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Abstract

The economic, social, and psychological vulnerability of blue-collar workers increases as the U.S. economy continues to shift from manufacturing to service and technology. This paper reports findings from an analysis of economic resources and well-being among automobile manufacturing workers. Following previous theoretical and empirical work suggesting positive homeownership effects for vulnerable populations, this analysis was designed to test relationships between homeownership and four measures of well-being while controlling for household income and education levels.

Workers from two adjacent automobile manufacturing plants in a large midwestern metropolitan area were surveyed. Multivariate analysis of data from a subsample of 193 workers indicate that, controlling for income and education, homeownership is significantly and positively related to three of the four measures of well-being. Automobile workers who are homeowners report significantly less economic strain, depression, and problematic alcohol use than those who do not own their homes. Levels of social support do not vary significantly on the basis of homeownership. Implications for research and policy are discussed.

Homeownership and Well-Being among Blue-Collar Workers

Neoclassical economic theory holds that income and assets are essentially two forms of the same thing -- economic resources that individuals can consume in order to increase their wellbeing. In contrast to this neoclassical assumption, Sherraden (1991) suggests that assets do more than provide stored resources for future consumption. He posits that assets have independent economic, social, and psychological effects. In this paper, we test the relationships between assets in the form of homeownership and several indicators of well-being among automobile manufacturing workers. More specifically, the hypotheses that guide this analysis are that, controlling for household income and education levels, homeownership is negatively associated with economic strain, depression, and problematic alcohol use and positively associated with social support.

We focus on homeownership because of its central role in asset holding and accumulation. Equity in owner-occupied homes accounts for the largest share (44%) of total household net worth in the United States (U.S. Bureau of the Census, 1995). Further, homeownership is the single most important way of accumulating assets among blue-collar workers (Halle, 1984).

Such workers have been economically, socially, and psychologically vulnerable in recent decades as a result of the shifting emphasis in the U.S. economy from manufacturing to service and technology (Bluestone & Harrison, 1982; Vosler, 1994). Wallace and Rothschild (1988) note that employment in manufacturing dropped from approximately 40% of all private-sector employment in 1950 to less than 25% in the late 1980's. Our inquiry into homeownership among automobile manufacturing workers follows previous research demonstrating positive associations between homeowning and well-being among other vulnerable populations including single-parent families (Cheng, 1995), low-income people (Rohe & Stegman, 1994), older adults (Robert & House, 1996), women (Petersen, 1980; Page-Adams, 1995), and children (Green & White, 1997; Henretta, 1984).

Methods

Description of Sample

This analysis of economic resources and well-being among blue-collar workers uses data from a study of automobile manufacturing workers (Vosler, 1992). In the larger study, questionnaires were mailed to a ten percent random sample of 653 workers from two adjacent automobile manufacturing plants in a large midwestern metropolitan area. A total of 206 completed questionnaires were returned for a response rate of 32 percent. Thirteen questionnaires had to be excluded because of extensive missing data on variables of interest, resulting in a sample size of 193. The limited population and relatively low response rate make it difficult to generalize results.

One of the two plants from which workers were surveyed had closed two months before the first questionnaires were mailed in July 1991. Our discussions with United Auto Workers (UAW) officials indicated that workers from both facilities were feeling stressed by the plant closing. Many workers were concerned that both plants would eventually be closed. They shared a sense of vulnerability about the future. In addition, we learned that the union had plans to help many of the recently unemployed workers secure jobs in other automobile manufacturing plants across the country. The union also had negotiated income support for workers for up to two years. In light of these similarities in the overall circumstances of the workers, we anticipated that the workers' would not vary significantly by plant in terms of our measures of well-being. However, we controlled for the influence of having had one's plant close for the purposes of this analysis.

Dependent Variables

Economic Strain -- Our measure of economic strain is based on whether respondents' perceived difficulty in affording various purchases of needed items. This measure was originally suggested by Pearlin, Lieberman, Menaghan, and Mullan (1981) and was used in modified form in an earlier plant closing study by Perrucci, Perrucci, Targ, and Targ (1988). Respondents were

asked if they were presently experiencing difficulty in affording food, clothing, furniture, a car, and leisure activities. An item assessing difficulty with affording housing was not used in this analysis because homeownership was the independent variable of interest. In addition to the five questions about difficulties in affording needed items, workers were asked if they had a great deal of difficulty paying their bills and if they had money left over at the end of the month. In this analysis, responses indicating economic difficulties were summed. Then, in order to normalize the distribution, scores were categorized by four levels of economic strain. Economic strain level ranged from 1 to 4, with scores of 1 indicating no financial difficulty and scores of 4 indicating financial difficulty in at least six of the seven areas of inquiry. The mean economic strain level score was 2.52 with a standard deviation of 1.04.

Problematic Alcohol Use -- We used a dichotomous measure of problematic alcohol use based on the CAGE questionnaire (Ewing, 1984) which was developed as a clinical tool for identifying alcoholism. We considered two or more affirmative answers to four questions about drinking behaviors indicative of problematic alcohol use. Using this criteria, 16.6% of the workers in our sample used alcohol in a problematic manner.

Depression -- Depression is measured in this analysis by the Generalized Contentment Scale (Hudson, 1982), which includes 25 items asking about feelings and behaviors indicative of depression. Bloom and Fischer (1982) note consistent reports of high inter-item and test-retest reliabilities from studies using this scale. Using our data, the alpha coefficient of reliability was .92. Score values can range from 0 to 100, with higher scores being indicative of the presence of depression. When used in clinical settings, people with scores of 30 and higher have been found to have problems with depression (Bloom & Fischer, 1982). Among workers in this sample, scores on the depression scale ranged from 0 to 77 with a mean of 30.45 and a standard deviation of 16.34.

Social Support -- The measure of social support used in the study was originally developed by Pearlin and his colleagues (1981) and focuses on emotional support. Respondents were asked,

"Among your friends and relatives, excluding your husband/wife, is there someone you feel you can tell just about anything to, someone you can count on for understanding and advice?" The workers selected response categories indicating that they had no one, one person, or two or more people in their lives who met this criteria. In addition, married workers who responded affirmatively to a second question about being able to talk to their spouses about things that were important to them got another point added to their social support score. Overall, scores on the social support measure can range from 0 to 3. The mean social support score for workers in our sample was 1.81 with a standard deviation of .96.

Independent Variables

Education -- Education is a categorical variable measuring the respondent's level of formal education. Values range from 1 for respondents who had not completed high school or high school equivalency to 4 for respondents who had completed college. While a substantial proportion of the workers had no high school degree (20.7%), it was more typical for the workers to have completed high school (34.2%), to have had some post-secondary education (41.5%), or to have completed college (3.6%).

Income -- Household income is based on the combined annual income of the worker and his or her spouse, if applicable, for 1990. Mean incomes for workers varied by plant with lower values at the plant that had closed. We set missing values on income variables to the mean by plant before combining to form the household income measure. The income variable is categorized into six levels with the lowest household income group earning \$20,000 or less in 1990 and the highest household income group earning more than \$60,000 that year. The mean household income level was 3.35 with a standard deviation of 1.26.

Assets -- Our measure of assets is homeownership. For the purposes of this analysis, homeownership is a trichotomous variable measuring whether the worker rented or lived in

someone else's home (9.8%), was buying his or her home (71%), or fully owned his or her home (19.2%).

Control Variable

As noted above, because the workers in our sample were from two adjacent plants, we controlled for the influence of plant in our analysis. Half of the workers in our sample were from the plant that had closed (96) while the others were from the plant that remained open (97).

Results

Univariate Analysis

Descriptive statistics on the independent variables as well as the outcomes of interest here are presented in Table 1. As a group, the workers' situations looked rather grim. Turning to economic strain, more than half of the workers reported financial difficulty in at least four of seven areas (affording food, clothing, furniture, a car, leisure activities; paying bills; having money left over at the end of the month). Further, 16.6% of the workers in our sample responded affirmatively to at least two of four questions used to identify problematic alcohol use. Univariate analysis also demonstrated that, as a group, the workers in this sample were fairly depressed. As noted above, the workers' mean depression score on the Generalized Contentment Scale (GCS) was 30.45 as compared with the clinical cutting score of 30. Half of the workers in the sample had depression scores that fell within the clinical range. Finally, while most of the workers reported that they had emotional support from two or more people, nearly 10% said they had virtually no social support.

Bivariate Analysis

An analysis of the bivariate relationships between independent variables demonstrates no major multicollinearity problems. The largest coefficient among these variables is that associated with the correlation between household income level and plant (r=.337). There is a smaller, but still significant, association between educational level and plant (r=.148) with

workers at the plant that remained open having higher levels of education. Notably, the bivariate-level relationship between homeowning and household income level is negligible (r=.028).

Turning to correlations between each of the independent variables and the outcomes of interest, we find that the worker's educational level has no significant relationship with any of the four indicators of well-being. Further, while workers from the plant that had closed reported significantly higher levels of economic strain than workers from the plant that remained open, the influence of plant was not related at the bivariate level to social support, problematic alcohol use, or depression. Both household income level and homeownership had more significance in terms of their bivariate relationships with the outcome measures. Household income level was significantly associated with social support (r=.273), economic strain level (r=-.360), and depression (r=-.192). Homeownership was significantly associated with economic strain level (r=-.159).

A correlation matrix detailing the bivariate relationships among variables appears in Table 2. The statistical associations reported here are based on the Pearson correlation coefficient and likely underestimate the strength of bivariate relationships involving ordinal variables. *Multivariate Analyses*

The multivariate models for this study posit that, controlling for income and education, homeownership will have positive associations with four indicators of well-being -- economic strain, problematic alcohol use, depression, and social support. The findings of our multivariate tests demonstrate support for three of the four hypotheses. Controlling for income and education, homeownership was, as predicted, significantly and negatively associated with economic strain, problematic alcohol use, and depression among the workers in our sample. Levels of social support did not vary significantly on the basis of homeownership. The results of our multivariate analyses are presented in Table 3.

Looking first at financial problems, our model explains 19% of the variance in economic strain level (F=12.23, p=.0001, Adj. R²=.190). The independent variables that are significantly

related to economic strain are household income level, homeownership, and plant. Educational level was not significantly associated with economic strain in this multivariate analysis. In terms of our hypothesis, controlling for education and household income levels, homeownership was significantly and negatively associated with economic strain among the workers in our sample. Because plant also had a significant relationship with economic strain, we further tested the model by plant. In doing so, we found that homeownership was the only one of the three resource variables that had a significant relationship with economic strain level for workers from the plant that had closed. For workers from the plant that remained open, both household income level and homeownership had significant relationships with economic strain level.

Because problematic alcohol use was measured as a dichotomy, we used logistic regression analysis to test the effect of homeownership while controlling for household income level and education. The model fit the data (x^2 =11.28, df=4, p=.0236) and homeownership was the only independent variable that was significantly associated with problematic alcohol use. Controlling for household income level, plant, and level of education, homeownership was negatively related to problematic alcohol use for workers in our sample.

While our model explained only 4% of the variance in depression (F=3.05, p=.0183, Adj R^2 =.0410), homeownership was once again significantly associated with this indicator of well-being controlling for household income level and education. In addition, household income level had a significant relationship with depression controlling for homeownership and education. Neither education nor plant were significantly associated with this outcome.

In terms of social support, while the multivariate model was significant (F=4.45, p=.002, Adj. R^2 =.067), the only independent variable associated with this outcome was household income level. Controlling for education, homeownership, and plant, workers with higher household income levels reported more social support than workers with lower household income levels. As at the bivariate level, homeownership was not significantly associated with social support in multivariate analysis.

In order to explore the possibility of interactions between independent variables, multivariate models containing significant independent variables and relevant interaction terms were tested. Created variables reflecting the interaction between household income level and homeownership, household income level and plant, and homeownership and plant were entered into the economic strain model. None of these interaction terms were significantly associated with economic strain level. Similarly, the income-by-homeownership interaction term was added to the depression model but was not significantly related to depression when controlling for the main effects of household income level and homeownership.

Discussion

Findings from this analysis provide some support for our hypothesis that, controlling for income and education, assets in the form of homeownership are positively associated with wellbeing. Among workers in our sample, homeownership was significantly and negatively related to economic strain, problematic alcohol use, and depression controlling for the effects of household income level and education. Of the three socio-economic variables, only homeownership was significantly associated with problematic alcohol use. Both homeownership and household income level were significantly related to level of economic strain and depression for the workers in this sample. Household income level, but not homeownership, was related to social support. Educational level was not significantly associated with any of the outcomes of interest here. Overall, the socio-economic variables accounted for modest amounts of variance in our four indicators of well-being.

In the strongest of the models, household income level, homeownership, education level, and the control variable reflecting plant explained 19% of the variance in level of economic strain. There are two interesting aspects of this finding. First, since the measure of economic strain is based on perceived financial difficulties, it is noteworthy that the household income variable doesn't explain more of the variance in this outcome. Second, why would homeownership be significantly related to such a consumption-oriented measure when controlling for the effects of

income? It is possible that this effect is related to the workers who have already paid off their mortgages. Such workers are likely to have more disposable income and less economic strain. However, only 19.2% of the workers in the sample had paid their mortgages in full. Another explanation for the effect of homeownership on economic strain would be that economic well-being requires both income and assets, rather than income alone.

Our findings on depression and problematic alcohol use parallel those of Kohn and his colleagues (1990) who compare men in the United States, Japan, and Poland and find positive effects of the ownership and control of productive assets on psychological functioning when controlling for income and education. Finally, there is limited research addressing asset effects on social support but one study suggests that the effect of assets on social and civic outcomes works almost entirely through cognition, or knowledge about asset accumulation strategies (Cheng, Page-Adams & Sherraden, 1995). Because we focus exclusively on homeownership to the neglect of other assets and do not include a variable tapping cognition among our explanatory variables, our model may be misspecified for social support and other similar outcomes. Further research is needed to test this theory.

The findings from these analyses demonstrate the importance of assessing the role of assets separately from those of income in future studies on the relationship between economic resources and well-being. Sherraden, Page-Adams, and Yadama (1995) suggest that research which focuses on the relationships between assets, individual psychology, and social behavior is of particular importance. They note that directions for such research include evaluation of asset accumulation demonstration projects, studies of intra-family asset distribution given gender and generational diversity within households, and asset-based research in developing countries.

Our findings have implications for social policy as well. Specifically, results of this analysis suggest the importance of homeownership as an asset accumulation strategy for blue-collar workers. Among other efforts, labor unions may want to increase their attention to homeownership initiatives and other asset accumulation strategies during labor contract negotiations on behalf of such workers.

More broadly, the findings speak to proposals for a universal asset-based social policy. Johnson and Sherraden (1992) note that current U.S. domestic policies related to asset accumulation primarily benefit the middle and upper classes:

For the non-poor, wealth accumulation occurs within institutional structures with special subsidies designed particularly for this purpose. These subsidies operate primarily through the tax system. In two categories alone, home mortgage tax deductions and tax-deferments for retirement pensions, the U.S. government foregoes more than \$100 billion in revenue each year. This money contributes directly to asset accumulations in home equity and retirement accounts of the non-poor (p.66).

They go on to emphasize that people who are not homeowners, whose jobs do not offer retirement accounts, and whose incomes are not high enough to allow them to take advantage of tax deductions do not benefit to any great extent from these asset-based policies.

The proposal for asset-based social policy seeks to remedy the inequity arising from subsidies which currently help only some citizens accumulate assets. In brief, this proposal would create a universal and voluntary system of individual development accounts (IDAs) which would be earnings-bearing, tax-benefited accounts in the name of individuals. The long-term accounts could be initiated at the time an individual is born and would be subsidized by direct deposit matches for poor people (Sherraden, 1991). As a result of this proposal, dozens of community-based IDA projects have emerged around the country. IDAs have recently been adopted as a "national project" of Americorps VISTA. The 1996 welfare reform act allows states to use block grant funds to match savings in IDAs. A congressional bill for IDA demonstrations, the "Assets for Independence Act" (U.S. Senate, 1997), was co-sponsored by Senators Dan Coats (R, IN) and Tom Harkin (D, IA) and enjoys bipartisan support. Further, asset building by individuals has been a central theme in recent Social Security debates.

As often happens, asset building community programs and policy initiatives have advanced prior to the establishment of a sound knowledge base. More research on the relationship between assets and well-being among diverse groups of people, including blue-collar workers, is needed

to help specify theoretical models, test for independent asset effects, and guide policy and community innovations.

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Table 1. Descriptive Statistics on Independent and Dependent Variables (Sample of 193 Automobile Manufacturing Workers)

Variable	n	%
Education		
Did Not Complete High School	40	20.7
Completed High School	66	34.2
Some College	80	41.5
Completed College	7	3.6
Household Income (1990)		
Less than or Equal to \$20,000	11	5.7
Between \$20,000 and \$30,000	37	19.2
Between \$30,000 and \$40,000	66	34.2
Between \$40,000 and \$50,000	43	22.3
Between \$50,000 and \$60,000	24	12.4
Greater than \$60,000	12	6.2
Homeownership		
No Homeownership	19	9.8
Buying Own Home	137	71.0
Full Homeownership	37	19.2
Plant		
Plant Had Closed	96	49.7
Plant Remained Opened	97	50.3
Social Support		
No Social Support	19	9.8
Limited Social Support	53	27.5
Some Social Support	67	34.7
Much Social Support	54	28.0
Economic Strain		
No Economic Strain	41	21.2
Limited Economic Strain	49	25.4
Some Economic Strain	64	33.2
Much Economic Strain	39	20.2
Problematic Alcohol Use		
No	161	83.4
Yes	32	16.6
	Mean	Standard Deviation
Depression ^a	30.45	16.34

^a Skewness = .3638, Kurtosis = -.2973.

Table 2. Pearson Correlation Coefficients

	Education	Income	Homeowning	Plant	Social Support	Econ Strain	Alcohol Prob	Depression
Education	1.000							
Income	.094	1.000						
Homeowning	024	.028	1.000					
Plant	.148*	.337***	099	1.000				
Social Support	.035	.273***	.107	.039	1.000			
Econ Strain	110	360***	173*	307***	197**	1.000		
Alcohol Prob	134	047	183*	.053	100	.111	1.000	
Depression	.006	192**	159 [*]	042	384***	.395***	.206**	1.000

 $p^{*} = 0.05, p^{**} = 0.01, p^{***} = 0.001$

Table 3. Results of Multivariate Regression Analyses

X7	Ε	CON STRAIN		
Variable	b	SE	t	р
Educational Level	0690	.0823	838	.4030
Household Income	2264	.0573	-3.951	.0001
Homeownership	3699	.1281	-2.888	.0043
Plant Stayed Open	4678	.1454	-3.218	.0015

Constant = 4.9166

Adj. $R^2 = .1896$, F = 12.226, p = .0001

Variable	· · · · · · · · · · · · · · · · · · ·	DEPRESSION		
variable	b	SE	t	р
Educational Level	.3963	1.4051	.282	.7782
Household Income	-2.4808	.9779	-2.537	.0120
Homeownership	-4.6866	2.1863	-2.144	.0333
Plant Stayed Open	.1285	2.4813	.052	.9588

Constant = 47.4812

Adj. $R^2 = .0410$, F = 3.050, p = .0183

Variable	S	OC SUPPORT		
v anable	b	SE	t	р
Educational Level	.0205	.0812	.252	.8010
Household Income	.2169	.0565	3.839	.0002
Homeownership	.1696	.1263	1.342	.1811
Plant Stayed Open	0963	.1434	672	.5025

Constant = .8240

Adj. $R^2 = .0670$, F = 4.449, p = .0019

	AL	COHOL PROB		
Variable	Max Likelihood		Wald	
	Estimates	SE	Chi-Square	р
Educational Level	4886	.2507	3.7978	.0513
Household Income	1065	.1746	.3720	.5419
Homeownership	9306	.3939	5.5827	.0181
Plant Stayed Open	.4426	.4401	1.0110	.3147

Constant = .9948

Model $x^2 = 11.279$ with 4 DF, p = .0236