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CONSUMER PERCEPTION OF MANUFACTURED HOMES: DOES KNOWING THEY ARE MANUFACTURED HOMES MATTER?

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ABSTRACT

Do negative perceptions toward manufactured homes come from misconceptions about this structure type, or do they come from the fact that these homes appear less attractive than otherwise similar site-built homes? Over all, the type of houses had a strong and positive impact on the relative pride that the respondents would feel owning manufactured houses as opposed to site-built houses.

Key words: manufactured homes, site-built homes, appearance of homes, pride.

Introduction

Manufactured housing refers to the HUD-certified manufactured housing that meets the national building codes. This type of house was called a ‘mobile home’ prior to the certification by the U.S. Department of Housing and Urban Development (HUD) in 1976. In this study, manufactured homes are compared with the traditional, site-built homes. In this manuscript, the terms ‘manufactured housing’ and ‘manufactured home’ are used interchangeably.

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The manufactured housing industry has suffered from a negative image for many years. Trying to identify how people conceptualize the housing type might help to improve people's perceptions in the future. The benefits of manufactured housing are many—cost, availability, and ease of construction—to name a few. This study is a more refined attempt to discover students' mental construct of manufactured housing. The following question motivated this experimental study. Would the relative level of pride that young adults would feel owning and living in a manufactured home differ based simply on appearance versus knowing that it is a manufactured home? In this study, pride is defined as a positive feeling people get from an event or an object such as their homes. We hypothesized that once participants learn which homes were manufactured as opposed to site-built, they would be less proud of potentially living in the manufactured homes.

Our previous experiment attempted to assess the pride of manufactured home ownership as opposed to equivalent site-built homes among older adults in Georgia (1). These houses were one-story structures, having been sold for similar prices at around the same time, and they were real houses in the same city. The results showed a weak association between the knowledge of the housing structure type and the likelihood that the participants chose a manufactured home as the house they reported that they would feel most proud of living in.

In this study, the methodology was improved in three main areas. First, the sample size was greatly increased. Second, the application of the concept of "pride" was enhanced by creating a pride score for each of the four houses and for each participant. Finally, in the previous study, there was something about the appearance of one of the manufactured homes that caused the participants to feel less proud to own that particular home compared to the other three houses. In the current study, we tried to choose four houses with a more uniform architectural style rather than focusing on the price and location. Another difference was the target population. In the previous study, the experiment was performed with older individuals, many of whom lived in retirement homes and thus were unlikely to select a home for purchase in the future. In this study, we conducted the experiment with young adults who are more likely to purchase homes in the future.

Literature Review

Manufactured housing is an affordable housing option for many U.S. households. Further, compared to rented housing, owned manufactured housing tends to have higher neighborhood and structural quality (2). Existing studies exploring housing and pride focused on issues such as mobile home park residents (3) and the comparison between owners and renters (4). Some equate the concept of pride with homeownership (5). Yet, there is a lack of literature on the subject of relative pride of owning manufactured homes and site-built homes. Therefore, instead of pride,

perceptions toward manufactured homes are reviewed. Previous studies have typically examined the perceptions toward both mobile and manufactured homes. One study focused on the potential pride of owning manufactured homes among older adults (1), while another experiment focused on the changes in the perception upon seeing modern manufactured homes (6). Facts about and perceptions toward manufactured home residents were compared in one study (7). In another study, the background of the stereotype of mobile and manufactured home residents were discussed (8).

Perceptions Toward Mobile and Manufactured Homes

In Sweaney et al. (1) an experiment with 82 older adults showed insignificant association between the knowledge of the housing structure type and the likelihood that the participants chose a manufactured home as the house they would feel most proud of living in. In this study, those who were given the knowledge were also told the definition of the HUD code.

Grosskopf and Cutlip (6) conducted an experiment that involved 113 college students, among whom about 87% initially claimed that the manufactured homes were unsafe. This study then assigned the participants into three groups, each of which received neutral media information (control), positive media information, or negative media information about manufactured homes. At the end of the study, 66% of the participants in the positive media group claimed that manufactured homes were safe, while 69% in the negative media group claimed they were unsafe. Overall, the study found that media exposure had significant impacts on perceptions of manufactured homes.

Perceptions Toward Mobile and Manufactured Home Residents

How consumers perceive manufactured homes may be associated with the way they perceive the residents of such homes. Media exposure of destroyed mobile homes after hurricanes made a majority of prospective homebuyers feel that those homes were unsafe (6). A study of rural residents in Virginia which compared perceptions that community members had of manufactured home residents to the actual characteristics of the residents revealed that the perceptions held by the community members were likely to be based on images associated with older trailers and mobile homes (7).

One cited reason that some may have negative perceptions toward mobile and manufactured homes and their residents was that they were “undesirable” (8). The perceptions of resident characteristics that Atiles (9) reported included fat, sloppy, do not have morals, ignorant, do not respect other people, and “do not have much common sense” (9, p. 183). Bean (8) further cited that neighborhoods with manufactured homes have high crime rates. Residents of mobile home neighborhoods, parks, and camps endure negative stereotypes regarding their homes, communities,

and lifestyles (10). At the same time, some modern manufactured homes are indistinguishable from site-built homes.

The overwhelmingly negative public perceptions toward the residents of mobile and manufactured homes that are not based on the modern facts may be due to the fact that a home, for many Americans, is the means of identity and self-expression (8). Bean (8) further states that "People tie their self-esteem into the ownership of a home. Positive attachment to the home promotes a sense of well-being (8, p. 10). Thus, there are socioeconomic and cultural stereotypes according to which "many believe people who live in manufactured housing do so only because they cannot afford anything else" (6), because these people use their own values to judge other people's housing choices.

In summary, knowledge about manufactured homes may or may not impact the older adults' potential pride to own these homes relative to site-built homes of equivalent price and physical characteristics (1). The negative perception associated with manufactured homes can be altered by exposing young adults to positive media information regarding modern manufactured homes that withstand hurricanes (6). It is clear that the gaps between the perceptions of mobile and manufactured homes and the residents of these homes are based on prejudice and are unfounded (7, 8). Finally, there is a lack of literature on the subject of relative pride of owning manufactured homes and site-built homes.

Procedures and Methods

Sample

In the fall of 2006, students in several undergraduate courses in the Department of Housing and Consumer Economics at the University of Georgia were given the opportunity to participate in an online experiment concerning their perceptions of manufactured homes. College students were chosen as the study participants because they are likely to consider purchasing a home in the future and also because of convenience. After accessing an online data collection system, the participants were randomly assigned into either the control or treatment groups.

Following the same demographic questions, the students in the control group saw a general statement about housing, while those in the treatment group saw a statement of equal length explaining the definition of HUD-code manufactured housing and were told that two of the four images of homes they would see were manufactured housing. All participants were then shown images of two site-built homes and two modern manufactured homes, viewed individually. One image of each house was shown at a time. All images show the front view of the structure and the immediate surrounding area. The order that these photographs were shown was the same for all

participants. Those in the treatment group were told each home's structure type—either site-built or manufactured. Participants were asked to rate, from "strongly agree" to "strongly disagree" on a 7-point Likert scale, a series of eight statements developed for this experiment to capture the relative pride that they would feel if they were to own the home. The statements are as follows: 1) I would be proud to live in this home. 2) I would want to show my home off to family if I owned and lived here. 3) I would be proud to have friends over to visit me if I lived in this home. 4) I would be embarrassed to live in this home. 5) I would consider buying a home like this one day. 6) This is the type of house I hope to own one day. 7) I would feel a great sense of accomplishment if I owned a home like this one. 8) I would be ashamed of owning and living in this home. The statements worded negatively were reversed in coding, so that a higher score for each question indicated more positive rating of the house.

There were seven possible scores for each of the eight housing pride questions, which led to the creation of a scale ranging from 8 to 56, with 56 representing the highest level of pride one could feel in owning a particular home. Lastly, all participants were asked questions regarding their background related to housing experiences such as the area where they grew up, the types of houses they have lived in, and college courses they have taken in the areas of housing or real estate. We collected 355 observations that were useable and appeared to be authentic.

Statistical Methods

The preliminary analysis assessed if the study participants were truly randomly assigned to the control and treatment groups. The sample characteristics are presented in Table 1. First, the variable "area grew up," with three categories of "urban," "rural," and "urban and rural," was fairly well distributed. Relative to the group assignment, there was an uneven distribution of the participants with "urban" and "rural" background. This variable was therefore controlled for in the subsequent models. The distribution of "race" variable, that had four categories were not even, as the number of "Asian," "Black," and "Other" respondents were relatively small and could influence the results just by coincidence. This variable, therefore, was not considered as a predictor in subsequent models. There were only eight participants who identified themselves as "Hispanic." This Hispanic ethnicity variable was hence not included as a predictor variable. The distribution was 3.8% Asians, 8.8% Black respondents, and 2.3% identified as Hispanic. The racial and ethnic distributions are somewhat similar to the freshmen body of the institution. Freshmen who entered the University in 2007 fall were 7.1% Asian/Pacific Islanders, 8.2% African Americans, and 2.5% as Hispanic (11). The variable "gender" was well distributed, although there were slightly more female participants than male participants, reflecting the student population at the University of Georgia. Lastly, two continuous variables regarding the importance of owning a home in the future were assessed, and neither was significantly correlated with any of the housing scores, so these were not considered hereafter.

Table 1 : Sample Characteristics by Frequencies

	Group assignment		
Variables	*Control*	*Treatment*	*Total*
*Area grew up****			
Urban	*87*	*73*	*160*
Rural	*56*	*59*	*115*
Urban and Rural	*33*	*55*	*88*
*Race**			
Asian	*5*	*9*	*14*
Black	*16*	*16*	*32*
Other	*7*	*10*	*17*
White	*149*	*153*	*302*
*Gender***			
Female	*93*	*111*	*204*
Male	*83*	*76*	*159*
Hispanic			
No	*172*	*181*	*353*
Yes	*3*	*5*	*8*
N	*177*	*188*	*365*

*$p < 0.05$; **$p < 0.01$;***$p < 0.0001$

Two types of models for multivariate analyses were incorporated. The first is the house-type repeated measures model, and the second is between-house repeated measures model. The repeated measures models were considered because for each study participant, four housing pride scores were collected. The measurement of the pride score was repeated for each participant. In the house-type repeated measures model, we examined the housing pride score of the housing type as a function of house type, whether or not the treatment was given, area in which the respondent grew up, and gender of the respondent. For each respondent, the pride score for the site-built homes is the average of House1score and House2score, and that of the manufactured home score is the average of House3score and House4score. Here, each of the four House*i*scores (where i=1, 2, 3, 4) is a scale ranging from 8, the lowest level of pride, to 56, the highest level of pride, using eight pride statements. These scores were tested for reliability using Cronbach's alphas. The raw alphas were 0.94 for House 1, 2, and 3, and 0.95 for House 4. The explanatory variables are house type (manufactured vs. site-built), whether or not the treatment was given (treatment vs. control), area in which the respondent grew up (urban only, rural only, or both urban and rural), and the gender of the respondent (female vs. male). The last two variables were included in the model based on preliminary statistical testing.

We also considered a model that treats the four houses as independent by not creating one score for two houses of each structure type. The between-house repeated measures model examined the housing pride score of each of the four houses as a function of the house, whether or not the treatment was given, area in which the respondent grew up, and gender of the respondent. The response variable is the pride score for the house, which ranges between 8 and 56. The explanatory variables are house number (1, 2, 3, and 4), and the other three variables which are identical to those included in the house-type repeated measures model explained earlier.

Results

House-type Repeated Measures

The results of the house-type repeated measures are shown on Table 2. The treatment, which involved reading the statement about the manufactured housing and also being told which of the houses used in the study were manufactured, was not associated with the variations in pride score. Housing type, area in which the participants grew up, and gender of the participants were associated with the variations in the pride score of each housing type.

Table 2 : Solution for Fixed Effects of House-type Repeated Measures Model

Effect	*Estimate*	*t-value*	*Pr>t*
*Intercept****	*-24.8284*	*-21.82*	*<0.0001*
Housing type			
*Manufactured****	*4.1506*	*10.41*	*<0.0001*
Site-built	*0*	*-*	*-*
Treatment			
Treatment	*-1.2325*	*-1.44*	*0.1519*
Control	*0*	*-*	*-*
Area grew up			
Urban	*-0.3841*	*-0.35*	*0.7229*
*Rural**	*0.3471*	*2.04*	*0.0416*
Urban and rural	*0*	*-*	*-*
Gender			
*Female***	*2.2646*	*2.64*	*0.0086*
Male	*0*	*-*	*-*

*$p < 0.05$; **$p < 0.01$;***$p < 0.0001$

Specifically, the type of house had a strong impact on housing pride. Manufactured homes scored about four points higher than site-built homes, controlling for other variables. The treatment had a positive but insignificant impact. Those who grew up

in a rural area had a 0.35 point higher pride score than those who grew up in both urban and rural areas. Specifically, among study participants, female respondents had a higher pride score. Women scored 2.26 points higher than men, when controlling for other variables.

Between-house Repeated Measures

The results of the between-house repeated measures model are shown in Table 3. House number, area in which the participants grew up, and gender of the participants were associated with the variations in pride score, while the treatment was not. The participants gave different pride scores for each of the three houses (1, 2, and 3) compared to House 4, which was a manufactured home. Houses 1 and 2 were site-built homes, and House 3 was another manufactured home. Specifically, the pride score was about 1.19 points lower for House 1, 2.06 points lower for House 2, and 5.06 points higher for House 3, all compared to House 4, a manufactured home. Both of the manufactured homes received higher pride scores than the site-built homes used in this study, but one of the manufactured homes, House 3, received a much higher score than the other manufactured home, House 4. Overall, the study participants gave House 3 the highest score, and this positive effect was greater than any other effect examined in the model.

Table 3 : Solution for Fixed Effects of Between-house Repeated Measures Model

Effect	*Estimate*	*t-value*	*Pr>t*
*Intercept****	*-23.1722*	*-20.08*	*<0.0001*
House			
*1 (Site-built)**	*-1.1851*	*-2.52*	*0.0117*
*2 (Site-built)****	*-2.0552*	*-4.38*	*<0.0001*
*3 (Manufactured)****	*5.0608*	*10.78*	*<0.0001*
4 (Manufactured)	*0*	-	-
Treatment			
Treatment	*-1.0064*	*-1.17*	*0.2428*
Control	*0*	-	-
Area grew up			
Urban	*-0.5342*	*-0.49*	*0.6227*
*Rural**	*2.4055*	*2.09*	*0.0372*
Urban and rural	*0*	-	-
Gender			
*Female***	*2.0776*	*2.42*	*0.0161*
Male	*0*	-	-

*$p < 0.05$; **$p < 0.01$;***$p < 0.0001$

The treatment had a negative but insignificant association with the pride score. Area in which the participant grew up was associated with the pride score. Those who grew up in rural areas had 2.41 points higher pride score than those who grew up in both urban and rural areas. Gender was also associated with the pride score as female participants had a 2.08 point higher pride score than male participants, when controlling other variables.

Table 4 shows pair-wise and overall comparisons between the houses. Using the p-value of 0.05, the pride scores of House 1 and House 2 are not significantly different, while all other pairs are statistically significant. The results show that House 3 was favored the most, and it was significantly more liked than the other houses.

Table 4 : Between House Contrasts

Contrast	*F-Value*	*Pr>F*
House 1 versus House 2	*3.44*	*0.0641*
*House 1 versus House 3****	*176.99*	*<0.0001*
*House 1 versus House 4**	*6.37*	*0.0117*
*House 2 versus House 3****	*229.74*	*<0.0001*
*House 2 versus House 4****	*19.16*	*<0.0001*
*House 3 versus House 4****	*116.20*	*<0.0001*
*House 3 versus all other houses****	*256.63*	*<0.0001*

*$p < 0.05$; **$p < 0.01$;***$p < 0.0001$

Conclusion

This experimental study assessed if and how the knowledge of housing structure type affects the relative pride of owning and living in manufactured and site-built homes among young adults. The broader research questions asked were if negative perceptions toward manufactured homes came from misconceptions about this structure type, or if they came from the fact that these homes appear less attractive than otherwise similar site-built homes. This study improved the methodology of the previous study on assessing the pride of manufactured home ownership (1) and found no evidence that knowing which house was a manufactured home would negatively affect the relative pride that the young adults would feel if they were to own the house. In fact, the study participants, regardless of knowledge about the structure (construction) type of each house, felt more positively about the manufactured homes than the site-built homes that were employed in this study.

The greatest impact that made a difference in the pride score was a random effect due to the selected houses. Because inconsistency in architectural style was among the weaknesses of the previous study, we corrected it in this research by making sure both

of the manufactured homes and one of the site-built homes had the same style. Of the four houses, three of the houses (one site-built and two manufactured) had the same architectural type, while one site-built house had a different style and color. Such inconsistency clearly affected the results. The site-built home that received the lowest pride score, House 2, has some differences. It has a different architectural style and a large garage in front, while the other three houses do not have visible garage doors. In addition, the subtle differences between House 3 and the other houses, such as appearing as if it is a two-story building and having wider front steps, may have made a difference. Regarding the relative importance of architectural style and construction type, the current study suggests the architectural style is more important than the construction type if the consumers are to evaluate a house based on the front images. The greatest fixed effects on how proud a participant would feel about living in the homes were gender and area where the student grew up. Female respondents were more positive about the homes than male students. Students from rural areas were more positive than those who grew up in urban or both urban and rural areas.

Our main interest was to see if the treatment would have an impact. In both models, the treatment had a negative but insignificant impact. The treatment included two components; therefore, it is unclear if the statement about the HUD-coded manufactured housing gave a more negative impressions of houses, both site-built and manufactured, to the participants in the treatment group than the statement given to the participants in the control group, or if the knowledge of the structural type of each house gave the participants lower levels of pride in the house. A future study is necessary to test only the impact of the latter to accurately test our hypothesis. When consumers are informed about HUD-code, as expected, it appears that their relative pride rating of manufactured homes does not change. In addition, there is a need to further explore the concept of pride in homeownership or living in an owner occupied house. A future study that includes various appearances of homes may help us understand what influences the relative level of pride in addition to construction and architecture. A much larger sample size will be helpful to incorporate various other factors and to prove that the treatment indeed has no significant impact. For instance, in both the experiments with the older adults (1) and the young adults, small sample size did not allow for analysis using the respondents' housing experiences.

The appearance of the home made the strongest impact, while being aware that the house was manufactured did not influence the respondents. In other words, appearance of the houses is more strongly related to relative level of pride than knowledge that the house is manufactured. This brings us to the challenge of locating "otherwise similar" house pictures. Clearly, we did not select such houses for this study. Nevertheless, to widen the acceptance among consumers and their neighbors, the manufactured housing industry needs to continue creating acceptable architectural designs that are similar to site-built homes, such as the ones used in this study.

To conclude this research note, we consider the implications for mass media, education for consumers, and public policy. How can and how should media inform consumers about the positive and negative aspects of manufactured housing construction? First, individuals working in the media industry can inform themselves about the recent advancements in the manufactured homes. Those in the media industry should be responsible for using the appropriate terminology when referring to manufactured homes and should not refer to them as trailers or mobile homes from the pre-manufactured home era. Honest reporting of the positive and negative aspects of the construction should follow an accurate understanding of the modern housing terminology. Informing consumers and policy makers about modern manufactured homes is important to make this housing option become more widely accepted in a society where affordable, safe, and stable homes are much needed for low-income individuals and families, in particular. Given the findings of the present study, simply sharing the definition of modern manufactured homes does not seem to affect the consumers. The fundamental hurdle is to overcome negative perceptions toward both the manufactured homes and their residents. Such perceptions may be derived in part due to the fact that many Americans equate their self-worth with homeownership (12).

The federal government regulates construction of manufactured housing through the Department of Housing and Urban Development (HUD). HUD provides consumer education and support for manufactured home owners and anyone interested in such homes through the Office of Manufactured Housing Programs (13). Appropriate target population for such a program includes local policy makers. HUD's ability to answer questions through such programs is a valuable resource for the consumers. Finally, whether or not the government should rename manufactured housing due to its widespread misconception is a question for a consideration.

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