

HOUSING SATISFACTION OF THE PHYSICALLY DISABLED

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ABSTRACT

This paper is an exploration of the impact of the presence of a disabled person in the household on overall housing satisfaction, controlling for housing conditions. A sample of 1,010 households in Montgomery, Alabama was interviewed to assess housing conditions and satisfaction. The data were analyzed with stepwise multiple regression. The results suggest that households with disabled members are as satisfied with housing as are similarly situated households without a disabled member.

INTRODUCTION

It is estimated that only seven to nine percent of the persons currently disabled in the U.S. were born with disabling diseases or deformities (Allan, 1976; Columbus and Fogel, 1971). As the incidence and severity of disability are related to increasing age (Allan, 1976) in the future a greater portion of the population is likely to be disabled because of the greater portion of older persons.

An increase in the number of households with a disabled member is likely to increase the need for housing suitable for disabled individuals. The design of housing and of housing programs for the disabled have been focused primarily on the problems of physical accessibility of housing units. While accessibility is an important consideration, little attention has been given to other aspects of housing that is likely to influence housing and life satisfaction. As the attainment of housing consistent with U.S. housing norms is an important contributor to satisfaction for the population as a whole (Morris and Winter, 1978), it seems likely that attainment of normative housing would also increase the housing satisfaction of households with disabled members. Attention to only the accessibility of the units may leave out elements of housing important to both disabled and non-disabled household members.

This paper is an exploration of the impact of having a disabled household member on overall housing satisfaction, controlling for housing conditions. If households with disabled members are less satisfied with their housing, there may be special housing needs that are not being met.

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NORM THEORY AND HOUSING SATISFACTION

Morris and Winter (1978) have identified six types of norms relating to housing in the United States. They include norms for space, tenure, structure type, expenditure, quality and location. Other researchers have found that cultural norms for housing are consistent among people in various regions of the country and among people of various subcultures (Belcher, 1970; Stubbs, 1971; Yockey, 1976).

Satisfaction is one means of determining how well a housing unit fulfills housing expectations (Lindamood, 1978). The attainment of housing that meets social and cultural norms may in turn influence life satisfaction and self concept. Eastman (1978) examined the relationship between housing satisfaction and life satisfaction of 1,267 Iowa families with and without a disabled person. Eastman reported no significant difference in housing satisfaction between the disabled and nondisabled. However, for households with a disabled member housing satisfaction was found to be a more important component of life satisfaction.

METHODS

The study

It is hypothesized that households with and without a disabled member would differ in terms of composition, resources and housing conditions. When housing conditions, household composition and resources are controlled, it is expected that households with a disabled member would express levels of housing satisfaction similar to those of households without a disabled member. If households with a disabled member are not as satisfied with their housing as are other households with similar housing, it could be inferred that households with a disabled member have special disability-related housing needs that are not being met.

The sample

The sample used in the study is a stratified random sample of approximately 1.8 percent of the households in the city of Montgomery, Alabama. The study was conducted by Lindamood and Hanna, then researchers at Auburn University in Auburn, Alabama. The study was conducted for the city of Montgomery, Alabama, Office of Planning and Development. Households were selected randomly from a computer listing of the 55,000 dwelling units in the city, with a resultant sample of 1,010.

Census tracts with below median income were sampled at about twice the rate as tracts with above median income. Statistical analyses were weighted, to make the results representative of the population.

The instrument

Trained interviewers administered a questionnaire of about one hour in length to either the head of the household or the spouse of the head. Respondents were asked about the age, sex, education, employment, income, marital status, and disabilities of household members, as well as the number of dependent children at home. Data were gathered about space, tenure, structure type and housing conditions and housing satisfaction.

Measurement of variables

Disability. Disabilities were grouped into three categories of impairments: (a) vision, (b) heart/lung and (c) mobility. Hearing disabilities were not included because only seven households had a member with a hearing impairment and the possibility of hearing impairments influencing housing satisfaction appears less likely than for disabilities that influence problems of physical accessibility.

Resources. Resources were measured as total household income for the preceding calendar year, employment status of the head and of the spouse, education of the head, and skills of household members.

Family composition. The family composition variables are race, sex of head, age of head, the number of dependent children at home, and the relationship of the respondent to the disabled member (in households where there was a disabled member).

Housing conditions. The housing conditions variables are structure type, tenure, bedroom deficit (described below), the number of rooms other than bedrooms and bathrooms, a defect index (described below), the age of the house, the size of the lot and the proportion of households in the census tract who own their own homes. Structure type refers to whether the household lived in a conventionally built, detached single-family house. Tenure refers to whether the household owned or rented its dwelling.

Bedroom deficit is defined as the number of bedrooms minus the number of bedrooms needed. Bedroom need is as classified by Morris and Winter (1978, p. 98). The number of rooms other than bedrooms and bathrooms was used as an additional indicator of space.

The defect index is based on the number of defects identified by respondents in response to a list of possible defects including lack of a bathroom, plumbing, hot water, stove and refrigerator in kitchen, heat and air conditioning, tub or shower in bathroom, and insulation. Also included were minor and major problems such as water in the basement, problems with sewage disposal, leaks in roof or basement walls, cracks, sags, bulges or peeling paint in walls and ceilings inside and outside, decayed doors, windows, porch or steps, uneven floors, holes in floors, broken or missing window, broken exterior walls, and rodent or insect damage. Each minor problem counted one point and each major problem counted two points in the defect index.

Housing satisfaction. Housing satisfaction is measured as the respondent's overall rating of the respondent's home on a scale of one to nine, with the ideal house rated nine and the worst in which one could imagine living rated a one.

Analyses

Breakdowns with analysis of variance were performed for descriptive purposes. Some categories of the variables (years lived in this house, age of dwelling, proportion of owner-occupants in neighborhood, defect index, bedroom deficit, lot size, household income, age of head, and number of dependent children) were combined for the descriptive tables, but not for the stepwise regression. A three step regression analysis was used to assess the impact of the independent variables when controls were made. The models are:

- Step 1. In this step the effects of the housing condition variables are tested. Satisfaction = f (Years in house, age of house, proportion in neighborhood who own, tenure, structure type, defects, defects squared, bedroom deficit, number of other rooms, and lot size)
- Step 2. In this step the disability variables are added to the housing condition variables added in Step 1. Satisfaction = f (Variables listed in Step 1, sight impairment, hearing impairment, mobility impairment)
- Step 3. In this step the demographic variables are added to the housing condition and disability variables added in Steps 1 and 2. Satisfaction = f (Variables in Step 1, variables in Step 2, head employed, wife employed, home improvement skills, sex of head, race, income, income squared, education of head, age of head, age squared, number of dependent children at home)

FINDINGS

Of the 1,010 households surveyed, 15 percent have one or more members with a disability. (The weighted percentage of households with disabilities is 13.5 percent.) Of the 152 households, 55.3 percent had a mobility-impaired member, 44.7 percent had a member with a heart/lung impairment and 17.1 percent had a member with impaired vision. Of households with more than one disability, 10.5 percent had both heart/lung and mobility impairments, 2.0 percent had both heart/lung and sight impairment, 2.0 percent had both sight and mobility impairments, and 1.3 percent had all three types of disability present.

Distribution of households with disabled members

The highest incidences of disability are among households with a nonemployed head and those with no spouse or a nonemployed spouse, among elderly and female-headed households, and households with less educated heads and lower incomes (Table 1). Households

with no dependent children at home and with fewer home improvement skills also tend to have higher rates of disability. There is no significant difference in disability rates between white and black households.

Renter households had a higher rate of disability than owner households (Table 2). Disability rates tend to increase with the age of the dwelling and also with the defect index. Disability rates tend to decrease as overall satisfaction with the dwelling increased, and also with the proportion of owner-occupied units in the neighborhood. There are no significant differences in disability rates for structure type, lot size, and bedroom deficit.

Housing satisfaction as a dependent variable

The results of the regression of overall satisfaction with housing on housing conditions appear in Table 3. The results of the regression of overall satisfaction with housing on housing conditions and disabilities appear in Table 4. The results of overall satisfaction with housing on housing conditions, disabilities, and demographic variables appear in Table 5.

When housing conditions are controlled (Step 1), the model accounted for 33.8 percent of the variation in satisfaction. Addition of the disability variables (Step 2) decreased the predictive capability of the model by reducing the adjusted R^2 from 0.338 to 0.337 which is not a significant amount of reduction but clearly does not represent an increment in the explained variance. The full model (Step 3), containing housing conditions, disability, and family resources and family composition, accounted for almost 37 percent of the variation in overall satisfaction (Table 3).

Housing conditions as independent variables

The number of years lived in the dwelling is significantly related to satisfaction in Steps 1 and 2. With demographic characteristics controlled, in Step 3, years lived in the dwelling is not significantly related to satisfaction. The proportion of owner-occupied homes in the census tract is significantly related to satisfaction. Lot size is not related to housing satisfaction in any of the three models. The number of bedrooms, relative to the number needed, as well as the number of rooms other than bedrooms and bathrooms, are positively related to housing satisfaction in all three models. The age of the house has a negative influence on satisfaction in all three models.

Structure type is not significantly related to satisfaction with housing in any of the models. Homeownership is positively related to satisfaction with the home in all steps.

Both the defect index and the defect index squared are significantly related to housing satisfaction in all three steps. The combined effect of the two variables suggests that increases in the defect index are related to decreases in satisfaction, but at a decreasing rate. For instance, an increase in the defect index from zero to one is related to a 0.13 decrease in satisfaction, but an

increase in the defect index from 20 to 21 is related to only a 0.06 decrease in satisfaction.

Table 1. Proportion of Households with a Disabled Member by Demographic Variables.* (N=1,010)

	Proportion With Disabled	N	Analysis of variance
Head Not Employed	0.292	263	F=79.907
Head Employed	0.080	748	p=0.000+
Head Male	0.099	710	F=28.118
Head Female	0.222	357	p=0.000+
No Employed Spouse	0.154	746	F=8.468
Employed Spouse p=0.004	0.083	264	p=0.004
Age of Head Under 25	0.045	67	F=12.490
Age of Head 25-34	0.046	223	p=0.000+
Age of Head 35-44	0.082	164	
Age of Head 45-54	0.122	186	
Age of Head 55-64	0.208	158	
Age of Head Over 64	0.268	201	
Household Income:			
Under \$5,000	0.189	398	F=7.797
\$5,000-9,999	0.133	183	p=0.000+
\$10,000-14,999	0.132	164	
Over \$14,999	0.059	265	
Education of Head:			
0-8 Years	0.315	183	F=17.306
9-11 Years	0.116	162	p=0.000+
12 Years	0.130	265	
13-15 Years	0.078	146	
16-20 Years	0.061	232	
Number of Dependent Children:			
Zero	0.187	522	F=8.281
One	0.080	180	p=0.000+
Two	0.072	157	
Three or more	0.091	150	
Home Improvement Skills:			
0	0.168	489	F=3.799
1	0.100	166	p=0.002
2	0.196	100	
3	0.071	88	
4	0.102	65	
5	0.056	103	

* Only differences that are significant ($p < .05$) are given.

Disability as an independent variable

Disability is not significantly related to housing satisfaction in any of the steps.

Table 2. Proportion of Households with a Disabled Member by Housing Characteristics.* (N=1010)

	Proportion With Disabled	N	Analysis of variance
Renter	0.163	381	F=3.957
Owner	0.119	629	p=0.047
Age of Dwelling:			
0-5 Years	0.043	132	F=8.333
6-10 Years	0.075	148	p=0.000+
11-15 Years	0.050	68	
16-20 Years	0.044	99	
21-25 Years	0.102	98	
26-30 Years	0.182	97	
31-40 Years	0.205	112	
41-60 Years	0.288	142	
61-80 Years	0.329	26	
Over 80 years	0.253	9	
Years Lived in Dwelling:			
1-3	0.102	423	F=3.261
4-6	0.138	164	p=0.006
7-10	0.122	140	
11-20	0.156	125	
21-39	0.203	134	
Over 39	0.329	19	
Percent in neighborhood who own:			
Under 40%	0.145	132	F=2.123
40-49.9%	0.130	79	p=0.048
50-59.9%	0.185	199	
60-69.9%	0.133	295	
70-79.9%	0.143	116	
80-89.9%	0.127	79	
90% and Over	0.042	109	
Defect Index:			
Zero	0.117	593	F=3.030
1	0.088	150	p=0.004
2	0.202	85	
3	0.265	46	
4	0.174	38	
5-6	0.174	38	
7-9	0.103	30	
10-28	0.274	32	

Table 2 Continued.

	Proportion With Disabled	N	Analysis of variance
Overall Satisfaction with Housing:			
1 (Very Worst)	0.139	5	F=2.080
2	0.288	23	p=0.035
3	0.204	36	
4	0.115	62	
5	0.184	183	
6	0.132	171	
7	0.085	235	
8	0.097	96	
9 (Very Best)	0.151	190	

* Only differences that are statistically significant ($p < .05$) are given.

Family composition as an independent variable

As the age of the head increases, satisfaction with housing increases but at a decreasing rate. Satisfaction decreases slightly beyond age 71. No other family composition variables are significantly related to overall satisfaction.

Family Resources as an independent variable

The quadratic term for education is not significant, but the combined effect of education terms indicates that as the number of years of schooling increases, satisfaction with housing increases, but at a decreasing rate. No other resource variables are significant.

DISCUSSION

The results suggest that households with disabled members had the same levels of overall housing satisfaction as similarly situated households without a disabled member. Perhaps the disabled members had already made housing adaptations, or had adjusted to inadequacies with their dwellings.

It would be tempting to conclude from this analysis that most of the disabled population need no special housing. As funding in housing and other special programs is reduced, and as the proportion of the population that is disabled may be expected to increase, it might be best to focus limited funding only on the most severely disabled.

Table 3. Regression of Overall Satisfaction with Housing on Housing Conditions - Step 1.

Independent Variables	Regression Coefficients	Standardized Regression Coefficients	t
Years lived in dwelling	.015	.085	2.801**
Age of dwelling	-.008	-.071	-2.840**
Proportion who own	1.158	.128	4.228***
Ownership	.461	.123	3.137**
Structure type	-.061	.015	-.391
Defect Index	-.217	-.428	-6.446***
Defect Index Squared	.004	.156	2.442*
Actual - needed	.194	.130	4.507***
Rooms - bedrooms	.359	.167	5.458***
Lot size in acres	.002	.028	1.018
Constant = 4.709			
Adj. R ² = 0.338			
F-Ratio = 52.629***			

*p<.05, **p<.01, ***p<.001

Table 4. Regression of Overall Satisfaction with Housing on Housing Conditions and Disabilities - Step 2

Independent Variables	Regression Coefficients	Standardized Regression Coefficients	t
Years lived in dwelling	.015	.086	2.806**
Age of dwelling	-.007	-.070	-2.253**
Proportion who own	1.160	.128	4.228***
Ownership	.460	.122	3.112**
Structure type	-.607	-.015	-.392
Defect Index	-.217	-.428	-6.420***
Defect Index Squared	.004	.160	2.435*
Actual - needed bedrooms	.193	.129	4.495***
Rooms - bedrooms	.360	.167	5.459***
Lot size in acres	.001	.028	1.072
Sight Impairment	-.050	.004	-.165
Heart/lung	.027	.004	.131
Mobility impairment	-.074	-.011	-.399
Constant = 4.7068			
Adj. R ² = .337			
Change in F = 0.067			

*p<.05, **p<.01, ***p<.001

Table 5. Regression of Overall Satisfaction with Housing on Housing Conditions, Disabilities, and Demographic Variables - Step 3

Independent Variables	Regression Coefficients	Standardized Regression Coefficients	t
Years live in dwelling	.003	.006	.599
Age of dwelling	-.009	-.090	-2.839**
Proportion who own	1.134	.125	4.068***
Ownership	.368	.098	2.518*
Structure type	-.109	-.027	-.704
Defect Index	-.208	-.411	-6.192***
Defect Index Squared	.004	.150	2.360*
Actual - needed bedrooms	.206	.138	3.814***
Rooms - bedrooms	.352	.164	5.041***
Lot size in acres	.001	.024	.910
Sight impairment	-.118	.010	.397
Heart/lung impairment	-.064	-.008	-.315
Mobility impairment	-.162	-.023	-.868
Employment status	.144	.035	1.016
Spouse employed	.141	.034	1.189
Home improvement skills	.004	.004	.136
Female head	.093	.052	.791
Black	.194	.052	1.663
Household income in 1000's	-.012	-.063	-.817
Income squared	.248D-03	.042	.586
Education of head	.123	.265	2.414*
Education squared/10	-.041	-.204	-1.878
Age of head	.079	.715	4.424***
Age squared/100	-.055	-.502	-3.010**
Dependent children	.015	.012	.349
Constant=1.6464			
Adj. R ² = .368			
Change in F=5.114***			

*p<.05, **p<.01, ***p<.001

REFERENCES

- Allan, K.H. First findings of the 1972 survey of the disabled: general characteristics. *Social Security Bulletin*, 1977.
- Belcher, J.C. Differential aspirations for housing between blacks and whites in rural Georgia. *Phylon*, 1970, 31, 231-243.
- Columbus, D. and Fogel, M.L. Survey of disabled persons reveals housing choices. *Journal of Rehabilitation*, 1971, 37, 26-28.

- Housing and Society, Vol. 10, No. 2, 1983
- Eastman, K. Housing satisfaction, life satisfaction, and disability. *Housing and Society*, 1978, 5, 27-33.
- Kirk, L.B. Design for all Americans. *HUD Challenge*, 1975, 6, 30-32.
- Lindamood, S. Satisfaction with present housing. Paper presented at the Second Workshop on Quality Housing Environment for Rural Low-Income Families. Knoxville, Tennessee, March 22, 1978.
- Morris, E.W. and Winter, M. *Housing, Family, and Society*. New York: Wiley, 1978.
- Nie, N., Hall, C., Jenkins, J., Steinbrenner, K. and Bent, D. *Statistical Package for the Social Sciences*. New York: McGraw-Hill, 1975.
- Stubbs, A. A comparison of present and desired housing of three ethnic groups in Texas. *Report from Proceedings of the Annual Meeting of the American Association of Housing Educators*. Blacksburg, Virginia, 1971.
- Yockey, K. Space norms and housing satisfaction of low income families. *Housing Educators Journal*. 1976, 3, 2-10.