still below the national average (Pickard, 1979). The economic conditions of the region are closely related to the demand for coal. In 1980, when the data for this study were being collected, there was a slight drop in the demand for coal. That decrease in demand continued for several years resulting in double digit unemployment.

Although the Appalachian region contains a high proportion of substandard housing units, the housing stock in the Central region is much worse than in the Northern or Southern regions. For example, Hayes and Kimbrough (1977) reported that 38 percent of the housing in Central Appalachia was substandard compared to 13 percent for the nation as a whole.

Although additional housing is needed in the Appalachian coal fields, many government attempts to improve housing meet with criticism from the Appalachian people. No prior attempt has been made to obtain empirical information about the miners' housing aspirations. Therefore, the purposes of the paper are to: (1) describe the housing aspirations of the Central Appalachian coal miners, (2) analyze the relationships of housing aspirations to various demographic and housing characteristics and (3) examine whether miners desire and are willing to pay for new housing.

METHODS

The sample was selected from the nonsalaried coal miners employed at mines located in McDowell County, West Virginia. The County was divided into six strata conforming to the six magisterial districts. The mines were divided into categories by number of employees (small, medium and large). A table of random numbers was used to select one mine from each category within a stratum.

An interview to explain the study was arranged with the appropriate person at each of the eighteen mines selected. In each case the contact person agreed to participate by providing a mailing list of the company's employees. From this list a proportionate sample was drawn using a table of random numbers. A questionnaire was developed, pilot tested, revised and mailed to 687 miner families in the summer of 1980. The female head of household was instructed to complete the first four sections of the questionnaire (condition, satisfaction, aspirations and demographics) and the male head of household was asked to answer items in the final section (purchasing a new dwelling). The assumption was made that since the miner was usually the sole and primary wage earner, he would have more influence than the female co-head or spouse in a decision to purchase a new dwelling. Measurement scales were modified for conditions, satisfactions, and aspirations from scales used by Birch (1973), Frieden and Solomon, (1977), and McCray, (1975). The Total Design Method (Dillman, 1978) for data collection was followed. A total of 438 usable questionnaires (63%) were returned. Data from the survey were coded, transferred to computer data cards, verified for accuracy and analyzed statistically using the Statistical Package for the Social Sciences (SPSS).

ANALYSIS OF DATA

Frequency distributions and percentages were used for the descriptive analysis of the data. Hypotheses are tested at an alpha of 0.05. A power of at least 0.98 with an effect size of 0.20 is used for correlations. (See Cohen, 1969, for definitions and discussion of effect size).

In addition, the magnitude of the relationship of substantive significance (Gold, 1969; Kish, 1959) is also considered. The measures of association used were the Pearson r , point-biserial, and eta. The maximum value of each measure of association is 1.0. The criterion for acceptance of the importance of the association was set at 0.3 (Hinkle, Wiersma and Jurs, 1979).

RESULTS AND DISCUSSION

Description of the Miners' Dwellings

Single-family dwellings (68.5%) and mobile homes (25.3%) accounted for 93.8 percent of the residences occupied by miners. The age of the dwellings ranged from less than 1 year to 98 years, with a mean of 26.6 years. A majority of the respondents owned their own home and, of those who did, 55 percent paid less than \$153 per month and only 6.3 percent paid over \$300 per month.

The number of rooms per dwelling ranged from 3 to 14, with a mean of 5.4 rooms. The number of bedrooms ranged from one to six. Dwellings containing two (34.3%) and three (47.8%) bedrooms were the most common. Twelve percent of the respondents reported that at least one bedroom was used by three or more persons.

A small proportion (3.5%) of the homes did not have a bathroom. Twenty-five percent of the homes had one and a half baths or more, but most homes (67.0%) had one bathroom. Living rooms (99.3%) and porches (86.1%) are very common (see Table 1). Basements (42.9%)

and laundry rooms (43.7%) are also common. Other rooms or features are found less often; family rooms (26.1%), dining rooms (38.8%) and garages (23.2%).

The kitchens are well equipped with almost 98 percent of the homes containing a sink with hot and cold water, a gas or electric range and a refrigerator. Clothes washers (88.0%), dryers (85.6%), telephones (89.4%) and color televisions (87.6%) are very popular.

Homes are heated at least in part with electricity (37.0%), coal (33.6%), oil (26.9%), wood (14.1%) and natural gas (10.2%). Approximately 25 percent of the respondents had an air conditioner.

Description of Housing Aspirations

Housing aspirations were assessed through a number of questions related to desired characteristics of a dwelling unit. A series of forced-choice questions followed to measure specific features of the desired dwelling (e.g. what type of exterior material would the home you desire have?) The features desired and the features currently present in the dwelling are shown in Table 1.

Table 1. Desired and present features of the dwelling (N=438)

	Desired		Present	
	N	(Percent)	N	(Percent)
Laundry room	366	94.1	188	43.7
Family room	354	90.1	112	26.1
Dining room	328	83.5	166	38.8
Garage	313	77.7	99	23.2
Brick exterior	307	76.9	50	11.8
More space	283	69.7	N/A	N/A
Deck or patio	262	64.5	371	86.1
Two or more baths	181	44.7	112	25.5
Four or more bedrooms	159	39.3	72	15.3

The five most desired characteristics chosen by over 75 percent of the respondents were: a laundry room, family room, dining room, garage and brick exterior. Fewer than 45 percent of the respondents indicated two or more baths or four or more bedrooms as housing features considered most desirable.

One potential explanation for this finding is that many miners are approaching retirement and their children have left home. Therefore, a small house is desirable. Another potential explanation is that some miner families may have responded to what they thought was realistic in terms of affordability or availability as opposed to "the dream house."

Levels of housing aspirations (Table 2) were assessed as a measure of the respondents' expressed housing aspirations. A checklist, patterned after one developed by McCray (1975), directed the respondent to various housing features. These housing features were weighted between 1 and 2. A score of 2 was assigned to the feature

considered indicative of lower aspirations. The total possible score for each respondent ranged from 12 to 24; actual scores ranged from 16.7 to 23. Weighted totals of the desired characteristics were grouped into three levels of aspirations: low (16.7 - 19.9), moderate (20 - 22.9) and high (23 - 24). The respondents are distributed as follows: low, 8.0 percent; moderate, 60.0 percent; and high, 32.0 percent. An open-ended question gave the respondents the opportunity to describe the type of home desired for the family.

The findings of the survey of miners' aspirations and observations of the investigator indicate that the desires of the Appalachian miner closely fit Rainwater's (1966) description of the housing aspirations of the traditional working class: "a pleasant, cozy home with major conveniences." One factor that might explain the contrast in the desire for a "pleasant, cozy home" and one that represents "All-American affluence" (containing the newest trends and consumer conveniences) is that housing in the Appalachian region may be viewed more as shelter than as an investment.

Indications are that automobiles, not housing, serve as the status symbol in the area. Over 80 percent of the respondents owned at least one automobile, 66 percent owned one or more trucks, and 15 percent owned a camper. The automobiles and trucks were relatively new with over 50 percent being four years of age or less. The mean age of the automobiles in the study was 4.9 years, compared to a national mean of 6.6 years in 1980 (Motor Vehicle Manufacturers Association, 1982).

Housing Aspirations and Their Relationships

The correlation between housing aspirations and length of time in dwelling, age of household head, family income, housing deprivation and housing satisfaction is calculated by use of the Pearson product-moment correlation. The point-biserial correlation is used to measure the strength of the relationship between housing aspirations and form of tenure, location of dwelling and race. The degree of nonlinear association between education of household head and housing aspirations is examined through the use of the eta coefficient.

Only one significant relationship is found between housing aspirations and any of the variables mentioned above (Table 3). Although the relationship of family income to aspirations is statistically significant, the correlation is low.

One explanation for the low correlations is the fact that the sample of miners is a homogeneous sample (Hinkle, et al., 1979): only one household does not have a male head, incomes are similar unless the female head works, 91 percent of the respondents are white and 88 percent own their home.

Table 2. Percentage of Responses to Items on Aspiration Index
(Weightings in parentheses)

Item	N	Adjusted Percent
Think about kind of home desired for family		
(2.0) Yes, often	232	55.2
(1.7) Yes, sometimes	112	26.7
(1.4) Yes, but not very often	40	9.5
(1.0) No	36	8.6
Desired exterior finish		
(2.0) Brick	307	76.9
(1.5) Aluminum siding	60	15.8
(1.0) Frame	17	4.3
Desired cooling system		
(2.0) Central air conditioning	273	67.6
(1.7) A room air conditioner	68	16.8
(1.4) Attic fan	25	6.2
(1.0) None	30	7.4
Desired rooms		
Dining room		
(2.0) Yes	328	83.5
(1.0) No	65	16.5
Dining area in kitchen only		
(2.0) No	291	75.2
(1.0) Yes	96	24.8
Family room		
(2.0) Yes	354	90.1
(1.0) No	39	9.9
Laundry room		
(2.0) Yes	366	94.1
(1.0) No	23	5.9
Desired number of bedrooms		
(2.0) Four or more	159	39.3
(1.7) Three	220	54.3
(1.4) Two	26	6.4
(1.0) One	0	0.0
Desired number of baths		
(2.0) Two or more	181	44.7
(1.5) One and a half	190	46.9
(1.0) One	34	8.4
Desired type of outdoor space		
(2.0) Deck or patio	252	64.5
(1.5) Porch	136	33.5
(1.0) None	4	1.0
Other	4	1.0
Desired car storage		
(2.0) Garage	313	77.7
(1.5) Carport	82	20.3
(1.0) None	8	2.0
Desired amount of space		
(2.0) More than is present now	283	69.7
(1.5) About the same	110	27.1
(1.0) Less than is present now	13	3.2

Table 3. Relationship between housing aspirations and housing and family characteristics

Variable	Correlation Coefficient	Calculated p Value
Length of time in dwelling	-.055	.317
Form of tenure	-.001	.982
Location of dwelling	-.008	.882
Age of household head	-.096	.083
Family income	.111	.048*
Education of household head	.160	.522
Race	.041	.435
Housing deprivation	.052	.378
Housing satisfaction	.032	.982

*Significant at the .05 level.

Although income was significantly related to aspirations, the magnitude of the relationship is weak. Had this relationship been of greater magnitude, findings of this study would parallel those of Belcher (1970) and Montgomery and McCabe (1973). Those researchers also fail to find other demographic and housing variables that are associated with housing aspirations.

The Desire to Acquire a New Dwelling

One expressed purpose of this study is to discover if miners are interested in new housing units and how much they are willing to pay to rent or purchase them. If homes are being built within driving distances of their jobs, 48 percent of the respondents report they would be interested in buying a new home (Table 4). However, only 7.5 percent are interested in renting a new apartment near their work.

Most respondents wish to pay relatively low prices for housing: approximately 50 percent are not willing to pay more than \$30,000, only 4.5 percent are willing to pay between \$50,000 - \$59,999, and 2.0 percent are willing to pay \$60,000 or above. The amount that respondents would be willing to pay for new homes or apartments has a number of implications for housing in the Appalachian coal fields. Miners' annual incomes in the survey are approximately \$20,000 or more, if the spouse worked. However, most of those willing to buy a new home are only willing to pay \$40,000 or less. In 1980, the median price of a new home in the South was \$59,600 and \$51,800 outside SMSAs (U. S. Bureau of the Census, 1981). A reluctance to pay for shelter was also seen in rental figures. A majority of the respondents (58.6%) wanted to pay less than \$150, and no one was willing to pay more than \$250 per month for rent.

Table 4. Desire to Purchase or Rent (N=438)

Variable	f	Adjusted Percent
Would not be interested in purchasing a new home	211	51.6
Would be interested in purchasing a new home	198	48.4
If interested in a new home, would be willing to pay		
under \$20,000	40	19.9
between \$20,000 and \$29,999	63	31.3
between \$30,000 and \$39,999	53	26.4
between \$40,000 and \$49,999	32	15.9
between \$50,000 and \$59,999	9	4.5
\$60,000 and above	4	2.0
Would not be interested in renting a new apartment	372	94.4
Would be interested in renting a new apartment	29	7.5
Would be willing to pay a monthly rent for a new apartment		
under \$150	17	58.6
between \$151 and \$200	10	34.5
between \$201 and \$250	2	6.9

There may be several reasons for this reluctance to pay the cost of a median-priced new home. One potential explanation has been mentioned before. Miners in the Appalachian region often view housing as shelter and not as an investment. Also, miners have not had to pay as high mortgage or rent payments compared to many Americans. Historically, rental rates for company housing have been low. After World War II, many dwellings located in the "coal camps" were sold by the companies at very low prices.

The chi-square test is used to test for differences between the amount miners living in McDowell County and those living outside McDowell County would be willing to pay for new housing. A statistically significant difference was found; of the miners indicating a desire for a new home, those living outside McDowell County (Mercer County, West Virginia and Tazewell County, Virginia) are willing to pay more for a home. Perhaps housing in the Mercer and Tazewell County areas is somewhat more expensive than in McDowell since there is more new housing, more housing choices and very few houses that were once part of "coal camps." In some parts of Mercer and Tazewell counties, savings and loan associations offer loans with lower down-payments required (10-20%, versus 30-40% downpayments in McDowell County). Thus, miners living outside McDowell County are willing to pay more for housing, have financing more readily available, and may be accustomed to paying more for housing.

IMPLICATIONS

The findings of this study indicate that Appalachian miners desire a brick home with central air conditioning, a dining room, family room, laundry room, three bedrooms, one-and-a-half baths, a deck or patio and a garage. These aspirations closely approximate American cultural norms for housing. However, miners who are interested in buying a new home may be unwilling to pay the median prices for new homes. Therefore, new housing choices are limited. Options may include purchasing and renovating older homes, purchasing mobile or modular homes, and/or lowering housing norms.

The results of this study can be used by educators, industry, policymakers and researchers when housing needs and programs for the region are being considered. For example, because of the limited prices miners are willing to pay, mobile and modular housing may be one way to meet the housing demands of this region. Miners who exhibited a strong preference for single-family dwellings within their budgets may opt for a mobile or modular home to meet that strong norm for single-family home ownership. If so, Extension personnel could provide additional information to assist families to improve their living environment. For example, step-by-step, do-it-yourself plans for adding skirting, decking, or patios or expanding mobile or modular homes could be useful. Also, a two or three year landscaping plan to improve climate control, appearance and livability could be developed for both mobile and modular homes. A plan such as this would require the use of common trees and shrubs, because there are not many large nurseries in the region. These improvements could provide an environment similar to a traditional single-family home.

As the need for housing in the Appalachian coal fields increases, the housing industry will be called upon to help solve these housing shortages. The first step on the part of the manufactured housing industry should be to staff local sales offices with competent, well-trained sales personnel who can provide factual information to help miners choose dwellings suited to their needs.

Consumers wanting to build a home probably could save money by purchasing building materials at large building supply stores in neighboring counties. Previous research (Lewis, 1978) has shown that building supplies are much more expensive in the coal fields than in nearby towns. Some large chain stores provide packages of building materials for an entire house, including a variety of styles and price ranges. Perhaps a more aggressive marketing plan could benefit both the building supply stores and the consumer. Because the region lacks a strong construction industry, finding a builder to follow pre-selected plans that include all materials would be an easier, and perhaps less expensive, plan for the consumer.

Because housing problems in the Appalachian region still exist and because this region has some unique constraints, additional research, especially in the area of housing alternatives is recommended. Topics for further study should focus on the acceptability of manufactured housing and housing norms that are least important to families or that could be "traded."

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