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# Examining Community Attitudes Toward Manufactured Housing

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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2015

Abstract

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by

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MBA, Bethel University, 2011

BS, Bethel University, 2009

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

October 2015

Abstract

Despite the need for affordable housing, consumers have failed to recognize manufactured housing as a viable alternative to site-built housing. The decline in market share for manufactured housing and subsequent decrease in sales has threatened the sustainability of manufacturers, retailers, suppliers, and support organizations. The purpose of this correlational study was to determine the extent that respondents' demographic and socioeconomic characteristics, perceptions of manufactured home characteristics, and perceptions of manufactured home occupants and neighborhood characteristics predicted the acceptance of manufactured homes. The model of acceptance of manufactured homes provided the theoretical framework for the study. Data were collected from 2 surveys distributed among adult learners ($n$ = 204) enrolled in a nontraditional degree-seeking program at university campuses in west Tennessee. One survey applied to single-section manufactured homes and another survey instrument applied to double-section homes. Correlation and multiple regression analyses techniques tested the hypotheses. Six of the 12 independent variables emerged as moderate predictors of manufactured home acceptance ($R^2$ = .217), which were respondents' housing value, perceived manufactured home occupant behavior, perceived educational levels of manufactured home occupants, respondents' household size and composition, land-use mix, and respondents' neighborhood population range. The research findings may contribute to social change through providing a foundation for future research on variables that influence consumer perceptions about affordable housing choices.

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# Dedication

Philippians 4:13 states, “I can do all things through Christ who strengthens me”. This verse reflects my unwavering faith and belief in God’s mercy and love. The completion of this journey is a reflection of God’s glory.

I dedicate this study to my parents and family. Logan and Lexi, you provided motivation for this journey. Thank you for always inspiring me. You are life’s greatest gifts. Dwayne, your unwavering support and love gave me the inner strength to persevere through difficult times. Mom and Dad, even though you are no longer with me in the physical form, I know you continue to watch over me. Losing you made me the person who I am today – fiercely determined, stubbornly independent, motivated, and focused. If I can make it through losing my parents, I can make it through the dissertation process. Thank you for instilling the values of hard work, dedication, and servitude. I continue to miss you every day.

This study is also dedicated to my amazing circle of friends and family members. Thank you for understanding my absences and supporting this dream. Most of all, thank you for never allowing me to quit!

I would also like to dedicate this study to my “work family” at Volunteer Homes, Inc. Their unwavering support, encouragement, and patience were crucial to the research process. When I began employment nearly 20 years ago, I never dreamed that my coworkers would become an extension of my family and that the journey would lead to the achievement of this monumental goal. I will always cherish the blessings of friendships, family, and shared experiences.

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# Section 1: Foundation of the Study

Many consider the Great Recession as the most dramatic economic downturn the United States experienced since the 1940s (Suárez, 2014). The decrease in stock values and home ownership eliminated more than $15 trillion in national wealth in 2008 (Wisman & Pacitti, 2014). During the recession, housing prices dropped 30% since the 2005 peak (Ondrich & Falevich, 2014). As of November 4, 2011, the employment statistics included 13.9 million unemployed Americans. The economic crisis affected an additional 2.6 million marginally attached workers and 8.9 million underemployed part-time workers (Shortt, 2014). Data for 2011 indicate a total of 25.4 million people faced financial challenges caused by the economic downturn. The economic decline that occurred during the recession resulted in stagnant wages and decreasing incomes for most households (Wisman & Pacitti, 2014). The combination of job loss and inability to replace income forced many Americans to make difficult choices regarding housing.

The increase in the unemployment rate created challenges for homeowners to meet mortgage responsibilities (Kothari & Lester, 2012). The combination of reduced property values and increased unemployment rates produced a negative effect on the housing market (Kothari & Lester, 2012). Cost burdened households represented those who spend more than 30% of income on housing (Pattillo, 2013). Because of higher unemployment rates and financial distress, the demand for affordable housing has continued to increase at a rate the supply cannot adequately meet (Pattillo, 2013).

## Background of the Problem

Manufactured housing has provided a viable and affordable alternative to traditional housing (Saatcioglu & Ozanne, 2013; Wilson, 2012). However, the social perception of manufactured housing and its occupants commonly revealed misconceptions and negative stigmatization (Andreescu, Shutt, & Vito, 2011; Kusenbach, 2009). As the housing choice for nearly 23 million U.S. residents (Burkhart, 2010), manufactured homes have constituted an important, yet understudied, feature of the U.S. housing landscape (Aman & Yarnal, 2010). Manufactured housing's relative affordability, availability, and flexibility compared with traditional site-built housing contributed to the product's popularity (Aman & Yarnal, 2010).

Despite the benefits of the housing choice, residents of manufactured homes have faced unique challenges (Dawkins & Koebel, 2010). Because of predominance in rural geographic settings, consumers described manufactured housing as products of the "rural ghetto" (Saatcioglu & Ozanne, 2013). According to Milstead (2012), rural populations have experienced distinctive vulnerabilities and housing issues. Manufactured housing residents in west Tennessee experienced typical stigmatization associated with the product. Because much of the population's socioeconomic status has fallen within poverty levels, manufactured housing and its occupants have endured unwarranted ridicule and erroneous judgment.

## Problem Statement

The manufactured housing industry has experienced a decline in market share since 2003 (Mimura, Sweaney, Reeves, & Eaves, 2010; Wherry & Buehlmann, 2014).

Despite the need for affordable housing, consumers have failed to view manufactured housing as a viable alternative to traditional site-built housing (Wilson, 2012). The general business problem is that manufactured home production and sales have been negatively affected by harmful social stigma and misconceptions (Andreescu et al., 2011), which has resulted in a 15% decline in manufactured home placements since 2003 (Dawkins & Koebel, 2010). The specific business problem is that some corporate and retail managers of manufactured housing companies located in the southeastern United States lack the information to understand the factors that influence consumer perception of manufactured housing.

## Purpose Statement

The purpose for the quantitative, correlational, and multiple regression study was to examine whether the relationship between consumer perceptions of manufactured homes and manufactured home acceptance was positive or negative. The study included surveys to test the hypothesis of whether a significant statistical relationship existed between 12 independent variables representing respondents' characteristics, respondents' perceptions of manufactured homes and manufactured home occupants, county characteristics, and manufactured home type and the dependent variable of acceptance of manufactured homes. The study participants included adult learners enrolled in nontraditional, undergraduate, degree-seeking programs who met the requirements as community residents legally and financially able to purchase a home. The targeted participant pool provided information about community attitudes and perceptions toward manufactured housing and their residents. The results of the study contributed to business

practices by identifying relationships between variables that can improve marketing strategies and increase sales.

The results of this doctoral study indicated a possible social change in the way consumers consider affordable housing. Data from the study revealed a possible trend between perceptions and reality. Data also provided the foundations for strategies to increase consumer awareness and improve the social perception of the product. Community acceptance of manufactured housing and residents can influence social change by improving the perception of affordable housing.

## Nature of the Study

The intent for this quantitative, correlational, and multiple regression analysis was to determine whether a statistically significant relationship existed between consumer perceptions of manufactured homes and acceptance of manufactured homes as an alternative to traditional site-built homes. I considered the postpositivist paradigm, in which the confirmation of absolute truth is impossible (Mittwede, 2012), to assess whether a relationship existed between the aforementioned variables. The postpositivism paradigm represented one falsifiable view of reality, purpose of identifying relationships among variables, hypothesis driven with methods and variables defined in advanced, and detachment between researcher and participants (Mengshoel, 2012). I used a quantitative, correlation design rather than a qualitative design to examine the association among variables on particular results (Bolte, 2014) and to enable the generalizability of results to larger populations (Lund, 2012). The focus of the study was neither to collect and analyze textual data (Petty, Thomson, & Stew, 2012) nor to examine the limitations and realities

of everyday life; rather, the study focuses on obtaining rich descriptions of data (Newman & Hitchcock, 2011). I used a quantitative research method of hypotheses testing to evaluate the measurements and frequencies across groups and correlations among variables (Westerman, 2012). The quantitative method was ideal for the deductive approach, in which the hypotheses aligned the variables, purpose statement, and direction of the research questions (Newman & Hitchcock, 2011).

Quantitative methods measure behavioral, biological, economic, and emotional phenomena through proposed research questions and hypotheses for analysis by statistical procedures (Vance, Talley, Azuero, Pearce, & Christian, 2013). Quantitative research methods require the reduction of phenomena to numerical values to analyze findings (Westerman & Yanchar, 2011). This correlational study included multiple regression analyses to test the significance of relationships between 12 independent variables and the dependent variable (Chen, Chang, & Tung, 2014). This quantitative correlational study was a nonexperimental research study I designed to examine patterns or relationships between independent and dependent variables (Bettany-Saltikov & Whittaker, 2014). I did not choose an experimental design because the participants did not receive treatment (Sharif et al., 2014). I modeled this doctoral study based on earlier research findings identified in Atiles, Goss, and Beamish's (1998) study, "Community Attitudes Toward Manufactured Housing in Virginia". I used external variables and the theoretical framework adapted from Atiles et al. who tested the hypotheses that significant relationships existed between acceptance of manufactured homes and variables representing respondents' perceptions of the product.

## Research Question

Past research conducted about the perception of manufactured homes used variables that included quality factors and participant characteristics. Atiles et al. (1998) and Wherry and Buehlmann (2014) concluded that the amount of knowledge about the product influenced the respondents' perception of the product. Zhou (2009) surmised that housing volatility occurred at the low and high ends of the spectrum. Atiles et al. posited that because consumers perceived manufactured housing as the low end of the housing spectrum, they also perceived residents as undesirable. Zhou identified the primary factor of experience living in a manufactured home increased the likelihood of a person to live in one again. This finding supported Atiles et al.'s and Wherry and Buehlmann's results, which suggested a change in consumer perception once awareness and knowledge increased. Zhou implicated that high customer satisfaction levels lead to repeat purchases or experiences of the product. I used the same research questions and hypotheses in this doctoral study.

My research question was as follows: Does a statistically significant relationship exist between acceptance of manufactured housing and 12 variables representing respondents' perceptions of manufactured homes, respondents' characteristics, county characteristics, and manufactured home type?

### Independent Variables

1. Perceived appearance and condition of manufactured homes (MHCONDIT). This Likert-scaled variable represented respondents' perceptions of manufactured home characteristics.

2. Perceived social behavior of manufactured home occupants (MHBEHAV). This Likert-scaled variable represented respondents' perceptions of manufactured household characteristics.
3. Perceived neighborhood physical homogeneity level (NEIGPHYS). This Likert-scaled variable represented the perceived neighborhood physical structure.
4. Perceived neighborhood social homogeneity level (NEIGSOCI). This Likert-scaled variable represented the perceived neighborhood social structure.
5. Housing value (HSVALUE). This Likert-scaled variable represented the respondents' socioeconomic status.
6. Respondents' gender (REGENDER). This coded categorical variable identified the two categories: male and female.
7. Respondents' age (RESPAGE). This Likert-scaled variable represented the respondents' demographic characteristic.
8. Respondents' household size and composition (REHSHOLD). This Likert-scaled variable represented the respondents' demographic characteristics.
9. Respondents' race (RESPRACE). This coded categorical variable identified six categories: Black or African American, White or Caucasian, Hispanic or Latino, Indian or Native American, Asian or Pacific Islander, and other or respondent specified.

10. Respondents' knowledge about manufactured homes (MHKNOWLE). This Likert-scaled variable represented the respondents' knowledge about manufactured homes.
11. County's percentage (%) of existing manufactured homes (MHPCT). This Likert-scaled variable represented county characteristics.
12. Manufactured home unit type (MHTYPE). This coded categorical variable identified two categories: single-section homes and double-section homes.

**Dependent Variable**

The acceptance of manufactured housing (MHACCEPT) represented the dependent variable. This value of the Likert-scaled variable signified the community's level of acceptance of manufactured housing.

## Hypotheses

The research question provided basis for the following hypotheses:

$H_{o1}$: A statistically significant relationship does not exist between acceptance of manufactured housing and perceived manufactured home characteristics.

$H_{a1}$: A statistically significant relationship exists between acceptance of manufactured housing and perceived manufactured home characteristics.

$H_{o2}$: A statistically significant relationship does not exist between acceptance of manufactured housing and perceived characteristics of manufactured home occupants.

$H_{a2}$: A statistically significant relationship exists between acceptance of manufactured housing and perceived characteristics of manufactured home occupants.

*H*o$_3$: A statistically significant relationship does not exist between acceptance of manufactured housing and perceived neighborhood physical structure.

*H*a$_3$: A statistically significant relationship exists between acceptance of manufactured housing and perceived neighborhood physical structure.

*H*o$_4$: A statistically significant relationship does not exist between acceptance of manufactured housing and perceived neighborhood social structure.

*H*a$_4$: A statistically significant relationship exists between acceptance of manufactured housing and perceived neighborhood social structure.

*H*o$_5$: A statistically significant relationship does not exist between acceptance of manufactured housing and respondents' socioeconomic status.

*H*a$_5$: A statistically significant relationship exists between acceptance of manufactured housing and respondents' socioeconomic status.

*H*o$_6$: A statistically significant relationship does not exist between acceptance of manufactured housing and respondents' demographic characteristics of gender, age, household size and composition, and race.

*H*a$_6$: A statistically significant relationship exists between acceptance of manufactured housing and respondents' demographic characteristics of gender, age, household size and composition, and race.

*H*o$_7$: A statistically significant relationship does not exist between acceptance of manufactured housing and respondents' knowledge and familiarity with manufactured homes.

*H*a$_7$: A statistically significant relationship exists between acceptance of manufactured housing and respondents' knowledge and familiarity with manufactured homes.

*H*o$_8$: A statistically significant relationship does not exist between acceptance of manufactured housing and county characteristics.

*H*a$_8$: A statistically significant relationship exists between acceptance of manufactured housing and county characteristics.

*H*o$_9$: A statistically significant relationship does not exist between acceptance of manufactured housing and type of manufactured home unit.

*H*a$_9$: A statistically significant relationship exists between acceptance of manufactured housing and type of manufactured home unit.

**Survey Questions**

The original survey instrument developed by Atiles et al. (1998) differentiated between single-section manufactured homes and double-section manufactured homes. Each survey contained the same questions with the differentiation of home type. The second page of each survey contained a written description and visual display of applicable manufactured home type. The separate surveys represented the independent variable of manufactured home type. Each respondent completed a survey about single-section homes or a survey about double-section homes. For explanation purposes, each survey question applied to the single-section and double-section surveys as noted by the *single-wide/double-wide manufactured home* designation. Each survey reflected only the manufactured home type represented on the second page of the survey.

I used a modified version of Atiles et al. (1998) survey, "Opinion Survey About Manufactured Homes." I omitted survey questions included in the original study that longer no applied as influential factors in this doctoral study. The original study results suggested the variables of perceived manufactured home occupant behavior, proportion of manufactured homes in the county, and perceived manufactured home condition significantly predicted acceptance of manufactured homes (Atiles et al., 1998). The variables of manufactured home type, respondents' gender, and manufactured home knowledge also emerged as significant predictors of manufactured home acceptance (Atiles et al., 1998). The survey questions focused on the six independent variables that revealed a statistically significant relationship with the dependent variable. This doctoral study included the original survey questions pertaining to the six significant independent variables.

Approximately 17 years have passed since Atiles et al. (1998) conducted the original study. During that time, changes occurred in the manufactured housing industry and economic landscape. Some of the original survey questions no longer pertained to the study. A complete list of omitted survey questions and answer choices (see Appendix A) is in the Appendix section. The following information reviews omitted questions and reason for the omission. Each question or set of questions pertained to an independent variable.

Original Survey Questions 13 through 38 assessed the independent variable of innovativeness. Atiles et al. (1998) used Johnson and Beamish (1993) adaption of Gruber et al. (1990) Innovativeness Toward Housing scale to assess the innovativeness variable.

Atiles et al.'s results suggested the independent variable of innovativeness did not have a significant relationship with the dependent variable of acceptance of manufactured homes. Although the literature review provides information about the concept of innovation and its role in manufactured housing, I did not include the 26 survey questions in this doctoral study.

Survey Questions 46, 47, and 49 of the original study addressed respondent housing tenure status (Atiles, 1998). Because the demographic of housing tenure status did not have a significant with the dependent variable, I omitted the questions from this doctoral study. The original Survey Questions 53 through 65 elicited responses about the perceived manufactured housing effects on the neighborhood. The questions did not represent an independent variable. I omitted the 13 questions in the survey used for this doctoral study.

I incorporated the remaining questions from the original study. Each survey question or set of questions included respondent instructions and designation of the applicable independent variable used to test the hypothesis. See Appendix D for the complete survey that includes questions and answer choices. The following question or set of questions formed the organization of the survey:

1. Indicate the type of foundation used for most single-wide/double-wide manufactured homes in this county.
2. Rate the appearance and condition of most single-wide/double-wide manufactured homes in this county.

3. Choose the type of location or neighborhood in this county most likely to have manufactured homes.
4. Choose the age range of most single-wide/double-wide manufactured homes in this county.
5. Choose the origin of most single-wide/double-wide manufactured home residents.
6. Choose the composition of most single-wide/double-wide manufactured home households.
7. Rate the behavior displayed by most single-wide/double-wide manufactured home residents for social conduct, cleanliness, and respect for the community.
8. Choose the income range of most single-wide/double-wide manufactured home households.
9. Choose the education level of most single-wide/double-wide manufactured home residents.
10. Choose the manufactured home household employment status.
11. Choose the racial composition of most single-wide/double-wide manufactured home households.
12. Approximately how far do you live from the closest single-wide/double-wide?
13. What is your experience living in a single-wide/double-wide manufactured home?
14. Do you know someone who is or has been living in a single-wide/double-wide manufactured home?
15. Have you ever been inside a single-wide/double-wide manufactured home?

16. In years, please show approximately how long ago you were inside a manufactured home. _____ YEARS (if less than 1 year, answer 0).
17. Rate the condition of the manufactured home you visited.
18. Do you consider yourself knowledgeable about single-wide/double-wide manufactured home characteristics, advantages, disadvantages, and general design features?
19. Indicate the land-use mix in your neighborhood.
20. Choose the appropriate population range for your community.
21. Choose the type of housing that describes the dwelling you currently live in.
22. Do you presently own your home, rent your home, or have other living arrangements?
23. If you *own* your home, what would you estimate your house and lot would sell for today?
24. Please indicate your gender.
25. In what year were you born? _____
26. Choose your highest level of education.
27. Choose your employment status.
28. Choose your race and ethnic background.
29. Choose the composition of your household.
30. Which of the following ranges of income best signifies your household's total annual income?
31. In general, how do you feel about locating a single-wide/double-wide manufactured home in your neighborhood?

32. Rate your level of agreement with the social homogeneity level of your neighborhood.
33. Rate your level of agreement with the physical homogeneity level of your neighborhood.
34. Is there anything else you would like to share about what you think of single-wide/double-wide manufactured homes?

## Theoretical Framework

The doctoral study included Atiles et al. (1998) acceptance of manufactured homes as a theoretical model and measurement tool. Fishbein-Azjen's (1975) theory of reasoned action (TRA) provided partial basis for understanding the formation of community attitudes (Atiles et al., 1998). As depicted in Figure 1, Dear and Taylor's (1982) theoretical model of community attitudes to mental health facilities added external variables to the theoretical model of acceptance of manufactured homes (Atiles et al., 1998). Atiles et al. theoretical model incorporated the manufactured home type, the manufactured home-related characteristics of the area or county, the selected characteristics of conventional housing residents, their perceptions about manufactured homes, about their occupants, and about the physical and social structure of their neighborhoods.

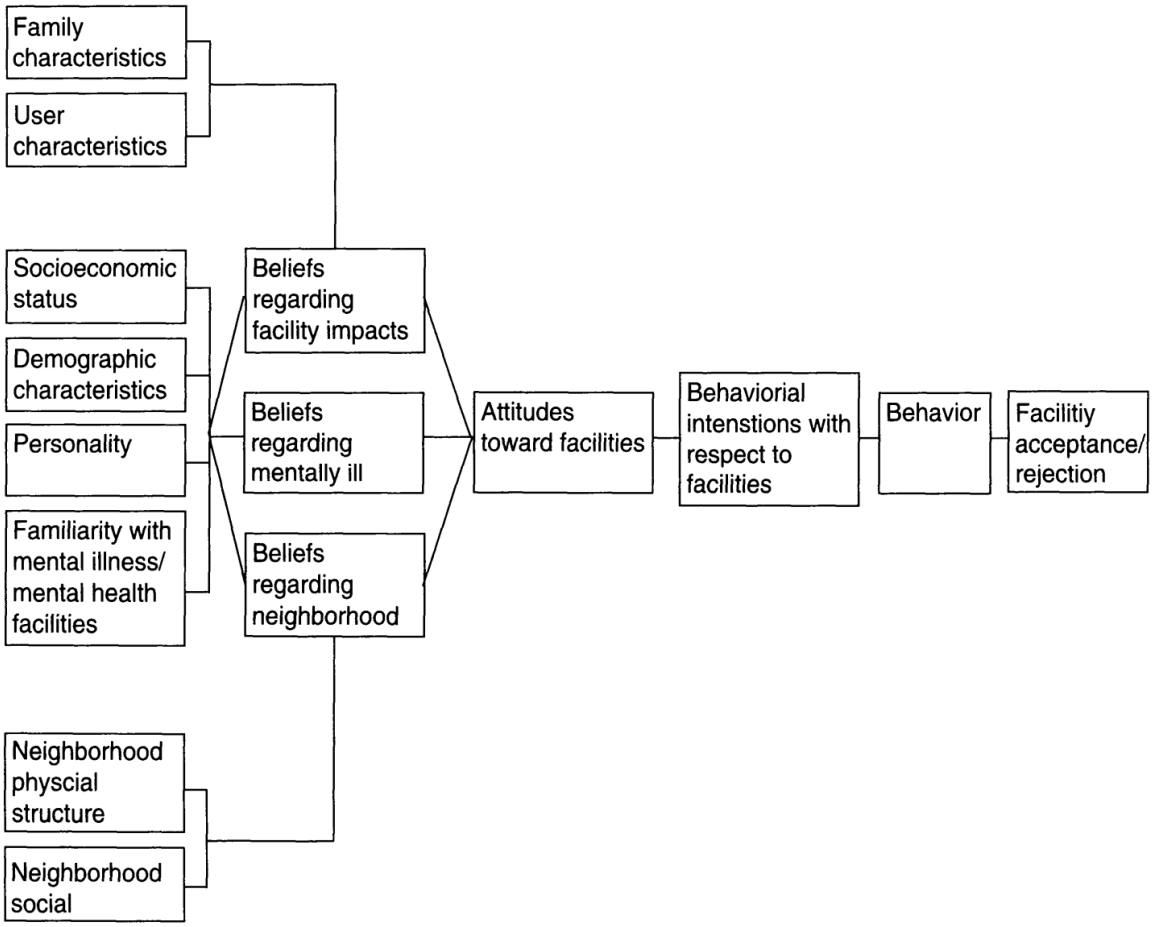


*Figure 1*. Model for community attitudes to mental health care facilities. Adapted from "Community attitudes toward manufactured housing in Virginia" by J. Atiles, R. Goss, and J. Beamish, 1998, *Housing and Society, 25*(3), p. 3. Reprinted [or adapted] with permission.

The expectancy value theory suggested that behavior, behavioral intentions, or attitudes reflected the function of expectancy and value (Nagengast, Marsh, Scalas, Hau, & Trautwein, 2011). The model proposed that an attitude performed as a function of the sum of the expected value of the attributes (Nagengast et al., 2011). As shown in Figure 2, Fishbein and Azjen (1975) expanded on the expectancy value theory and introduced

the TRA to understand human behavior (Dong Wang, Brown, Liu, & Mateo-Babiano, 2015). Fishbein and Azjen considered that peoples' behavior directly related to their behavioral intentions (Lau & Chen, 2012, p. 162). Attitudes and subjective norms influenced behavioral intention about a given object, with attitudes signifying the result of learning of a person based on experience (Hardcastle, Tye, Glassey, & Hagger, 2015; Lau & Chen, 2012). In TRA, a personal factor and social factor determined the behavior intention of performing a behavior (Han, 2015). Attitude toward behavior signified the personal factor, and the subjective norm signified the social factor (Ngai, Tao, & Moon, 2015).

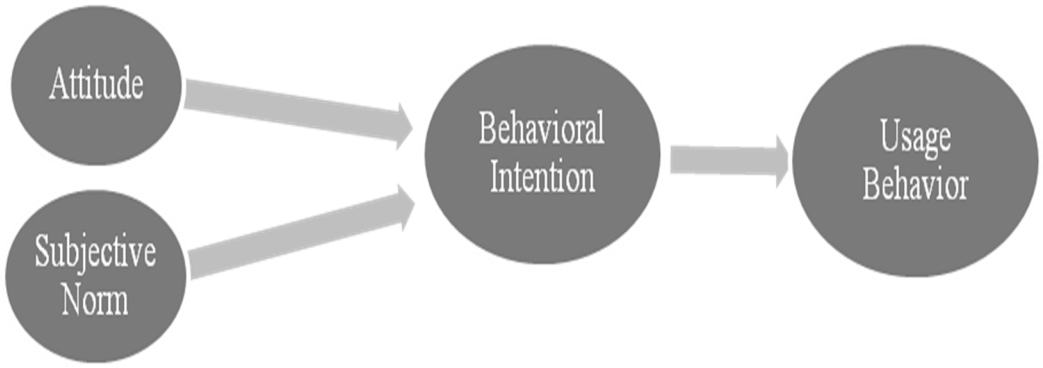


*Figure 2*. Fishbein and Ajzen (1975) theory of reasoned action. Adapted from "A decomposed TRA to explain intention to use Internet stock trading among Malaysian investors" by T. Ramayah, K. Rouibah, M. Gopi, & J.Rangel, 2009, *Computers in Human Behavior*, *25*, p. 1224.

The acceptance of manufactured homes theoretical model included external characteristics, perceptions, and outcome (Atiles et al., 1998). As shown in Figure 3, Atiles et al. (1998) defined *external characteristics* as county characteristics and

manufactured home type that influenced personal salient perceptions about manufactured home characteristics, occupants, social characteristics of the neighborhood, and physical characteristics of the neighborhood. Moreover, Atiles et al. expected salient perceptions to act as close determinants of acceptance levels or attitude formation. Atiles et al. subdivided the set of respondents' perceptions based on perceptions about manufactured home characteristics, home households, neighborhood physical structure or characteristics, and neighborhood social structure or characteristics. Perceptions held by neighborhood residents about an object and not about undertaking a specific behavior influenced the outcome of manufactured home acceptance (Atiles et al., 1998). Attitudes represented the level of acceptance or rejection of manufactured homes and their occupants (Atiles et al., 1998).

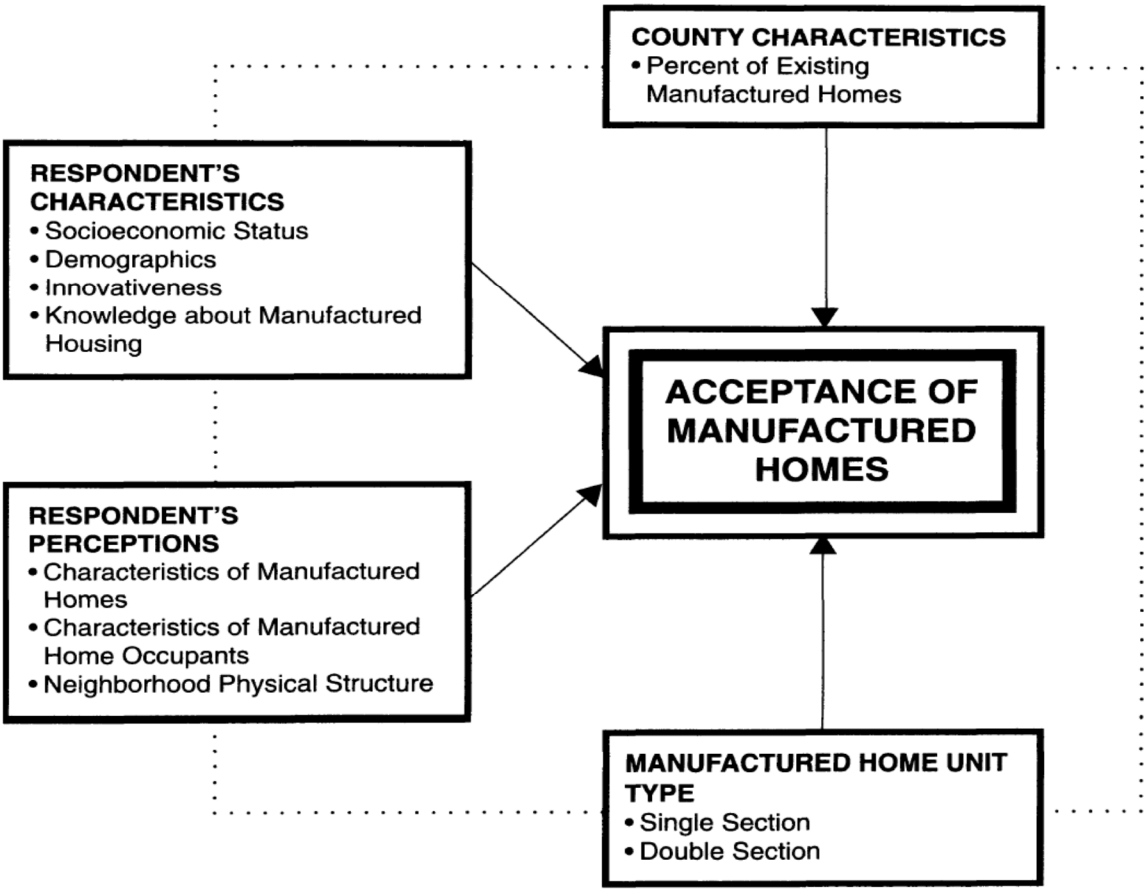


*Figure 3*. Acceptance of manufactured homes theoretical model. Adapted from "Community attitudes toward manufactured housing in Virginia" by J. Atiles, R. Goss, and J. Beamish, 1998, *Housing and Society, 25*(3), p. 4. Reprinted [or adapted] with permission.

## Definition of Terms

*Cost burdened*: Households who spend more than 30% of income on housing are considered cost burdened (Pattillo, 2013).

*Double-wide*: A double-wide manufactured housing structure has measured 20-feet or more in width and 90-feet or less in length (Zhou, 2013). A specialized truck towed the two separate units to the land site for set-up and installation (Wilson, 2012). The house consisted of two sections, one section contained the kitchen cabinets and the other section contained the bathroom fixtures (Zhou, 2013).

*Dummy coding*: Dummy coding signified a technique of using categorical predictor variables in linear regression through identification as 0 or 1 that indicated inclusion or exclusion in a category (Ready, 2012).

*HUD code*: U.S. Department of Housing and Urban Development provided federal building code for construction of manufactured homes (Hollar, 2014).

*Manufactured home*: Unlike traditional site-built homes, the construction of manufactured housing structures occurred in factories (Zhou, 2009). Manufactured homes must have adhered to the standards of a uniform nationwide building code known as the HUD code (Dawkins & Koebel, 2010).

*Manufactured home retailer*: Independent retail organizations and manufacturer owned retail organizations sold manufactured homes to consumers. Primary responsibilities included assisting customers with home selections, working with the manufacturer to order customized homes, and coordination of the home installation process (Sullivan & Olmedo, 2014).

*Mobile home*: The commonly used slang term refers to manufactured homes. The term derived from the original classification of mobile homes as vehicles requiring registration with the Department of Motor Vehicles (Kusenbach, 2009).

*Modular home*: Modular home construction included building materials, prefabricated components, and equipment (Azhar, Lukkad, & Ahmad, 2013). The construction of the modules occurred in a specialized facility (Azhar et al., 2013). Upon completion, a flatbed truck transported the modules to the construction site (Wherry & Buehlmann, 2014). Crews used cranes to lift modules and assemble on a permanent foundation (Azhar et al., 2013). Modular home construction adhered to local building codes similar to site-built homes (Wherry & Buehlmann, 2014).

*Single-wide*: A single-wide manufactured housing structure measured 18 feet or less in width and 90 feet or less in length (Zhou, 2013). The single-wide unit consisted of only one section that contains all parts of a house (Zhou, 2013).

*Trailer trash*: Predominantly aimed at low-income Caucasians, the term signified a common stigma associated with manufactured housing residents depicted as alcoholics, crack heads, meth addicts, drug dealers, wife beaters, prostitutes, sex offenders, and mentally insane (Kusenbach, 2009).

## Assumptions, Limitations, and Delimitations

### Assumptions

My foundation for this study centered on the determination of whether the statistical level of the relationship between consumer perceptions and manufactured housing was positive or negative. I asserted several assumptions that could have influenced the outcome of this research. A primary assumption included the participants' willingness to indicate truthful responses that reflected their opinion of manufactured homes and occupants. A second assumption was that participants did not have conflicts

of interest or ulterior motives when completing the survey instrument. No manipulation or influence of the participants transpired in a manner that would affect the results of the study.

I assumed that a demand for manufactured housing as an alternative to traditional housing existed in west Tennessee. The assumption was based on research that indicated the representation of manufactured homes as a critical source of affordable housing in rural areas (Wilson, 2012), rural residents struggled with accessibility to affordable housing (Milstead, 2012), and low-income households primarily exercised the choice of living in a manufactured home (Saatcioglu & Ozanne, 2013). Research revealed the assumption that manufactured housing offered an affordable choice for low- and middle-income families who desired and deserved the benefits of home ownership. The research provided the basis for the assumption that participants had experienced exposure to manufactured homes because of the predominance of the product in rural settings. I also assumed that participants influenced housing decisions for their families.

The phenomenon investigated included the assumption that consumers viewed manufactured housing as inadequate and inferior. I assumed that the stigma associated with living in a manufactured home directly resulted from misconceptions and inaccurate perceptions of the product and residents. The basis for the assumption was the decrease in the manufactured housing industry's market share that occurred simultaneously with an increased need for affordable housing. A further assumption insinuated that the NIMBY attitudes of community members toward manufactured housing and restrictive zoning regulations influenced the purchasing decision of potential homeowners.

Assumptions about the instrument included the accuracy of the original validation process, applicability of survey questions, and removal of survey questions not related to a statistically significant independent variable. The acceptance of manufactured home theory indicated the independent variables of perceived manufactured home occupant behavior, proportion of manufactured homes in the county, perception of manufactured home condition, manufactured home type, respondents' gender, and respondents' manufactured home knowledge significantly predicted manufactured home acceptance. I made a theoretical assumption for this study that the influence of independent variables remained consistent between the original study conducted in 1998 and this doctoral study.

I assumed that the modified version of Atiles et al.'s (1998*)* "Opinion Survey about Manufactured Homes" summarized the primary factors and issues that influenced consumer acceptance of manufactured housing. I based this assumption on the implementation of the survey instrument in Atiles et al.'s original study. I also assumed that the survey questions from the original study remained applicable to this study.

This study used quantitative research methods that included correlation and regression analysis. The principal assumptions about correlation analysis included (a) numerical expression of relationship between two variables; (b) strong correlation between variables shown through the increase or decrease of one variable accompanied by an increase or decrease in the other variable; (c) that quantitative correlations reveal associations, insights, impressions, and comprehension; and (d) that correlation does not determine causal relationships (Xiong et al., 2014). The four principal assumptions about

regression analysis included (a) linearity exists between the independent variables and dependent variable, (b) serial correlation does not occur, (c) homoscedasticity, and (d) normal distribution of errors (Ready, 2012). The use of closed-ended questions and statistical analysis of consumer perceptions represented an assumption about quantitative methods. The study included the assumption that a statistically significant relationship existed between variables.

**Limitations**

The study limitations could affect the generalization of the research results. First, the study participants included adult learners enrolled in nontraditional, undergraduate, degree-seeking programs who met the requirements as community residents legally and financially able to purchase a home. I only considered participants who did not reside in a manufactured home during the data collection process. Although the intent of this limitation was the reduction for potential bias toward or against manufactured housing, participants who had prior experience living in a manufactured home were included in the study. The study results possibly reflected the bias of participants that previously lived in manufactured homes.

This study was limited to participants that lived in west Tennessee. The 21 counties in the area represented a mix of rural and urban communities. Adult residents of the geographical region represented the study population. Adult learners enrolled in nontraditional, undergraduate, degree-seeking programs who met the requirements as community residents legally and financially able to purchase a home characterized the

study participants. The limitation signified applicability of study results to residents of west Tennessee.

The use of a predetermined measurement tool developed for and used in the Atiles et al. (1998) study showed an added limitation. Economic changes have occurred in the 17 years since the completion of the original research. Such changes may have limited participants' desires to own a home and reduced cooperation in completing the lengthy survey. Use of an existing survey and predetermined theoretical constructs limited the study through the adoption of definitions and phenomena as revealed in the original study. The original study provided the basis for definitions and constructs. However, a different author may have defined constructs differently. The definitions influenced the interpretation of study results and could lead to a wide variance.

**Delimitations**

Delimitations represented choices made and boundaries set for the study (Krohwinkel, 2014). Delimitations of this study included sample size and geographical area. I limited the scope of the study to the participant university. The medium sized, private, not-for-profit, institution of higher learning included campuses throughout west Tennessee. Despite the participant university offering of active, coeducational, traditional campus, evening and weekend classes, online, and graduate programs, I focused only on adult learners enrolled in a nontraditional, undergraduate, degree-seeking programs that met weekly for seated classes. I did not include traditional students, online students, or students enrolled in campuses outside of west Tennessee. I attended the preauthorized classes and distributed the paper surveys to the participants. I provided self-addressed

stamped envelopes and instructed participants to return completed surveys through the U.S. Postal Service. This study did not include online surveys or data collection.

I attempted to provide a comprehensive literature review of manufactured housing using the primary categories of psychological influences, social influences, and economic influences. This study focused on consumer perceptions of manufactured housing and the influence on acceptance of manufactured homes in respondents' communities. Although identified in the literature review, I did not include detailed explanation of the manufactured home construction processes, solutions for regulatory barriers and zoning restrictions that limited placement of manufactured homes, or attempt to develop strategies for overcoming NIMBY opposition. I only sought to identify statistically significant relationships between independent variables and the acceptance of manufactured homes.

The boundaries of the study included perceptions about manufactured housing from participants that lived in West Tennessee. Other states or regions that wish to generalize findings may prefer to conduct similar research using identical procedures and instruments. The generalizations of this study did not represent the opinions of all West Tennessee residents. The study results were limited to West Tennessee.

## Significance of the Study

### Contribution to Business Practice

The results of the study have added to the existing literature through the identified relationships between variables and determination of whether the relationship between consumer perception of manufactured housing and community acceptance of

manufactured homes were positive or negative. The study results may improve organizational marketing strategies that reduce the negative stigma associated with manufactured housing. The study results also may increase the awareness of affordable housing struggles in rural areas. Such awareness may lead to changes in laws and regulations that limit the availability and acceptance of manufactured housing for low-income families.

**Implications for Social Change**

Affordable housing signified an often-overlooked need for rural areas. Housing and poverty scholars, as well as policy analysts, have focused on poor people living in large metropolitan and urban areas, thus ignoring the low-income housing needs in rural areas (Wilson, 2012). Manufactured homes offered a viable housing alternative for low-income buyers (Saatcioglu & Corus, 2014), yet posed unique challenges such as negative stigmatization of residents, inaccurate perceptions of product, zoning discrimination, and unfair mortgage classification. The study positively may affect social change through the improvement of the social perception of the product and its residents. Increasing awareness of the product and addressing associated misconceptions of residents may affect social change by making manufactured housing a desirable and affordable alternative to traditional housing. The results of this study may help consumers achieve their goal of homeownership by educating them about a product that exists within their financial means. Low-income families may experience the benefits of homeownership through the purchase of manufactured housing.

## A Review of the Professional and Academic Literature

The purpose of this quantitative correlative study determined whether a relationship continued to exist between predetermined independent variables and community acceptance of manufactured housing as a viable alternative to traditional site-built housing. The research question imitated the original research question posed in Atiles et al. (1998) study on community acceptance of manufactured housing in the state of Virginia. Outdated information and inadequate academic literature on the topic of manufactured housing increased the justification of replication. The first sections of the literature review contained information about the original study, theoretical framework, and variables used to determine the existence of a statistically significant relationship.

A concise history of manufactured housing followed the first section. Research studies that encountered similar problems provided a description of the existing gap in the literature. The section included an explanation of the difference between manufactured housing and modular housing. The decline of the manufactured housing industry and its subsequent effect on businesses provided rationalization for the chosen method and investigation of community attitudes toward manufactured housing.

The three powerful factors of psychological, economic, and social influences comprised the remaining sections of the literature review. Psychological influences that formed and determined consumer behavior affected purchasing decisions. Because a house reflected an important and costly consumer purchase, understanding the influential theories can improve organizational and marketing strategies in the manufactured housing industry. Economic influences enabled or restricted a consumers' ability to

purchase a home. Economic influences also contributed to the consumers' determination about whether a manufactured home signified a worthy investment. Given the predominance of the product in southern and rural areas, this section included a focus on affordable housing needs of low-income and rural families. Finally, social influences included internal and external forces that contributed to the development of consumer perceptions. Because manufactured housing and its residents often endured unfair stereotypes and negative stigmatization, the social influences section included examples of disparagement and explanation of developmental factors. The social influences section also included an explanation of lending practices that discriminate against manufactured homeowners and the effect of property designation.

The main search strategy for identifying relevant research articles consisted of using Walden University's e-Library and research databases including ProQuest Dissertation Electronic Database, EBSCOhost, and the Academic Electronic Database. Keywords such as *manufactured housing*, *mobile homes*, *consumer behavior*, *consumer perceptions*, *affordable housing*, and *purchasing decisions* resulted in the development of the three major categories of influences. Google Scholar identified relevant articles available through Walden University's library. A review of the reference list of relevant articles provided potential resources to investigate for relevance.

**Partial Replication and Original Study**

Replication included the repetition of prior research for the purpose of determining whether similar findings occur in different settings (Dubois & Gadde, 2014). Investigators and scholars have recognized the critical role replication plays in the

scientific process of verification while acknowledging the need for a tradition of verification across disciplines (Easley, Madden, & Gray, 2012). Although scientific findings rest upon replication, research in management science has failed to replicate many findings (Evanschitzky & Armstrong, 2012). Contemporary researchers have perceived replication as an extension of the original study rather than a process of duplication (Easley & Madden, 2012). Modern replication processes have focused on metaanalysis over several research designs rather than repeating earlier studies (Easley & Madden, 2012). The ideas of replication and repetition identified with the assumption that nature behaves lawfully (Boylan, Goodwin, Mohammadipour, & Syntetos, 2015).

The benefit of replication in business research has accounted for environmental and social changes that strengthened theories as a foundation of advancement (Dubois & Gadde, 2014). The confirmation of results or hypothesis by a repetition procedure affirmed the foundation of any scientific concept (Boylan et al., 2015). Replication of earlier studies served to corroborate or negate a theory or previous findings (Dubois & Gadde, 2014). Although notorious for change, the concept of human behavior played a fundamental role in business research (Fayolle & Linan, 2014). The change in human behavior initiated outdated evidence no longer applicable in present times. Some of the theories used in business research have not undergone replication in years and have not considered the implications of social and environmental changes (Boylan et al., 2015).

For doctoral study purposes, I conducted a partial replication to add to the work of Atiles et al. (1998). The construct of community attitudes toward manufactured housing remained unchanged. The research environment represented the primary change in this

doctoral study. The change included location, participants, and economic factors because of time passed between the original study and this doctoral study. A partial replication extended the findings of the first study and improved generalization (Dubois & Gadde, 2014). The economic recession and subsequent housing crisis may have changed the way consumers view manufactured homes as an affordable alternative to traditional housing. The results of this doctoral study identified changes in relationships between consumer attitudes and variables that may influence purchasing decisions.

Atiles et al. (1998) conducted a quantitative study using the survey method as the primary data collection tool. The survey solicited opinions and characteristics of 552 residents of eight rural counties in Virginia about acceptance of either single or double-section manufactured homes (Atiles et al., 1998). As shown in Figure 4, Atiles et al. adapted Dear and Taylor's (1982) model for community attitudes toward mental health care facilities (CAMI) to meet the needs of the study. According to Atiles et al., Dear and Taylor (1982) identified the strongest relationship between beliefs or perceptions and attitudes to originate from perceptions about facility users (p. 3). Atiles et al. reduced the CAMI and adapted the model to perceptions and attitudes about manufactured housing and their residents.

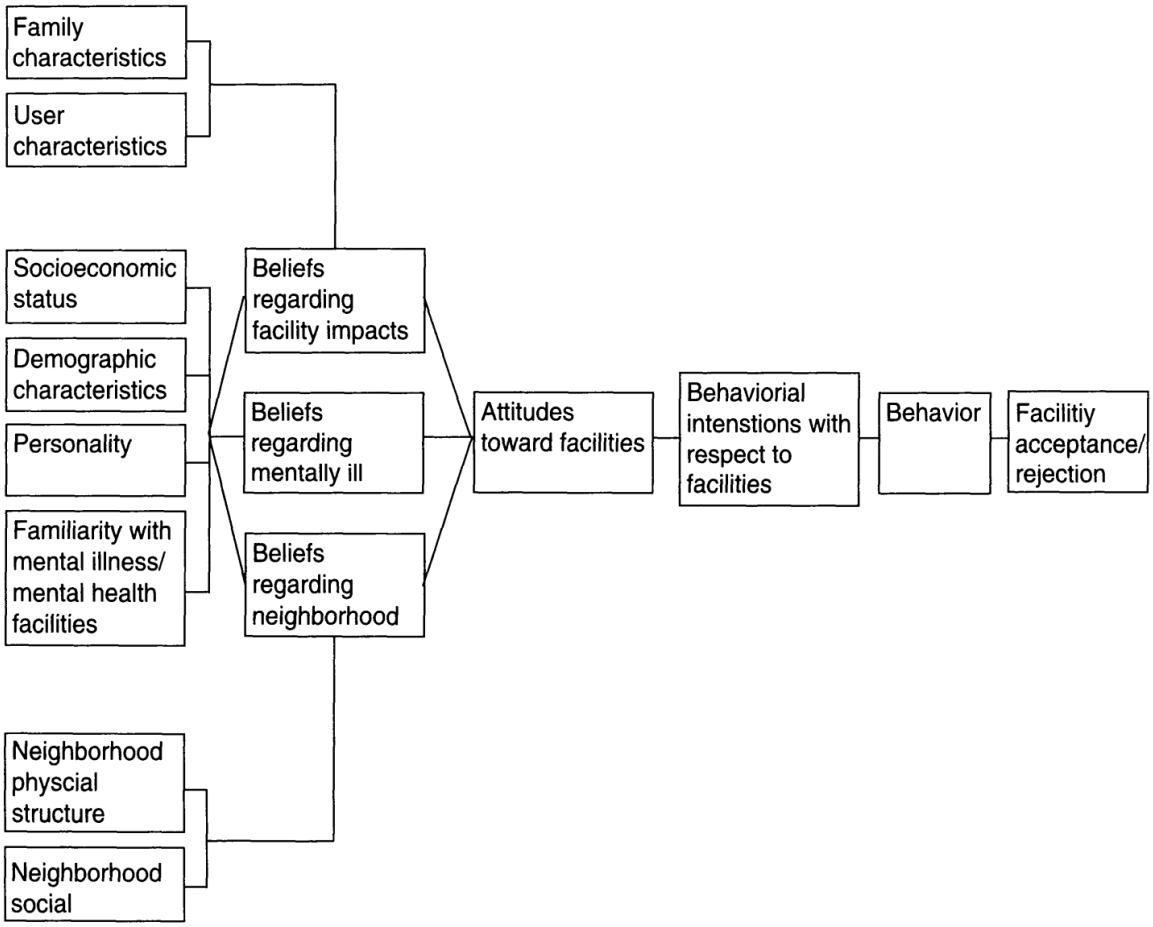


*Figure 4*. Model for community attitudes to mental health care facilities. Adapted from "Community attitudes toward manufactured housing in Virginia" by J. Atiles, R. Goss, and J. Beamish, 1998, *Housing and Society, 25*(3), p. 3. Reprinted [or adapted] with permission.

The expectancy value theory suggested that behavior, behavioral intentions, or attitudes represented functions of expectancy and value (Nagengast et al., 2011). The model proposed that an attitude performed as a function of the sum of the expected value of the attributes (Nagengast et al., 2011). As cited in Ngai, Tao, and Moon (2015), Fishbein and Azjen (1975) expanded on the expectancy value theory and introduced the

theory of reasoned action (TRA) to understand human behavior. The TRA included the consideration that a person's attitude related to his or her behavioral intentions (Lau & Chen, 2012, p. 162). Attention, attitudes, and normative beliefs explained behavior (Hardcastle et al., 2015). As depicted in Figure 5, attitudes and subjective norms influenced behavioral intention about a given object, with attitudes indicating the result of learning based on a person's experience (Lau & Chen, 2012). Personal and social factors determined the intention to perform a behavior in TRA (Hardcastle et al., 2015). Attitude toward behavior signified the personal factor, and the subjective norm indicated the social factor (Ngai et al., 2015).

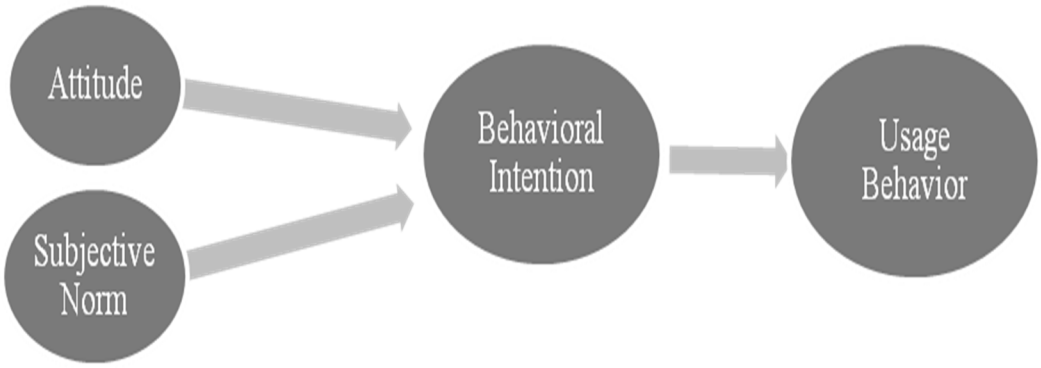


*Figure 5.* Fishbein & Ajzen (1975) theory of reasoned action. Adapted from "A decomposed TRA to explain intention to use Internet stock trading among Malaysian investors" by T. Ramayah, K. Rouibah, M. Gopi, & J. Rangel, 2009, *Computers in Human Behavior, 25*, p. 1224.

The acceptance of manufactured homes theoretical model (See Figure 6) included three sets of external variables indicative of situational and contextual attributes (Atiles et al., 1998). Manufactured home type represented the first set of external variables (Atiles

et al., 1998). Atiles et al. (1998) used respondents' characteristics as the second set of external variables. The third set of variables included county characteristics (Atiles et al., 1998).

The first set of external variables included the single variable of manufactured home type. Atiles et al. (1998) included the manufactured home type of single-section or double-section as a construct that may help predict the levels of acceptance of manufactured homes. The second set of external variables represented the individual level and includes personal characteristics of neighborhood residents (Atiles et al., 1998). According to Atiles et al., the set included subdivided categories of socioeconomic status (i.e., housing value, income, education, occupation, and housing tenure status), demographic characteristics (i.e., household size, age, race and gender), and degree of knowledge about manufactured homes and their occupants (i.e., closeness, familiarity, and experiences). Community and neighborhood characteristics represented the third set of external variables (Atiles et al., 1998). Percentage of existing manufactured homes in the county indicated regulatory restrictions and degree of closeness to a metropolitan statistical area (Atiles et al., 1998).

The three sets of external variables influenced personal salient perceptions about manufactured home characteristics, occupants, social characteristics of the neighborhood, and physical characteristics of the neighborhood (Atiles et al., 1998). Atiles et al. (1998) expected salient perceptions to act as close determinants of acceptance levels or attitude formation. Further, Atiles et al. subdivided the set of respondents' perceptions based on perceptions about manufactured home characteristics, household composition,

neighborhood physical structure or characteristics, and neighborhood social structure or characteristics. As shown in Figure 6, perceptions held by neighborhood residents about an object and not about undertaking a specific behavior resulted in the outcome of manufactured home acceptance (Atiles et al., 1998). Attitudes represented the level of acceptance or rejection of manufactured homes and their occupants (Atiles et al., 1998).

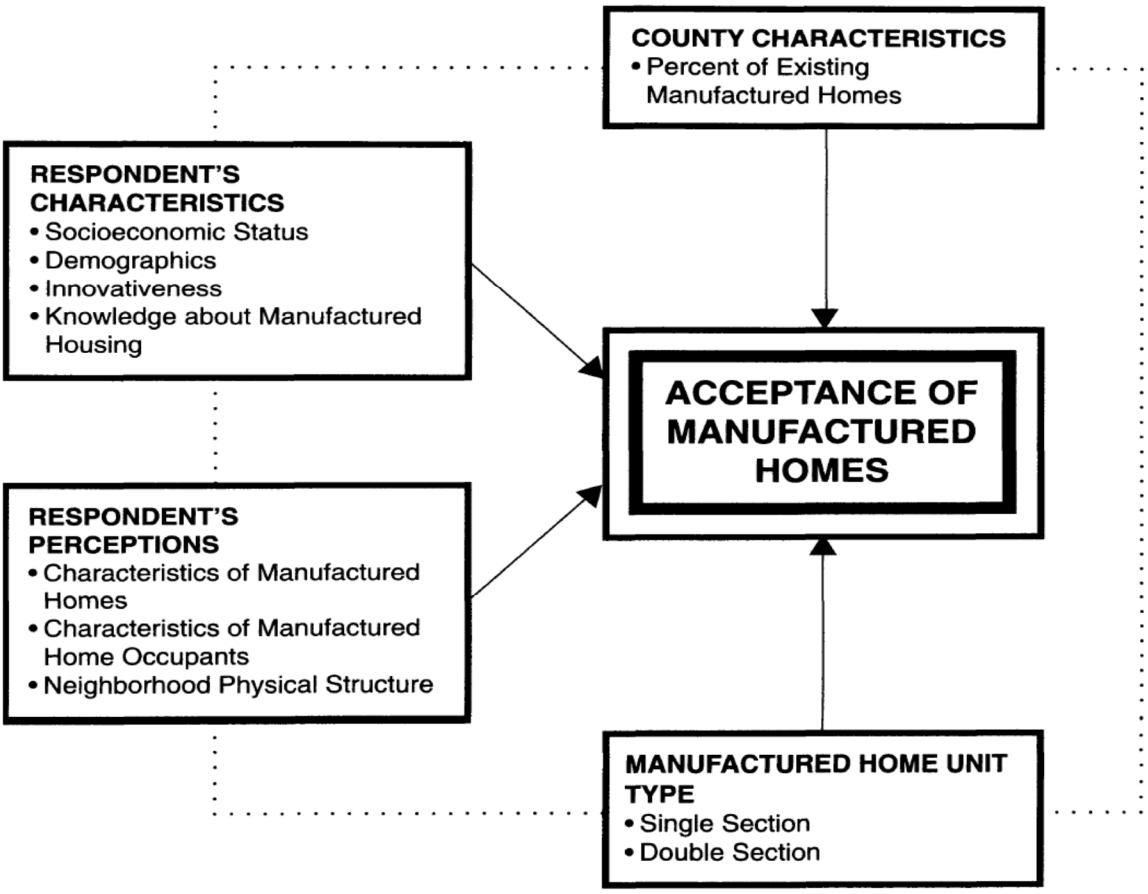


*Figure 6*. Acceptance of manufactured homes theoretical model. Adapted from "Community attitudes toward manufactured housing in Virginia" by J. Atiles, R. Goss, and J. Beamish, 1998, *Housing and Society, 25*(3), p. 4. Reprinted [or adapted] with permission.

Perceptions held by neighborhood residents about an object (i.e., manufactured housing and its occupants), and not about performing a specific behavior, represented the foundation of the theoretical outcomes of manufactured home acceptance (Figure 6). The external variables of respondent and county characteristics also influenced outcomes (Atiles et al., 1998). Atiles et al. (1998) theorized that people in the model might develop negative or positive attitudes that transform into levels of acceptance or rejection of manufactured homes. The attitudes represented positive or negative evaluations about manufactured homes, their occupants, and neighborhood characteristics that may influence negative or positive outcomes (Atiles et al., 1998). Atiles et al. used attitudes to represent the level of acceptance or rejection of manufactured homes and their occupants in a neighborhood. Atiles et al. conducted a literature review that identified and explained study variables of perceptions about manufactured housing and its occupants, perceived neighborhood physical and social characteristics, county's presence of manufactured housing, and characteristics of conventional housing residents. The study included an explanation of challenges faced by manufactured housing residents such as social class prejudice, stereotypes, stigmatization, financial barriers, NIMBY attitudes, and acceptance of an alternative form of housing (Atiles et al., 1998).

Atiles et al. (1998) data collection method separated the State of Virginia into four sections, with one county consisting of high proportions of manufactured homes, and one county consisting of a low proportion of manufactured homes representing each region. A market research organization provided a proportionate sample of 2,000 conventional households (Atiles et al., 1998). Part of the sample completed a survey about single-

section homes while the other part of the sample completed a survey about double-section homes (Atiles et al., 1998). Atiles et al. followed Dillman's (1978) total design method (TDM) to develop and pretest questionnaires for single-section and double-section housing. Of the 2,000 potential participants identified in the random proportionate sample, approximately 552 people completed the survey with 274 subjects in the single-section subsample and 278 in the double-section subsample (Atiles et al., 1998).

Multiple regression techniques tested the hypothesis that a significant relationship existed between acceptance of manufactured homes and 13 variables representing respondents' perceptions of manufactured housing, respondents' characteristics, county characteristics, and manufactured home type (Atiles et al., 1998). Characteristics of manufactured housing opponents included white (93.9%) males (68%) in the middle age (average of 53 years), high school or GED graduates, employed full-time (61.4%) or retired (26.9%); with high scores on the innovativeness scale ($M$ = 70.49), predominantly married with no children, and with household incomes in the $30,000 through $45,000 range (Atiles et al., 1998). Most opponents (90%) were owners of homes valued at less than $150,000, lived in proximity to manufactured homes (69.8%), and resided in socially and physically homogenous neighborhoods consisting of single family homes (84.4%) with a low percentage of existing manufactured homes (Atiles et al., 1998).

Atiles et al. (1998) hypothesized that elevated levels of acceptance of manufactured homes directly correlated with perceptions of good manufactured home appearance and condition, perceptions of acceptable behavior from residents, and perceptions of decreased neighborhood physical homogeneity levels. Atiles et al.

identified social homogeneity levels, respondents' substandard socioeconomic status, counties with a high percentage of manufactured homes, and double-section unit type as independent variables with favorable correlation to manufactured home acceptance. Respondent demographic characteristics of young, highly innovative Caucasian females who possessed above-average knowledge of manufactured homes and members of small-sized households also positively influenced manufactured home acceptance levels.

Atiles et al. (1998) suggested that perceived negative behavior of occupants was predictive of low acceptance levels and NIMBY attitudes. Socially undesirable behavior associated with low-income people contributed to acceptance opposition (Atiles et al., 1998). When perceived in a positive manner, the condition and appearance of manufactured homes increased acceptance levels (Atiles et al., 1998). The results also concluded that respondents accepted double-section homes more than single-section homes (Atiles et al., 1998). The condition and appearance of home, perceptions about residents, and residential behavior were the most predictive factors of community acceptance of manufactured homes (Atiles et al., 1998).

The results of Atiles et al. (1998) study also revealed that knowledge about manufactured homes positively influenced the likelihood of acceptance. Likewise, an increased presence of manufactured homes predicted acceptance and suggested a community with favorable regulations that encouraged placement of manufactured homes (Atiles et al., 1998). Analysis of the gender variable suggested the likelihood of female respondents to accept manufactured homes in their communities in comparison to male respondents (Atiles et al., 1998).

Independent variables that did not have a statistically significant relationship with the dependent variable included demographic and socioeconomic characteristics (Atiles et al., 1998). Respondents' age, race, household makeup, innovativeness, and housing worth were factors that lacked a significant relationship with community acceptance of manufactured homes (Atiles et al., 1998). The social and physical homogeneities of respondents' neighborhoods were not influential factors in community acceptance of the product (Atiles et al., 1998).

Atiles et al. (1998) used subsamples distinguished by single-section or double-section home categories. A significant difference existed in the perceptions of the subgroups. Some respondents in the single-section subsample viewed single-sections unfavorably. In contrast, respondents in the double-section subsample perceived double-section units favorably and in good condition (Atiles et al., 1998). The perceived behavior of occupants differed between housing types. Double-section subsample respondents showed positive perceptions of occupants while single-section subsample respondents regarded occupants as behaving poorly (Atiles et al., 1998). Respondents of both subsample groups suggested that manufactured homes negatively would affect their neighborhoods with the perception stronger toward single-section homes than double-section homes (Atiles et al., 1998).

Atiles et al. (1998) investigated how community attitudes and NIMBY resulted in negative perceptions about manufactured home occupants. Study results reflected that the manufactured home type may increase or decrease acceptability (Atiles et al., 1998). Findings suggested two immediate problems for manufacturers to address: improved

appearance of manufactured homes and alleviation of prejudice against manufactured home occupants (Atiles et al., 1998). Atiles et al. concluded that the restricted amount of variance explained by the 13 independent variables suggested the usefulness of factors to help predict manufactured home acceptance (Atiles et al., 1998).

## Independent Variables

Atiles et al. (1998) tested the hypothesis that a significant relationship existed between consumer acceptance of manufactured homes and 13 independent variables. Atiles et al. indicated that six of the 13 independent variables had a statistically significant relationship with the dependent variables. The six independent variables included: (a) perceived appearance and condition of manufactured homes, (b) perceived social behavior of manufactured home occupants, (c) gender, (d) knowledge about manufactured homes, (e) percentage of existing manufactured homes in the county, and (f) manufactured home type. This doctoral study used 12 of the original independent variables to determine if any statistical changes occurred since the completion of the original study.

**Manufactured home type.** Atiles et al. (1998) included manufactured home type as a set of external variables. Manufactured home construction occurred in a factory environment with the finished product transported and installed on designated land (Zhou, 2013). The ability to move a manufactured home until installation occurred represented a characteristic distinguishable from traditional site-built homes (Koklic & Vida, 2011). Single-wide and double-wide represented the two types of manufactured homes identified in Atiles et al. study. A single-wide manufactured home was 18 feet or

less in width and 90 feet or less in length (Zhou, 2013). A double-wide manufactured home was 20 feet or more in width and 90 feet or less in length (Zhou, 2013). This doctoral study research used Zhou's definitions of single-wide and double-wide manufactured homes.

**Perceived condition and appearance of manufactured homes**. Mimura et al. (2010) exposed the importance of architectural style and appearance on respondents' perception of the product in comparison to traditional site-built homes. Images of older and unkempt manufactured homes influenced respondents' perceptions of manufactured housing residents (Mimura et al., 2010). Mimura et al. revealed that the appearance of a home held more importance than the type of home. Whereas Mimura et al. focused on the positive perceptions of manufactured home appearance and condition, Kusenbach (2009) provided the contrasting viewpoint associated with the negative stigmatization of the product. Contemporary mass media and popular culture have portrayed manufactured home appearance as filled to capacity, unsightly, and hazardous (Kusenbach, 2009). The inaccurate and negative media messages have represented manufactured homes as objectionable places and environments occupied by people with personal and cultural deficiencies (Kusenbach, 2009).

Atiles et al. (1998) used the perceived appearance and condition of manufactured homes as an independent variable in the original study. Atiles et al. expected the salient perception to determine the level of acceptance and attitude formation toward manufactured homes. The original hypothesis included a relationship between perceived condition and appearance of manufactured home with acceptance of the product (Atiles et

al., 1998). Study results suggested that positive perception of the condition and appearance of manufactured homes resulted in high acceptance levels (Atiles et al., 1998). For this research, the definition of perceived appearance and condition of manufactured home included cleanliness, upkeep, attractiveness, and general images that characterize manufactured housing in the respondents' community.

**Perceived social behavior of manufactured home occupants.** According to Mimura et al. (2010), the manner in which consumers perceived manufactured homes influenced the way they viewed residents of such homes. Manufactured home residents often experienced negative stigmatization (Saatcioglu & Corus, 2014). Despite categorization as homeowners, manufactured housing owners encountered negative perceptions by community members (Milstead, 2014). The members considered residents failing to contribute financially, economically, and socially to the community (McCarty & Hepworth, 2012). Unemployed, poor, and deviant behaviors represented common descriptors of manufactured home community residents.

According to Nguyen, Basolo, and Tiwari (2012), the negative social construction of low-income families profoundly influenced opinions of affordable housing residents. Such residents faced categorization as unwelcome people such as thugs, criminals, juvenile delinquents, drug addicts, and gang members (Nguyen et al., 2012). Contemporary mass media and popular culture have contributed to the negative stigmatization through the depiction of manufactured housing residents as alcoholics, crack heads, meth addicts, drug dealers, wife beaters, prostitutes, sex offenders, and

mentally ill (Kusenbach, 2009). The negative stigmatization of park residents interacted with other forms of social and racial stereotypes (Saatcioglu & Corus, 2014).

Atiles et al. (1998) revealed a significant relationship between acceptance of manufactured homes and perceived social behavior of home residents. Perceived negative occupant behavior predicted low acceptance levels and NIMBY opposition (Atiles et al., 1998). Likewise, perceived positive occupant behavior and manufactured home appearance predicted higher levels of acceptance (Atiles et al., 1998). Perceptions of occupant behavior, whether positive or negative held the strongest relationship with manufactured home acceptance (Atiles et al., 1998).

In this doctoral study, I used the same independent variable to determine whether a significant relationship continued to exist or if measurable changes occurred since the completion of the original study. The definition of perceived social behavior of manufactured home occupants included negative stigmatization (Saatcioglu & Ozanne, 2013), inadequate financial, economic, and social contributors (McCarty & Hepworth, 2012), criminals, drug addicts (Kusenbach, 2009; Nguyen et al., 2012), sexual deviants, and mentally ill (Kusenbach, 2009). The perceived social behavior definition also included negative socioeconomic and cultural stereotypes.

**Knowledge about manufactured homes.** Zhou (2013) hypothesized that people with experience living in manufactured home would likely choose to live in another manufactured home. Zhou based the characteristic variable on previous manufactured home residents' tendency to rate manufactured homes higher than inexperienced households' ratings. Study results supported Zhou's expectation of a positive relationship

between experience living in a manufactured home and the probability of owning a manufactured home.

A person's knowledge of the product slightly influenced the likelihood of acceptance (Atiles et al., 1998). Koklic and Vida (2011) used experience and earlier knowledge of prefabricated homes in a qualitative analysis of internal factors that influenced evaluative criteria of the buying process. Koklic and Vida supported Atiles et al. (1998) claim that knowledge about prefabricated, or manufactured, homes influenced buying decisions.

Atiles et al. (1998) used knowledge about manufactured homes as an independent variable. Although the regression coefficients for respondents' manufactured home knowledge showed stability in both subsamples, existing knowledge represented an important influence of the double-wide respondents (Atiles et al., 1998). Atiles et al. revealed a significant relationship between knowledge of manufactured homes and acceptance of manufactured homes. For this research, the definition of knowledge about manufactured homes included the respondents' previous residency in a manufactured home, knowledge of a manufactured home resident, visit to a manufactured home, condition of manufactured home visited, residential proximity to a manufactured home, and any other applicable awareness or experiences.

**Demographic variables.** Atiles et al. (1998) used respondent demographics such as gender, age, race, household size, and household composition as independent variables. Respondents' gender had a marginally significant relationship with the dependent variable (Atiles et al., 1998). The remaining demographic variables of age,

race, and household composition did not appear to have a significant relationship with acceptance of manufactured homes (Atiles et al., 1998).

Atiles et al. (1998) indicated that female respondents accepted either type of manufactured housing more than male respondents. Koklic and Vida (2011) proposed that males and females viewed housing differently. Females related to a house on an emotional level, while males evaluated a house based on function and rationale (Koklic & Vida, 2011). Because Atiles et al. results revealed a significant relationship between gender and acceptance of manufactured homes, the independent variable was included in this doctoral study. The definition of gender for this research used the common social construction of male pertaining to masculinity and female pertaining to femininity (Risman & Davis, 2013).

**Proportion of manufactured homes in county.** The independent variable of proportion of manufactured homes in county indicated regulatory restrictions and degree of closeness to a metropolitan statistical area. The percentage of manufactured homes compared to the percentage of other types of housing indicated a high or low proportion. The 2013 United States Census Bureau provided data for each of the 21 counties that comprised the West Tennessee region.

**Dependent Variable**

Acceptance of manufactured homes represented the dependent variable. Atiles et al. (1998) based study outcomes on respondents' perceptions about manufactured homes and its occupants. The influence of respondent and county characteristics contributed to Atiles et al. study outcomes. Positive or negative attitudes influenced acceptance or

rejection of manufactured homes (Atiles et al., 1998). Such attitudes represented positive or negative evaluations of manufactured homes, manufactured home residents, and community characteristics perceived to influence positive or negative outcomes (Atiles et al., 1998). In the Atiles et al. study, respondent attitudes represented the level of acceptance or rejection of manufactured homes and their occupants in a community. This research incorporated Atiles et al. definition and representation of acceptance of manufactured homes.

**History of Manufactured Housing**

Approximately 23 million Americans live in manufactured housing (Zhou, 2013). Despite its prominent role as an affordable alternative to traditional housing, manufactured housing has remained an understudied feature of the American housing landscape (Aman & Yarnal, 2010). The earliest mobile homes built in the 1920s served as recreational *travel trailers* designed for transient and temporary use (Aman & Yarnal, 2010). The product's origins of use as an automobile accessory in the United States dated back to the 1920s and 1930s (DePaulo, 2013). Categorized with boats and cabins, the industry leaders developed the small makeshift accommodation on wheels as a vacation retreat (DePaulo, 2013). In the 1930s, the Great Depression caused widespread poverty that resulted in the use of travel trailers as permanent homes (Burkhart, 2010; Ireland, 2011).

Trailers slowly transformed into stand-alone units used as permanent residences (McCarty, 2013). The transformation reflected the shift in name to mobile homes. The federal government used mobile homes to accommodate the influx of workers who

migrated to urban areas in search of employment during the buildup to World War II (Wilson, 2012). Trailer home use increased during World War II by providing housing to defense industry workers (Kusenbach, 2009). Housing shortages during, and after, World War II spurred the evolution from temporary travel-trailers to permanent trailer homes (Burkhart, 2010). Manufacturers built trailer homes faster and cheaper than site-built homes, which made them a popular housing solution to the continuing housing shortage (Burkhart, 2010).

After the war, the demographic composition of residents shifted from transient workers and retirees to younger, less educated residents who earned lower incomes and could not afford site-built homes (Saatcioglu & Corus, 2014). Communities and parks that resembled traditional neighborhoods increased in development because of the popularity and affordability of mobile homes. In the 1950s, the industry rebranded the product as *mobile home* to reflect the evolvement to year round occupancy and distinguish the product from camping equipment (Wilson, 2012). The shift in terminology reflected that, after transportation, most mobile homes functioned as permanent residences (Wilson, 2012), and moving them became increasingly difficult (Burkhart, 2010). In 2005, approximately 60% of mobile home owners revealed that their home had never moved from the original placement site (Aman & Yarnal, 2010); reflecting the permanency of the product.

The evolution from temporary to permanent housing resulted in the regulation of manufactured housing. In 1970, the government recognized mobile homes as a viable form of housing, a decision that led to inclusion in the population census (Wilson, 2012).

In 1974, Congress responded to safety and durability concerns by developing the National Manufactured Home Construction and Safety Act that required the Department of Housing and Urban Development (HUD) to create a set of minimum standards for the industry (Wilson, 2012). The construction and safety standards preempted state and local laws (Burkhart, 2010).

Manufactured housing became the first form of permanent housing built to meet the federal manufactured home construction and safety standard (Zhou, 2013). The HUD standards created in 1976 improved the quality and appearance of manufactured housing and provided legitimacy for manufactured homes as an alternative source of housing (McCarty & Hepworth, 2012). The improvements made after the 1976 HUD code included higher quality that resulted in improved safety and durability in maintenance, wind safety, fire safety, and thermal efficiency (Hollar, 2014). The 1981 revision of the HUD code reflected the industry's marketing strategy and adoption of *manufactured housing* as the prevailing term (Wilson, 2012).

In the aftermath of Hurricane Andrew that struck southern Florida in 1994, the U.S. Department of Housing and Urban Development added wind load requirements to the HUD Code for high wind risk areas (Wilson, 2012). A decade later, four hurricanes struck Florida. Manufactured homes built in accordance with the improved HUD Code performed much better than homes built before 1994 (Crandell, Zoeller, Nowak, & Blanford, 2011). Because of the stringent and streamlined codes, manufactured homes offered more cost-effective processes and economies of scale than other housing alternatives (Zhou, 2013).

Early manufactured housing included single-section homes constructed 10 feet in width (Wilson, 2012). By 1969, the standard width increased to 14-feet and double-section homes became available (Wilson, 2012). During the manufactured housing boom of the 1990s, double-section homes were the standard (Wilson, 2012). The manufactured housing industry has continued to respond to customer preferences through the emergence of larger units and higher quality products (Wilson, 2012). The need to transport components along highways has limited the size of the home (Wilson, 2012). Once sold to the homeowner, transportation of the home to the site, placement on a permanent foundation, and connection to water, sewer, and electrical lines completed the purchase transaction (McCarty & Hepworth, 2012).

**Gap in the existing literature.** Despite many studies focused on various housing issues, inadequate academic resources have existed regarding the manufactured housing industry. Zhou (2009) encountered challenges of inadequate information while conducting a doctoral level dissertation on traditional and manufactured housing. According to Zhou, insufficient information existed about the manufactured housing market. Despite the relative importance of manufactured housing in rural communities, researchers and consumers have encountered a lack of information about manufactured homes and their residents (Aman & Yarnal, 2010). Data classification and accessibility issues that prevented rural policymakers from addressing the needs of manufactured home residents have contributed to the lack of available information (Aman & Yarnal, 2010). Although extensive literature has focused on housing tenure choices between renting and owning, studies have not differentiated between owning traditional and

manufactured homes (Zhou, 2009). In addition, McCarty and Hepworth (2012) noted that most scholarly work on manufactured home communities has remained outdated, and references to crime in the unique neighborhoods do not exist. Mimura et al. (2010) recognized the lack of existing literature on the association between pride and manufactured home ownership.

**Modular housing.** Modular housing represented another form of housing built in a factory setting. Although similarities existed in the factory construction processes, the multiple differences between manufactured housing and modular housing differentiated the products. The completion of the entire manufactured housing unit occurred through factory production processes. In comparison, only the components of modular homes have undergone factory built processes (Wilson, 2012). Upon completion, the factory transported the components to the home construction site for the final home assembly (Wilson, 2012). Modular homes resembled traditional homes in size and structural characteristics (Wilson, 2012), and shared similar regulations of local building codes (Hollar, 2014). In contrast, the federal HUD code has regulated manufactured homes (Wilson, 2012).

**Deterioration in the manufactured housing industry**. Manufactured housing's market share has steadily declined since 2001 (Wherry & Buehlmann, 2014). Unit placement rates fell from 23% of total single-family production in 2000 to only 8% in 2003 and have remained at or below 8% through 2007 (Dawkins & Koebel, 2010). The collapse of the subprime lending market and lack of financing choices for potential homeowners significantly contributed to the industry's decline (Dawkins & Koebel,

2010). Although manufactured housing declined as a part of the national and regional housing stock, it has continued to remain a source of affordable housing for many rural areas (Wilson, 2012).

The decrease in manufactured housing placements affected total retail sales, which dropped from a high of 16.3 billion in 1998 to 9.4 billion in 2008 (Wherry & Buehlmann, 2014). The drop in manufactured housing placements after 1998, and drop in total retail sales, reflected the 50% price increase of single-section homes and 38% price increase in multisection homes over the decade from 1998 to 2008 (Wherry & Buehlmann, 2014). Although industrialization and mass production improved efficiency, rising prices have reduced the product's attractiveness to low-income buyers (Burkhart, 2010). Labor driven processes, minimal use of technological advancements applied to other industries, and computerization have rendered the manufactured housing industry unable to emerge as a technologically advanced industry (Wherry & Buehlmann, 2014).

**Psychological Influences**

Cultural influences on residential settings included expressions of needs, values, dreams, ideals, norms, standards, images, and meanings (Zavei & Jusan, 2012). Combined with self-esteem and self-actualization, the motivational factors determined a person's preference of housing design (Zavei & Jusan, 2012). According to earlier research, place attachment significantly influenced a person's psychological health and contributed to the construction of self-identity (Zavei & Jusan, 2012). The classification of residential dwellings included shelter, house, and home (Zavei & Jusan, 2012). A shelter functioned primarily as protection from the elements, and a house denoted a

physical structure (Zavei & Jusan, 2012). A home symbolized life experiences of residents, provided the foundation for social systems, and reflected family relationships (H. Anderson, 2011; Zavei & Jusan, 2012). Ignoring human motivational factors and their influence on housing choice influenced personal dissatisfaction and social disorder (Zavei & Jusan, 2012).

Zavei and Jusan (2012) developed a theoretical framework that summarized the relationship between user needs and attributes of housing units. Maslow's (1970) classification of needs included five stages of cognitive needs: physiological needs, safety needs, belongingness and love needs, esteem needs, and the need for self-actualization (Zavei & Jusan, 2012). Using Maslow's hierarchy of needs theory, Zavei and Jusan explained that different levels of user needs implied different levels of housing expectations and subsequent housing attributes. Maslow's theory suggested the satisfaction of a person's needs as necessary for the development and actualization of a person's potential and capacities (Zavei & Jusan, 2012). The theory provided an explanation of different need levels without including insignificant differences (Zavei & Jusan, 2012). Zavei and Jusan argued that awareness of basic needs influenced housing decisions. The inclusion of personal need levels in the decision-making stages of home construction planning increased relevance in user expectations (Zavei & Jusan, 2012).

The theory of planned behavior (TPB) expanded the TRA to predict and understand behaviors (Sniehotta, Presseau, & Soares, 2014). As shown in Figure 7, the TPB incorporated social, cultural, psychological, and economic approaches into behavior analysis (Sniehotta et al., 2014). The functions of three components comprised behavioral

intentions: attitude toward behavior, subjective norms, and perceived behavioral control (Sniehotta et al., 2014). The subjective norm component represented the social influence of significant others to perform or avoid behavior (H. Han, 2015). The combination of subjective norm, attitude, and perceived behavioral control predicted behavioral intention (H. Han, 2015), which guided behavior.

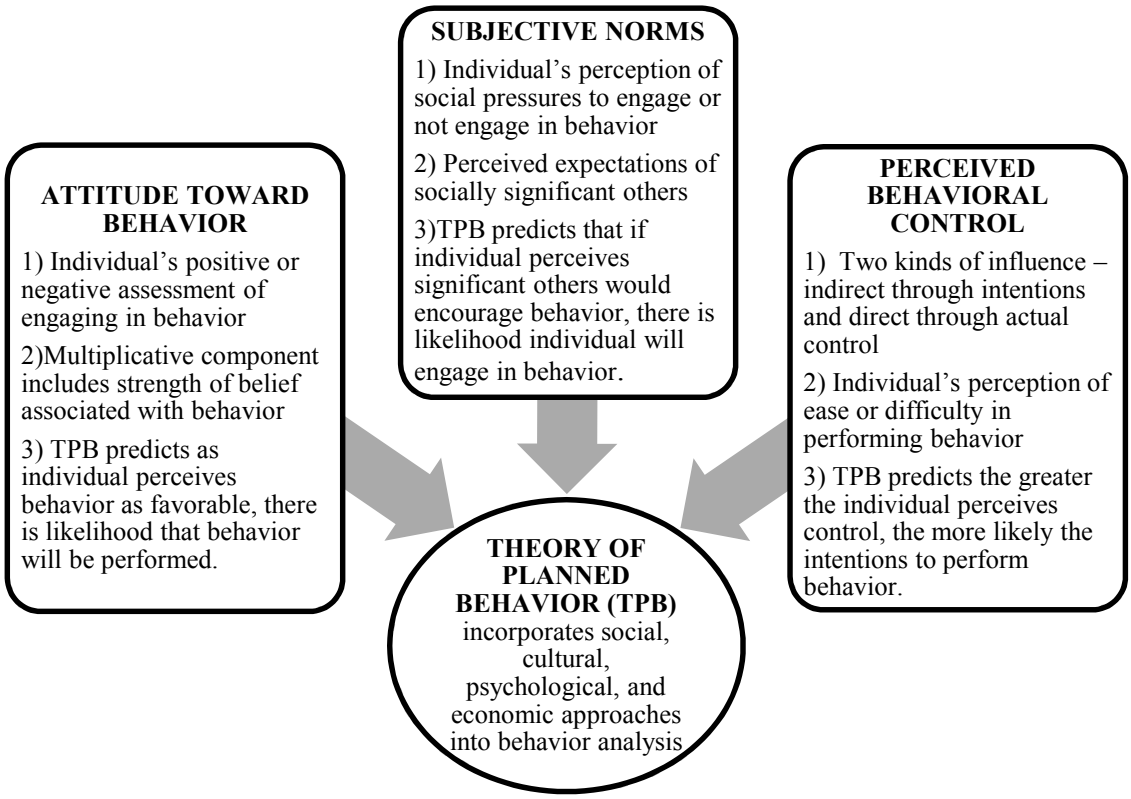


*Figure 7*. Behavioral intentions are a function of three components. Adapted from "Eliciting salient beliefs are critical to predict behavioral change in theory of planned behavior," by C. Herath, 2010, *E-Psychologie, 4*(3). Adapted with permission.

The TPB proposed that the strength of a person's intention to behave the way he or she does predicted behavior (Marta, Manzi, Pozzi, & Vignoles, 2014). The concept of perceived behavioral control referred to the perceived simplicity or complexity of performing behavior (Manning, 2011). Attitudes, views of social pressure, and views of control in accordance to engagement of behavior have predicted a person's intention to behave in a certain manner (Manning, 2011). According to TPB, optimistic attitude, sound subjective norm, and increased perception of behavioral control directed a greater likelihood of a person's intention to perform the behavior (Marta et al., 2014). The intention corresponded with performance of the behavior (Marta et al., 2014).

According to Manstead (2011), the TPB construct incorporated two types of behavioral influences: direct and indirectly through intentions. Indirect influence suggested the inclination for people to form intentions to act in a certain way when they believed they had control over the behavior (Manstead, 2011, p. 369). In contrast, direct influence reflected the level of control the person had over the behavior (Manstead, 2011).

**Cognitive, affective, and behavioral components**. The attitude theory posited that cognitive, affective, and behavioral components comprised the formation of attitudes (Botezagias, Dima, & Malesios, 2015). Attitudes reflected a person's thoughts, beliefs, feelings, and emotions (R. Petty & Briñol, 2015). Cognitive bias occurred when people processed information about an attitude object and formed beliefs based on the information (Quintal, Thomas, & Phau, 2015). A person's attitude reflected their belief about whether the results of action were favorable or unfavorable (Botezagias et al.,

2015). The affective element represented emotional experiences or preferences (R. Petty & Briñol, 2015). Positive or negative consumer experiences with products and services resulted in correlating affective influences about the product and service (Quintal et al, 2015). In other words, a favorable experience with a product increased the likelihood of a favorable attitude about the product. For example, a consumer's positive experience living in a manufactured home increased the likelihood of influencing a positive attitude about the product (Aman & Yarnal, 2010).

The behavioral element reflected actions consumers displayed for the attitude object (Quintal et al., 2015). Past behavior, as a result of direct or indirect experiences, resulted in attitude toward the object (Quintal et al., 2015). A person's participation in activities and subsequent response to attitudinal object formed the core concept of involvement (R. Petty & Briñol, 2015). For example, the cognitive and affective components of living in a manufactured home likely resulted in the behavior of buying a manufactured home.

**Social exchange theory.** The social exchange theory evaluated the exchange process (C. Ward & Berno, 2011). The assumption that a social relationship involved a mutually beneficial exchange of resources provided the foundation for the social exchange theory (S. Wang & Xu, 2015). The social exchange theory suggested that people evaluated an exchange based on the costs and benefits associated with that exchange (C. Ward & Berno, 2011). Perceived benefits associated with an exchange resulted in positive evaluation while recognized costs resulted in negative evaluation (S.

Wang & Xu, 2015). Social exchange theory suggested that the process of comparison provided the standard for evaluative judgment (C. Ward & Berno, 2011).

**Cognitive bias.** Consumers faced influence through information from different resources, such as peers and social groups. An information source's perceived level of reliability and trust directly affected a person's decision (Cheng, Wu, & Lin, 2014). The innate bias toward trustworthy peer influence, comfort level, perceived cost related to the decision, professional judgment, and simplicity of use represented factors that affected the consumer decision-making process (Cheng et al., 2014). Cognitive bias occurred because people used mental *rules of thumb* known as heuristics (Muradoglu & Harvey, 2012). Although considered practical, heuristics led to bias when people used them in the absence of ability to make normative decisions (Muradoglu & Harvey, 2012).

A bias signified the predisposition and likelihood to make decisions based on the influence of underlying belief (Tsai, Lin, Shih, & Wu, 2015). Confirmation bias revealed a form of cognitive bias based on the propensity to interpret information in a manner that confirmed preconceptions while avoiding interpretations contradictory to established beliefs (Tsai et al., 2015). Strong feelings exhibited toward a brand or product resulted in the consumer selecting information that confirmed the belief held (Buder, Schwind, Rudat, & Bodemer, 2015). Confirmation bias occurred when people emphasized what they wanted to believe and ignored information that contradicted preconceived notions (Buder et al., 2015).

**Consumer behavior and decision-making.** Purchasing a home has symbolized a significant financial decision that consumers render (Paton, 2013). Housing has

represented a major family expense and contributed to good health (Jansen, 2014). Besides many benefits, home ownership also included long-term and significant consequences (J. Chen, Hui, & Wang, 2011). Consumers chose the ideal home and secured the financial means required to complete the purchase. Mortgage financing involved a complex process that symbolized the highest value transaction for many consumers (Kallberg, Liu, & Pasquariello, 2014).

According to Frederiks, Stenner, and Hobman (2015), consumers' preferences to choose the right alternatives and recommendations represented the key to a successful and correct decision. Social support played a role in decision accuracy and decision autonomy (Frederiks, Stenner, & Hobman, 2015). Agreeable decisions often generated rewards such as self-esteem, status, sense of identity, purpose, and social belonging (Jansen, 2014). Self-esteem reflected a positive evaluation of oneself or the group with which one has associated (S. Wang & Xu, 2015)

Psychological, physical, and social value factors influenced how consumers make financial decisions (Zhang, Li, Burke, & Leykin, 2014). Private households have taken advantage of the availability of the nation's financial resources that resulted in substantial effect on the economy (Kirchler & Hoelzl, 2011). Despite the recommendation that consumers reached judicious decisions involving high value transactions, consumers often engaged in irrational and irresponsible behaviors (Frederiks et al., 2015). Decisions to overextend personal finances and spend beyond means by purchasing an expensive home provided an example of the described behavior (Jacobs & Manzi, 2014). A consumer's perception of cost and benefits influenced the decision-making process

(Zhang et al., 2014). Emotions, reasons, attitudes, personal interpretation of meaning, partialities, logic in information processing, and input from family and friends also influenced decisions (Kirchler & Hoelzl, 2011).

Fetscherin and Heinrich (2015) emphasized the importance of understanding consumer behavior by developing a continuing research agenda based on important consumer issues. Fetscherin and Heinrich suggested the important topic areas for consumer behavior were goals, memory, involvement, attitudes, effect, atmospherics, and consumer attributions and choices. Price reasonableness, quality, satisfaction, and trust influenced consumer behavior and buying decisions (Han & Hyun, 2015). Personal goals guided need recognition, information search, evaluation, purchase, and postpurchase stages (Otero-López & Villardefrancos, 2015). The organization of cognitive, affective, and behavioral processes led to the development of personal goals (Fetscherin & Heinrich, 2015). In turn, the goals shaped consumer perceptions and behavior (Otero-López & Villardefrancos, 2015).

Researchers from various disciplines proved that most personal behavior lacked cognitive motivation, rather it signified the effect of unconscious mental processes (Martin & Morich, 2011). Koklic and Vida's (2011) study on consumer strategic decision-making and choice processes supported this belief through the confirmation that cognitive and rational factors alone failed to offer an acceptable explanation of consumer behavior when purchasing a high-involvement product, such as a manufactured home. Howard and Sheth's (1969) seminal work in *A Theory of Buyer Behavior* suggested the consumer decision-making process consisted of 1) need recognition, 2) information

search, 3) evaluation of alternatives, 4) purchase, and 5) postpurchase behavior (Martin & Morich, 2011). Consumer behavior signified the actions consumers exhibited in searching for, buying, using, evaluating, and disposing of products and services expected to satisfy his or her personal needs (Martin & Morich, 2011).

Despite research on consumer behavior and decision-making, inadequate literature existed on strategic decisions (Koklic & Vida, 2011). Strategic decision-making referred to purchasing strategically significant products that included an increased level of perceived risk (Koklic & Vida, 2011). Personal control represented a factor in housing decision strategies (Jansen, 2014). Personal control over circumstances and goal achievement influenced a household's ability to develop and implement a housing strategy (Jansen, 2014).

Koklic and Vida (2011) conducted a study to examine strategic decision-making using a prefabricated house as the specific product purchased. Koklic and Vida considered a prefabricated house relevant because of the strategic importance and customization ability. A prefabricated house met the conditions for consideration of a strategic purchase through housing budget allocation influences, categorization of housing alternative, and defined product category (Koklic & Vida, 2011). Koklic and Vida proposed three sequential study sets for the foundation of the study: preferred housing characteristic range reflected the causes and restrictions of demand; probable housing characteristic range influenced by causes and restrictions of supply; and housing selection based on the household's goals, propensities, and importance.

Koklic and Vida (2011) developed a conceptual model based on components identified in Peter and Olson's (2005) cognitive processing model. Koklic and Vida's model increased focus on cognitive, affective, and environmental influences while maintaining the general nature of nonspecific product characteristics and contextual situations. Purchase process antecedents formed two distinct groups of internal factors and external factors (Koklic & Vida, 2011). Internal factors determined choices through the subjective experiences of emotion and the interpretation and judgment of reason (Koklic & Vida, 2011). Influential external factors included cultural characteristics, social class and subculture, buyer household attributes, demographics, and the organization's marketing strategies (Koklic & Vida, 2011). Koklic and Vida's conceptual model suggested a person's lifestyle and intrinsic meaning associated with product ownership influenced requirements and longings associated with the product. For example, the buyer's household lifestyle influenced the choice of materials and floor plan of a manufactured home.

Manufactured housing represented an affordable alternative to traditional site-built housing (Zhou, 2013). As shown in Figure 8, the choice process reflected knowledge based on criteria and alternatives (Koklic & Vida, 2011). Although inadequate, a person's memory often served as the primary source of information for housing alternatives (Koklic & Vida, 2011). Housing evaluation criteria included factors such as the buyer's goal, reason, interest, and knowledge of product and similarities among alternatives (Koklic & Vida, 2011). Manufactured home specific criteria included price per square foot, warranty, and quality of materials, craftsmanship, and construction

(Koklic & Vida, 2011). Household needs and preferences influenced the decision among available alternatives (Koklic & Vida, 2011).

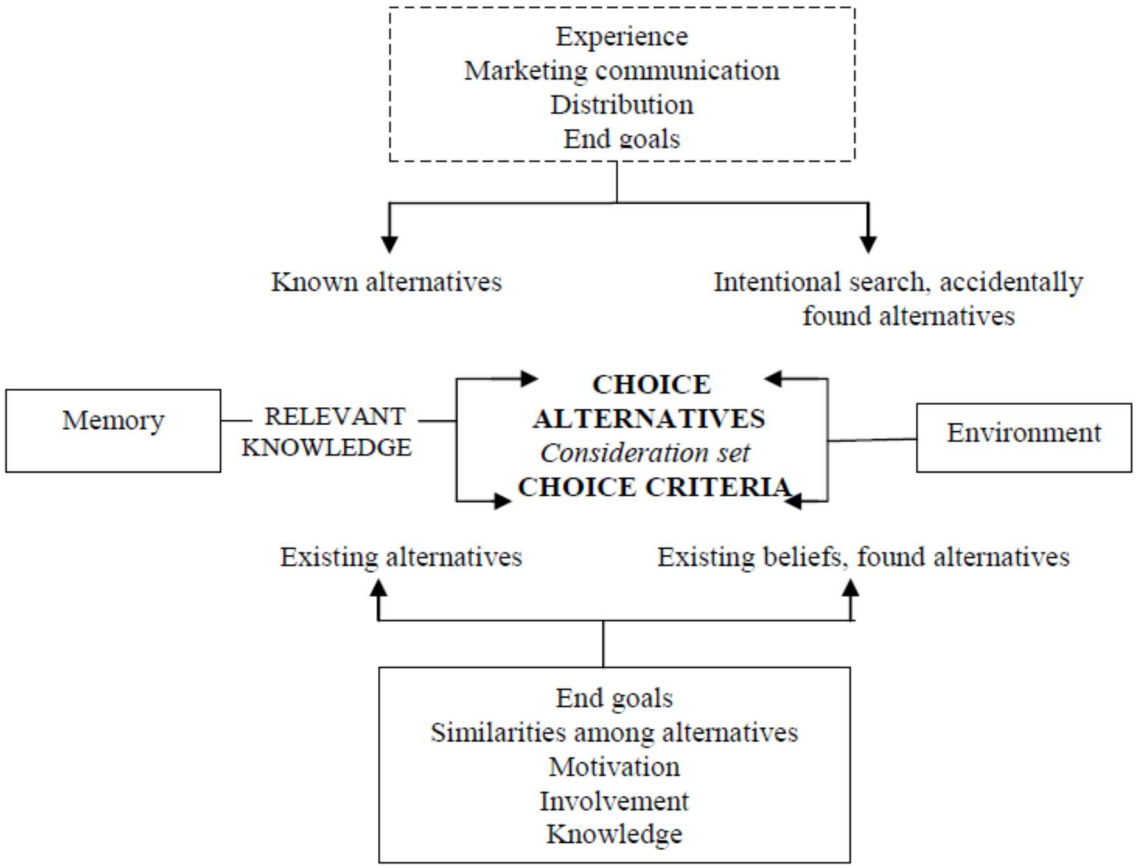


*Figure 8.* Formation of consideration set of alternatives and choice criteria. Adapted from "Consumer strategic purchase," by M. Koklic & I. Vida, 2011, *International Journal of Consumer Studies*, *35*, p. 636. Reprinted [or adapted] with permission.

Koklic and Vida's (2011) conceptual model suggested the multiple stages with strong connections to each other comprised the consumer decision-making process. Buyer choice criteria included product characteristics or concerns about the purchase of an alternative (Koklic & Vida, 2011). Most study respondents suggested the ability to

custom design a prefabricated house as the most influential criterion (Koklic & Vida, 2011). The manufacturer representative's behavior and communication experience with the buyer was the second most often used choice criterion (Koklic & Vida, 2011). These findings reaffirmed many manufactured housing producers' focus on custom-built homes and customer satisfaction (Nahmens & Bindroo, 2011). Because word of mouth recommendations heavily influenced a home buyer's information gathering and evaluation processes (Koklic & Vida, 2011), marketing communication strategies inspired confidence and trust.

Koklic and Vida's (2011) showed that customers applied two primary approaches of assessing alternatives: singular assessment of specific alternatives and simultaneous assessment of multiple alternatives. The gradual focus and assessment of substitutes approach simplified the process because of concentration on one alternative at a time (Koklic & Vida, 2011). Figure 9 portrayed the progress of alternative elimination based on choice criteria. Preformed choice criteria influenced attitude toward a specific organization (Koklic & Vida, 2011). An optimistic attitude about the company and the desired product has directed the behavioral intention that, in turn, resulted in either a purchase or further examination of resources and information (Koklic & Vida, 2011). Whereas the choice criterion importance and influence depended on personal meaning, the analysis suggested that information stored in memory and word-of-mouth recommendations influenced the home buyers' preferences toward a specific manufacturer or organization (Koklic & Vida, 2011).

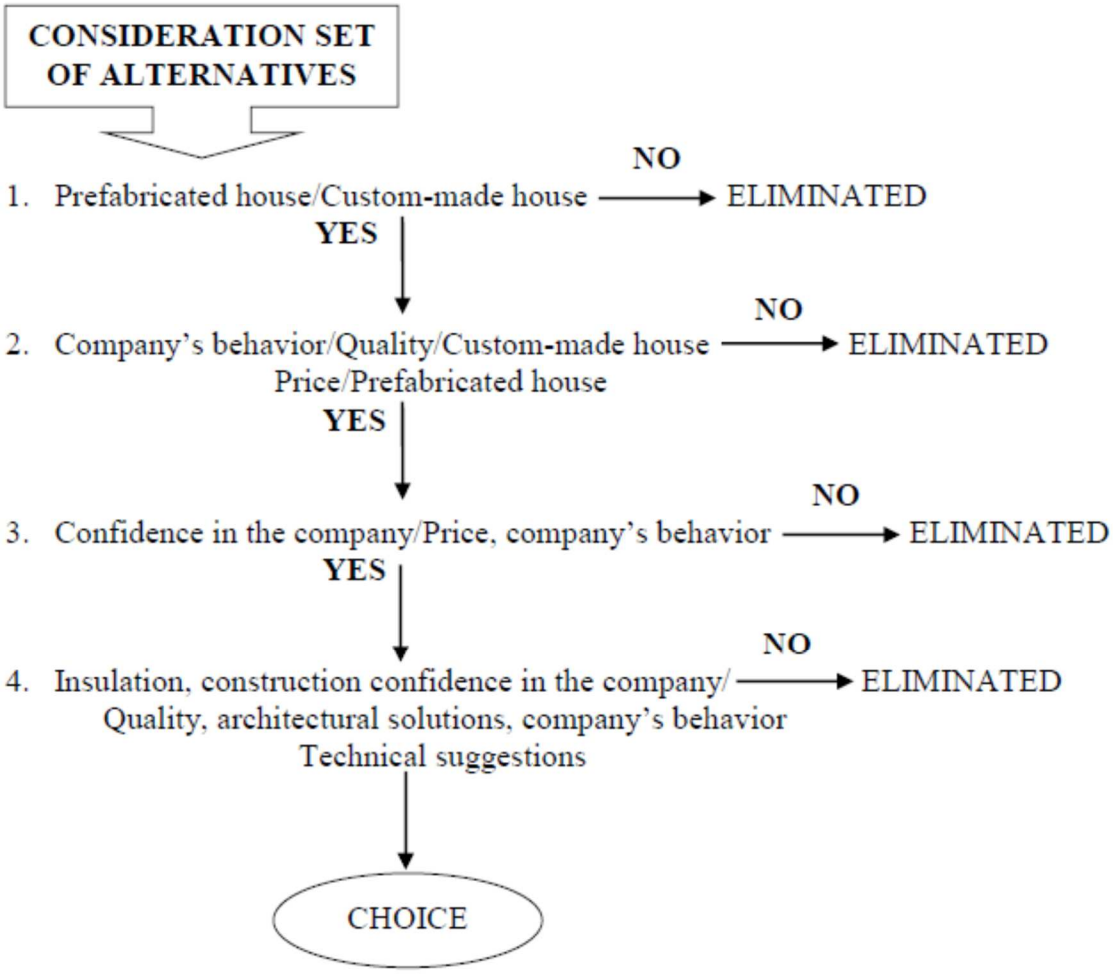


*Figure 9*. The process of evaluation of alternatives on the applicable choice criteria for a manufactured home purchase. Adapted from "Consumer strategic decision making and choice process: prefabricated house purchase," by M. Koklic & I. Vida, 2011, *International Journal of Consumer Studies, 35*, p. 641. Reprinted [or adapted] with permission.

**Self-awareness.** Self-awareness represented the foundation of a person's sense of self and influenced personal, social, and cultural attitudes and beliefs (Foster, Neighbors,

& Young, 2014). The self-awareness theory assumed that, at any point, a person focused his or her attention on himself or herself, or the environment, but not both at the same time (Foster et al., 2014). Private self-awareness involved understanding of oneself from a personal viewpoint and manifested through personal attitudes and behaviors (Myllyneva & Hietanen, 2015). In contrast, public self-awareness enabled one to imagine the perspective of others on themselves and resulted in socially expected behavior (Myllyneva & Hietanen, 2015). Public self-awareness of the stigma attached to manufactured housing resulted in consumers' preference of other types of housing without fully having explored the manufactured housing alternative.

The compromise effect represented a phenomenon in which extreme values on a significant feature appeared less attractive when presented alongside less risky intermediate values than in the absence of those settlement choices (Ryu, Suk, Yoon, & Park, 2014). For example, the attractiveness of a new manufactured home increased when compared with that of an older home when a high price new site-built home appeared in the choice group. This occurred because of the compromise of quality and price (Noguchi & Stewart, 2014).

Self-concept played a detrimental role in the buying process (Koklic & Vida, 2011). The concept of *self* included an orderly set of self-perceptions composed of a person's characteristics and skills, an awareness of self relative to peers, and intentions, ambitions, and beliefs perceived as affirmative or destructive (Koklic & Vida, 2011). Because a person's identity and extension of self as a component of the self-concept influenced housing choices, Koklic and Vida (2011) suggested that a custom designed

manufactured home would have represented its' owners personal style and preferences. A person's lifestyle and identity allowed differentiation in housing attributes that influenced happiness and well-being (Jansen, 2014).

**Family decision-making.** A family's decision to purchase a home symbolized an important consumption decision because housing accounted for approximately 24% of United States household expenditures (Ondrich & Falevich, 2014). The homeownership rate in the U.S. maintained approximately 70%, with the rate of 84% among families with children, which linked the welfare of families to performance in the housing market (Mendenhall, Kramer, & Akresh, 2014). The family home represented an evolving decision issue with three fundamental phases: 1) transition from a single adult to first joint residence, 2) a couples' move to first financially high-dedicated family home, and 3) a decision processes about a home as a permanent and frequent decision issue (Lee & Painter, 2014). As families advanced through the phases, different decision activities occurred based on existing family life situations. Factors such as the joint or singular status of the decision and consumption stages, situational factor such as available resources, and the mindset of the decision-maker influenced the outcome of the decision (Gorlin & Dhar, 2012; Jansen, 2014). Gorlin and Dhar (2012) suggested that a relationship partner's attitudes influenced the other partner's declared preferences, personal attitudes and beliefs, and the decision result.

**Economic theory.** Important factors for housing needs and preferences included life cycle stages and family situations (H. Anderson, 2011). Changes in household needs, such as the increase of family size, guided families to adjust home consumption (Lee &

Painter, 2014). The presence or absence of children created changes in housing demand, often during the phase in which families' secured permanent living arrangements (H. Anderson, 2011). The birth of children required home mobility to a larger home that accommodated the growing family. Unfortunately, high transaction costs often delayed moves, and when the change did occur, it often involved a leap in housing standard (H. Anderson, 2011). Overextending finances occurred during the second phase of home decision processes. Financial over commitment resulted in families buying homes that ranged from within 10% of the planned upper spending to an amount that exceeded planned upper limit spending (Chakraborty, Allred, & Boyer, 2013). Over commitment explained some of the contributing factors to the housing collapse that began in 2006 (H. Anderson, 2011). Most the housing market consisted of older or custom made housing units (Chakraborty et al., 2013). The age or condition of homes compelled buyers to engage in costly improvements and customization to meet their family's needs (Chakraborty et al., 2013). Such renovations increased the financial burden of cash strapped young families.

**Housing preference and choice.** Commonly recognized as a social status symbol, housing type often has determined the occupant's value (Jansen, 2014). Inequality to reference groups guided feelings of inadequacy and shame (Jacobs & Manzi, 2014). The behavioral economics concept suggests that the manner of comparison between a person's existing situation and a predetermined reference level held more importance than the situation acting as a determinant of his or her own wellbeing (A. Marsh & Gibb, 2011). Social comparison to peer groups influenced the choice (A. Marsh

& Gibb, 2011). According to A. Marsh and Gibb (2011), the longing for the social environment and levels attained by reference groups determined housing consumption and decisions to change the level of housing preferences. Such consumption characterized the social positioning called *keeping up with the Joneses* syndrome (A. Marsh & Gibb, 2011, p. 223).

People existed and functioned within the context of selecting preferences from available alternatives in every area of life (Zinas & Jusan, 2012). A person's need for expression influenced housing choice (H. Anderson, 2011). Motivations influenced housing preferences and choices that represented value-oriented and goal-oriented activities (Zinas & Jusan, 2012). Motives for homeownership included a more appealing economic status, sense of freedom and independence, and attachment to the home and community (H. Anderson, 2011).

Zinas and Jusan (2012) examined and outlined the methodological and theoretical framework of housing preferences and choices using the theory of means-end chain (MEC). Introduced by Gutman (1982), MEC focused on qualitative comprehensive understanding of consumer motives (Zinas & Jusan, 2012). Originally intended to connect customer values to selection behavior in marketing research, researchers used the MEC model to explain the link between choice selection and intended results (Chua, Lee, Goh, & Han, 2015; Zinas & Jusan, 2012). As shown in Figure 10, MEC consecutive connection of products' attributes (A) to results of product use (C) and to the customers' personal values (V) resulted in the formation of a means-end chain or ladder (Zinas & Jusan, 2012). The means-end chain theory suggested that customers selected the actions

that resulted in the preferred results and reduced unfavorable consequences (Zinas & Jusan, 2012).


*Figure 10*. Structure of means-end chain. Adapted from "Housing choice and preference: Theory and measurement," by B. Zinas & M. Jusan, 2012, *Procedia - Social and Behavioral Sciences, 49*, p. 284. Reprinted [or adapted] with permission.

**Summary of psychological influences.** Various theories about consumer decision-making and consumer behavior suggested potential reasons for the acceptance or resistance toward manufactured housing. Housing signified a complex consumer purchase. Understanding the psychological processes that determined the result improved marketing strategies and consumer awareness endeavors. Because the manufactured housing industry continued to suffer from negative images and inaccurate perceptions (Mimura et al., 2010), understanding the manner of conceptualization helped decision-makers identify opportunities to improve consumer opinion of the product.

**Economic Influences**

Stagnant household incomes, turmoil in financial markets, and an unstable national housing picture made housing affordability an important housing issue facing the United States (Jacobs & Manzi, 2014). From the height of the housing bubble to August 2011, housing prices across a 20-city composite fell over 30%, with some markets having experienced more than 60% decline (Papagianis & Gupta, 2012). The plunge in housing

prices and subsequent household defaults and foreclosures resulted in millions of property owners losing their homes within the three-year period between 2009 and 2012 (Papagianis & Gupta, 2012). Housing prices increased 70% between 2001 and 2006 (Jiang, Nelson, & Vytlacil, 2014). The ensuing 30% price decrease between 2006 and 2009 reflected the risk associated with housing volatility (Jiang et al., 2014). Homeowners balanced changing incomes with housing price risk (Jiang et al., 2014).

The most significant factors influencing the quality of life in America included the cost and quality of housing (Paton, 2014). With 60% of the average middle-class family's wealth attributed to the homestead (Hendstein-Weiss, Key, Guo, Yeo, & Holub, 2013), housing represented the largest expense and largest investment for most households (Tighe, 2013). Primary functions of homeownership included its role as a source of family and economic stability (Lichenstein & Weber 2014). Investment in a home provided security, stability, and privacy to homeowners (Jansen, 2014). The Great Recession that signified economic collapse in the United States between 2007 and 2009 (Argento, Bryant, & Sabelhaus, 2015; Ondrich & Falevich, 2014) highlighted the importance of expanding access to affordable housing (Lichenstein & Weber, 2014).

**Housing collapse**. The shortage of affordable housing presented a dilemma for many Americans (McCarty & Hepworth, 2012). The unprecedented economic crisis caused many citizens to lose homes because of foreclosure, which resulted in the diminished possibility of homeownership for those who faced financial and employment setbacks (McCarty & Hepworth, 2012). In 2008, banks foreclosed on 3.2 million homes, an 81% increase over the foreclosures in 2007 (Kothari & Lester, 2012). Analysts cited

fatal interest rates and subprime mortgages as primary factors that caused the housing collapse (Lichenstein & Weber, 2014). During a booming housing market, homeowners expected future gains through the increased value of their home or housing related investments (Papagianis & Gupta, 2012). Instead of purchasing an affordable home, many homeowners viewed housing as an investment and willingly paid higher mortgages in exchange for future profit.

The housing market collapse played a prominent role in rising foreclosure rates because underwater borrowers had a substantial incentive to walk away from the debt (Papagianis & Gupta, 2012). The classification of underwater borrowers suggested homeowners owed more on their mortgage than the home was worth (Papagianis & Gupta, 2012). With almost one in four borrowers underwater on their mortgage as of the first quarter of 2011, the incentive for voluntary surrender was evident (Papagianis & Gupta, 2012). Fleeing debt as a solution to underwater mortgages increased during the housing crisis (Kothari & Lester, 2012). Underwater homeowners engaged in abandoning their houses and often left many of their possessions behind (Kothari & Lester). Although banks incurred the expense of cleaning up houses and risked potential destruction, many refused to renegotiate mortgage payments because of the higher profit on a foreclosed home compared to profit on a modified mortgage (Kothari & Lester, 2012).

Although owners of site-built homes received special assistance by the government, the solutions did not sustain long-term performance. Mortgage related defaults and subsequent declines in the market value of residential real estate resulted in substantial financial losses (Papagianis & Gupta, 2012). In turn, the losses incurred led to

the collapse of leading financial institutions and extensive monetary losses (Papagianis & Gupta, 2012). The federal government's role in mortgage finance resulted in the creation of special assistance interventions (Papagianis & Gupta, 2012). The government used two types of policies as interventions – policies aimed at increased demand for housing, which supported sales and prices; and policies that assisted homeowners in avoiding foreclosure, which directed supply management strategies (Papagianis & Gupta, 2012). Despite support from the federal government, the policies failed to reduce large-scale housing losses (Papagianis & Gupta, 2012). According to Papagianis and Gupta, the failure reflected the housing problem caused by millions of families who purchased homes they could not afford.

Manufactured homeowners faced exclusion from available assistance because of the personal property classification. A political challenge to large-scale interventions revealed the basic favoritism shown to those in homes they could not afford, while financially responsible homeowners did not receive assistance (Papagianis & Gupta, 2012). For example, a traditional homeowner approved for more debt than they could afford qualified for foreclosure avoidance assistance. In contrast, manufactured homeowners, who spent within their financial resources, did not meet eligibility requirements for assistance because of the nature of the mortgage classification.

**Role of subprime mortgages in the housing collapse.** The subprime loan volume grew from $65 billion in 1997 to $665 billion in 2005, an increase of over 1000% in 8 years (Lewellyn & Kahle, 2012). Subprime loans continued to grow in popularity. The sizeable increase in volume resulted in debilitating future hits incurred by the

housing market and financial institutions (Lewellyn & Kahle, 2012). The increase in subprime loan products included adjustable interest rate, shorter term with a lump sum payment due at the end, negative amortizing products, and limited documentation of consumers' abilities to repay loans (Levintin & Wachter, 2013).

The American dream of homeownership was available to low-income families through the pursuit of aggressive and predatory lending (Lichenstein & Weber, 2014). Banks used subprime loans to fill the increasing gap between median earned incomes and housing prices (Lichenstein & Weber, 2014). Subprime mortgages included an introductory low interest rate (Papagianis & Gupta, 2012) that lasted fewer than 5 years. After the expiration of the introductory low rate, the mortgage interest rate was changed to a higher rate (Papagianis & Gupta, 2012). Subprime products assisted borrowers with poor credit history and insufficient income documentation in becoming homeowners (Levintin & Wachter, 2013; Papagianis & Gupta, 2012). Borrowers anticipated the lower interest rate on the front end to change once the mortgage rate adjusted at the predetermined time. Homeowners expected to refinance into another mortgage before the occurrence of the introductory mortgage rate reset (Papagianis & Gupta, 2012). The short duration of the introductory mortgage period allowed homeowners to improve credit through consistent payments and qualified them for a future prime mortgage (Papagianis & Gupta, 2012). The belief that housing values would continue to rise and create equity needed for refinancing provided a partial basis for the subprime design (Kothari & Lester, 2012).

Although subprime mortgages seemed like an opportunity for homeownership to a sector that would otherwise not qualify for mortgage loans, unintended results occurred (Wherry & Buehlmann, 2014). The system enabled homeowners to make low monthly payments with the expectation of guaranteed refinancing (Papagianis & Gupta, 2012). In addition, homeowners continued to make mortgage payments in hopes of making a profit on the future sale of their home (Papagianis & Gupta, 2012). The housing collapse in 2006 started with a combination of the low interest rate expiration and lack of refinancing sources, decline in home pricing and equity, and exit of subprime lenders. The combination resulted in subprime borrowers defaulting on mortgages because they could not afford higher mortgages and had borrowed more money than the house was worth (Papagianis & Gupta, 2012).

Manufactured housing customers were susceptible to the risk of subprime mortgage products (Lichenstein & Weber, 2014). Working on commission, mortgage brokers enticed homeowners by offering affordable deals, such as the *28/2*, that offered a low two-year introductory rate followed by 28 years of intolerably high mortgage rates (Kothari & Lester, 2012). Because traditional banks held stringent financing requirements, subprime mortgages offered the perfect solution to low-income homeowners with marginal credit histories (Kothari & Lester, 2012). Mortgage brokers targeted manufactured housing dealerships because the product filled a public need – affordable housing.

The entire responsibility of subprime mortgage's role in the housing collapse did not rest solely with mortgage brokers. Although often the first point of contact, the broker

involved other entities to participate in the subprime mortgage process (Kothari & Lester, 2012). Once the mortgage broker sold the contract to the mortgage bank and collected their sales commission, they fulfilled their role in the process. The mortgage bank cut and bundled mortgages into batches, paid the credit rating agencies to assign a prime rating, and traded them as securities on the global financial market (Kothari & Lester, 2012).

**Affordable housing needs and rural areas.** Affordable housing presented different challenges for different geographical locations. Affordable housing challenges in urban areas with high populations differed from challenges in rural areas with sparse populations and more land availability. Affordable housing in urban areas included forms of public housing, such as housing projects (Nguyen et al., 2012; Tighe, 2012). Although housing influenced the wellbeing of children and adults, affordable housing has remained a difficult goal for low-income families to achieve because of affordability and livability challenges (Saatcioglu & Corus, 2014). Rural poverty and related issues, such as housing affordability and condition, have received less attention from researchers and policy makers than urban poverty issues (Sullivan, 2014; Tighe, 2013). Limited research existed on housing quality outside metropolitan areas (Saatcioglu & Corus, 2014). The gap in research included affordable housing issues that have affected rural residents endured.

Approximately 80% of land area in the United States and more than 50 million citizens have lived in rural areas (Lichter & Brown, 2011). The increased land area percentage and amount of residents in rural areas required special attention by housing planners and developers. Rural areas posed unique housing and employment markets because of the characterization of smaller markets for businesses and fewer incentives for

a wide supply of industries (Tighe, 2013). The housing struggle among low-income families has occurred predominantly in rural states because of high poverty levels, low education levels, and minimal employment opportunities (Saatcioglu & Corus, 2014). The foreclosure crisis created more challenges for rural communities, including capacity constraints, shortage of qualified foreclosure counselors, and lack of available funding (Tighe, 2013).

According to the 2007 American Housing Survey, manufactured homes represented approximately 8.7 million (6.8%) of the 128 million housing (Zhou, 2013). The 2011 American Housing Survey reflected the increase to approximately 9.05 million manufactured housing units. Considered the second largest percentage of all housing units in the United States (Zhou, 2013), manufactured housing signified an important source of affordable housing (Wilson, 2012) and have held predominance in rural areas (Aman & Yarnal, 2010; Tighe, 2013). Housing experts recognized manufactured housing as the predominant source of unsubsidized, affordable housing for rural homeowners and tenants (Tighe, 2013). The needs of residents have implications that affected rural policymakers. Rural residents tended to have fewer affordable housing choices than urban residents (Aman & Yarnal, 2010). The predominance of manufactured homes in the South occurred because of an ample supply of land, lower household incomes compared with other regions, retirement destination status, increased immigrant population, and lack of multifamily affordable housing units (Wilson, 2012).

**Benefits of manufactured housing.** Manufactured housing represented an affordable choice for low and moderate income families (Saatcioglu & Corus, 2014;

Sullivan, 2014) and offered a potential solution to the affordable housing crisis (Dawkins & Koebel, 2010). The lower cost of manufactured housing made them economically attractive to low-income households, young families, elderly, and retired people (Burkhart, 2010). The improvements in quality, performance, safety, and durability offered an affordable housing alternative to families and people seeking high value for their financial investment. Aesthetic appeal and superior construction of new homes have made manufactured housing an ideal solution to the need for affordable housing (Nahmens & Bindroo, 2011).

Boehm and Schlottman (2008) conducted research that compared manufactured owned housing with rented housing and traditional housing as a tenure alternative for low-income families. Results showed manufactured housing as a viable choice for low-income households from the perspective of the consumption of housing services (Boehm & Schlottman, 2008). Zhou's (2009) research supported Boehm and Schottman's findings through similar results that indicated manufactured housing provided an ideal homeownership solution for low and medium-income renter households. Aman and Yarnal (2010), Dawkins and Koebel (2010), and Wilson (2012) agreed that manufactured housing comprised an important component of the unsubsidized housing sector and cost less per unit than any other housing type. Predominant in rural areas, it has made homeownership possible for families who could not afford traditional housing choices (Wilson, 2012). Aman and Yarnal suggested the affordability of manufactured homes contributed to the product's popularity. Aman and Yarnal also noted the possibility of

steady demand for manufactured homes as lending organizations remained cautious and potential homeowners spent within their means.

Although researchers agreed that manufactured housing costs less than traditional homes, disagreements existed about the percentage of savings. Aman and Yarnal (2010) noted that the average price for a double-wide manufactured home sold in Pennsylvania in 2005 was $63,400 compared to the average cost of a new site-built home of $165,344. In this example, the cost of a manufactured home was 38.3% less than a traditional home. Reyes, Oraifige, Meier, Forrester, and Harmanto (2012) research supported Aman and Yarnal's findings through the conclusion that manufactured housing cost between 30% and 40% less than on-site home construction. Lower income households found relative affordability of manufactured housing attractive (Milstead, 2012). According to Aman and Yarnal's survey results, manufactured homes in rural Pennsylvania represented the most affordable home in comparison to other forms of housing. With a median monthly mortgage payment of $464 for manufactured homes compared to $848 for site-built homes, manufactured home owners in rural Pennsylvania paid far less per month than their site-built home counterparts and residents (Aman & Yarnal, 2010).

Wilson (2012) used 2009 U.S. Census Bureau data to highlight cost comparisons that showed the average cost per square foot for new, single family, site-built homes remained twice that of new manufactured homes. In 2009, the average price per square foot for a traditional house was $83.89 compared to $43.01 for a manufactured home (Wilson, 2012). Dawkins and Koebel (2010) used adjusted land costs and unit size that determined the average per square foot cost of a site-built home was 128% of the cost of

manufactured home construction and placement. Boehm (2008) indicated a much lower cost in owning a manufactured home compared to other alternatives, including renting. Zhou's (2009) results revealed that an owner-occupied manufactured home cost approximately one third of a traditional home. Although the estimated amount of savings differed among researchers, the consensus revealed that manufactured housing costs were significantly less than traditional housing.

Affordability and low maintenance of new manufactured homes increased the attractiveness as an alternative to traditional housing (Zhou, 2013). Besides the affordability compared to traditional homes, manufactured homes offered lower maintenance requirements (Wilson, 2012). Manufactured home residents considered the quality of their homes the same as traditional homes (Dawkins & Koebel, 2010). Boehm's (2008) results contradicted several preconceived notions about manufactured housing. Boehm indicated manufactured housing ranked higher in quality than rented housing. Study results also revealed similarities in structure and quality between manufactured homes and traditional homes (Boehm, 2008). Boehm concluded that no evidence supported the idea that perceived structural quality deterioration occurred over time more with manufactured housing than traditional housing. Innovations in manufactured housing construction technology improved the quality of the product and made them virtually indistinguishable from traditional site-built homes (Dawkins & Koebel, 2010).

Manufactured housing processes improved to remain competitive with site-built housing. The downturn in the housing market forced the industry to improve efficiency

and cost-effectiveness (Goulding et al., 2014). The factory built process offered manufactured housing advantages unavailable with traditional homes. Relationships with suppliers strengthened the reliability, predictability, and value required for successful inventory management and cost-effective production processes (Jeong, Hastak, Syal, & Hong, 2013). The construction process in a factory setting provided tangible benefits. Cost-saving advantages included maximized quality control, effective use of resources, improved waste reduction, optimal health and safety performance, and tighter integration of the supply chain (Goulding et al., 2014). Manufacturers took advantage of economies of scale in production, standardized inputs, and labor processes to maintain low costs (Dawkins & Koebel, 2010; Wilson, 2012). The manufactured housing industry's method of mass production used an assembly line approach and exploited economies of scale (Wilson, 2012), which resulted in cost savings that were passed to the consumer in the form of lower prices.

Manufactured homes construction occurred in a factory setting, with the finished product transported to a dealership in another location to be sold, and placed on site at a third location (Dawkins & Koebel, 2010; Reyes et al., 2012). The manufactured housing construction process used similar techniques, materials, and equipment as traditional site-home building (Burkhart, 2010; Goulding et al., 2014). The main differences in the construction processes included the location of construction and resources used. Whereas manufactured housing construction took place on an assembly line in a controlled environment (Goulding et al., 2014), exposure to natural elements determined site-built home construction processes (Reyes et al., 2012). Industrialized construction used

construction crews dedicated to specific processes on the assembly line (Wilson, 2012). In comparison, independent contractors completed site-built home construction processes at different times. Although manufactured housing took advantage of economies of scale and dedicated labor, tremendous room for improvement remained in areas of quality, cycle time, and productivity (Goulding et al., 2014). Table 1 shows the advantages of factory building approach compared to the traditional on-site home building approach.

Table 1

*Advantages of the Factory Building Approach Over the On-site Building Approach*

| **Area** | **Benefits** |
|---|---|
| Raw material | Inventory is better controlled, and materials protected from theft and weather damage. |
| | All construction materials, interior features, and appliances are purchased in volume for additional savings |
| | Improved reliability in suppliers delivery |
| | Smaller number of suppliers |
| Labor | Movement of employees from one site to another is avoided |
| | Better recruitment control (e.g. recruitment of unskilled and temporary workers may be avoided) |
| | All technicians, craftsmen, and assemblers are on the same team and professionally supervised |
| | Easier decision making |
| | Improved labor productivity due to factory production approach |
| Machinery/equipment/tools | Faster response from maintenance team |
| | Constant movement of machinery, equipment, and tools is avoided |
| | Easier access to machinery, equipment, and tools replacement parts |
| Systems | Easier implementation of new philosophies, working approaches, and quality control methodologies. |
| | Easier standardization of operations and creation of process flow, which may result in production/construction cost and waste reduction |
| | All aspects of the construction process can be controlled and continually inspected by several inspectors |
| Environment | Better working conditions for employees (e.g. workers are not exposed to extreme weather conditions) |
| | The weather does not interfere with construction and cause delays |

*Note*. Advantages of the factory building approach over the on-site building approach. Adapted from "The development of a lean park homes production process using process flow and simulation methods," by J. G.-Reyes, I. Oraifige, H. S.-Meier, P. Forrester, & D. Harmanto, 2012, *Journal of Manufacturing Technology Management, 23*(2), p. 182. Reprinted [or adapted] with permission.

The availability and flexibility of manufactured homes contributed to their popularity in the housing market (Aman & Yarnal, 2010). Factories shipped manufactured homes anywhere within the continental United States, including sparsely

populated areas without convenient access to builders and suppliers (Aman & Yarnal, 2010). Architectural flexibility, achieved through the adaptability of standardized components to customer specifications, increased product appeal (Koklic & Vida, 2011; Nahmens & Bindroo, 2011). Customers made changes to the floor plan, materials, décor, size, and amenities of manufactured homes before the construction process (Koklic & Vida, 2011; Nahmens & Bindroo, 2011).

Aman and Yarnal's (2010) survey results of manufactured homeowners in rural Pennsylvania suggested satisfaction with housing choice. More than 50% of respondents indicated high satisfaction with living in a manufactured home. Approximately 39% of respondents indicated moderate satisfaction (Aman & Yarnal, 2010). Of the respondents, 6% revealed low satisfaction and 3% rated the experience with high dissatisfaction (Aman & Yarnal, 2010). Respondents cited affordability, layout of home, and ease of maintenance as most common factors leading to satisfaction (Aman & Yarnal, 2010).

According to Dawkins and Koebel's (2010), results from the 2003 American Housing Survey revealed the rarity of severe physical problems in manufactured housing. The level of problems compared to those experienced in other types of housing units. Residents of approximately 1.5% of manufactured housing units reported severe physical problems with their homes compared to 1.3% of all owner-occupied housing units (Dawkins & Koebel, 2010). Zhou (2009) also suggested that the factors that changed housing quality over time were similar across both manufactured and traditional homes. Based on study results, Zhou concluded that manufactured homes did not automatically deteriorate over time if properly maintained. This slightly higher percentage suggested a

quality cost advantage that created potential market demand for manufactured housing (Dawkins & Koebel, 2010).

**Challenges of manufactured housing.** Ironically, the popularity of manufactured homes presented unique challenges for existing and future residents. Obstacles such as institutional barriers, issues of land tenure, and ownership have not applied to traditional site-built home owners (Aman & Yarnal, 2010). Manufactured housing residents also faced threats such as severe weather, dislocation because of suburban expansion, increased cost of home insurance, inadequate legal protection, and unreceptive local governments (Kusenbach, 2009).

Land tenure signified a challenging quality that distinguished manufactured homes from other types of permanent housing (Aman & Yarnal, 2010). According to Aman and Yarnal, manufactured home owners purchased the land and set the home upon it, or leased the land for their homes as experienced in community living. Purchased land offered security for manufactured housing residents. In contrast, land leasing manufactured homeowners faced vulnerabilities because the ownership of the land belonged to someone else (Aman & Yarnal, 2010; Tighe, 2013). Leasing or renting land disqualified homeowners from the benefits of owning property (C. Anderson, 2014).

High demand for limited park space persisted as a problem for homeowners who leased land (Aman & Yarnal, 2010). The threat of forced relocation from leased land concerned many residents. Land lease manufactured homeowners faced unique vulnerabilities that put some in a state of quasihomelessness, in which events beyond the locus of homeowner's control caused forced relocation for residents (Aman & Yarnal,

2010). Landowners sold the land on which the home was placed and left the homeowner in a position to incur costly expenses of moving a home or abandoning the home altogether (C. Anderson, 2014).

Manufactured homeowners faced unique challenges in financing and real estate (Aman & Yarnal, 2010). Manufactured home financing choices differed from those available for traditional home purchases (Tighe, 2013; Zhou, 2013). The classification of manufactured homes as personal property, rather than real estate, exposed loans to elevated interest rates, shorter terms, and fewer restrictions than conventional mortgages (Tighe, 2013; Zhou, 2013). In addition, the property classification excluded potential buyers from financing choices available to purchasers of traditional homes (Wilson, 2012). The financing procedures for manufactured homes similarly reflected those of the automobile industry (Aman & Yarnal, 2010; Quale, Eckelman, Williams, Sloditskie, & Zimmerman, 2012). Manufactured housing lenders specialized in subprime lending, which resulted in higher interest rates than those enjoyed by owners of site-built homes (Aman & Yarnal, 2010).

Aman and Yarnal (2010) suggested that manufactured homes did not appreciate in value at the same rate as traditional site-built homes. Manufactured homeowners faced exclusion from financial flexibility and opportunity offered to owners of site-built homes. Quale et al. (2012) suggested that although manufactured homes endured value depreciation, modular homes appreciated in value similar to site-built houses. Tighe (2013) suggested the depreciation in value depended upon the context of use. Zhou (2013) cited owned land was an important factor of manufactured home value

appreciation. Tighe and Zhou agreed that a manufactured home placed on occupant-owned land increased in value, whereas a manufactured home placed on leased property suffered value depreciation. Homes constructed before the 1976 HUD codes experienced rapid depreciation (Pendall, Theodos, & Franks, 2012). A common concern among Aman and Yarnal's study participants included the lack of appreciation in value contributed to the difficulty in obtaining a home equity loan.

The housing crisis disproportionately affected manufactured home residents (Aman & Yarnal, 2010). The protective legislation offered to traditional site-built homeowners excluded owners of manufactured homes. The foreclosure process for site-built homes took several months and offered opportunities for resolution (Payton, Stucky, & Ottensmann, 2015). In contrast, the foreclosure process of manufactured homes took as little as 30 days to complete (Aman & Yarnal, 2010). Foreclosure on personal loans directed the compulsory eviction of residents, without mandatory notices or waiting periods required with real estate loans (Tighe, 2013).

The limited exterior choices for manufactured homes presented design challenges and failed to satisfy aesthetic ideals for the middle-class (Saatcioglu & Ozanne, 2013). Double-wide manufactured homes offered twice the space of single-wide homes. Unfortunately, the common exterior resembled trailers rather than site-built homes (Dawkins & Koebel, 2010). The use of vinyl skirting to cover the space between the ground and steel chassis, placement on cinder blocks or other forms of temporary foundation, and lack of porches or similar entryways reduced the exterior appeal of manufactured homes (Dawkins & Koebel, 2010). Modern manufactured homes have

undergone building processes in which the result closely resembled site-built homes (Dawkins & Koebel, 2010). The use of permanent foundation, such as brick or concrete block, to fill the gap between the ground and chassis increased the similarity to site-built homes in appearance and construction (Zhou, 2013). Likewise, the addition of porches, sidewalks, and landscaping improved the outside appearance of manufactured homes. Common concerns about the exterior of manufactured homes included the lack of visual compatibility with neighborhood units (Dawkins & Koebel, 2010). Flat sided units with vinyl siding and low pitched roofs remained the focus of neighborhood opposition (Dawkins & Koebel, 2010). The mitigation of opposition occurred through public education about the availability of contemporary designs that reflected compatibility with site-built homes (Dawkins & Koebel, 2010).

Laws restricting placement of manufactured homes represented obstacles unique to the product. Zoning regulations applicable to manufactured housing originated from lack of restrictions established in the early travel-trailer days (Aman & Yarnal, 2010). The early restrictions contributed to the perception of the product as a threat to real estate values and the community's moral character (Aman & Yarnal, 2010). Because of the perceptions, communities and parks developed near commercial and industrial areas (Aman & Yarnal, 2010). Unfavorable urban zoning regulations pushed manufactured housing developments to outlying and rural areas (Aman & Yarnal, 2010). Outdated zoning regulations have not accommodated the needs of present manufactured home residents.

Zoning regulations affected rural areas, with manufactured housing restricted to areas farthest away from community services such as hospitals, medical clinics, and first responder services (Aman & Yarnal, 2010). Manufactured housing residents traveled two to three times farther than site-built residents to access noncritical community service locations such as banks, restaurants, shopping centers, and daycare facilities (Aman & Yarnal, 2010). In addition, rural residents traveled further than urban residents to access community services and commute to jobs in distant areas (Aman & Yarnal, 2010). The lower average income of rural manufactured housing residents increased the financial burden compared to their site-built housing counterparts (Aman & Yarnal, 2010).

The mass production of manufactured homes in a factory setting enabled manufacturers to achieve higher productivity than traditional home production, yet land zoning regulations restricted placement (Zhou, 2009). Zoning codes that restricted the size, design, and location of manufactured homes presented unique challenges to placing units in urban areas (Dawkins & Koebel, 2010; Saatcioglu & Ozanne, 2013). Misconceptions about affordable housing and lackluster appeal of manufactured homes influenced local governments to restrict zoning and land use (Dawkins & Koebel, 2010). Likewise, the negative perceptions and stereotypes of residents, perceived lower quality of product, and value appreciation concerns influenced decision-makers in regard to placement of manufactured homes (Dawkins & Koebel, 2010).

Despite evidence that disproved misconceptions and negative perceptions of manufactured homes and their residents, negative stereotypes continued to influence local governments to impose regulatory restrictions on the housing type (Dawkins & Koebel,

2010). Manufactured housing units have experienced different standards and requirements than site-built homes (Dawkins & Koebel, 2010). Although illegal to prohibit placement of manufactured housing for exclusion of low-income residents, regulatory restrictions limited the availability of this affordable housing (Dawkins & Koebel, 2010).

**Comparison of manufactured homes and traditional homes.** Unique benefits of manufactured homes made them a comparable investment to site-built homes. Manufactured homes required less physical space than most site-built homes and allowed for placement on smaller plots of land (Aman & Yarnal, 2010). The completion process of manufactured homes and readiness for inhabitancy took less time than traditional home construction. Manufactured home construction occurred in secure, temperature controlled environments, which enabled faster production than site-built homes (Dawkins & Koebel, 2010). The factory built process took advantage of economies of scale, which caused lower project financing costs and production costs (Dawkins & Koebel, 2010), 2010) that resulted in cost savings to the consumer. The assembly production also prevented weather delays, reduced the time for obtaining local permits, and streamlined production processes (Wilson, 2012).

The manner of placement on land characterized a cost savings benefit of manufactured housing. Innovations in building technology, including integrated floor and chassis systems, made manufactured housing virtually indistinguishable from traditional site-built homes (Dawkins & Koebel, 2010). The chassis structure of the home enabled

placement anywhere permitted by building codes, without the expense of a basement or poured concrete foundation (Aman & Yarnal, 2010).

Housing construction has shown adherence to standards and guidelines established by local, state, and federal governments. The federal Department of Housing and Urban Development regulated manufactured home builders. The federal HUD code followed performance-based criteria and provided common guidelines and oversight for producers (Wilson, 2012). The Council of American Building Officials (CABO) code provided the basis for most local building regulations. Although the HUD and CABO codes outperformed each other in some areas, general comparability existed (Wilson, 2012). This implied similarities in guidelines and regulations for manufactured housing and traditional housing. The similarities also indicated that other factors influenced cost savings in manufactured homes (Wilson, 2012). In addition, compared to traditional housing, manufactured housing offered lower maintenance requirements and shorter mortgage durations (Wilson, 2012). The drawbacks included a shorter life expectancy of 20 to 30 years and higher interest rates (Wilson, 2012).

**Storms and tornado risks.** Attaching manufactured housing units to a secure permanent foundation reduced the risk of overturning during severe storms (Dawkins & Koebel, 2010). The creation of improvements required by the 1976 HUD Code resulted in the reduction of tornado related fatalities in manufactured homes (Saatcioglu & Ozanne, 2013). Manufactured homes built to the post 1976 HUD regulations faced significantly less likelihood of leveling. Manufactured homes built after 1976 endured less storm damage than homes built before the 1976 HUD Code (Saatcioglu & Ozanne,

2013). The changes made in the 1994 HUD Code revision set mandatory wind load requirements for manufactured homes.

Research results suggested that manufactured homes participated as a contributing factor in U.S. tornado related deaths (Saatcioglu & Ozanne, 2013). Manufactured home occupants faced the risk of injury or death from a direct tornado strike (Paul & Stimers, 2012). Approximately 43.2% of tornado related deaths occurred to manufactured home occupants (Paul & Stimers, 2012). In comparison to site-built homes, manufactured home occupants were 35% more likely to die and 12% more likely to endure severe injury during a violent tornado (Paul & Stimers, 2012).

Although the National Weather service no longer has advised lying in a ditch as an alternative to staying in a manufactured home during a tornado, inadequate advice offered recommendations locations for optimal safety (Paul & Stimers, 2012). Lack of preparedness for manufactured home residents, age of home, shelter availability, and occurrence of nocturnal tornadoes represented factors leading to tornado related fatalities (Retchless, Frey, Wang, Hung, & Yarnal, 2014). Retchless et al. (2014) also noted that the high frequency of tornado fatalities occurred in the southeast region of the U.S., an area that included a higher percentage of manufactured homes compared to the rest of the country.

**Summary of economic influences**. Manufactured housing signified the most important form of unsubsidized affordable housing in the United States (Burkhart, 2010). Although manufactured housing cost considerably less than traditional site-built homes, unique benefits and challenges influenced consumer perceptions and buying behavior.

The influential economic factors included cost savings versus quality and sustainability, availability of mortgage loan packages, designation of property as personal versus real estate, potential cost of severe weather related expenses, and discriminatory zoning regulations. The economic influence related to rural housing needs and challenges of land tenure presented added challenges of the product's nature. Despite the many economic challenges, the financial benefits of manufactured housing enabled low-income families the opportunity to achieve home ownership and reap the benefits associated with home ownership.

**Social Influences**

Subjective norms represented the social influence element of TPB in which a person's perceptions of socially desirable behaviors motivated actions in compliance with social expectations (Manning, 2011). Subjective norms influenced consumer-buying decisions, including decisions on selecting and purchasing a house. Subjective norms described the level of perceived stress people experienced when compelled to execute or avoid behavior (H. Han, 2015). Subjective norms included the two primary concepts of social injunctive and descriptive norms. Social injunctive norms represented perceptions of behaviors that pertinent others approved of (Elsey et al., 2015) or wanted the person to adopt (Manning, 2011). Social injunctive norms encouraged action through emphasizing possible benefits and results of assuming or rejecting the behavior (Elsey et al., 2015). In contrast, descriptive norms represented perceptions of behaviors that pertinent others undertook (Manning, 2011). Descriptive norms explained common or standard behaviors and encouraged action through verification of effectiveness, familiarity, and suitability

(Elsey et al., 2015). The distinction remained within the difference between desire and action.

Besides social injunctive and descriptive norms, Sang, Lee, Kim, and Woo (2015) included personal injunctive norm that reflected morals and ethical dimensions. Personal injunctive norms included a person's personal set of moral rules (Sang, Lee, Kim, & Woo, 2015). Also called moral norms, personal injunctive norms revealed a person's belief that assuming a behavior resulted in self-approval and disapproval (H. Han, 2015). This subjective norm influenced the prediction of behaviors with ethical and principled factors such as environmental, legal, and sustainability behavior (Mulder, Jordan, & Rink, 2015). The personal injunctive norm influenced consumer home buying decisions based on the ability to afford monthly payments and reflected ethical and principled considerations.

Psychological processes that directed behaviors and cognitions in societal settings resulted in social motivation (Manning, 2011). Fiske (2003) conceptualized five core motives as belonging, understanding, controlling, self-enhancement, and trust with the belongingness need identified as the primary social motivator (Manning, 2011). Using Fiske's (2003) conceptualization as the foundation, Manning posited that socially motivated behavior held significant potential to meet the belongingness need. People engaged in socially-motivated behavior based their decisions with understanding of the norms associated with the behavior (Manning, 2011). Manning supported earlier work that suggested the concurrent influence of behavioral intention and behavioral

engagement occurred when a need fulfilling behavior mirrored the perception of significant peer group behavior.

**Homeownership and the American dream.** The promise of homeownership characterized a component of the American dream (Lichenstein & Weber, 2014). A home offered much more than a physical structure for most families. A place of refuge, a home signified personal security, identity, and freedom while meeting psychological needs such as a sense of order, continuity, and belonging (Ross & Squires, 2011). Homes symbolized influential factors of personal and group identities and relationships (Kusenbach, 2009). History implicated the correlation between homeownership and family stability and security (Lichenstein & Weber, 2014).

The housing market has comprised an important component of the U.S. economy, with equity in residential property deemed a determining factor of consumer confidence and net worth (Kallberg et al., 2014). Home equity represented a household's principal source of wealth and the majority of net worth (Levintin & Wachter, 2013). Housing signified a long-term commitment and reflected a multifaceted commodity with market choices that have left consumers susceptible to consequences for health, financial, standard of living, social connections, and job opportunities (A. Marsh & Gibb, 2011). The housing sector directly has influenced wealth and consumers' ability to borrow (Levintin & Wachter, 2013). Unfortunately, unstable mortgage products and subsequent foreclosures have dampened the positive aspects of homeownership (Ross & Squires, 2011). During the economic recession and housing crisis, millions of Americans lost their homes because of the inability to afford high interest mortgages.

Although some Americans achieved the dream of responsible homeownership during the housing boom, others used the opportunity to gain upward mobility through destructive aspirations (Lichenstein & Weber, 2014). Instead of focusing on the long-term ramifications of debt, homeowners viewed expensive homes as investment opportunities (Kothari & Lester, 2012). The idea of flipping a house, in which a homeowner bought a house cheaply, fixed up, and sold for a profit, resulted in a common middle-class pursuit (Lichenstein & Weber, 2014). Rather than viewing a home as a long-term residence, homeowners viewed purchases as an opportunity to make money quickly (Lichenstein & Weber, 2014). Homeowners often ignored the financial commitment involved in homeownership in the pursuit of easy money.

**Effect of social influences on mortgage lending markets.** Despite its affordability and convenience, housing professionals and scholars have used contradictory approaches concerning manufactured homes (Wilson, 2012). Although dismissed as a viable housing choice and considered inferior in quality and durability, ownership of manufactured homes contributed to improving homeownership rates and offered the same intangible benefits associated with owning traditional homes (Wilson, 2012). Notwithstanding the affordability and viability of manufactured homes, mortgage loan practices discriminated against borrowers who wished to purchase this housing. Traditional mortgage loan packages failed to include manufactured housing because of the perception of higher levels of default risk among manufactured home purchasers (Lichenstein & Weber, 2014).

Two general markets comprised the mortgage market in the United States. Primary mortgage lenders existed to loan money to borrowers for the purchase of real estate (Jiang et al., 2014). Secondary mortgage lenders included public and private institutions that acquired mortgages in the form of securities (Jiang et al., 2014). Secondary mortgage lenders also accepted legal responsibility for any risk connected with the loan (Jiang et al., 2014). Although a secondary lender market existed for traditional home borrowers, the requirements excluded manufactured home borrowers. The absence of a secondary lender market for manufactured homes contributed to the reluctance of primary lenders to loan money for purchase the product (Lichenstein & Weber, 2014).

The biggest difference between manufactured homes and traditional real estate involves land accompaniment (Zhou, 2013). A traditional, site-built home automatically included the purchase of land. The purchase of land with a manufactured home did not occurred automatically, and many considered land as an optional purchase (Zhou, 2013). The consideration of the home as personal property instead of real property (Zhou, 2013) resulted in finance choices similar to vehicle or boat loans and not real estate loans (Pendall et al., 2012).

Inaccurate assumptions about the level of default risk negatively affected manufactured home buyers through elevated interest rates and hefty down payment requirements (Pendall et al., 2012). Historically negative performance of manufactured home loan borrowers influenced the decisions of traditional lenders in the mortgage market (Tighe, 2013). Although manufactured homes accounted for approximately 30%

of new homes in the United States, challenges existed in securing financing for new customers (Saatcioglu & Ozanne, 2013). Some mortgage company leaders avoided participation in federal lending programs that provide financing choices (Tighe, 2013). Despite federal guarantee programs and growth in manufactured home ownership rates, reluctance ensued among lenders (Tighe, 2013).

**Stereotypes, prejudice, and stigma.** Stereotypes reflected characteristics of distinct cultures. Stereotypes evolved from common beliefs about the behaviors, characteristics, and attributes of people categorized as belonging to a specific social group (McCormick, Joseph, & Chaskin, 2012). For example, the misnomer *trailer trash* signified a stereotype applicable to manufactured housing residents (Hernandez, 2014). The construct of prejudice generalized the view toward members of a social group and reflected how a person perceived the group (McCormick et al., 2012). Stereotypes labeled social groups and prejudice reflected the general attitude toward members of the social group. The constructs of stereotype and prejudice functioned as the basis for the definition of stigma. A discrediting characteristic that impaired one's identity represented an attribute of stigma (Rayburn & Guittar, 2013). Stigma included categorizations of people based on attributes that reflect social, financial, and political differences (McCormick et al., 2015).

Social class, racial characterization, and prejudice represented factors that contributed to the opposition towards affordable housing (Tighe, 2012). Prejudice represented the harsh judgment of a person who, because of shared similarities with larger group of people, endures unfair assumptions and treatment (James, Mignone,

Roger, & Halli, 2013). Negative experiences with stigma and prejudice included exposure to rudeness, mocking attitudes, discrimination, and denial of opportunities toward people who belonged to disadvantaged social groups (Taylor, 2013). Demographic factors such as gender, age, race, and social class influenced stigmatization and prejudice (James et al., 2013).

Often called *trailers* or *mobile homes*, factory-built homes epitomized a highly stigmatized form of housing (Saatcioglu & Ozanne, 2013). Manufactured home residents often experienced negative stigmatization (Saatcioglu & Ozanne, 2013). Despite categorization as homeowners, manufactured housing owners encountered negative perceptions by community members (Milstead, 2012). The members viewed residents as failing to contribute financially, economically, and socially to the community (McCarty & Hepworth, 2012). Inaccurate perceptions portrayed manufactured home community residents as unemployed, poor, and displaying deviant behaviors.

According to Nguyen et al. (2012), the negative social construction of low-income families profoundly influenced opinions of affordable housing residents. Such residents faced categorization as unwelcome people such as thugs, criminals, juvenile delinquents, drug addicts, and gang members (Nguyen et al., 2012). Contemporary mass media and popular culture contributed to the negative stigmatization through the depiction of manufactured housing residents as alcoholics, crack heads, meth addicts, drug dealers, wife beaters, prostitutes, sex offenders, and mentally ill (Kusenbach, 2009; Saatcioglu & Corus, 2014). Consumers perceived manufactured housing residents as undesirable neighbors who earned low-incomes, received less education, and embodied

lower levels of stability than traditional homeowners (Milstead, 2012). Common socioeconomic and cultural stereotypes included the belief that manufactured home residents could not afford alternative types of housing (Mimura et al., 2010).

A common stigma involved the consideration of manufactured homes as eyesores that reduced the appeal of the neighborhood (McCarty & Hepworth, 2012). Residents of site-built home neighborhoods perceived manufactured homes as ugly and viewed inhabitants as promoting a questionable lifestyle (McCarty, 2013). Poor sanitation characterized another common misconception that contributed to the negative stigmatization of manufactured home communities. The inaccurate perception reflected the early history of the product in which sanitation problems plagued makeshift trailer camps (McCarty & Hepworth, 2012). Because manufactured homes met the same plumbing and electrical standards as site-built homes, the problem no longer existed (McCarty & Hepworth, 2012).

Kusenbach (2009) conducted qualitative analysis that investigated the stigma associated with residing in a mobile home, and the coping strategies of residents. Kusenbach explored the basis of negative stigmatization and its effect on residents. Coping mechanisms identified included two versions of distancing known as *fencing* and *bordering* (Kusenbach, 2009, p. 401). Kusenbach argued that the manner in which manufactured home residents attempted to salvage decency reflected similarities and differences in comparison to how other ridiculed groups reacted to stigmatization (Jacobsson & Akerstrom, 2012; Rayburn & Guittar, 2013). Hernandez (2014) supported

Kusenbach's earlier research through the identified participant coping strategies as a combination of passive and proactive approaches.

According to research performed by Aman and Yarnal (2010), social inequity presented a challenge for manufactured home residents, especially because of rising economic stratification. The resolution of challenges faced by manufactured housing residents could have occurred if addressed by policy makers, provided they recognized the unique vulnerabilities of the housing type and its residents (Aman & Yarnal, 2010). One survey respondent acknowledged that the lack of attention from lawmakers contributed to social inequity issues (Aman & Yarnal, 2010). Kusenbach (2009) agreed with Aman and Yarnal's findings that social inequity presented unique challenges for manufactured home residents.

Although survey participants in Aman and Yarnal's (2010) study conveyed satisfaction with manufactured home living, they expressed frustration at the negative stereotypes and social stigma that existed about manufactured housing residents. Participants often referenced the term *trailer trash* as an example of negative place-based stereotyping (Aman & Yarnal, 2010). According to one respondent in Aman and Yarnal's study, the manufactured housing residents endured unfair and undeserved labels associated with limited education and social manners. Kusenbach's (2009) study on managing the stigma associated with living in manufactured housing referenced the designation of trailer trash as a common misnomer applied to residents (Jacobsson & Akerstrom, 2012). Kusenbach's study also revealed that manufactured housing residents

disagreed with media images that suggested indecency of living in distasteful environments that coincided with personal and cultural deficiencies.

**Consumer perception of manufactured home.** Mimura, Sweaney, Reeves, and Eaves (2010) compared manufactured homes with traditional, site-built homes to determine factors that contributed to negative perceptions. Mimura et al. (2010) investigated whether the attractiveness and appearance of manufactured homes, or common misconceptions associated with the product, resulted in negative perceptions toward manufactured homes. Despite the benefits of manufactured homes, consumers viewed the product as substandard and inadequate. Koklic and Vida's (2011) research findings confirmed that internal and external factors influenced the process of purchasing a manufactured home. External factors included peer opinions and time constraints of the sociocultural setting, manufacturer marketing strategies, and retailer behavior reflecting manufacturing marketing efforts (Koklic & Vida, 2011).

Mimura et al. (2010) conducted an experimental study that evaluated whether levels of pride differed based on the appearance of manufactured home versus awareness of the product type. In an attempt to reveal participants' paradigms of manufactured housing, Mimura et al. hypothesized that identification of manufactured homes compared to traditional site-built homes would result in decreased levels of pride associated with living in a manufactured home. Mimura et al.'s earlier assessment experiment revealed an insubstantial association between comprehension of housing type and potential for participants to select a manufactured home as a source of pride.

Mimura et al. (2010) revealed significant findings in some areas. Evidence from the data did not support the original hypothesis in which Mimura et al. speculated a decrease in pride associated with living in a manufactured home versus living in a traditional, site-built home. Mimura et al. disproved the hypothesis through participant data that revealed more positive perceptions of manufactured homes than of the traditional, site-built homes depicted through the comparison of photographs. Mimura et al. revealed that manufactured home education, positive media exposure and awareness of improvements in construction processes, durability, and quality positively altered consumer perception. Study results also showed that prejudice and groundless speculation resulted in negative assumptions about manufactured home residents (Mimura et al., 2010). According to Mimura et al., respondents' gender and familiarity with the geographical area influenced the level of pride about living in a manufactured home (Mimura et al., 2010). Female respondents were more positive compared to their male counterparts about living in a manufactured home (Mimura et al., 2010). Respondents from rural areas showed higher levels of potential pride and affirmation compared to respondents from urban areas, or with experience living in both rural and urban areas (Mimura et al., 2010).

Mimura et al. (2010) referred to Grosskopf and Cutlip's (2006) experiment on the effect of increasing consumer awareness on improved perceptions of manufactured homes. The first experiment results suggested that 87% of participants perceived manufactured homes as unsafe (Mimura et al., 2010). Grosskopf and Cutlip divided participants into three groups, with each group receiving neutral, positive, or negative

media information about the product (Mimura et al., 2010). Study results revealed a significant relationship between media exposure and perceptions of manufactured housing (Mimura et al., 2010).

**Manufactured home communities.** Community characteristics either benefited or constrained a person's life choices and quality of life (Saatcioglu & Ozanne, 2013). Residential wellbeing encompassed physical, social, and psychological experiences of housing (Saatcioglu & Corus, 2014). Feelings such as satisfaction, contentment, attachment, control, and identity influenced residential wellbeing (Paton, 2013). A resident's relationship with housing and community influenced self-esteem, positively or negatively, depending on a neighborhood reputation (Paton, 2013).

Neighborhood reputation influenced neighborhood residents and often altered social actions in accordance with outsiders' perceptions of the neighborhood (Saatcioglu & Corus, 2014). An unflattering neighborhood reputation damaged residents' self-esteem, job opportunities, economic behavior, attitudes, and health aspects (Paton, 2013). Social perceptions, media exposure, other nonresidents, observations, and physical attributes represented factors that formed neighborhood reputation (McCarty & Hepworth, 2012). Manufactured housing communities offer an opportunity for low and medium income families to benefit from the advantages of homeownership, without incurring the high cost of site-built homes (Saatcioglu & Corus, 2014). Local governments and nonresidents resisted manufactured housing community developments because of negative beliefs of the effects on property values, disorder, and crime in adjacent neighborhoods (McCarty & Hepworth, 2012). Although modern manufactured

homes resembled traditional site-built homes, community residents suffered from negative and inaccurate perceptions about their homes and lifestyles (Mimura et al., 2010). Fears about deviant behavior such as rampant drug use, prostitution, vandalism, and property crimes of community residents have existed for years (McCarty & Hepworth, 2012). The empirical assessment of their actuality were rare, with only McCarty's (2010) work that explored crime in and around manufactured home communities (McCarty & Hepworth, 2012).

Although affordable and popular with low to medium income families, manufactured home communities faced a negative stigma and elicited strong opposition from those who live in proximity (McCarty & Hepworth, 2012). The disparagement resulted from a variety of factors, including inaccurate stereotypes and misconceptions. The product itself has not evoked negative stigmatization; rather the legal, economic, and social perspective marginalized manufactured housing (Wilson, 2012). Manufactured housing residents faced negative stigmatization through perceptions of inadequate financial and social contributions to the community (McCarty & Hepworth, 2012). Manufactured home community residents have endured physical and social isolation from the rest of society (McCarty, 2013; McCarty & Hepworth, 2012). In urban areas, the location of communities in outlying areas separated residents from city services, grocery stores, schools, hospitals, and government services (McCarty & Hepworth, 2012). Caucasian residents with blue-collar occupations represented the typical manufactured housing community (Saatcioglu & Ozanne, 2013). In comparison with traditional

neighborhoods, manufactured home community residents held lower income and educational levels (McCarty, 2013).

Past studies on manufactured housing communities identified differences between those characterized as middle-class and seniors compared to those composed of lower income and larger household composition levels (Kusenbach, 2009; Saatcioglu & Ozanne, 2013). Middle-class and senior communities included lively and encouraging social enclaves (Kusenbach, 2009). In contrast, lower income and family-centered parks reflected a more negative portrayal of community (Kusenbach, 2009). Kusenbach also suggested that the stigma associated with manufactured housing residents created a barrier to the broader community acceptance and hindered personal success.

**NIMBY (Not in my backyard).** Manufactured housing community developers, residents, and potential owners encountered Not-In-My-Backyard (NIMBY) opposition that signified resistance to affordable housing (Nguyen et al., 2012). Community residents influenced the placement of affordable housing through the creation of oppositional barriers. Residents directed the hostility toward local government officials in charge of approving developments and affordable housing builders (Nguyen et al., 2012). The main oppositional issues included architectural design, neighborhood effect, and resident characteristics (Nguyen et al., 2012). Mimura et al. (2010) supported architectural design concerns, and results suggested architectural style held more importance than construction type when consumers evaluated a manufactured home based on frontal appearance. Local NIMBY opposition created a significant barrier to

low cost or affordable housing in some communities (Matthews, Bramley, & Hastings, 2014).

Advocates of manufactured housing as an affordable alternative to traditional housing argued that NIMBY attitudes influenced negative perceptions more than facts (Wilson, 2012). NIMBY applied to manufactured homes because of social perceptions about residents, design, and construction (Dawkins & Koebel, 2010). The manner in which nonmanufactured housing residents viewed those who live in manufactured homes influenced NIMBY opposition. Social construction of affordable housing residents as deviant and undeserving increased division of class and stigmatization of low-income families (Nguyen et al., 2012). Manufactured housing industry professionals and community developers used public information campaigns that increased support and refuted negative stereotypes (Dawkins & Koebel, 2010). However, the industry lacked a concerted effort to increase consumer awareness and education that eliminated NIMBY opposition.

**Manufactured housing's influence on adjacent property values.** A common misconception about manufactured housing reflected the idea that the product's value depreciated in the same manner as automobiles. Past study results suggested that modern built manufactured homes held an average lifetime of between 30 years (Wilson, 2012) and 40 years (Zhou, 2009). Regular maintenance and upkeep extended the average lifetime of manufactured homes. Manufactured homes placed on owned land had the potential to appreciate in value in the same manner as traditional homes, primarily because of the appreciation in value of land (Zhou, 2009). Mimura et al. (2010)

recommended that policy makers develop an understanding of the product as an affordable housing alternative and positively influenced consumer perceptions of the product and its residents.

Despite evidence that manufactured housing has not negatively affected adjacent property values (Wilson, 2012), controversy existed about the potentially negative effect on adjacent housing values for manufactured home communities (McCarty & Hepworth, 2012). Results of studies on housing values resulted in inconsistent reports. McCarty and Hepworth (2012) cited Wubneh and Shen (2004), and Munneke and Slawson (1999) who concluded that single-family houses near manufactured home communities had lower property values than those located farther away from communities. McCarty and Hepworth also noted studies by Hicks (1982) and Shen and Stephenson (1997) that resulted in conflicting evidence that showed manufactured housing communities has not significantly affected the sales price of site-built homes within the area. Despite evidence of the contrary, McCarty and Hepworth agreed with earlier studies that concluded manufactured home communities negatively affected adjacent neighborhood property values.

**Media contribution to social influences.** Mass media directly influenced consumer perceptions of manufactured housing (Mimura et al., 2010). Unfortunately, media coverage tended to increase misconceptions through inaccurate and outdated information, as well as the omission of information about advancements and improvements. Unflattering media depiction of manufactured housing residents and the application of deprecating names, such as *trailer*, reduced social prestige and contributed

to negative consumer perceptions (Kusenbach, 2009; Saatcioglu & Ozanne, 2013). News items reported in a stereotypical approach resulted in typecast perceptions (Saatcioglu & Ozanne, 2013) that negatively affected a neighborhood's reputation. Media portrayal of manufactured home communities as bleak areas with shabby homes, unleashed dogs, untended yards strewn with garbage, broken down cars, and rusty appliances contributed to unfavorable perceptions (Kusenbach, 2009). Mimura et al. (2010) suggested media coverage reflect increased awareness and knowledge of the product, such as the proper terminology instead of dated slang words, and reported truthful and unbiased aspects of the construction processes.

Aman and Yarnal (2010) used tax assessment and survey data to identify long-term use of manufactured homes for residents in rural Pennsylvania. Approximately 47% of homes depicted the average condition category and 45% represented homes deemed below average (Aman & Yarnal, 2010). Survey respondents cited inferior quality construction, expensive maintenance costs, use of inferior materials, and poor quality appliances as factors leading to below average consideration (Aman & Yarnal, 2010). Aman and Yarnal noted that nearly half of respondents lived in manufactured homes built before 1980 and that the quality of construction and materials had improved significantly after the 1994 HUD code changes. Likewise, Mimura et al. (2010) showed that appearance of the home influenced respondent perceptions substantially more than awareness of factory built construction type.

**Consumer innovation and the effect on manufactured housing.** Research conducted by Wisdom, Chor, Hoagwood, and Horwitz (2014) identified four types of

motivation that triggered consumer innovativeness as functional, hedonic, social, and cognitive. The general theories of goals, values, and motivation corresponded with the four dimensions of innovativeness (Wisdom, Chor, Hoagwood, & Horwitz, 2014). According to Wisdom et al., motivations guided goals that people pursued. Goals related to power exploited innovativeness to achieve desired public image and social influence (Wisdom et al., 2014). Managerial implications of the study included the use of innovativeness motivations aided in product development (Wisdom et al., 2014). The consumers' need for affordable housing associated with function and cognitive motivators guided innovative product developments (Dai, Luo, Liao, & Cao, 2015), such as sustainable and energy efficient manufactured housing.

The change in the housing landscape, since the original study in 1998, included improvements in factory built construction. Two types of innovation used in the housing industry consisted of product and process innovations (Boyd, Khalfan, & Maqsood, 2013). Product innovation referred to changes of existing products that improved design and increased the level of service quality (Boyd et al., 2013). Process innovation improved the manner of production or services (Boyd et al., 2013). Whereas product innovation introduced efficient housing design, process innovation improved the manner of house construction. The factory built housing industry provided an example of reduced construction costs and increased profit margins (Sandberg & Bildsten, 2010). Sandberg and Bildsten (2010) explored the relationship between the organization of processes and resources and the occurrence of industrial waste. Using the construction processes of factory built housing, Sandberg and Bilsten analyzed efficiency and effectiveness of

coordination of activities and reduction of waste. Case study results revealed innovations in the value chain management based on identified functions as displayed in Figure 11.


*Figure 11.* The different functions of studied case company. Adapted from "Coordination and waste in industrial housing," by E. Sandberg & L. Bildsten, 2010, *Construction Innovation, 11*(1), p. 83. Reprinted [or adapted] with permission.

Since 2012, sustainability has emerged as an important element of innovation. The three fundamental goals of sustainable housing development included environmental protection, economic development, and social equity (Sullivan & Ward, 2012). Housing improvements for low-income families signified a component of the sustainability goal. Innovation has taken advantage of new ideas developed as the result of behavioral, social, and technological changes (Goulding, Rahimian, Arif, & Sharp, 2014). The production of new manufactured homes used more sustainable and energy efficient housing elements (Sullivan & Ward, 2012). Sustainable upgrades directed increased health and economic benefits (Sullivan & Ward, 2012). Examples of the sustainable housing benefits included high indoor air quality, energy and water saving technologies, (Sullivan & Ward, 2012), reduced allergens, and decreased utility costs.

**Summary of social influences**. Although the relationship between home ownership and personal achievement indicated a progressive economy, social theorists remained concerned about adapting environments that meet a homeowner's needs and

identities (Pattillo, 2013). Social influences, such as media portrayal of manufactured housing, consumer perceptions of the product, pursuit of homeownership as the American Dream, and the NIMBY syndrome helped determine consumer-buying decisions. Common stereotypes and stigma associated with the product unfairly and inaccurately portrayed manufactured housing residents as undesirable and unworthy of social acceptance (Kusenbach, 2009). The reality of the product and positive experiences of residents directly conflicted with commonly held misconceptions. Improving the image through accurate and timely information could have resulted in positive association with the product.

## Transition and Summary

Section 1 included the background of the research problem and primary research problem as the decline in manufactured housing sales and consumer perceptions of the product. I defined the purpose of the research as determining whether the statistical level of the relationship between consumer perceptions of manufactured housing and acceptance of manufactured homes was positive or negative. I identified the nature of the study as quantitative and the method as quantitative correlation with multiple regression analysis. The research questions for the study directed the examination of relationships between independent and dependent variables. The literature provided a comprehensive overview of the original study, identified and explained variables, history of manufactured housing, and effect of psychological, economic, and social influences.

The next section includes an explanation of the research project. Using Atiles et al. (1998) study as a guide, this doctoral study followed similar quantitative correlation

research methods and data collection. Section 2 includes information about the role of the researcher, participants and method of selection, research method and design, population and sampling, collection of data, and tests of reliability and validity.

I present the findings of the study and interpretation of the analysis in Section 3. I also include a descriptive overview of the practical use in professional settings and implications for change in the section. I reveal information about recommendations for application and further study in Section 3. The conclusion of the paper is a summary of my final contemplation on the research topic and experience.

## Section 2: The Project

This section describes the research project and chosen method used to answer the research question. Information includes a review of the purpose statement, explanation of researcher's role, and description of the participant population and sample type. Section 2 also includes identification of research design, method of study, justification of method selection, and reasons for omission of other methods. The description of the project reviews detailed processes of ethical research verification, discussion of data collection tools and techniques, and review of data analysis process. The section concludes with the explanation of reliability, internal validity, external validity, and measurement instruments.

The study commenced upon approval by the Walden University Institutional Research Board (IRB) and the University Research Review (URR) committee. Data were collected in June 2014. Section 3 includes explanation of the results, findings, and associated recommendations.

### Purpose Statement

The purpose of this study was to add to the work of Atiles et al. (1998) and determine whether the level of extent respondents' perceptions of manufactured home type and condition, occupant behavior, respondent demographics, county characteristics, and existing knowledge of the product predicted the acceptance of manufactured homes. Although manufactured housing offer an affordable housing alternative (Wilson, 2012) and signified the most important form of unsubsidized housing in the United States (Burkhart, 2010), the inaccurate social perception negatively influences buying decisions

(Kusenbach, 2009). Nearly 23 million Americans live in manufactured homes (Burkhart, 2010); yet insufficient modern research exists about this form of housing.

Despite providing a potential solution to the affordable housing shortage crisis, the manufactured housing industry has continued to experience declining sales and profit (Dawkins & Koebel, 2010; Wherry & Buehlmann, 2014). The industry's loss of market-share effectiveness reflects the declining strategic edge in the residential construction sector (Wherry & Buehlmann, 2014). Understanding the relationship between consumer perceptions and acceptance of manufactured homes could have contributed to increased manufactured housing sales, reduction of barriers to manufactured home placement, and improved marketing strategies that overcame common misconceptions of the product and its residents. In addition to contributing to the understanding of consumer home purchasing behavior, the study could create a possible social change through improving the social perception of manufactured housing. This doctoral study's results revealed possible changes in trends between consumer perceptions and acceptance of manufactured housing and its residents. Removal of stereotypical barriers and inaccurate perceptions positively may influence consumer-buying decisions. The outcome may lead to an increased market share for the manufactured housing industry.

## Role of the Researcher

Quantitative research involves the ability to measure and quantify a phenomenon and investigate the numeric relationships between the phenomena (Vance et al., 2013). Statistical procedures analyze data related to proposed questions and hypotheses (Vance et al., 2013). My role as the researcher in this study included gathering and analyzing

data. I adapted Atiles et al.'s (1998) survey tool used in the original study. Answers to survey questions suggested positive and negative attitudes toward the acceptance of manufactured homes and their residents in the community.

I distributed surveys to potential participants at Bethel University campuses in the west Tennessee areas of McKenzie, Paris, Jackson, and Memphis. I collected the surveys and analyzed the results using SPSS statistical software. My capacity as an alumni represented a personal relationship with Bethel University. I earned my undergraduate and graduate degrees from Bethel University. I completed a teaching internship in the traditional undergraduate setting and a teaching internship in the adult learner setting. I also have taught nontraditional undergraduate classes as an adjunct instructor.

My relationship with the area included a permanent and established resident of the geographical area. Although I have family and friends in the geographical area, none of them participated in this study. My professional experience in the retail sector of the manufactured housing industry established a relationship with the topic. I also contributed several articles to a trade publication and participated as a presenter at industry conferences. The study reflected an omission of personal opinions and biases.

## Participants

In this doctoral study, I used participants who did not live in manufactured homes during the data collection process. The participants consisted of adult learners enrolled in undergraduate programs at Bethel University. Besides the main campus in McKenzie, Tennessee, the university has established satellite campuses in three west Tennessee locations: Memphis, Tennessee; Paris, Tennessee; and Jackson, Tennessee. Each campus

served nontraditional adult learners enrolled in classes that met one evening per week for five consecutive weeks. The Memphis, Tennessee, and Jackson, Tennessee, locations served mid- to large-population areas. The McKenzie, Tennessee, and Paris, Tennessee, locations served small, rural populations. The mix of the four campus locations provided participants from different geographical areas and represented different socioeconomic classes.

I gained access to participants by securing permission from the director of academic affairs and curriculum development for Bethel University's College of Professional Studies. After receiving permission, I traveled to the four campuses in McKenzie, Tennessee; Paris, Tennessee; Jackson, Tennessee; and Memphis, Tennessee, and I distributed the surveys in the appropriate classes. I provided an overview of the study and explanation of the anonymous survey. The location of the campus for survey distribution represented the only distinguishing feature of the surveys.

Upon extending an invitation to adult learners for participation in a scholarly study that provided the manufactured housing industry with useful information about consumer purchasing behavior, I informed them of opt-out procedures. I told participants that they would not receive any compensation or benefit for completing the survey. I explained that participants and their survey answers remained anonymous. Likewise, I informed participants that survey results remained in my possession. The consent form (see Appendix B) provided details of the 5-year retention of data plan, including the safe and secure storage of data in a protected environment. Participants implied their consent

upon their completion of the distributed survey. The adult learners in each selected class had the opportunity to participate in the study.

The population selected for this study consisted of adult residents in the geographical area of west Tennessee who were enrolled in nontraditional, undergraduate, degree-seeking programs who met the requirements as community residents legally and financially able to purchase a home. The inclusion criteria for the population consisted of adults who lived in a dwelling other than a manufactured home (e.g., traditional site-built home, apartment, condominium) in one of 21 counties that comprised the west Tennessee geographical area. Ineligible adult learners included those who resided in a manufactured home at the time of the survey. Approximately 1,186,107 adults live in west Tennessee (U.S. Census Bureau, 2012). Of the 677,587 housing units in the geographical area, manufactured housing made up approximately 44,221 (6.53%) of those units (U.S. Census Bureau, 2013). Adult residents of 633,366 housing units potentially met the population criteria.

Adult learners enrolled in a nontraditional, undergraduate, degree-seeking program through a local university represented the participants for the research study. I used the nonprobability sampling strategy because of the impossibility of determining the amount of adults who resided in manufactured homes within the defined geographical area. Nonprobability sampling strategies used subjective methods to determine sample elements (Raschke, Krishen, Kachroo, & Maheshwari, 2013). I used the convenience sampling technique of the nonprobability sampling strategy. Convenience sampling

techniques focused on the selection of naturally occurring groups of people from the study population (C. Chen, Shih, & Yu, 2012).

I used a sample-size calculator and comparisons to determine the appropriate sample size. I used G*Power 3.1.9 to conduct *a priori* analysis (Faul, Erdfelder, Buchner, & Lang, 2009). I entered data parameters into G*Power 3.1.9 software and received a sample-size calculation result of 175. I compared the G*Power calculation with Green's (1991) formula for results of 178 and 160. The G*Power sample size calculation of 175 was similar to the comparison calculations.

## Research Method and Design

I used a quantitative method with correlational design and multiple regression techniques to predict acceptance of manufactured homes based on independent variables representing respondents' perceptions and attitudes. Quantitative, qualitative, and mixed methods represented the research perspectives available to researchers for the investigation of selected phenomenon (Mertens, 2015). I considered all three perspectives for selection and determined the quantitative approach was the most appropriate for this study. Factors such as worldview, purpose of the study, hypothesis, access to participants, and intended audience influenced the decision to conduct a quantitative study.

The primary quantitative study designs included experimental, quasiexperimental, and nonexperimental (Trusty, 2011). Assignment of participants to groups and manipulation of independent variables represented the main differences between research designs (Boslaugh & Watters, 2008). Experimental designs used random assignment of participants and manipulation of independent variable values to determine the existence

of causal relationships (Bettany-Saltikov & Whittaker, 2014). In contrast, quasiexperimental and nonexperimental designs used established groups and a researcher cannot randomly assign participants (Alleyne, 2012). Nonexperimental designs involved established groups and manipulation of the independent variable do not occur (Boslaugh & Watters, 2008).

This study did not use the experiment or quasiexperiment designs. Participants consisted of predetermined groups, and no manipulation of the independent variable occurred. Because of the lack of independent variable manipulation, a causal relationship between variables did not exist (Bettany-Saltikov & Whittaker, 2014). This study implemented a nonexperimental design.

**Method**

The purpose of this research was to determine whether the statistical level of the relationship between consumer perceptions of manufactured homes and acceptance of the product was positive or negative. Traditional evidence-based research focused on the ability to measure and quantify a phenomenon as well as the relationships between phenomena, in numeric terms (Vance et al., 2013). Quantitative research used descriptive statistics such as measures of central tendency, measures of dispersion, outliers, and graphic methods to present information about data (Boslaugh & Watters, 2008). The quantitative correlation research method evaluated the relationship between two or more variables within the same group (Alleyne, 2012).

Quantitative research methods depended on comparisons of measurement and correlations between variables (Bettany-Saltikov & Whittaker, 2014). Characterized by

positivist/postpositivist paradigms, measurement, and statistics (Lund, 2012), quantitative methods predicted relationships between variables and generalized results to identified populations (Bolte, 2014). The purpose of this study supported the postpositivist worldview because it involved the determination of a statistically significant relationship between acceptance of manufactured homes and consumer perceptions of the product.

Because the study results identified whether the relationship was positive or negative, the quantification process was optimal for confirming or disconfirming the hypotheses. I did not choose the qualitative research method because the hypotheses and research questions did not seek narratives of personal experiences living in or near manufactured housing. Likewise, I did not choose the mixed research method because the qualitative component was not part of this study. The original study conducted by Atiles et al. (1998) used the quantitative method and collected data with a closed-ended survey. Because this study used a modified version of the original survey tool, the quantitative research method was the appropriate method.

**Research Design**

Atiles et al. (1998) used correlation analysis that identified a statistically significant relationship between the dependent variable and independent variables. Results of the multiple regression analysis indicated 13 independent variables for possible statistically significant relationship with the dependent variable (Atiles et al., 1998). The original survey included questions based on the previously identified 13 independent variables. Atiles et al. revealed the existence of a statistically significant relationship between the dependent variable and six independent variables. This study

included correlational analysis to determine if the previously revealed statistically significant relationships continued to exist.

Correlation designs determined the existence and explained the type of significant relationships between two variables (Xiong et al., 2014). In correlation designs, the researcher measured two or more nonmanipulated variables for each participant to determine the existence of linear relationships between the variable (Alleyne, 2012). Correlation analysis procedures tested the influence of independent variables on the dependent variable (Bettany-Saltikov & Whittaker, 2014). The causal-comparative design included the element of covariance which establishes causality (Bhattacherjee, 2012). The correlation design did not reveal conclusions in a cause and effect relationship or establish causality between variables (Alleyne, 2012). Researchers based predictions on correlations. In contrast, explanations required causation or understanding of cause-effect relationships (Bhattacherjee, 2012).

I used multiple regression analyses to understand the how changes in the independent variables related to changes in the dependent variable (H. Chen et al., 2014). Regression analysis represented an in-depth analytical technique that enables researchers to conclude if one or more independent variables predicted the result in a statistically significant manner (Ready, 2012). Regression analysis provides a type of predictive model that allowed the forecast of future events (Boslaugh & Watters, 2008). Researchers commonly applied linear regression for prediction in models with no experimental control in the data collection phase (H. Chen et al., 2014). I used multiple regression analyses to examine the relationship between criterion and predictor variables regarding

regression coefficients (Braun, Altan, & Beck, 2014). Although I considered alternative quantitative research designs, the correlation design with multiple regression analysis remained most suitable for this study.

## Population and Sampling

The population selected for this study consisted of adult residents in the geographical area of west Tennessee who were enrolled in nontraditional, undergraduate, degree-seeking programs who met the requirements as community residents legally and financially able to purchase a home. According to the U.S. Census Bureau (2012), approximately 1.19 million people over the age of 18 resided within the 21 counties that comprised west Tennessee. Participant eligibility criteria included reaching the legal adult age of 18, resident of the geographical area, and not living in a manufactured home during the time of the data collection process. Manufactured homes in west Tennessee represented 6.53% of the 677,587 total housing units (U.S. Census Bureau, 2013). Ineligible participants included adult residents of the 44,221 manufactured homes in the target area.

The nonprobability sampling method determined participants for this study. Researchers have used nonprobability sampling methods when insufficient information existed about the population (Raschke et al., 2013). Researchers also used nonprobability sampling methods based on a specific research goal, accessibility of participants, and other nonstatistical criteria (Raschke et al., 2013). The four primary types of nonprobability sample designs included convenience sampling, purposive sampling, quota sampling, and respondent assisted sampling (Lipp & Fothergill, 2015).

Convenience sampling signified the most flexible procedures in which availability and accessibility guided the participant selection process (Lipp & Fothergill, 2015).

Convenience sampling is a category of availability sampling. Convenience sampling methods selected the participant sample based on level of convenience and availability of the participant group (Ozdemir, St. Louis, & Topbas, 2011). Factors that influence participation included geographical proximity, availability, convenience, and willingness to volunteer (Lipp & Fothergill, 2015). Advantages of convenience sampling include ease of acquiring access, low cost, limited time and personnel requirements, and marginal sampling skills (Ozdemir et al., 2011). Disadvantages of convenience sampling include limited generalizability to other settings, emphasis on readily available population elements, potential omission of not readily available population elements, and least reliable of the sampling methods (Lipp & Fothergill, 2015).

The convenience sampling method was the appropriate method for this study because of the advantages associated with the accessibility of adult learners who represented the population. I expected high response rates because of the participants' availability, ability, and willingness to take part in the survey process (Lipp & Fothergill, 2015). Although potential existed for the inadequate sample representation of the population (Ozdemir et al., 2011), the limited financial resources, sampling skills, and time outweighed the drawbacks of the method.

**Margin of Error**

The two types of margins of errors that researchers attempt to control in statistical hypothesis testing consisted of Type I and Type II (Ready, 2012). A Type I error

appeared in hypothesis testing when interpretation of study results inaccurately indicated a statistically significant effect on the experimental group (Boslaugh & Watters, 2008). For example, incorrectly rejecting the null hypothesis represented a Type I error (Ready, 2012). A Type II error occurred when the researcher missed a significant effect of the treatment on the experimental group (Boslaugh & Watters, 2008). For example, failure to reject the null hypothesis in error represented a Type II error (Ready, 2012).

The standard level of acceptability of a Type I error, commonly known as alpha or α, was set at .05 (Boslaugh & Watters, 2008). This meant that a 5% chance existed of incorrectly rejecting the null hypothesis instead of accepting it. For this study, I used α = .05. Type II errors, commonly known as beta or β, represent the error made when a false $H_O$ remained in a study (Boslaugh & Watters, 2008). Type II errors' values reflect a researcher's assessment after evaluating previous studies, establishing familiarity with research topic, and considering resource or financial limitations (Ready, 2012). Conventional levels of acceptability for Type II errors include values between .10 and .20 (Boslaugh & Watters, 2008). This means that, depending on the chosen β value, a 10% or 20% chance existed that the false null hypothesis inaccurately remained in the study. In accordance with the general rule that a 4:1 ratio with α exists, I set the β to .20.

**Effect Size**

Effect size indicated possible substantive significance in which interested parties considered findings important and worthy of attention (Kelley & Preacher, 2012). Used as a reference to the size or strength of a relationship, effects sizes fell into the categories of small, medium, and large (Ready, 2012). Effect sizes of small, medium, and large

represented Cohen's (1988) operational definitions (Ready, 2012). Ready (2012) provided examples of effect sizes that included a medium effect size as visible to the naked eye. The small effect size represented one smaller than a medium effect size, but large enough to render importance to a researcher (Ready, 2012). Ready indicated a large effect size as having a similar proportionate difference above a medium effect size as a small had below a medium effect size.

Although Kelley and Preacher (2012) acknowledged Cohen's (1988) operational definitions of effect size, they argued that interpretation of effect size operational definitions varied and conflicted in literature. Kelley and Preacher referenced Nakagawa and Cuthill's (2007) discussion on how effect size represented a measurement which reflected the significance of a result, the numerical calculation based on the result of the measurement, or a pertinent understanding of the result's significance. For purposes of this study, the effect size followed Ready's (2012) explanation based on Cohen's work, which Kelley and Preacher supported through Nakagawa and Cuthill's (2007) definition of effect size indicated as, a pertinent understanding of the results significance of a numerical calculation based on the results of measurement. As demonstrated in Kelley and Preacher, and Ready, a medium effect size indicated the size and strength of relationships.

In multiple linear regression models with several predictor variables, the $f^2$ statistic represented the ratio of explained variance and error variance (Faul et al., 2009). The $f^2$ functioned as the effect size measure (Faul et al., 2009). According to Faul et al., Cohen's representation of regression effect size values .02, .15, and .35 indicated small,

medium, and large effects. The study chosen as a model for this doctoral study did not include a description of anticipated effect size prior to obtaining a sample and information contained in the study was insufficient to calculate the proper effect size. Ready (2012) faced similar limitations in prior studies relating to the topic of yellow pages advertising effectiveness. As suggested by Ready, I used the medium effect size of .15 for multiple linear regression analysis.

**Statistical Power**

According to Boslaugh and Watters (2008), calculation of statistical power prior to conducting an experiment represented an important step to determine the scope. Statistical power signified a test's ability to discriminate between two means when a difference existed (Boslaugh & Watters, 2008). Statistical power is the probability that a study identified an effect when a genuine effect existed. Boslaugh and Watters defined statistical power ($\pi$) as $\pi = 1 - \beta$, with $\beta$ representing the probability of committing a Type II error. Common practices indicated the use of a conservative $\alpha$ level, such as $\alpha < .01$, and $\beta$ accepted at 80 (Boslaugh & Watters, 2008; Fritz, Morris, & Richler, 2012). According to Ready (2012), prior research indicated an average statistical power needed to identify a medium effect was .89. For this study, I used a statistical power of .90, the alpha ($\alpha$) of .05 and the medium effect size of .15 to determine the minimum sample size required.

**Sample Size Calculation**

The sample size represented the amount of participants required to identify the true effect of the phenomena found in a population (Alleyne, 2012). The mathematical

calculations necessary to obtain a sample size included alpha, statistical power, and effect size (Ready, 2012). I used G*Power 3.1.7 software to calculate a sample size. Researchers have commonly used G*Power for statistical tests in social, behavioral, and biomedical sciences (Faul et al., 2009). G*Power has enabled researchers to conduct a priori analysis, post hoc analysis, and other important analyses (Faul et al., 2009).

A priori analysis identifies the necessary sample size based on the user-specified values for the required significance level α, the statistical power $1 - \beta$, and the anticipated population effect size (Faul et al., 2009). I selected the *Linear multiple regression: Fixed model, $R^2$ deviation from zero* which assumed fixed and known predictor variables (Faul et al., 2009). This test evaluated whether a group of predictor variables significantly predicted a dependent variable. The input parameters included a medium effect size ($f^2$) of .15, alpha error of probability $\alpha = .05$, and statistical power of $1 - \beta = .90$.

The final input parameter required to calculate the sample size through G*Power was the number or predictor, or independent, variables. Of the 12 independent variables used, nine represented Likert-scaled variables and three represented categorical variables. I used dummy coding to include the categorical variables in regression analysis. According to Ready (2012), the general rule of $k - 1$ with $k$ representing the number of attributes of a variable signified an ideal method of using dummy codes to show group membership. The categorical variable of gender included two attributes of the variable. Using Ready's explanation, each of the categorical variables with two attributes accounted for one predictor variable. The categorical variable of respondents' race included six attributes (Black, White, Hispanic, Native American, Asian, and other).

Using the $k - 1$ general rule, the categorical variable of race accounted for six variables. The total of predictor variables input in the G*Power sample size calculator was 16. The resulting sample size calculation revealed a sample size of 175.

For a sample size calculation comparison, I used Green's (1991) calculation to determine regression sample size in which $N > 50 + 8m$, with $m$ representing the number of independent variables for multiple correlations (Heckmann, Gegg, Gegg, & Becht, 2013). This calculation resulted in a sample size of 178 given the number of independent variables was 16. Heckmann, Gegg, Gegg, and Becht (2013) also recommended an absolute minimum of 10 participants per predictor variable, which indicated a minimum of 160 participants for this study. Because the calculated sample size ranged from 160 to 178 with G*Power's calculation of 175 as the most scientific, I set a sample size objective of at least 175.

## Ethical Research

Before distributing surveys to participants for completion, I obtained approval to proceed with the study from Walden University's Institutional Review Board (IRB). Study participants consented voluntarily to take part in the study by reviewing the consent form included as Appendix B and returning the completed survey. The study participants received a self-addressed and stamped security envelope in which to place the completed survey. The study participant returned the completed survey by mailing it through the United States Postal Service. The consent form notified participants of their right to withdraw from the study at any time without penalty. Participants could have withdrawn through voluntarily choosing not to complete survey, turning in uncompleted

survey, or declining to answer questions. The consent form also informed participants that they would receive no incentives or compensation for their involvement. The omission of participant identifiers, such as name or cohort number, ensured participant anonymity throughout the survey process. As explained on the consent form, the research data will remain in a locked safe at my personal residence for 5 years. Password protected access has secured all electronic data on my personal computer.

## Data Collection

This heading includes a description of the data collection tool, completion processes, and location of raw data. A description of each variable used in the study provided clarity and understanding. This heading also includes an explanation of strategies used to resolve issues related to validity, reliability, and consistency. The conclusion of the section describes adjustments or revisions made to the research instruments used in the study.

### Instruments

I used an adaptation of Atiles et al.'s (1998) "Opinion Survey about Manufactured Homes". Atiles et al. granted permission to use the survey (see Appendix C1). I omitted survey questions included in the original study that longer no applied as influential factors in the study. The original study results showed the variables of perceived manufactured home occupant behavior, proportion of manufactured homes in the county, perceived manufactured home condition, manufactured home type, respondents' gender, and manufactured home knowledge emerged as significant predictors of manufactured home acceptance (Atiles et al., 1998).

Commonly used in nonexperimental research designs, the mode of survey data collection obtained answers from people about their behavior, emotions, attitudes, and beliefs (Couper, 2011). The two main types of surveys included open-ended and closed-ended questions. Open-ended questions required participants to formulate answers in their own words (Roberts et al., 2014). In contrast, closed-ended questions listed predetermined response choices for the participant to choose the answer that represented their ideas or characteristics (Roberts et al., 2014). The ease of closed-ended questions required less completion time and included response formats of dichotomous, nominal, ordinal, Likert-scaled, or rank ordered (Roberts et al., 2014).

The "Opinion Survey about Manufactured Homes*"* obtained data to measure evaluative and salient perceptions that differentiated between positive and negative dispositions toward manufactured housing and their occupants (Atiles et al., 1998). The survey incorporated questions with responses using dichotomous, nominal, ordinal, and continual formats (Stuckey, Taylor, & Cranton, 2013). Likert scaling assessed the perception, attitude, or opinion (Stuckey et al., 2013) of respondents toward the independent variables. Using the survey instrument provided measures of the constructs identified as the independent variables in the original study that had a statistically significant relationship with the dependent variable. A modified version of Atiles et al. (1998) "Opinion Survey about Manufactured Homes*"* provided data on the respondents' perceptions about the condition of manufactured housing and occupant behavior, manufactured home type, respondents' gender, knowledge of manufactured housing, and the proportion of manufactured homes in the respondents' county of residence. The

survey results provided measures of community acceptance of manufactured housing based on respondents' perceptions of the independent variables.

The Pearson product moment correlations determined the level of relationship among the independent variables and with the dependent variable (Atiles et al., 1998). Variables with a correlation of $r > .50$ and $p \leq .05$ were analyzed to determine the existence of a linear dependency (Atiles et al., 1998). Multiple regression analysis provided the basis for testing the hypotheses of the study (Atiles et al., 1998). In addition, regression equations analyzed the single- and double-section survey subsample groups (Atiles et al., 1998).

The purpose for the survey instruments included eliciting opinions and testing the study hypothesis about acceptance of manufactured housing among selected areas in west Tennessee. Assessment of survey reliability included using the exact questions used by Atiles et al. (1998) in the original study. Atiles et al. established validity through the composition and revision of opinion statements about manufactured homes and occupants. Atiles et al. also used a four-point Likert-type scale that resulted in interval variables, pretests for reliability, validity through a pilot survey, and appropriate revisions based on results of the pilot study.

Validity in research proposed that content translation remained consistent from premise to conclusion (Cook et al., 2014). Threats to internal validity in quantitative research included instrument issues, order bias, and researcher bias (Ihantola & Kihn, 2011). Internal validity is not relevant for nonexperimental designs and this study's results were not intended to implicate causation. Threats to external validity in

quantitative research included population, time, and environmental validity (Ihantola & Kihn, 2011). The review of potential external threats to assessed the process of validity. Selection of participants could have resulted in a threat to validity (Ihantola & Kihn, 2011) because the participant sample consisted of adult learners enrolled in nontraditional, undergraduate, degree-seeking programs at different campuses. To minimize the threat to the validity, the convenience sample only included participants over the age of 18 who lived independently. Ineligible study participants included adult students who lived in a manufactured home at the time of survey distribution.

A potential threat to external validity included the interaction of selection and setting. To generalize research findings across populations, quantitative researchers select a sample that represents the population of interest (Lund, 2012). I only generalized findings to adult residents of homes and dwellings, other than manufactured homes in West Tennessee, enrolled in nontraditional, undergraduate, degree-seeking programs who met the requirements as community residents legally and financially able to purchase a home. The differences in my study's settings represented another potential threat to external validity (Bolte, 2014).

Upon approval from the IRB, distribution of consent forms and surveys took place. I reviewed the consent form with participants and explained that returning a completed survey indicated consent. The participant retained the consent form. I distributed appropriate surveys to participants in each class. The designation of survey as applicable to single-section or double-section home remained the only distinguishing feature between the two separate surveys. The questions remained the same in each

survey. Random distribution of surveys ensured each person had an equal chance to receive a survey about single-section or double-section homes.

A short introductory paragraph provided an explanation of the research's purpose. The instructions included the request for participants to carefully read each statement and question and select the choice applicable to their opinion. Explanation and distribution of the surveys and consent forms took approximately 15 minutes. I advised participants to compete the survey outside of the class and use the self-addressed stamped security envelope to return the completed survey. I informed participants that interested parties may access raw data upon written request by contacting me via e-mail. Raw data included the survey completed by each participant. I grouped the raw data according to the manufactured home type designation of single-wide or double-wide manufactured home.

**Data Collection Technique**

I collected the data using the survey developed by Atiles et al. (1998). Distribution and collection of surveys occurred at Bethel University campuses in West Tennessee. Upon approval from the IRB, I coordinated with the director of academic affairs & curriculum development for Bethel University's College of Professional Studies to schedule time for survey distribution, completion, and collection. Because the participants attended class at four separate satellite campuses, I scheduled a time to travel to each campus. Communication with each class facilitator included an agreement on a date and time block of approximately 15 minutes for the review of instructions, explanation of study, and answering potential questions.

I informed participants of the voluntary nature to participate in the study through the completion of a survey. The distributed consent form included information about participant anonymity. I reviewed the consent form and responded to questions regarding the consent process. I distributed the surveys and self-addressed stamped envelopes. I reviewed instructions for the completion and return of the survey. I explained the importance of completed surveys and informed participants of the omission of incomplete surveys from the study. I notified participants that incomplete surveys would remain in storage with the other study information for at least 5 years. Upon finishing the review of instructions, I provided the opportunity to allow participants to ask questions. To prevent sharing of opinions, suggestions, or influencing participant opinions, I limited my answers to only technical questions about the survey. A pilot study was not necessary because Atiles et al. (1998) validated the survey in the original study. See Appendix D for the list of survey questions.

**Data Organization Techniques**

The survey used the traditional paper format. Categorization of data used the subgroups based on single-wide or double-wide manufactured home. Storage of data used separate files categorized by subgroups. I entered survey answers into SPSS for results and analysis. Secure storage of the original surveys and encrypted computer files prevented unauthorized access. The properly labeled data files will remain stored in a secure fireproof safe at my residence for at least 5 years. Upon expiration of storage time requirements, I will use a hand shredder to destroy paper copies. The physical destruction

of the solid-state drive containing the computer files will eliminate future retrieval of data.

## Data Analysis Technique

The acceptance of manufactured homes theory offered insight into understanding consumer perceptions of manufactured homes and the manner in which the perceptions influenced acceptance of manufactured homes (Atiles et al., 1998). The theory addressed external characteristics, such as manufactured home type and county characteristics that affected respondents' salient perceptions of the product. Respondents' attitudes represented the level of acceptance or rejection toward manufactured homes and their occupants. The acceptance of manufactured home theoretical framework provided the foundation for the research question:

Does a statistically significant relationship exist between acceptance of manufactured housing and 12 variables representing respondents' perceptions of manufactured homes, respondents' characteristics, county characteristics, and manufactured home type?

I used multiple regression analyses to test the hypothesis that a statistically significant relationship existed between 12 independent variables representing consumer perceptions of manufactured housing and occupants and the dependent variable of acceptance of manufactured housing. Nine of the independent variables represented Likert-scaled variables and three independent variables represented categorical variables. I coded the categorical variables as dummy variables for inclusion in the regression analysis. The number of dummy variables required to represent a single categorical

variable equaled the number of degrees of freedom available for the categories (Bhattacherjee, 2012). Dummy coding transformed the categorical variables (e.g., race, manufactured home type, gender) for inclusion in regression analysis. Because this study added to the work of Atiles et al. (1998), the data analysis followed the processes of Atiles et al.

As in the original study, I used Pearson's product moment correlation coefficients to determine the level of relationship among the independent variables and the dependent variable (Atiles et al., 1998). I examined variables that correlated higher than $r = .50$ to determine if a linear dependence existed between them. Using the presumption that the null hypothesis was true, the $p$ value signified the probability of getting an effect equal to or more significant than the one observed (Walsh et al., 2014). The threshold $p$ value in which anything below it resulted in the rejection of the null hypothesis (Walsh et al., 2014), for this study was $p < .05$. Although the correlation coefficient suggested an association between two variables, it did not prove the existence of a significant nor causal relationship between the two variables (Sosa, Berger, Saw, & Mary, 2011).

Descriptive statistics supported inferential statistics to increase the reader's understanding of the direction and meaning of important results (Frels & Onwuegbuzie, 2013). Descriptive statistics included frequency distributions, standard deviations, and variances (Frels & Onwuegbuzie, 2013). Descriptive analysis provided a representation of the data and identified potential outliers (Frels & Onwuegbuzie, 2013). The summary of the correlational multiple regression analysis in Table 2 included a description of the applicable data analysis plan and statistical hypotheses testing for the study. The

information in Table 2 provided an overview of each research question, related hypothesis, data elements, and statistical approach.

Table 2

*Summary of the Correlational Multiple Regression Analysis (CMRA)*

| Research question | Related hypotheses | Data elements | Statistical approach |
|---|---|---|---|
| Does a statistically significant relationship exist between acceptance of manufactured housing and variables representing respondents' perceptions of manufactured home characteristics? | $Ho_1$: A statistically significant relationship does not exist between acceptance of manufactured housing and perceived manufactured home characteristics. $Ha_1$: A statistically significant relationship exists between acceptance of manufactured housing and perceived manufactured home characteristics. | Manufactured home appearance and condition, manufactured home foundation type, manufactured home location and neighborhood type, and age of structure or year built | CMRA |
| Does a statistically significant relationship exist between acceptance of manufactured housing and variables representing respondents' perceptions of manufactured home occupant characteristics? | $Ho_2$: A statistically significant relationship does not exist between acceptance of manufactured housing and perceived characteristics of manufactured home occupants. $Ha_2$: A statistically significant relationship exists between acceptance of manufactured housing and perceived characteristics of manufactured home occupants. | Perceived manufactured home household social behavior, perceived manufactured home occupants' origin, perceived manufactured home household composition, perceived manufactured home household income levels, perceived manufactured home household educational levels, perceived manufactured home household employment status, and perceived racial composition of manufactured home households. | CMRA |

(*table continues*)

| Research question | Related hypotheses | Data elements | Statistical approach |
|---|---|---|---|
| Does a statistically significant relationship exist between acceptance of manufactured housing and variables representing perceived neighborhood physical structure? | $Ho_3$: A statistically significant relationship does not exist between acceptance of manufactured housing and perceived neighborhood physical structure.<br>$Ha_3$: A statistically significant relationship exists between acceptance of manufactured housing and perceived neighborhood physical structure. | Neighborhood physical homogeneity level, land-use mix, and neighborhood size. | CMRA |
| Does a statistically significant relationship exist between acceptance of manufactured housing and variables representing perceived neighborhood social structure? | $Ho_4$: A statistically significant relationship does not exist between acceptance of manufactured housing and perceived neighborhood social structure.<br>$Ha_4$: A statistically significant relationship exists between acceptance of manufactured housing and perceived neighborhood social structure. | Perceived neighborhood social homogeneity level. | CMRA |
| Does a statistically significant relationship exist between acceptance of manufactured housing and variables representing respondents' socioeconomic status? | $Ho_5$: A statistically significant relationship does not exist between acceptance of manufactured housing and respondents' socioeconomic status.<br>$Ha_5$: A statistically significant relationship exists between acceptance of manufactured housing and respondents' socioeconomic status. | Respondents' housing value, respondents' income level, respondents' educational level, respondents' employment status, respondents' housing type, and respondents' housing tenure status. | CMRA |

*(table continues)*

| Research question | Related hypotheses | Data elements | Statistical approach |
|---|---|---|---|
| Does a statistically significant relationship exist between acceptance of manufactured housing and variables representing respondents' knowledge and familiarity with manufactured homes? | *Ho*$_7$: A statistically significant relationship does not exist between acceptance of manufactured housing and respondents' knowledge and familiarity with manufactured homes.<br>*Ha*$_7$: A statistically significant relationship exists between acceptance of manufactured housing and respondents' knowledge and familiarity with manufactured homes. | Respondents' extent of knowledge about manufactured homes, respondents' familiarity with manufactured homes, respondents' and respondents' perception of distance from his or her residence to a manufactured home | CMRA |
| Does a statistically significant relationship exist between acceptance of manufactured housing and county characteristics? | *Ho*$_8$: A statistically significant relationship does not exist between acceptance of manufactured housing and county characteristics.<br>*Ha*$_8$: A statistically significant relationship exists between acceptance of manufactured housing and county characteristics. | % of respondents' residences in counties indicated in completed and returned surveys | CMRA |
| Does a statistically significant relationship exist between acceptance of manufactured housing and type of manufactured home unit? | *Ho*$_9$: A statistically significant relationship does not exist between acceptance of manufactured housing and type of manufactured home unit.<br>*Ha*$_9$: A statistically significant relationship exists between acceptance of manufactured housing and type of manufactured home unit. | % of manufactured home type indicated on the completed survey as single-section or double-section. | CMRA |

*Note.* CMRA = correlational multiple regression analysis.

Data analysis used SPSS Version 20.0®, a computer based program used to manage data and analyze statistics (Sosa et al., 2011). Researchers used SPSS to conduct descriptive, bivariate, and multivariate statistical analysis on quantitative variables (Barnett, 2014). Although other statistical analysis tools were available, the use of SPSS in fields such as sociology, business, market research, academia, and government (Sosa et al., 2011) made the software the ideal choice because of familiarity and acceptance. Other factors that influenced my choice in analysis tools included the ease of use through database import capabilities and flexibility of formats (Sosa et al., 2011). I used the statistical analysis tools in SPSS to determine whether a correlation existed between the variables as indicated by the following hypotheses:

$H_{o1}$: A statistically significant relationship does not exist between acceptance of manufactured housing and perceived manufactured home characteristics.

$H_{a1}$: A statistically significant relationship exists between acceptance of manufactured housing and perceived manufactured home characteristics.

$H_{o2}$: A statistically significant relationship does not exist between acceptance of manufactured housing and perceived characteristics of manufactured home occupants.

$H_{a2}$: A statistically significant relationship exists between acceptance of manufactured housing and perceived characteristics of manufactured home occupants.

$H_{o3}$: A statistically significant relationship does not exist between acceptance of manufactured housing and perceived neighborhood physical structure.

$H_{a3}$: A statistically significant relationship exists between acceptance of manufactured housing and perceived neighborhood physical structure.

*H*o$_4$: A statistically significant relationship does not exist between acceptance of manufactured housing and perceived neighborhood social structure.

*H*a$_4$: A statistically significant relationship exists between acceptance of manufactured housing and perceived neighborhood social structure.

*H*o$_5$: A statistically significant relationship does not exist between acceptance of manufactured housing and respondents' socioeconomic status.

*H*a$_5$: A statistically significant relationship exists between acceptance of manufactured housing and respondents' socioeconomic status.

*H*o$_6$: A statistically significant relationship does not exist between acceptance of manufactured housing and respondents' demographic characteristics of gender, age, household size and composition, and race.

*H*a$_6$: A statistically significant relationship exists between acceptance of manufactured housing and respondents' demographic characteristics of gender, age, household size and composition, and race.

*H*o$_7$: A statistically significant relationship does not exist between acceptance of manufactured housing and respondents' knowledge and familiarity with manufactured homes.

*H*a$_7$: A statistically significant relationship exists between acceptance of manufactured housing and respondents' knowledge and familiarity with manufactured homes.

*H*o$_8$: A statistically significant relationship does not exist between acceptance of manufactured housing and county characteristics.

*H*a$_8$: A statistically significant relationship exists between acceptance of manufactured housing and county characteristics.

*H*o$_9$: A statistically significant relationship does not exist between acceptance of manufactured housing and type of manufactured home unit.

*H*a$_9$: A statistically significant relationship exists between acceptance of manufactured housing and type of manufactured home unit.

The statistical analyses included tests commonly used in quantitative research to quantify and evaluate relationships between two or more variables. The survey featured closed-ended questions with responses using dichotomous, nominal, ordinal, and continual formats. Likert-type scaling assessed the perception, attitude, or opinion (Stuckey et al., 2013) of respondents toward the independent variables. I did not conduct statistical analyses associated with qualitative research, such as triangulation and theme identification, because the hypotheses and research questions did not seek respondents' narratives of personal experiences.

I analyzed the data through the four following steps: (a) outlier detection and elimination, (b) exploratory data analysis, (c) correlational analysis, and (d) regression modeling. I used SPSS to identify potential outliers and conducted multiple tests to develop and refine the regression model. Because incomplete surveys signified missing data, I used only completed surveys in the analysis process. The exclusion of incomplete surveys reduced problems associated with missing data. I also excluded returned surveys completed by participants who indicated current residency in a manufactured home. I

included a detailed explanation of the statistical analyses used each step of the data analysis process.

**Step 1 – Outlier Detection and Elimination**

The first step of data analysis consisted of outlier detection and elimination. Outliers represented data values that failed to fall within acceptable ranges (Ready, 2012). The value of an outlier significantly differed from other values in the data set (Boslaugh & Watters, 2008). Outliers also represented data entry errors (Boslaugh & Watters, 2008). The categorical and ordinal variables limited response options. The simple detection of outliers consisted of anything not within the range of allowable response option (Ready, 2012). For example, if five response choices existed, the only option would have consisted of a 1, 2, 3, 4, or 5. In the event of an outlier, I verified the accuracy of data entry and corrected any mistakes.

I used a box plot graph to identify outliers in Likert-scaled variable data. Box plot graphs divided data into quartile ranges of 25%, 50%, and 75% that easily identified minimum and maximum values (Ready, 2012). Data points that failed to fall within the acceptable minimum and maximum values represented suspected outliers (Ready, 2012). I verified the accuracy of data entry and made appropriate corrections. I also investigated whether the outlier cases belonged to the same population as the other cases (Boslaugh & Watters, 2008). In the event of unexplainable outliers, I eliminated the cases from the data set prior to analysis.

**Step 2 – Exploratory Data Analysis**

The second step of the data analysis consisted of exploratory data analysis. This step increased my understanding of the connection between the data and each variable in the study. The exploratory analysis included descriptive statistics such as the mode, range, and frequency tables (Frels & Onwuegbuzie, 2013). The study variables represented categorical, Likert-scaled, and ordinal data. The type of variable determined appropriate analysis techniques.

I used the one-sample chi-square test to evaluate the goodness of fit for categorical variables. The chi-square goodness of fit test compared observed values with expected values. The observed value represented the frequency of a category from a sample (Boslaugh & Watters, 2008). The expected frequency represented the calculation based upon the subject distribution (Boslaugh & Watters, 2008). I assumed that each dichotomous variable, such as MHTYPE and REGENDER had an equal frequency of 50%. I assumed that categorical variables with more than 2 possible categorical values, such as RESPRACE, had equal distributions (i.e., 100%/5 = 20%) (Ready, 2012). I used the Chi-squared test because the data were categorical, and I tested the hypotheses of equal cell frequencies. I rejected the implied hypothesis of equal observed and expected values if the $p$-value < .05 (Bhattacherjee, 2012).

**Step 3 – Correlation Analysis**

The next step performed was correlation analysis. The correlation coefficient quantified and measured the level of association between two variables (Boslaugh & Watters, 2008). Regression analysis tests for a statistically significant relationship between each independent X variable and dependent Y variable (Ready, 2012). I

calculated Pearson's Product-Moment Correlation Coefficient (*r*) for each Likert-scaled *X* variable and dependent *Y* variable combination (Ready, 2012). An association between two variables that resembled a straight line indicated correlation between those variables (Alleyne, 2012).

Correlation indicated positive or negative associations. According to Alleyne (2012), a positive relationship signified that the values on independent and dependent variables simultaneously increased at the same rate. A negative relationship reflected an increase on independent variables values occurred when values on dependent variables decreased at the same rate (Alleyne, 2012). The *r* (X,Y) ranged in value from - 1 to 1, with values close to zero representing weak associations and high values indicating strong associations (Boslaugh & Watters, 2008). A correlation of + 1 indicated a perfect, positive association between X and Y. A correlation of - 1 indicated a perfect, negative association between X and Y. A correlation of 0.00 indicated no association existed between the two variables (Boslaugh & Watters, 2008). This study involved categorical and Likert-scaled variables. The *r* calculation applied to Likert-scaled variables. I performed chi-square goodness of fit test and regression analyses to determine correlation between categorical *X* variables and the Likert-scaled *Y* variable.

I used dummy coding to transform categorical variables into discrete variables. The dichotomous *X* variable MHTYPE used the dummy code of 1 for single-section units and 2 for double-section units. The dichotomous *X* variable REGENDER used the dummy code of 1 for male and 0 for female.

I used SPSS to determine and analyze the significance of linear relationships between variables. A significance value < .05 reflected a linear relationship between the independent and dependent variable (Alleyne, 2012; Ready, 2012). The Pearson product moment correlation was calculated for each pair-wise combination of independent variable and dependent variable in which $r_{pbi} = 0$ with a $p$-value ≤ .05 indicated *rejection* of the null hypothesis and inclusion of the independent variable in the model (Ready, 2012). A Pearson product correlation for pair-wise combinations in which $r_{pbi} \neq 0$ or a $p$-value > .05 indicated failure to reject the null hypothesis (Ready, 2012).

The Pearson product moment correlations determined the level of relationship among the independent variables and with the dependent variable (Atiles et al., 1998). Variables with a correlation of $r$ >.50 and $p \leq .05$ were analyzed to determine the existence of a linear dependency (Atiles et al., 1998).

**Step 4 – Regression Modeling**

Upon completion of the correlation analysis, I used SPSS to develop the regression model. Independent variables included in the statistical model predicted levels of acceptance of manufactured homes. The original study results indicated theoretical importance of all independent variables, with six having significant value (Atiles et al., 1998). Because of the changes that have occurred in the 17 years since the original study, I included all predictor variables in the model for this study.

I used multiple regression analysis techniques in which the research setting included a single outcome and multiple predictors (Boslaugh & Watters, 2008). This statistical analysis identified statistically significant correlational relationships among

variables and used independent variable values to predict values of the dependent variable (Alleyne, 2012). Multiple regression analysis helped determine the significance of relationships between the independent variables and acceptance of manufactured homes by testing the associated hypothesis to establish the existence of a statistically significant correlation (White, 2014). According to Alleyne (2012), the evaluation of correlational relationships created a formula of $Y = f(X)$ to explain the numeric associations between the dependent variable ($Y$) and one or more independent variable ($X$).

I used the simultaneous regression method to determine which variables did or did not contribute to the explanation of the variation in the dependent variable. Simultaneous regression included all independent variables to the model at the same time (Boslaugh & Watters, 2008). Treatment of the independent variables occurs equally and simultaneously. The simultaneous regression method reflects the equal importance of independent variables. I made no assumptions regarding hypothetical causal structure in the research goals. My objectives included testing the simultaneous effects of the set of independent variables on the response. The purpose of this step was to test the research hypotheses.

Although not included in the original study by Atiles et al. (1998), I conducted an analysis of variance (ANOVA) to measure the reliability of the estimates of regression models (White, 2014). The ANOVA models included assumptions that the dependent variable was Likert-scaled, normally distributed, and no outliers occurred (Madu, 2014). The assumptions also suggested that all levels of the independent variables represented

equal or similar sample sizes (Madu, 2014). The ANOVA analysis increased understanding of differences among three or more group means (Alleyne, 2012). The ANOVA used the *F* test, which reflected the mean square regression divided by the mean square residual, to determine whether statistically significant differences existed among the groups (Ogbodo, 2014).

Atiles et al. (1998) designed the "Opinion Survey about Manufactured Homes" to measure respondents' perceptions opinions about manufactured home characteristics, manufactured home residents, and community suitability. The survey questions elicited responses that indicated a positive or negative attitude toward acceptance of manufactured homes. The analysis of the data related to the acceptance of manufactured homes theory determined the existence of a statistically significant relationship between acceptance of manufactured homes and 12 independent variables. The assessment of perceptions measured attitudes toward manufactured housing and their occupants. In turn, the positive or negative attitudes determined acceptance levels of manufactured homes in respondents' neighborhoods.

## Reliability and Validity

The modified version of Atiles et al. (1998) "Opinion Survey about Manufactured Homes" focused on identifying the independent variables that had a statistically significant relationship with the dependent variables in the original study. Although two versions of the survey distinguished between single- and double-section homes, the questions remained the same. The multiple choice responses and Likert-type scale model were consistent with other survey scales. All participants received the same questions,

and I reviewed submitted surveys to verify completion with no missing data. I tested the data using SPSS and performed scoring multiple times to guarantee the accuracy and consistency.

The reliability of the survey instrument and research design used reflected past work conducted by Atiles et al. (1998). Although used in a previous study, modeling the survey instrument alone did not provide inherent reliability (Roberts et al., 2014). Validity and reliability represented two fundamental elements in the evaluation of a measurement instrument (Tavakol & Dennick, 2011). Validity referred to the extent to which the instrument effectively measures an item as intended (Tavakol & Dennick, 2011). Reliability referred to the proficiency of an instrument to produce consistent measurements (Tavakol & Dennick, 2011). Bias in a research study has influenced the reliability and validity of the findings. The bias could have caused a potentially irrelevant study (Ioannidis et al., 2014).

**Reliability**

In quantitative research, reliability signified repeatability or consistency of measures (Venkatesh, Brown, & Bala, 2013). Reliability measured the extent of reproduction in which the results and conclusions of one study applied to another study (Ihantola & Kihn, 2011). A reliable measure generated the same result multiple times (Venkatesh et al., 2013). Reliability referred to the level that a variable or set of variables remained consistent over measurement testing situations (Ihantola & Kihn, 2011). Reliability increased the trustworthiness of the measurement tool and enabled subsequent researchers reach similar conclusions in replications (Cook et al., 2014). Because

reliability reduced bias and error in data collection and analysis, the reproduced research should have revealed similar results and conclusions (Venkatesh et al., 2013).

Measurement reliability indicated the consistency of responses to a group of questions intended to measure a given concept (Shelby, 2011). Cronbach's alpha represented a common method for establishing reliability of a measurement instrument (Wigley III, 2011). Expressed as a number between 0 and 1 (Tavakol & Dennick, 2011), Cronbach's alpha of .60 to .80 represented an adequate scale (Shelby, 2011). I entered data into SPSS and assessed the Cronbach's alpha for each of the nondemographic independent variables prior to using the data to analyze results.

**Validity**

Whereas reliability focused on the reproducibility of results, validity measured the accuracy of results (Ihantola & Kihn, 2011). Validity indicated the legitimacy of a study's findings (Venkatesh et al., 2013). Validity revealed the degree to which the variable measured as intended (Tavakol & Dennick, 2011). Face and content validity represented subjective measures of validity (Boslaugh & Watters, 2008). Face validity suggested that some observers recognize the variable as a reasonable indicator of the concept it was expected to measure (Boslaugh & Watters, 2008). Content validity focused on the similarity between the measured variable and the intended representation of factors (Cahoon, Bowler, & Bowler, 2012).

I adopted the survey for this study from Atiles et al. (1998) instrument. The survey questions measured respondent attitudes toward manufactured homes in the West Tennessee area. Atiles et al. established the survey's content validity through the pretest

process of review by colleagues, potential users of data, and a selection of people representative of potential respondents. Atiles et al. distributed 12 pretest surveys with half of them representing single-section manufactured homes and half of them representing double-section manufactured homes. The survey instrument met the objective of gathering opinions and testing the study hypothesis regarding acceptance of manufactured homes in selected rural areas of Virginia. Internal validity represented the level of accuracy for causal relationships between variables and results (Cook et al., 2014). The internal validity assessment determined whether the study participants properly considered the concept (Cook et al., 2014).

This study was a nonexperimental design with no manipulation of the independent variable. According to Stanley (2011), a researcher's inability to randomly assign the values for the independent variables the inference of causation cannot occur. Thus, internal validity is not relevant to this study (Ihantola & Kihn, 2011).

External validity is the extent to which the results of a study are relevant to groups and settings outside the population of the original study (Maddux & Johnson, 2012). External validity establishes the generalizability to other samples, time periods, and settings (Ihantola & Kihn, 2011). Because of the importance of generalization, evidence must justify the applicability of findings to more than one population (Maddux & Johnson, 2012). Participant eligibility criteria provided an approximate guide for generalizability (Bolte, 2014). Standard tests of inference have involved making generalizations, implications, or estimations based on information acquired from a sample of participants who represented the population from which the sample was drawn

(Frels & Onwuegbuzie, 2013). Statistical tests have allowed researchers to increase generalizability by applying data obtained from a sample to a larger group of people (Bettany-Saltikov & Whittaker, 2014).

The main types of threats to external validity included participant selection, setting interaction (Maddux & Johnson, 2012), and history and setting interaction (Brutus & Duniewicz, 2012). Missing data and low response rate represent other common threats to external validity (Brutus & Duniewicz, 2012). I minimized the threats resulting from the interaction of selection and setting (Bolte, 2014) by restricting the findings to the specific population of adult residents of non-manufactured homes in the geographical region of West Tennessee. Likewise, I took an unbiased approach to viewing the data and crosschecked the results of all sections, not just those that supported the research question and hypotheses.

## Transition and Summary

Section 2 included a description of the researcher's role and strategies used for selecting participants of the quantitative study. A comprehensive review of research methods included a comparison of quantitative and qualitative designs and justified the choice of quantitative over qualitative for this study. I also provided information that identified and explained the non-experimental and correlation research design.

Section 2 included a detailed description of the population and sampling methods used in the study. I provided an explanation of nonprobability method, convenience sampling approach, and sampling size process. I reviewed three different calculation techniques to determine sample size and explained the final sample size in section two.

Likewise, I provided eligibility criteria for participants and the setting for the distribution and completion of the survey. I also described the ethical research process to ensure clarity of expectations and resolution.

The data collection process included specific information about the survey instrument, data collection techniques, and organizational strategies for maintaining the data. I described the data analysis procedures, list of survey questions, table of measurement explanation, and measurement of variables. In addition, I identified the statistical software package SPSS for use. Finally, I addressed reliability and validity instruments, processes, and study procedures. I reviewed potential threats to the validity along with solutions to mitigate any anticipated problems. Section 3 concludes the study. The final section includes a presentation of findings, detailed application to professional practice, implications for social change, recommendations for action, recommendations for further study, and personal reflections.

Section 3: Application to Professional Practice and Implications for Change

This section includes a detailed explanation related to the overview of the study, presentation of research findings, application of findings to professional practice, and implications for social change. The recommendations for action based on the doctoral study findings and opportunities for future research are included in this section. My reflections as the researcher and final summary of the results conclude this doctoral study.

## Overview of Study

The purpose of this study was to add to the work of Atiles et al. (1998) and determine the level of extent to which respondents' perceptions of manufactured home type and condition, occupant behavior, respondent demographics, county characteristics, and existing knowledge of the product predicted the acceptance of manufactured homes. The data collection process included a survey that indicated positive or negative attitudes toward the acceptance of manufactured homes and their residents in the community. The following research question formed the foundation of the study:

> Does a statistically significant relationship exist between acceptance of manufactured housing and 12 variables representing respondents' perceptions of manufactured homes, respondents' characteristics, county characteristics, and manufactured home type?

The independent variables used in this study were:

1. Perceived appearance and condition of manufactured homes (MHCONDIT)

2. Perceived social behavior of manufactured home occupants (MHBEHAV)
3. Perceived neighborhood physical homogeneity level (NEIGPHYS)
4. Perceived neighborhood social homogeneity level (NEIGSOCI)
5. Housing value (HSVALUE)
6. Respondents' gender (REGENDER)
7. Respondents' age (RESPAGE)
8. Respondents' household size and composition (REHSHOLD)
9. Respondents' race (RESPRACE)
10. Respondents' knowledge about manufactured homes (MHKNOWLE)
11. County's percentage (%) of existing manufactured homes (MHPCT)
12. Manufactured home unit type (MHTYPE)

The single dependent variable was the acceptance of manufactured housing (MHACCEPT). The following hypotheses tested the research question:

*H*o$_1$: A statistically significant relationship does not exist between acceptance of manufactured housing and perceived manufactured home characteristics.

*H*a$_1$: A statistically significant relationship exists between acceptance of manufactured housing and perceived manufactured home characteristics.

*H*o$_2$: A statistically significant relationship does not exist between acceptance of manufactured housing and perceived characteristics of manufactured home occupants.

*H*a$_2$: A statistically significant relationship exists between acceptance of manufactured housing and perceived characteristics of manufactured home occupants.

*H*o$_3$: A statistically significant relationship does not exist between acceptance of manufactured housing and perceived neighborhood physical structure.

*H*a$_3$: A statistically significant relationship exists between acceptance of manufactured housing and perceived neighborhood physical structure.

*H*o$_4$: A statistically significant relationship does not exist between acceptance of manufactured housing and perceived neighborhood social structure.

*H*a$_4$: A statistically significant relationship exists between acceptance of manufactured housing and perceived neighborhood social structure.

*H*o$_5$: A statistically significant relationship does not exist between acceptance of manufactured housing and respondents' socioeconomic status.

*H*a$_5$: A statistically significant relationship exists between acceptance of manufactured housing and respondents' socioeconomic status.

*H*o$_6$: A statistically significant relationship does not exist between acceptance of manufactured housing and respondents' demographic characteristics of gender, age, household size and composition, and race.

*H*a$_6$: A statistically significant relationship exists between acceptance of manufactured housing and respondents' demographic characteristics of gender, age, household size and composition, and race.

*H*o$_7$: A statistically significant relationship does not exist between acceptance of manufactured housing and respondents' knowledge and familiarity with manufactured homes.

*H*a$_7$: A statistically significant relationship exists between acceptance of manufactured housing and respondents' knowledge and familiarity with manufactured homes.

*H*o$_8$: A statistically significant relationship does not exist between acceptance of manufactured housing and county characteristics.

*H*a$_8$: A statistically significant relationship exists between acceptance of manufactured housing and respondents' knowledge and county characteristics.

*H*o$_9$: A statistically significant relationship does not exist between acceptance of manufactured housing and type of manufactured home unit.

*H*a$_9$: A statistically significant relationship exists between acceptance of manufactured housing and respondents' knowledge and type of manufactured home unit.

Bethel University served as the research site for this study. I invited adult students to participate in the study who met the inclusion criteria and held a current enrollment status in a nontraditional undergraduate degree program. I distributed an adaptation of Atiles et al. (1998) survey "Opinion Survey about Manufactured Homes", as shown in Appendix D, to potential participants who attended on-campus classes at the Bethel University locations in west Tennessee. As described in the data collection technique

subsection of Section 2, I invited 623 potential participants to complete and return the anonymous and confidential surveys.

The results of this study indicated that the independent variables of perceived social behavior of manufactured home occupants (MHBEHAV), perceived neighborhood physical homogeneity level (NEIGPHYS), housing value (HSVALUE), and respondents' household size and composition (REHSHOLD) held statistically significant relationships with the dependent variable of manufactured home acceptance (MHACCEPT). Of the significant independent variables, only MHBEHAV maintained similarity with the original study conducted by Atiles et al. (1998). The statistically significant relationships between the independent variables NEIGPHYS, HSVALUE, and REHSHOLD and the dependent variable MHACCEPT contributed new information to the body of knowledge. Results from Atiles et al.'s original study did not indicate a relationship between these independent variables and the acceptance of manufactured homes.

The lack of statistically significant relationship between the independent variable manufactured home type (MHTYPE) and dependent variable MHACCEPT revealed an unexpected finding. Atiles et al.'s (1998) results indicated a statistically significant relationship between manufactured home type and acceptance of manufactured homes, with double-section homes considered more acceptable than single-section homes. According to Dawkins and Koebel (2010), the limited exterior choices for single-section manufactured homes contributed negatively to consumer perceptions of the product. The modern single-section manufactured home exterior's resemblance to the outdated trailer

exterior presented a continued challenge to the industry and contributed to NIMBY attitudes (Dawkins & Koebel, 2010). The results of this study contradicted the expected finding that consumers accepted double-section manufactured homes more than single-section manufactured homes.

## Presentation of the Findings

This quantitative study design featured correlation and multiple regression analyses to accept or reject the hypothesis that a statistically significant relationship existed between 12 independent variables representing consumer perceptions of manufactured housing and occupants and the dependent variable of acceptance of manufactured housing. Atiles et al.'s (1998) acceptance of manufactured homes theory offered insight into understanding consumer perceptions of manufactured homes and the manner in which the perceptions influenced acceptance of manufactured homes. The theory addressed external characteristics, such as manufactured home type and county characteristics that affected respondents' salient perceptions of the product. Respondents' attitudes represented the level of acceptance or rejection toward manufactured homes and their occupants.

I incorporated descriptive and other statistical approaches including ANOVA, multiple regression techniques, and Pearson's product moment correlation analyses to accept or reject the hypotheses that a statistically significant relationship existed between acceptance of manufactured housing (MHACCEPT) and:

1. Perceived appearance and condition of manufactured homes (MHCONDIT)

2. Perceived social behavior of manufactured home occupants (MHBEHAV1)
3. Perceived education level of manufactured home occupants (MHBEHAV2)
4. Land-Use Mix (NEIGPHYS1)
5. Population range of the neighborhood (NEIGPHYS2)
6. Perceived neighborhood social homogeneity level (NEIGSOCI)
7. Housing value (HSVALUE)
8. Respondents' gender (REGENDER)
9. Respondents' age (RESPAGE)
10. Respondents' household size and composition (REHSHOLD)
11. Respondents' race (RESPRACE)
12. Respondents' knowledge about manufactured homes (MHKNOWLE)
13. County's percentage (%) of existing manufactured homes (MHPCT)
14. Manufactured home unit type (MHTYPE)

The G*Power sample size calculation indicated a minimum of 175 participants needed to adequately represent the population. Although the number of completed surveys received exceeded the amount required, I included the data from all completed and returned surveys. Of the 623 participants who received a survey, 32.7% voluntarily returned the completed survey. Aman and Yarnal (2010) achieved a similar response 31% from participants involved in a study that identified benefits and challenges of living in a manufactured home in rural Pennsylvania.

Participants completed a survey applicable to single-section manufactured homes or double-section manufactured homes. Of the 204 surveys completed and returned, 106 represented single-section manufactured homes and 98 represented double-section manufactured homes. I followed the steps identified in Section 2 to analyze the data. I used SPSS Version 20.0® to execute the statistical analyses and generate graphical depictions of the data. This section includes the description and results of each previously identified step.

## Instruments' Reliability for the Subject Population

In accordance with Tavakol and Dennick (2011) and Shelby (2011), a Cronbach alpha of .65 through .70 represented an adequate value range of instrument reliability for the subject population. I calculated Cronbach's alpha for all survey questions that represented nondemographic variables and constructs. The original study conducted by Atiles et al. (1998) did not include Cronbach's alpha test for reliability. I conducted the Cronbach's alpha test on the following sets according to independent variable and applicable survey questions. The results and interpretations follow each set.

**Perceived behavior of manufactured home households (Test 1).** The characteristics of the respondents' perceptions of the behavior manufactured home household included origin, household composition, income levels, education levels, employment status, and racial composition. The characteristics composed the independent variable MHBEHAV. The Cronbach's alpha test measured the interitem reliability of the survey questions that represented the characteristics of independent

variable MHBEHAV. The purpose of the Cronbach alpha test was to determine whether the characteristics of MHBEHAV served as a reliable measure of the perceived behavior construct of manufactured home household occupants.

The Cronbach's alpha test was based on the following questions:

5. Perceived manufactured home occupants' origin

6. Perceived manufactured home household composition

8. Perceived manufactured home household income levels

9. Perceived manufactured home household education levels

10. Perceived manufactured home household employment status

11. Perceived racial composition of manufactured home households.

As indicated in Table 3, the results of the Cronbach's alpha value of 377 indicated that the characteristics of MHBEHAV failed to meet the requirements of a reliable measurement.

Table 3

*Cronbach's alpha for Perceived Characteristics of Manufactured Home Households*

| Cronbach's alpha | Cronbach's alpha based on standardized items | Number of items |
|---|---|---|
| .310 | .377 | 6 |

*Note.* Cronbach's alpha represents the unstandardized alpha, $\alpha_{\Sigma}$, based on the covariance matrix. Cronbach's alpha based on standardized items, $\alpha_{R}$, reflects the computation of the alpha based on the correlation matrix of items (Falk and Savalei, 2011).

I used Cronbach's alpha to measure the survey instrument's inter-item reliability to ensure that each measure of the same construct represented an accurate estimate of the average correlation of all variables in the construct. The low Cronbach alpha level of .377 in Table 3 indicated the questions on the survey that composed the construct of perceived characteristics of manufactured home households *potentially* failed to measure the same construct. The coding I used to measure Question 11 (occupant race) could have influenced the accuracy of the Cronbach's alpha test on all measurement items. I performed additional Cronbach's alpha tests to verify the accuracy of results. I separated the data sets according to the method of coding and conducted the Cronbach's alpha tests on each data set. The questions for Test 1a included Q8 Perceived manufactured home household income levels, Q9 Perceived manufactured home household education levels, and Q11 Perceived racial composition of manufactured home households. These items represented commonly used demographic markers. As indicated in Table 4, the results of the Cronbach's alpha were .666. The results of Cronbach's alpha based on standardized items of .666 indicated acceptable interitem reliability.

Table 4

*Cronbach's alpha for Perceived Characteristics of Manufactured Home Households Data Set 1 (Test 1a)*

| Cronbach's alpha | Cronbach's alpha based on standardized items | N of items |
|---|---|---|
| .609 | .666 | 3 |

*Note.* Cronbach's alpha represents the unstandardized alpha, $\alpha_{\Sigma}$, based on the covariance matrix. Cronbach's alpha based on standardized items, $\alpha_{R}$, reflects the computation of the alpha based on the correlation matrix of items (Falk and Savalei, 2011).

Removing the measurement characteristic of racial composition increased the reliability. As shown in Table 5, measurement characteristics of occupant education level and occupant income achieved an acceptable measure of reliability with a Cronbach's alpha result of .673.

Table 5

*Cronbach's alpha for Perceived Characteristics of Manufactured Home Households Data Set 2 (Test 1b)*

| Cronbach's alpha | Cronbach's alpha based on standardized items | N of items |
|---|---|---|
| .659 | .673 | 2 |

*Note.* Cronbach's alpha represents the unstandardized alpha, $\alpha_{\Sigma}$, based on the covariance matrix. Cronbach's alpha based on standardized items, $\alpha_{R}$, reflects the computation of the alpha based on the correlation matrix of items (Falk and Savalei, 2011).

**Perceived neighborhood physical and social structure (Test 2).** The characteristics of perceived neighborhood physical and social structure referred to the respondents' level of agreement with the perception of similarities among residential and

social structures in their neighborhoods. The independent variable NEIGPHYS represented the characteristic of perceived neighborhood physical structure. The independent variable NEIGSOCI signified the perceived neighborhood social structure. The Cronbach's alpha test measured the interitem reliability of the survey questions that represented the characteristics of the independent variables NEIGPHYS and NEIGSOCI. The purpose of the Cronbach alpha test was to determine whether the characteristics of NEIGPHYS and NEIGSOCI served as a reliable measure of the perceived neighborhood physical and social structure. The Cronbach's alpha measured the following questions: Q19 Land-use mix, Q20 Neighborhood size, Q32 Perceived social homogeneity level, and Q33 Perceived physical homogeneity level. As indicated by Table 6, the results of the Cronbach's alpha test were 0.433.

Table 6

*Cronbach's alpha for Perceived Neighborhood Physical and Social Structure*

| Cronbach's alpha | Cronbach's alpha based on standardized items | N of items |
|---|---|---|
| .382 | .433 | 4 |

*Note.* Cronbach's alpha represents the unstandardized alpha, $\alpha_{\Sigma}$, based on the covariance matrix. Cronbach's alpha based on standardized items, $\alpha_{R}$, reflects the computation of the alpha based on the correlation matrix of items (Falk and Savalei, 2011).

When assessed together, the measures of Neighborhood Physical and Social Homogeneity failed to meet reliability requirements. I separated the data sets according to measurement characteristics and conducted the Cronbach's alpha tests on each data set. The Cronbach's alpha test result for social homogeneity characteristics was 0.543.

Although the results did not meet the requirements for reliability, the Cronbach's alpha increased when the separate measurement of social and physical homogeneity characteristics occurred.

Three potential reasons for questionable low values of Cronbach's alpha included issues with sample size, lack of knowledge on the part of respondents, and negatively worded items,. According to G*Power calculations, 175 participants represented the ideal sample size for this study. As explained in Section 2, the G*Power calculation was compared with two other sample size calculation methods with results ranging from 160 to 178. Because G*Power's calculation was the most scientific, I used a targeted sample size of 175 with a resulting sample size of 204. This study met the required sample size and percentage of responses, which eliminated sample size as the cause of questionable Cronbach's alpha results. The remaining issue of negatively worded items or items with strong negative correlation with the underlying factor could have resulted in reduced reliability. A potential solution was to recode negatively worded items. This solution was not applicable in this study because it used an adaptation of Atiles et al. (1998) "Opinion Survey about Manufactured Homes".

The possibility existed that respondents lacked the answers to questions regarding land-use mix, neighborhood size, and social and physical homogeneity levels. Although unintended, the wording of the survey questions may have confused the respondents or caused the respondents to answer a question based on assumption. A respondent may have lacked the knowledge about the land-use mix of his or her neighborhood, yet chose

to answer because they did not want to expose their insufficient understanding (Couper, 2000; DeRouvray & Couper, 2002).

Another potential solution recognized the limitations of Cronbach's alpha. According to Shelby (2011), an alpha range of .60 through .80 represented adequacy in research. Cronbach's alpha tested the level to which scale items represented similarity, but did not suggest that a scale measured the desired concept (Shelby, 2011). Although survey researchers assumed that using a previously created valid and reliable scale to measure a specific concept, they considered the manner in which different populations interpreted and responded to items in the same scale (Shelby, 2011). The interaction between participants completing a survey and the items that comprise the survey instrument on a given occasion potentially altered or influenced the coefficient alpha (Wigley III, 2011). The alpha potentially reflected the crossed design of Participants Items while monitoring for the variable of time (Wigley III, 2011). Although a low coefficient alpha indicated a possible unreliable or inconsistent result, the reason remained unknown. Possible explanations included unreliable items, unreliable people, or a mixture of both (Wigley III, 2011). The results remained in the study with the recognition that Cronbach's alpha has not always represented the best measure of reliability (Wigley III, 2011).

**Analysis of Outliers**

The detection of outliers required reviewing responses outside the range of allowable options and indicated potential data entry errors. I used a box plot graph to

discover outliers in Likert-scaled variable data. This was consistent with research conducted by Ready (2012). I used frequency analyses for categorical variables. I verified the accuracy of data entry and made applicable corrections to identified outliers.

First, I conducted outlier analysis for the Likert-scaled representing respondents' knowledge of manufactured homes (MHKNOWLE) and respondents' age (RESPAGE). The box plot graphs in Figure 12 and Figure 13 provided visual representation of the analyses results. As indicated in Figure 12, responses 59 and 146 implied outliers because they were greater than 1.5 times the IQR. These significant deviations from the norm indicated data that may skew the results. Elimination of these responses from the data set occurred. Other data, as indicated by the circles in the upper half of the box plot, revealed suspect data. Because the results met the range requirements for inclusion, they remained in the data set.

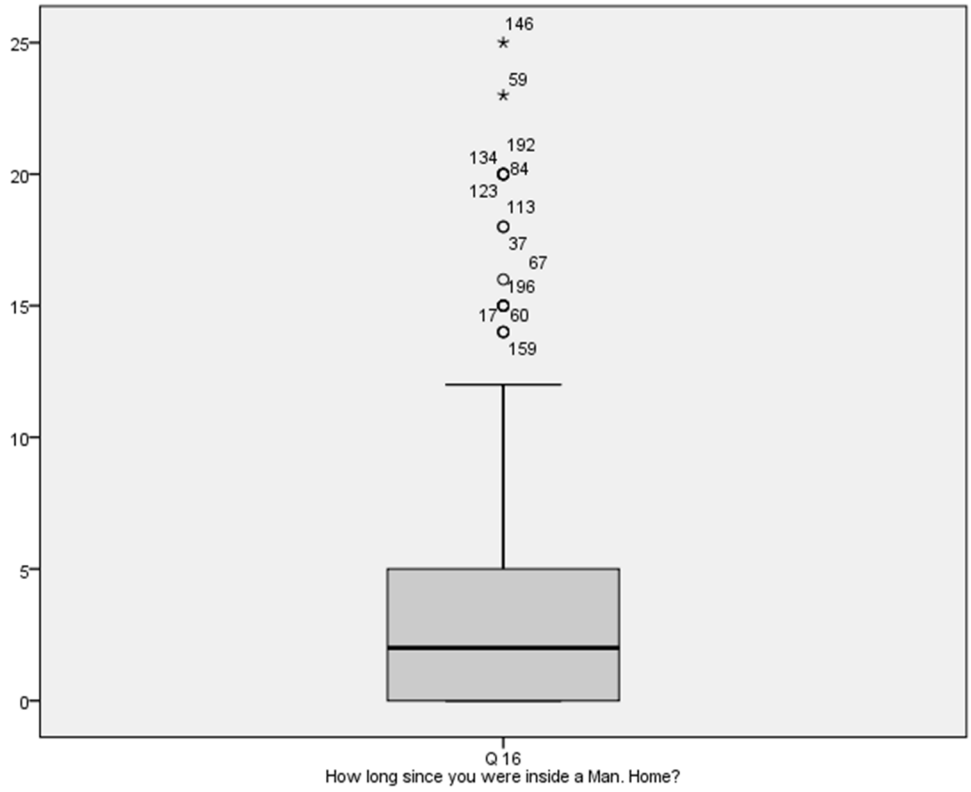


*Figure 12*. Box plot of respondents' MHKNOWLE.

Question 25 requested the respondent to indicate their birth year. After recoding the question, subtraction of the respondents' answer from 2014 revealed the approximate age of the respondent. No outliers appeared, meaning that no responses were greater than 1.5 times the IQR. As shown in Figure 13, responses 77, 101, and 119 were higher than expected. Further examination revealed the responses were from respondents between ages 60 and 70. Rather than exclude this demographic, the responses remained unchanged. Further research to include this age demographic may have revealed interesting results.

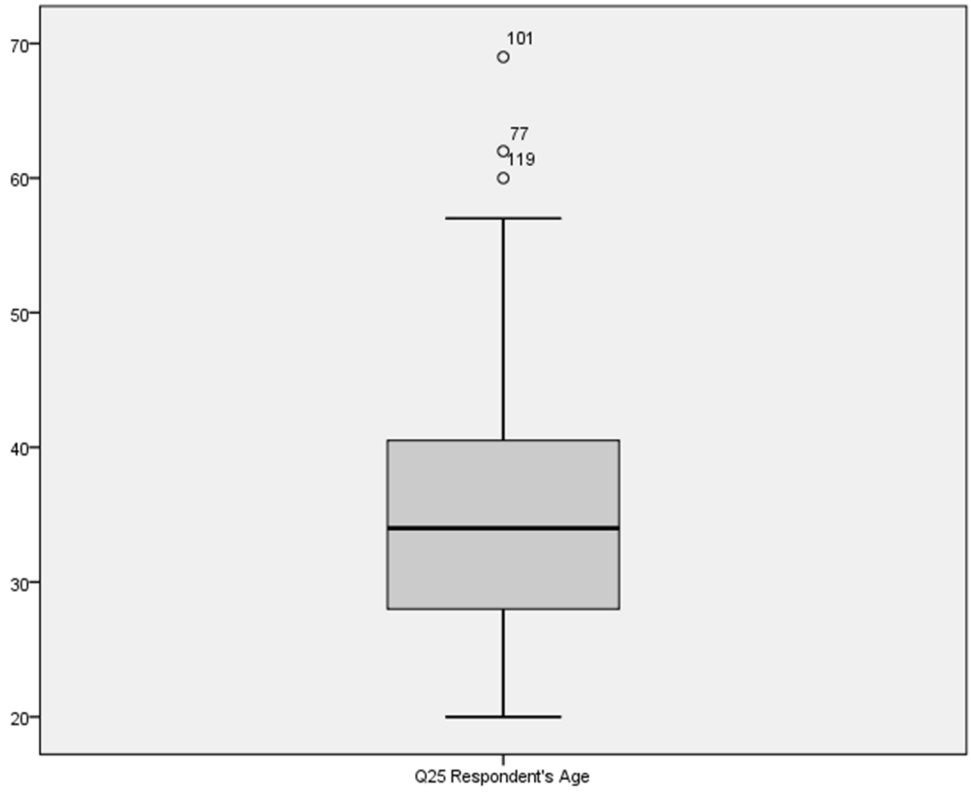


*Figure 13*. Box plot of RESPAGE.

The categorical variables were discrete, and I generated frequency tables to analyze the distributions' frequency data. The results in Table 7 indicated that the survey responses reflected an approximate even mix of single- and double-wide manufactured homes. The results in Table 8 signified that survey responses included a disproportionate number of female respondents with 78.4% compared to 21.6% of respondents indicated the male gender. As shown Table 9, the racial composition of respondents consisted of 52.9% Black / African-American, 42.2% White / Caucasian, and 4.9% representing a different race.

Table 7

*Number and Percentage of Manufactured Homes by Type (MHTYPE)*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Single (1) | 106 | 52.0 | 52.0 | 52.0 |
| | Double (2) | 98 | 48.0 | 48.0 | 100.0 |
| | Total | 204 | 100.0 | 100.0 | |

Table 8

*Number and Percentage of Respondent Gender by Type (REGENDER)*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Female (0) | 160 | 78.4 | 78.4 | 78.4 |
| | Male (1) | 44 | 21.6 | 21.6 | 100.0 |
| | Total | 204 | 100.0 | 100.0 | |

Table 9

*Number and Percentage of Respondent Race by Type (RESPRACE)*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Black (1) | 108 | 52.9 | 52.9 | 52.9 |
| | White (2) | 86 | 42.2 | 42.2 | 95.1 |
| | Hispanic (3) | 2 | 1.0 | 1.0 | 96.1 |
| | Asian (4) | 0 | 0.0 | 0.0 | 96.1 |
| | Other (5) | 2 | 1.0 | 1.0 | 97.1 |
| | Native American (6) | 6 | 2.9 | 2.9 | 100.0 |
| | Total | 204 | 100.0 | 100.0 | |

## Exploratory Data Analysis

The purpose of exploratory data analysis was to increase understanding of the study data for each variable in the study. Because the study variables represented categorical, Likert-scaled, and ordinal data, the type of variable determined appropriate analysis techniques.

**Manufactured home acceptance (MHACCEPT)**. Survey Question 31 represented the dependent variable of acceptance of manufactured home acceptance (MHACCEPT). I coded the 5-point Likert-type scale responses in ascending favorability order (1 = *strong opposition* and 5 = *strong favorability*). As shown in Table 10 and Figure 14, the results indicated that approximately 28.4% of respondents held unfavorable views, 13.8% held view of favorability, and 57.8% viewed manufactured housing with a neutral perspective.

Table 10

*Frequency Distribution of Dependent Variable MHACCEPT*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Oppose (1) | 32 | 15.7 | 15.7 | 15.7 |
| | Mildly Oppose (2) | 26 | 12.7 | 12.7 | 28.4 |
| | Neutral (3) | 118 | 57.8 | 57.8 | 86.3 |
| | Mildly Favor (4) | 14 | 6.9 | 6.9 | 93.1 |
| | Strongly Favor (5) | 14 | 6.9 | 6.9 | 100.0 |
| | Total | 204 | 100 | 100 | |

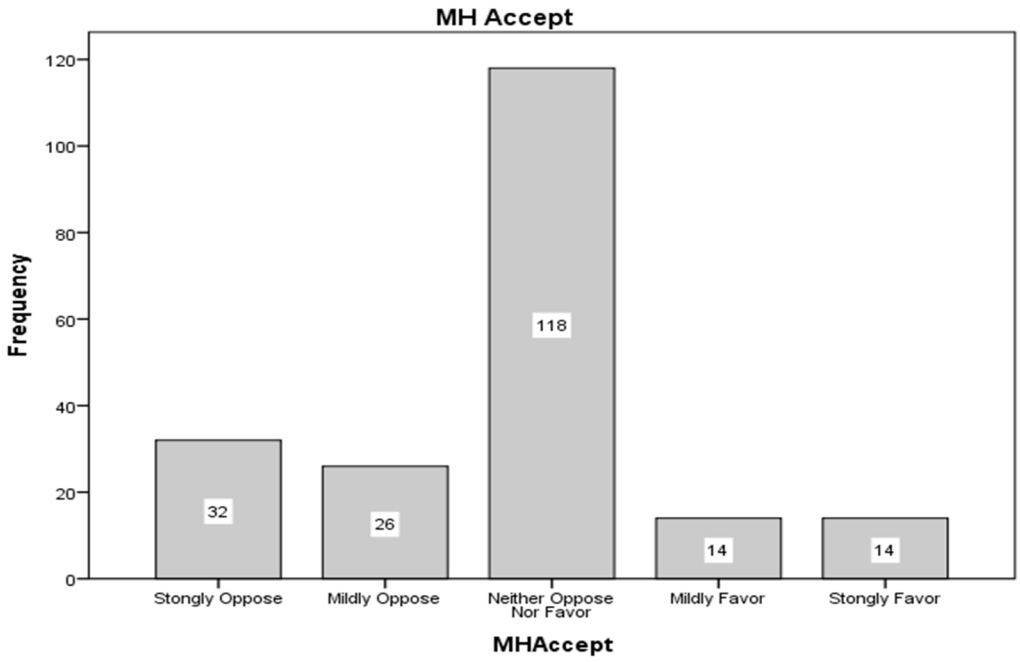


*Figure 14*. Bar graph of the dependent variable MHACCEPT.

As indicated in Table 11, the mean rate of manufactured home acceptance (*N* = 204) was 2.76 with a median of 3.00. The histogram in Figure 15 and scatterplot in Figure 16 indicated that the standardized residuals increased as the values of the independent variable MHACCEPT increased. In the histogram depicted in Figure 15, the regression-standardized residual superimposed over a normal curve of the residuals indicated that the residuals were normally distributed. However, the tests of normality shown in Table 12 revealed that the Kolmogorov-Smirnov (KS) and Shapiro-Wilk (SW) both indicated non-normal distribution; KS = .000, SW = .000. According to Field (2013), the use of KS and SW tests in large sample sizes may derive significance from minor deviations from normality. The central limit theorem indicated that sample sizes

greater than 30 result in normal distribution, regardless of the shape of the sample data (Field, 2013). The application of the central limit theorem upheld the normal distribution results as shown in Figure 15.

Table 11

*Mean, Median, and Range of MHACCEPT*

| | | |
|---|---|---|
| N | Valid | 204 |
| | Missing | 0 |
| Mean | | 2.76 |
| Median | | 3.00 |
| Mode | | 3 |
| Range | | 4 |
| Minimum | | 1 |
| Maximum | | 5 |

Table 12

*Tests of Normality for Independent Variable MHACCEPT*

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | *df* | Sig. | Statistic | *df* | Sig. |
| MHACCEPT | .307 | 204 | .000 | .831 | 204 | .000 |

[a]Lilliefors Significance Correlation

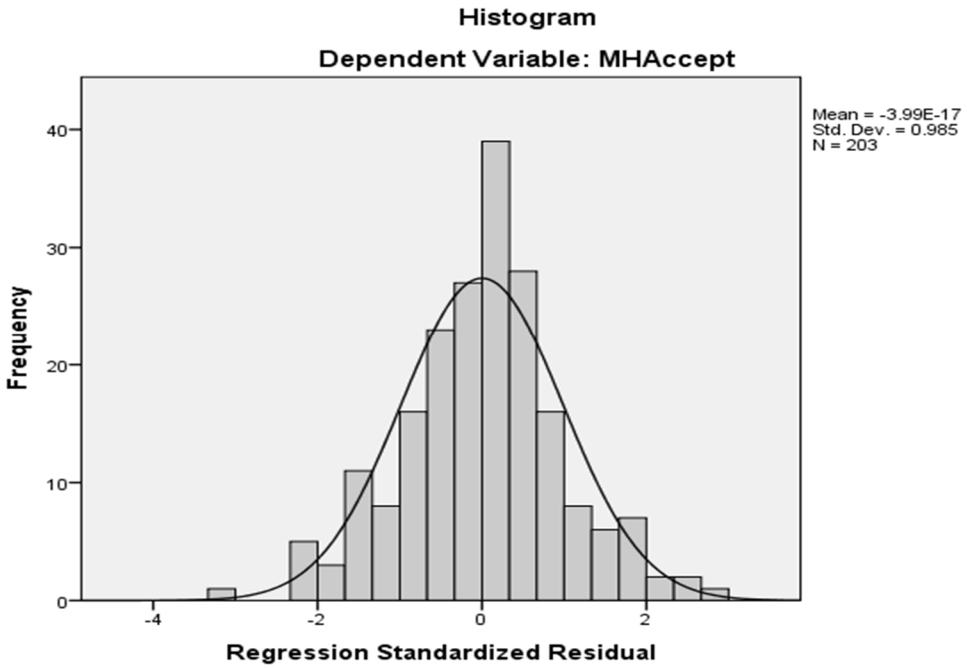


*Figure 15*. Histogram of the dependent variable MHACCEPT.

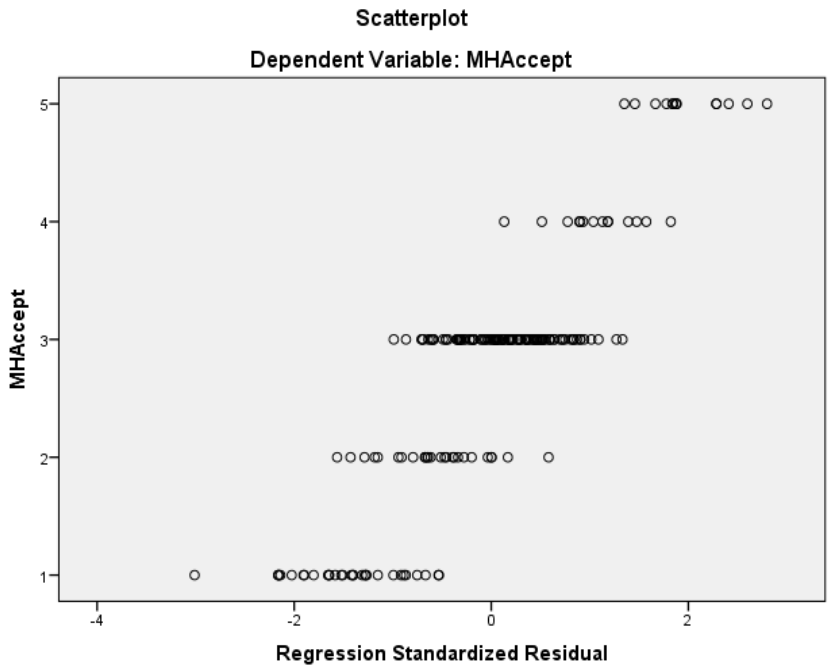


*Figure 16.* Scatterplot of the dependent variable MHACCEPT.

**Perceived appearance and condition of manufacture homes (MHCONDIT).** This Likert-scaled variable represented the degree of perceived cleanliness, upkeep, attractiveness, and general images that characterized manufactured housing in the respondents' community. The distribution of the *composite* scores in Table 13 shows $M$ = 3.07, $SD$ = .878. Based on the lower and upper bounds, the results signified a 95% confidence level that the mean score for the population was between 2.95 and 3.2. The histogram in Figure 17 and Q-Q plot in Figure 18 provided graphical representations of a normal sample distribution with the skewness number of .165. As shown in Table 14, the Kolmogorov-Smirnov (KS) and Shapiro-Wilk (SW) both indicated normal distribution of the composite Likert-scores; KS = .200, SW = .780.

Table 13

*Mean, Standard Deviation, Skewness, and Kurtosis of MHCONDIT*

| | | | Statistic | Std. Error |
|---|---|---|---|---|
| MHCONDIT | Mean | | 3.07 | .062 |
| | 95% Confidence Interval for Mean | Lower Bound | 2.95 | |
| | | Upper Bound | 3.20 | |
| | 5% Trimmed Mean | | 3.06 | |
| | Median | | 3.00 | |
| | Variance | | .772 | |
| | Std. Deviation | | .878 | |
| | Minimum | | 1 | |
| | Maximum | | 5 | |
| | Range | | 4 | |
| | Interquartile Range | | 1 | |
| | Skewness | | .165 | .171 |
| | Kurtosis | | .357 | .340 |

Table 14

*Tests of Normality for Independent Variable MHCONDIT*

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | *df* | Sig. | Statistic | *df* | Sig. |
| MHCONDIT | .282 | 203 | .200 | .870 | 203 | .780 |

[a]Lilliefors Significance Correlation

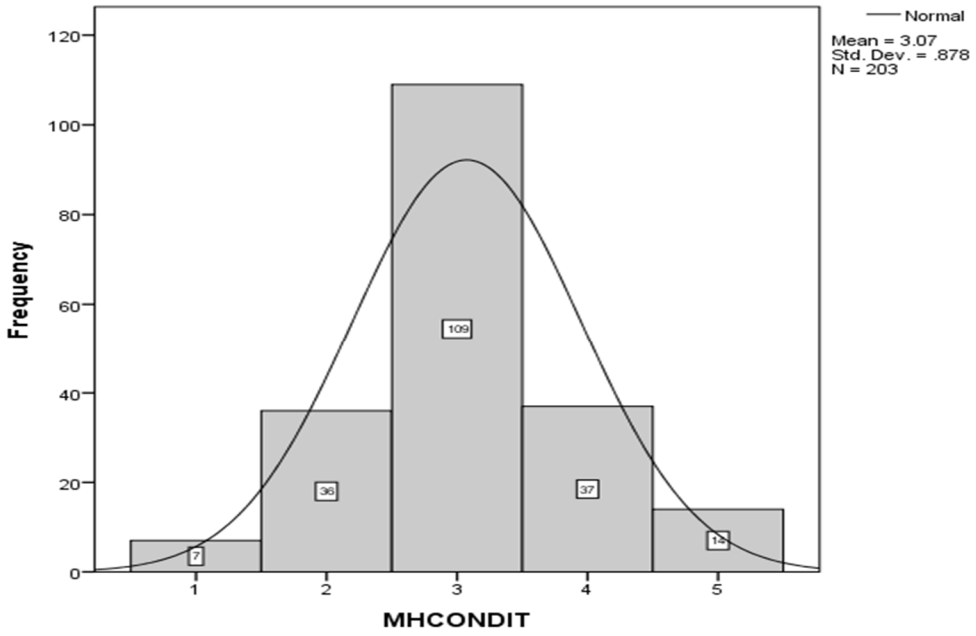


*Figure 17*. Histogram of independent variable MHCONDIT.

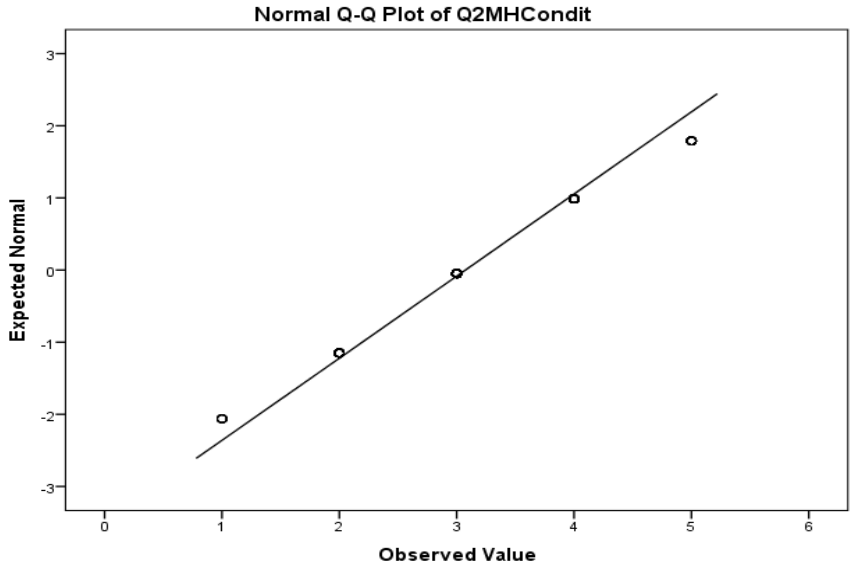


*Figure 18*. Normal Q-Q plot of independent variable MHCONDIT.

Responses to Survey Question 2 provided measures of the independent variable of MHCONDIT. The 5-point Likert-type scale responses were coded in ascending favorability order (1 = *very bad condition* and 5 = *very good condition*). As shown in Table 15 and Figure 19, results indicated approximately 21.5% of respondents held negative perceptions, 25% held favorable opinions, and 53.4% viewed the condition of manufactured housing in their communities with a neutral perspective.

Table 15

*Frequency Distribution of Independent Variable MHCONDIT*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Very bad (1) | 7 | 3.4 | 3.4 | 3.4 |
| | Bad (2) | 37 | 18.1 | 18.1 | 21.6 |
| | Average (3) | 109 | 53.4 | 53.4 | 75.0 |
| | Good (4) | 37 | 18.1 | 18.1 | 93.1 |
| | Very good (5) | 14 | 6.9 | 6.9 | 100.0 |
| | Total | 204 | 100.0 | 100.0 | |

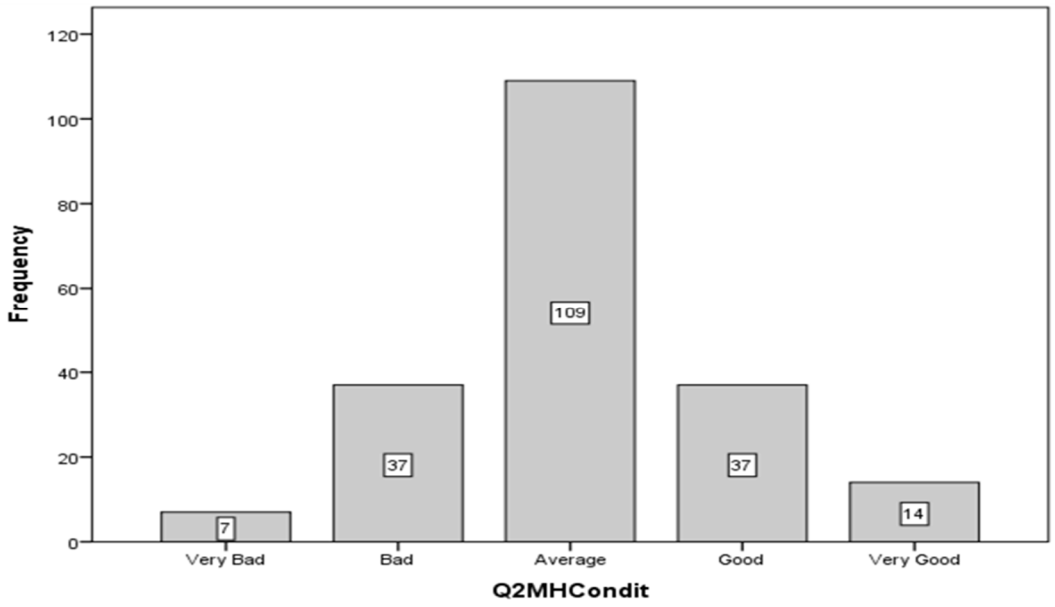


*Figure 19*. Bar graph of the independent variable MHCONDIT.

**Perceived social behavior of manufactured home occupants (MHBEHAV).** This Likert-scaled variable represented perceived social behavior of manufactured home occupants including negative stigmatization (Saatcioglu & Ozanne, 2013), inadequate financial, economic, and social contributors (McCarty & Hepworth, 2012), criminals, drug addicts (Kusenbach, 2009; Nguyen et al., 2012), sexual deviants, and mentally ill (Kusenbach, 2009), and negative socioeconomic and cultural stereotypes. The results shown in Table 16 reveal, that for the composite scores, $M = 2.95$, $SD = .719$. As displayed in Table 17, the Kolmogorov-Smirnov (KS) and Shapiro-Wilk (SW) both indicated normal distribution; KS = .320, SW = .872. Based on the lower and upper bounds, the results indicated the 95% confidence limits for the mean score for the population were 2.85 and 3.05. The histogram in Figure 20 and Q-Q plot in Figure 21

provided graphical representations of normal sample distribution reflect the skewness number of .162.

Table 16

*Mean, Standard Deviation, Skewness, and Kurtosis of MHBEHAV*

| | | | Statistic | Std. Error |
|---|---|---|---|---|
| MHBEHAV | Mean | | 2.95 | .050 |
| | 95% Confidence Interval for Mean | Lower Bound | 2.85 | |
| | | Upper Bound | 3.05 | |
| | 5% Trimmed Mean | | 2.93 | |
| | Median | | 3.00 | |
| | Variance | | .517 | |
| | Std. Deviation | | .719 | |
| | Minimum | | 1 | |
| | Maximum | | 5 | |
| | Range | | 4 | |
| | Interquartile Range | | 0 | |
| | Skewness | | .162 | .171 |
| | Kurtosis | | 1.036 | .340 |

Table 17

*Tests of Normality for Independent Variable MHBEHAV*

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | *df* | Sig. | Statistic | *df* | Sig. |
| MHBEHAV | .308 | 203 | .320 | .819 | 203 | .872 |

[a]Lilliefors Significance Correlation

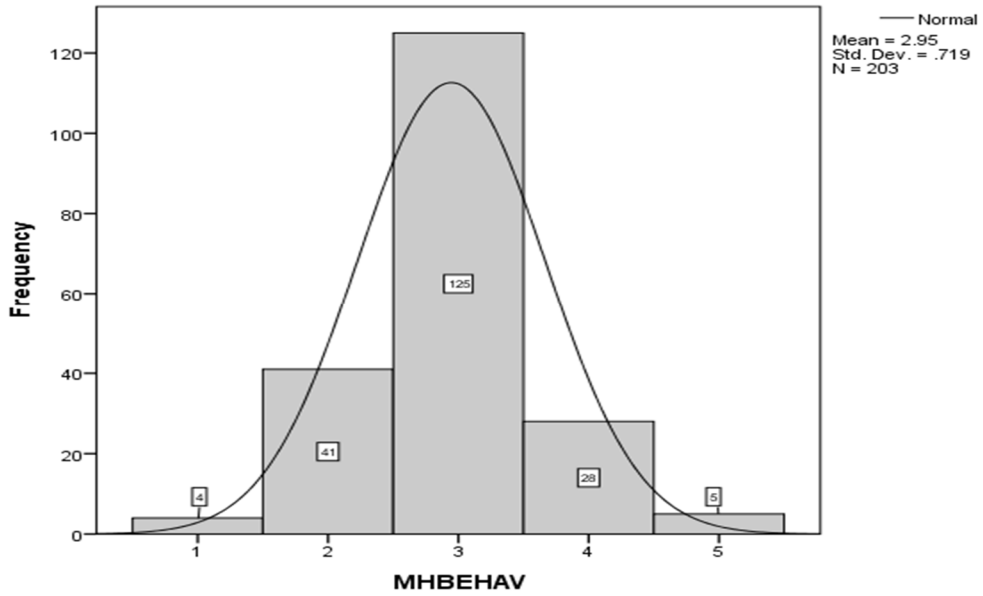


*Figure 20*. Histogram of independent variable MHBEHAV.

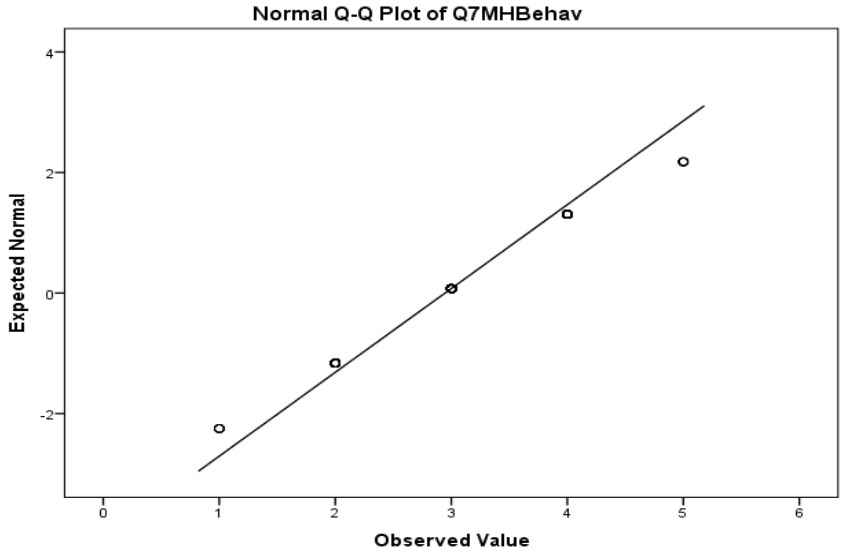


*Figure 21*. Normal Q-Q plot of independent variable MHBEHAV.

Survey Question 7 measured the independent variable of MHBEHAV. The 5-point Likert-type scale responses were coded in ascending favorability order (1 = *very bad behavior* and 5 = *very good behavior*). As shown in Table 18 and Figure 22, results indicated approximately 22.2% of respondents held negative perceptions, 16.3% held favorable opinions, and 61.6% viewed the behavior of manufactured home occupants in their communities with a neutral perspective.

Table 18

*Frequency Distribution of Independent Variable MHBEHAV****Error! Bookmark not defined.***

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Very bad (1) | 4 | 2.0 | 2.0 | 2.0 |
| | Bad (2) | 41 | 20.1 | 20.2 | 22.2 |
| | Average (3) | 125 | 61.3 | 61.6 | 83.7 |
| | Good (4) | 28 | 13.7 | 13.8 | 97.5 |
| | Very good (5) | 5 | 2.5 | 2.5 | 100.0 |
| | Total | 203 | 99.5 | 100.0 | |
| Missing | System | 1 | .5 | | |
| Total | | 204 | 100.0 | | |

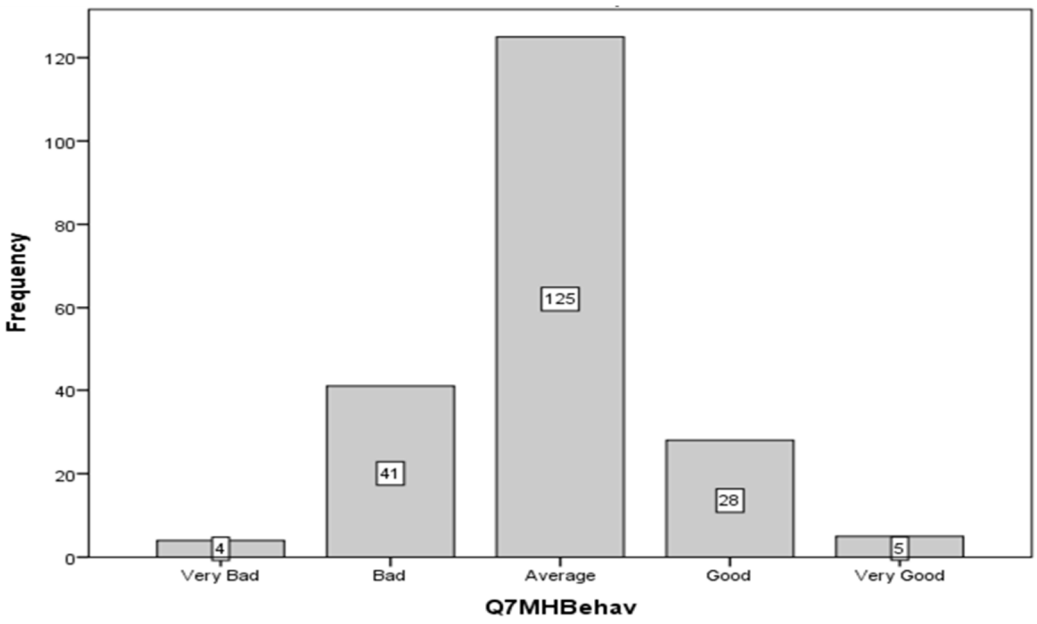


*Figure 22*. Bar graph of the independent variable MHBEHAV.

**Perceived neighborhood physical homogeneity level (NEIGPHYS).** These Likert-type scale responses referred to the respondents' level of agreement with the perception of similarities among the residential structures in their community. As shown in Table 19, the $M = 2.47$, $SD = 1.605$. The results in Table 20 revealed that the Kolmogorov-Smirnov (KS) and Shapiro-Wilk (SW) both indicated non-normal distribution; KS = .000, SW = .000. The histogram in Figure 23 indicates a lack of normality and Q-Q plot in Figure 24 provided graphical representations of non-normal sample distribution with the skewness number of .454.

Table 19

*Mean, Standard Deviation, Skewness, and Kurtosis of NEIGPHYS*

| | | | Statistic | Std. Error |
|---|---|---|---|---|
| NEIGPHYS | Mean | | 2.47 | .113 |
| | 95% Confidence Interval for Mean | Lower Bound | 2.25 | |
| | | Upper Bound | 2.69 | |
| | 5% Trimmed Mean | | 2.41 | |
| | Median | | 2.00 | |
| | Variance | | 2.577 | |
| | Std. Deviation | | 1.605 | |
| | Minimum | | 1 | |
| | Maximum | | 5 | |
| | Range | | 4 | |
| | Interquartile Range | | 3 | |
| | Skewness | | .454 | .171 |
| | Kurtosis | | -1.490 | .340 |

Table 20

*Tests of Normality for Independent Variable NEIGHPHYS*

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | *df* | Sig. | Statistic | *df* | Sig. |
| NEIGHPHYS | .293 | 203 | .000 | .773 | 203 | .000 |

[a]Lilliefors Significance Correlation

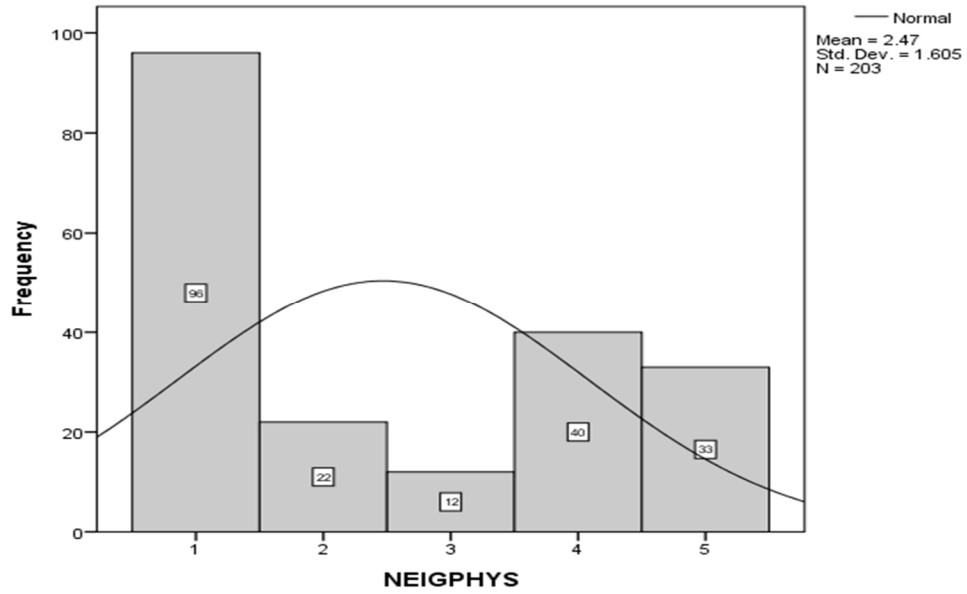


*Figure 23*. Histogram of independent variable NEIGPHYS.

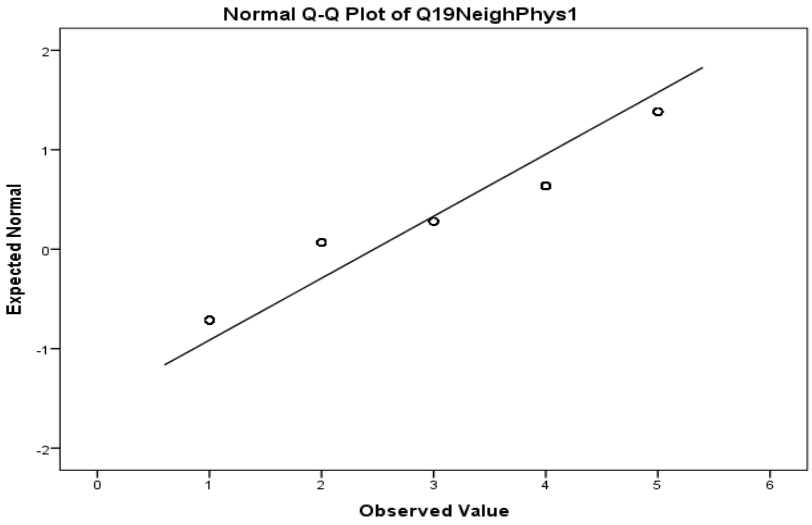


*Figure 24*. Normal Q-Q plot of independent variable NEIGPHYS.

Survey Question 33 measured the independent variable of NEIGPHYS. The 4-point Likert-type scale responses were coded in ascending favorability order (1 = *strong*

*agreement* and 4 *strong disagreement*) in neighborhood physical homogeneity level. As shown in Table 21 and Figure 25, results indicated approximately 68.6% of respondents held positive agreement levels and 32.4% held negative agreement levels of perceptions of similarities among the houses or residential structures in their neighborhoods.

Table 21

*Frequency Distribution of Independent Variable NEIGPHYS*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly agree (1) | 47 | 23.0 | 23.0 | 23.0 |
| | Agree (2) | 93 | 45.6 | 45.6 | 68.6 |
| | Disagree (3) | 43 | 21.1 | 21.1 | 89.7 |
| | Strongly disagreed (4) | 21 | 10.3 | 10.3 | 100.0 |
| | Total | 204 | 100.0 | 100.0 | |

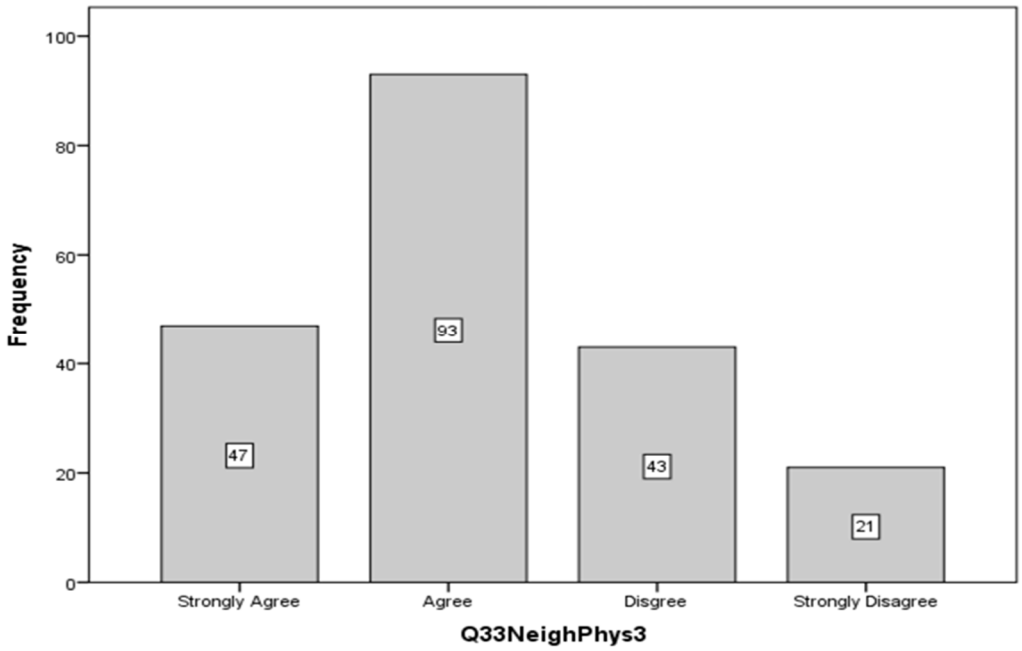


*Figure 25*. Bar graph of the independent variable NEIGPHYS.

**Perceived neighborhood social homogeneity level (NEIGSOCI).** This variable referred to the respondents' opinions regarding the social structure in the community. As shown in Table 22, the *M* = 2.28, *SD* = 1.232. The results of the tests of normality in Table 23 revealed that the KS and SW tests indicated non-normal distribution with KS = .000 and SW = .000. Based on the lower and upper bounds, the results revealed the 95% confidence level limits for the mean score for the population were 2.11 and 2.45. The histogram in Figure 26 and Q-Q plot in Figure 27 provided graphical representations of a positively-skewed distribution with skewness of .808.

Table 22

*Mean, Standard Deviation, Skewness, and Kurtosis of NEIGSOCI*

| | | | Statistic | Std. Error |
|---|---|---|---|---|
| NEIGSOCI | Mean | | 2.28 | .086 |
| | 95% Confidence Interval for Mean | Lower Bound | 2.11 | |
| | | Upper Bound | 2.45 | |
| | 5% Trimmed Mean | | 2.20 | |
| | Median | | 2.00 | |
| | Variance | | 1.518 | |
| | Std. Deviation | | 1.232 | |
| | Minimum | | 1 | |
| | Maximum | | 5 | |
| | Range | | 4 | |
| | Interquartile Range | | 2 | |
| | Skewness | | .808 | .171 |
| | Kurtosis | | -.353 | .340 |

Table 23

*Tests of Normality for Independent Variable NEIGHSOCI*

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | *df* | Sig. | Statistic | *df* | Sig. |
| NEIGHSOCI | .265 | 204 | .000 | .843 | 204 | .000 |

[a]Lilliefors Significance Correlation

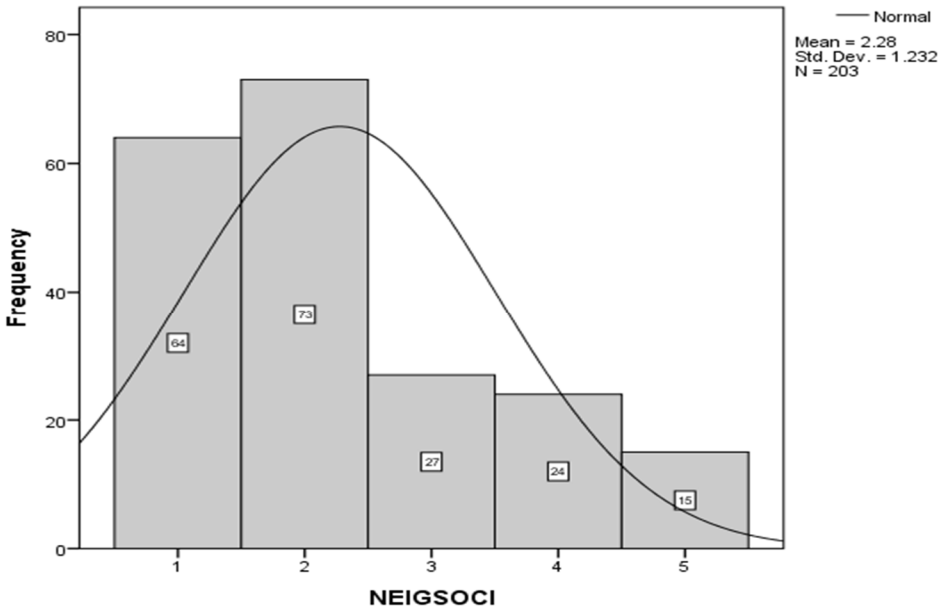


*Figure 26*. Histogram of independent variable NEIGSOCI.

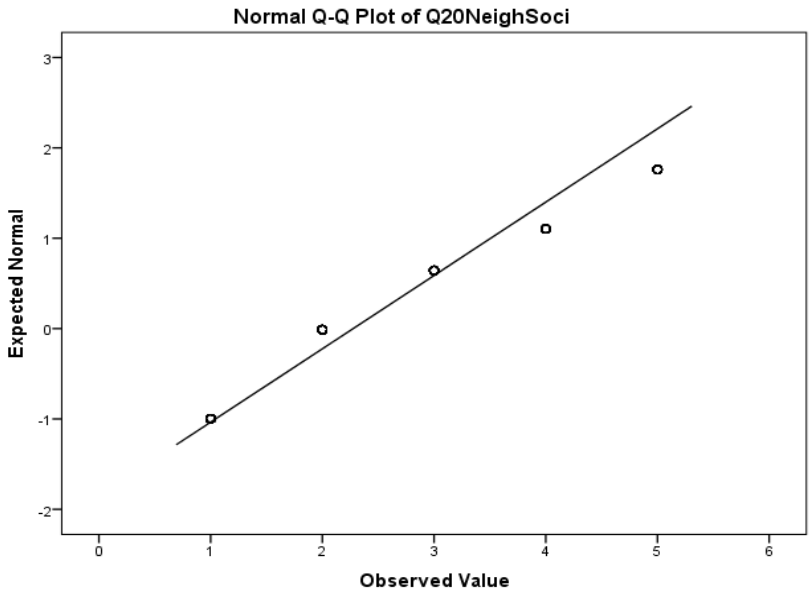


*Figure 27*. Normal Q-Q plot of independent variable NEIGSOCI.

Survey Question 34 measured the independent variable of NEIGSOCI. The 4-point Likert-type scale responses were coded in ascending favorability order (1 = *strong agreement* and 4 = *strong disagreement*) in neighborhood social homogeneity level. As shown in Table 24 and Figure 28, the composite results indicated approximately 58.8% of respondents held positive agreement levels and 41.2% held negative agreement levels of perceptions of similarities in social characteristics among the residents in their neighborhoods.

Table 24

*Frequency Distribution of Independent Variable NEIGSOCI*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly agree (1) | 29 | 14.2 | 14.2 | 14.2 |
| | Agree (2) | 91 | 44.6 | 44.6 | 58.8 |
| | Disagree (3) | 61 | 29.9 | 29.9 | 88.7 |
| | Strongly disagreed (4) | 23 | 11.3 | 11.3 | 100.0 |
| | Total | 204 | 100.0 | 100.0 | |

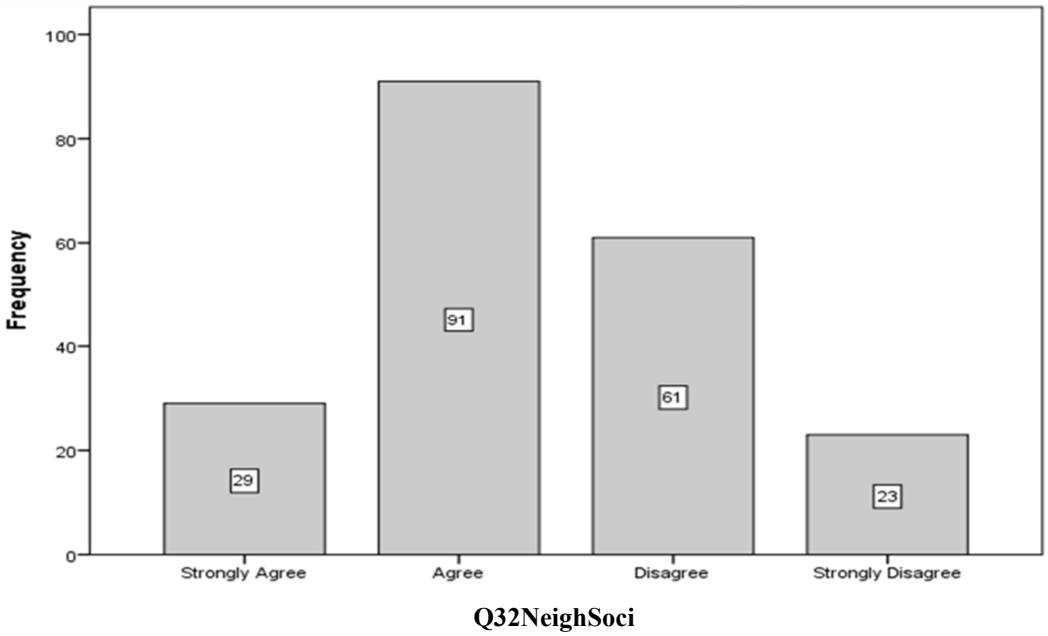


*Figure 28*. Bar graph of the independent variable NEIGSOCI.

**Housing value (HSVALUE).** This Likert-scaled variable represented the respondents' socioeconomic status. The results in Table 25 show $M = 1.28$, $SD = 1.419$. As shown in Table 26, the KS and SW tests both indicated a non-normal distribution with KS = .000 and SW =.000. Based on the lower and upper bounds, the results suggested a

95% confidence level that the mean score for the population was between 1.08 and 1.47. The histogram in Figure 29 and Q-Q plot in Figure 30 provide graphical representations of nonnormal sample distribution with the skewness number of .605.

Table 25

*Mean, Standard Deviation, Skewness, and Kurtosis of HSVALUE*

| | | | Statistic | Std. Error |
|---|---|---|---|---|
| HSVALUE | Mean | | 1.28 | .100 |
| | 95% Confidence Interval for Mean | Lower Bound | 1.08 | |
| | | Upper Bound | 1.47 | |
| | 5% Trimmed Mean | | 1.20 | |
| | Median | | 1.00 | |
| | Variance | | 2.013 | |
| | Std. Deviation | | 1.419 | |
| | Minimum | | 0 | |
| | Maximum | | 4 | |
| | Range | | 4 | |
| | Interquartile Range | | 2 | |
| | Skewness | | .605 | .171 |
| | Kurtosis | | -1.038 | .340 |

Table 26

*Tests of Normality for Independent Variable HSVALUE*

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | *df* | Sig. | Statistic | *df* | Sig. |
| HSVALUE | .300 | 204 | .000 | .796 | 204 | .000 |

[a]Lilliefors Significance Correlation

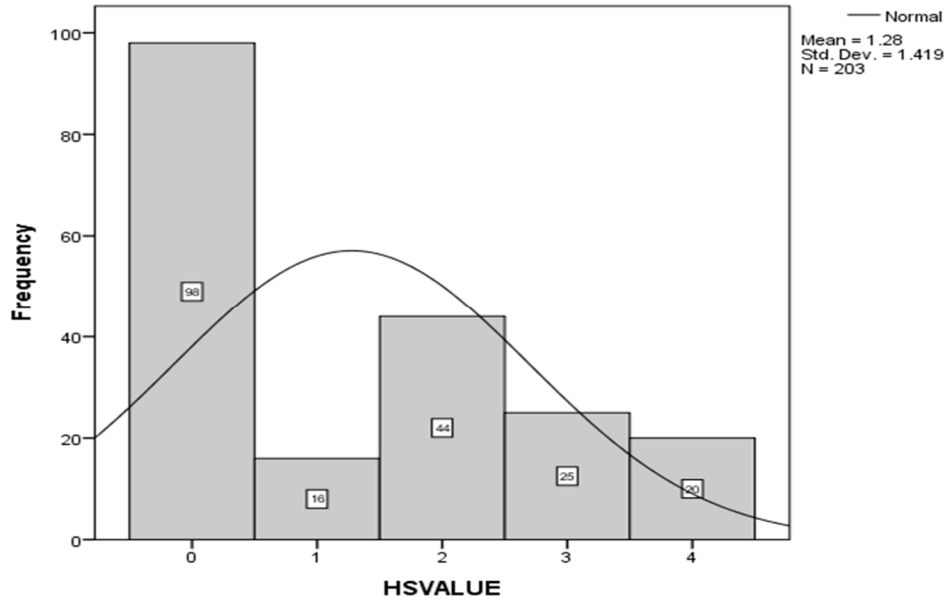


*Figure 29*. Histogram of independent variable HSVALUE.

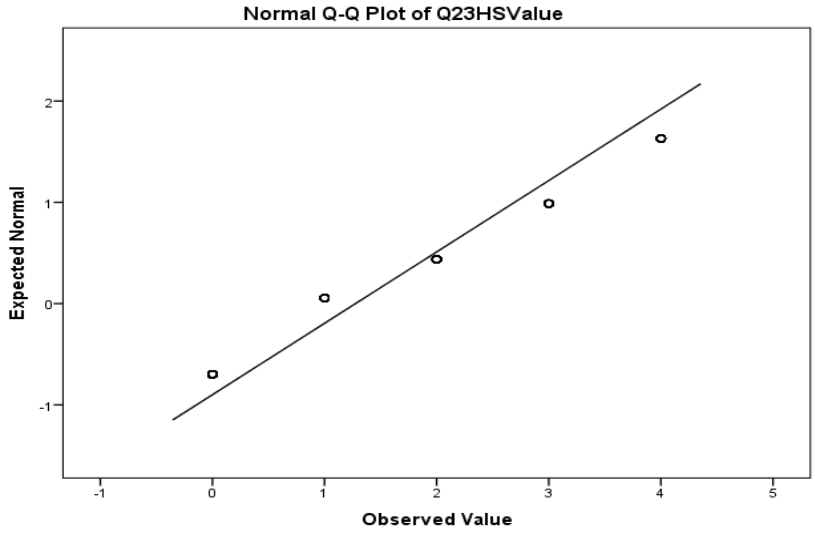


*Figure 30*. Normal Q-Q plot of independent variable HSVALUE.

Survey Question 23 measured the independent variable of HSVALUE. The 5-point Likert-type scale responses were coded in ascending favorability order (0 = *respondents who rented homes*, 1 = *housing values of less than $50,000*, 2 = *housing values between $50,001 and $100,000*, 3 = *housing values between $100,001 and $150,000*, and 4 = *housing values higher than $150,001*). As shown in Table 27, results indicated approximately 48.5% of respondents were renters, 7.8% owned homes valued at less than $50,000, 21.6% owned homes valued $50,001 through $100,000, 12.3% owned homes valued $100,001 through $150,000, and 9.8 owned homes valued higher than $150,001.

Table 27

*Frequency Distribution of Independent Variable HSVALUE*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Rent home (0) | 99 | 48.5 | 48.5 | 48.5 |
| | < $50,000 (1) | 16 | 7.8 | 7.8 | 56.4 |
| | $50,001-$100,000 (2) | 44 | 21.6 | 21.6 | 77.9 |
| | $100,001-$150,000 (3) | 25 | 12.3 | 12.3 | 90.2 |
| | ≥$150,001 (4) | 20 | 9.8 | 9.8 | 100.0 |
| | Total | 204 | 100.0 | 100.0 | |

**Respondents' age (RESPAGE).** This Likert-scaled variable referred to the respondents' demographic characteristic of age. Survey Question 25 measured the independent variable of RESPAGE. Respondents indicated their birth year in the blank space provided next to the survey question. After recoding the question, subtraction of

the respondent's answer from 2014 revealed the approximate age of the respondent. As indicated in Table 28 and Figure 31, 74% of respondents indicated an age of between 20 and 39 years old. Respondents over the age of 50 represented the 6.4% minority of participants.

Table 28

*Frequency Distribution of Independent Variable RESPAGE*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 1) 0-20 | 0 | 0.0 | 0.0 | 0.0 |
| | 2) 20 - 29 | 65 | 31.9 | 31.9 | 31.9 |
| | 3) 30 - 39 | 86 | 42.2 | 42.2 | 74.0 |
| | 4) 40 - 49 | 40 | 19.6 | 19.6 | 93.6 |
| | 5) 50 - 59 | 10 | 4.9 | 4.9 | 98.5 |
| | 6) 60+ | 3 | 1.5 | 1.5 | 100.0 |
| | Total | 204 | 100.0 | 100.0 | |

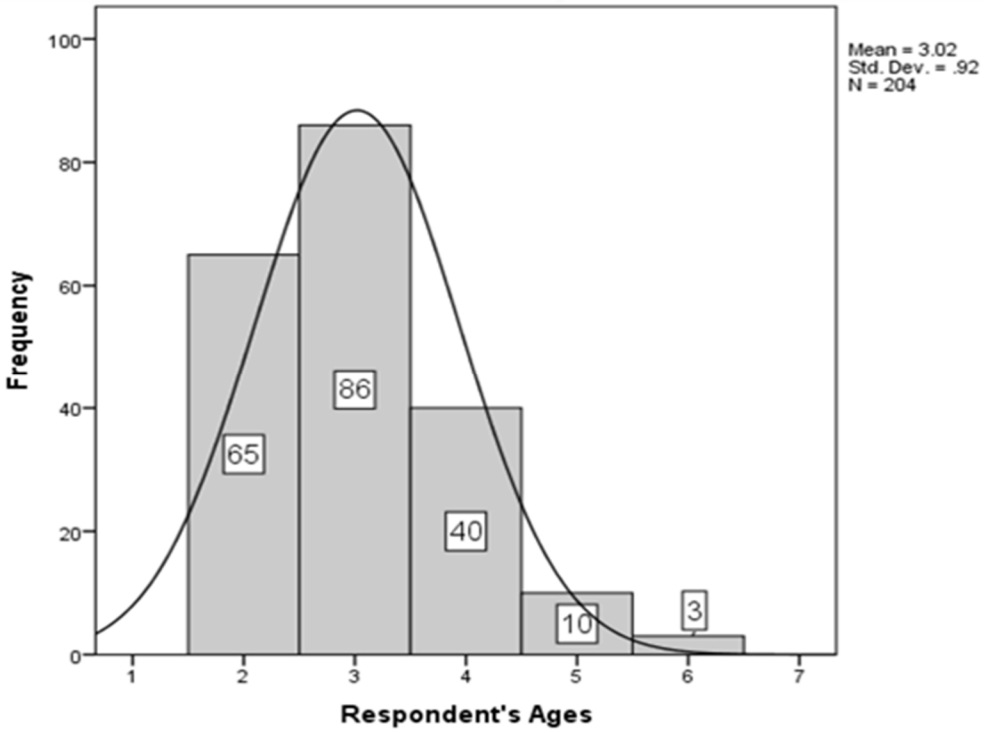


*Figure 31.* Bar graph of independent variable RESPAGE.

The results shown in Table 29 reveal $M = 34.99$, $SD = 8.921$. As displayed in Table 30, the KS and SW tests both indicated non-normal distribution with KS = .000 and SW = .000. The graphical representation of the data, along with the skewness number of .803 and the Kurtosis number of .589 also indicated a non-normally distributed sample. The results indicated the 95% confidence limits for the population mean were 33.76 and 36.22 years old. These results showed that the data were positively skewed positive to the right. Because three of the respondents were between the ages of 60 and 70, this result was expected. The corresponding surveys remained in the data set because of their valuable input and box plots revealed that they were not outliers.

Table 29

*Mean, Standard Deviation, Skewness, and Kurtosis of RESPAGE*

| | | | Statistic | Std. Error |
|---|---|---|---|---|
| AGE | Mean | | 34.99 | .625 |
| | 95% Confidence Interval for Mean | Lower Bound | 33.76 | |
| | | Upper Bound | 36.22 | |
| | 5% Trimmed Mean | | 34.51 | |
| | Median | | 34.00 | |
| | Variance | | 79.586 | |
| | Std. Deviation | | 8.921 | |
| | Minimum | | 20 | |
| | Maximum | | 69 | |
| | Range | | 49 | |
| | Interquartile Range | | 13 | |
| | Skewness | | .803 | .170 |
| | Kurtosis | | .589 | .339 |

Table 30

*Tests of Normality for Independent Variable RESPAGE****Error! Bookmark not defined.***

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | *df* | Sig. | Statistic | *df* | Sig. |
| RESPAGE | .092 | 204 | .000 | .953 | 204 | .000 |

[a]Lilliefors Significance Correlation

The QQ Plot for Question 25 indicated that ages were greatest at the tails of the distribution than would be expected for a normal distribution. The result established consistency with the boxplot of the independent variable RESPAGE in Figure 13 which the responses of 77, 101, and 119 represented outliers. The older age of the respondents

represented points furthest from the expected frequencies a normal population. The results suggested that the age of respondent population clustered between the ages of 25 and 45. As represented in the histogram of Figure 32 and Q-Q plot of Figure 33, respondents outside that age range resulted in a higher frequencies associated with positively skewed data.

Despite the analysis indicating ages 77, 101, and 119 were outliers, I kept them in the data set. The results remained unchanged by the omission of the outliers. The significant factors remained significant with or without the outliers. Rather than eliminate the outliers, they revealed a source of new inquiry. These outliers represented nuance rather than nuisance. At the 95% level of significance, I expected that approximately 2.5% of the data would be larger than plus or minus three standard deviations from the mean. These outliers represented a function of the inherent variability of the data. Minimal chance existed for the effects becoming deleterious and resulting in spurious correlation.

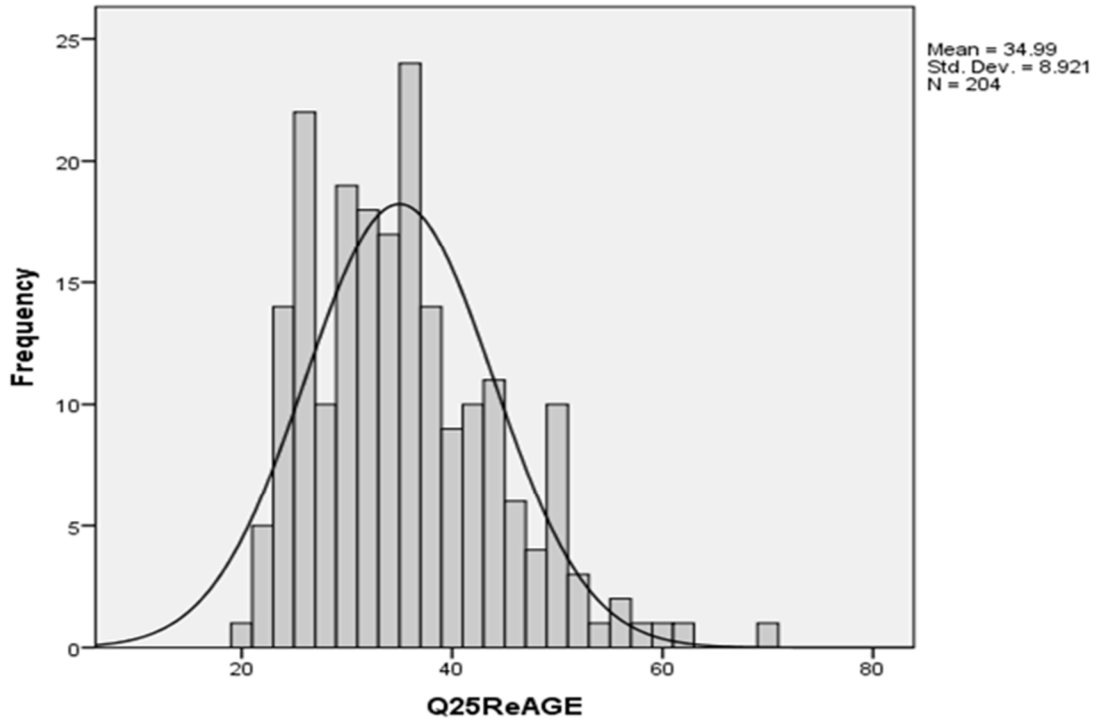


*Figure 32*. Histogram of variable respondents' age RESPAGE.

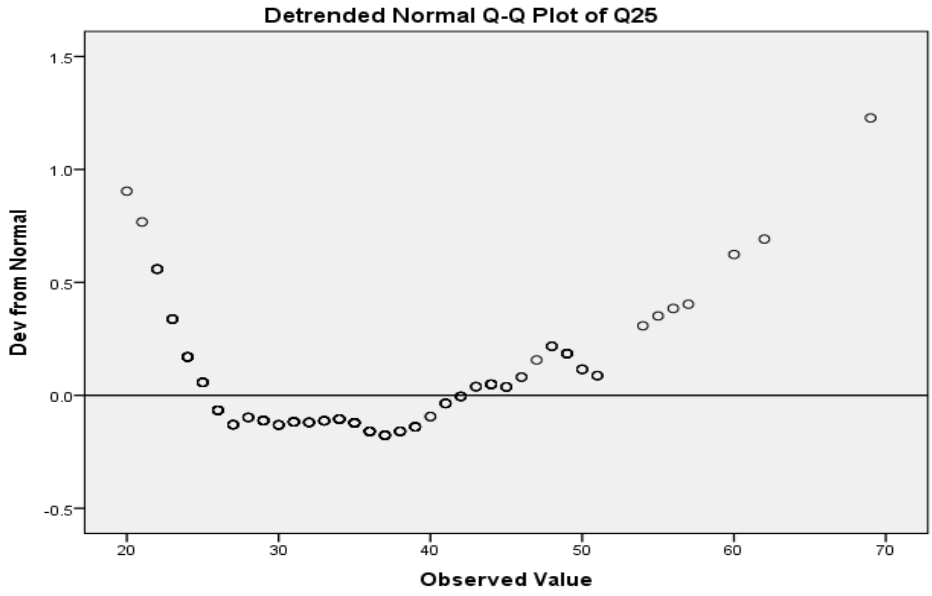


*Figure 33*. Detrended Normal Q-Q Plot of RESPAGE.

**Respondents' household size and composition (REHSHOLD).** Survey Question 29 measured the independent variable of REHSHOLD. The 6-point Likert-type scale responses were coded in ascending order (1 = *a single person household* and 6 = *a large two-parent family household*). As shown in Table 31, results indicated approximately 24% of respondents had a household composition of less than two family members, 54.9% had small single or two-parent family compositions, and 21.1% had large single or two-parent family compositions. The bar chart in Figure 34 represented distribution for REHSHOLD.

Table 31

*Frequency Distribution of Independent Variable REHSHOLD*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Single person(1) | 36 | 17.6 | 17.6 | 17.6 |
| | Couple with no children (2) | 13 | 6.4 | 6.4 | 24.0 |
| | Small single-parent family (3) | 63 | 30.9 | 30.9 | 54.9 |
| | Small two-parent family (4) | 49 | 24.0 | 24.0 | 78.9 |
| | Large single-parent family (5) | 14 | 6.9 | 6.9 | 85.8 |
| | Large two-parent family (6) | 29 | 14.2 | 14.2 | 100.0 |
| | Total | 204 | 100.0 | 100.0 | |

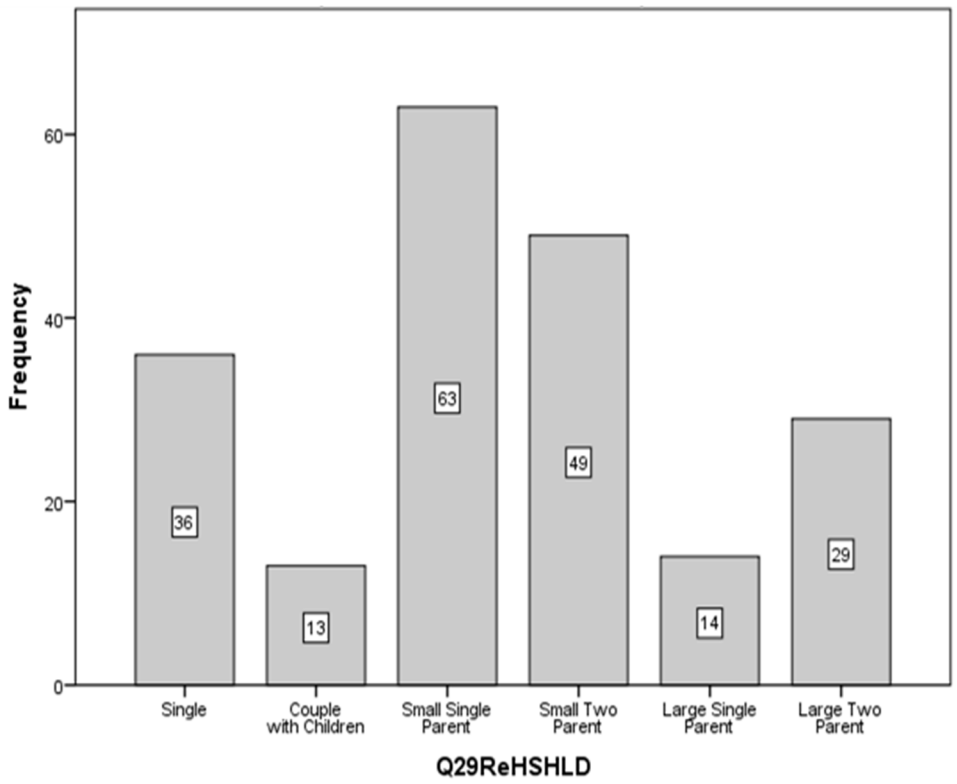


*Figure 34*. Bar graph of the dependent variable REHSHOLD.

The Likert-scaled variable REHSHOLD represented the respondents' demographic characteristic of number of household members and head of household type. The results shown in Table 32 revealed $M = 3.38$, $SD = 1.557$. As revealed in Table 33, the KS test and SW test indicated non-normal distribution, with KS = .000 and SW = .000. Based on the lower and upper bounds, the results indicated a 95% significance level that the mean score for the population was between 3.16 and 13.59. The histogram in Figure 35 and Q-Q plot in Figure 36 provided graphical representations of a positively-skewed sample distribution with a skewness number of .088.

Table 32

*Mean, Standard Deviation, Skewness, and Kurtosis of REHSHOLD*

| | | | Statistic | Std. Error |
|---|---|---|---|---|
| REHSHOLD | Mean | | 3.38 | .109 |
| | 95% Confidence Interval for Mean | Lower Bound | 3.16 | |
| | | Upper Bound | 3.59 | |
| | 5% Trimmed Mean | | 3.37 | |
| | Median | | 3.00 | |
| | Variance | | 2.425 | |
| | Std. Deviation | | 1.557 | |
| | Minimum | | 1 | |
| | Maximum | | 6 | |
| | Range | | 5 | |
| | Interquartile Range | | 1 | |
| | Skewness | | .088 | .171 |
| | Kurtosis | | -.732 | .340 |

Table 33

*Tests of Normality for Independent Variable REHSHOLD*

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | *df* | Sig. | Statistic | *df* | Sig. |
| REHSHOLD | .162 | 204 | .000 | .907 | 204 | .000 |

[a]Lilliefors Significance Correlation

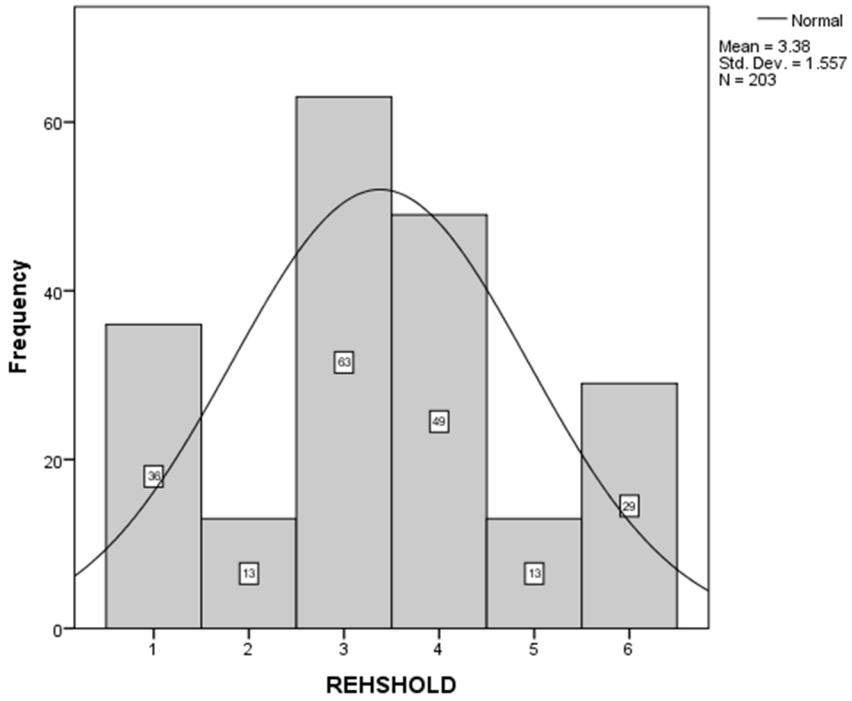


*Figure 35*. Histogram of independent variable REHSHOLD.

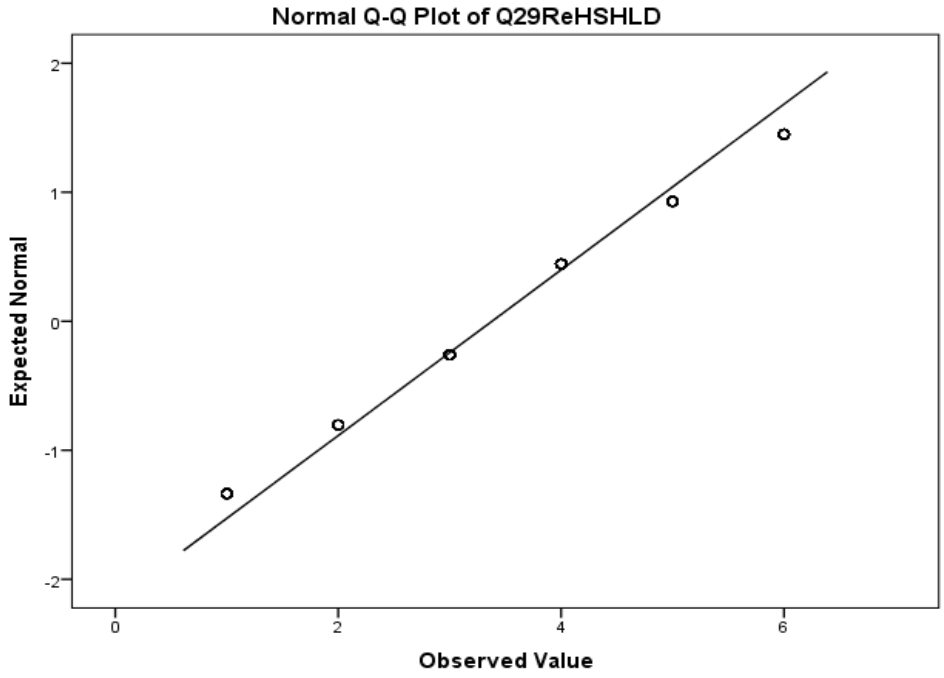


*Figure 36*. Normal Q-Q plot of independent variable REHSHOLD.

**Respondents' knowledge about manufactured homes (MHKNOWLE).** This Likert-scaled variable represented the amount of information respondents possessed about manufactured homes in their community or in general. As presented in Table 34, the group of $N = 204$ experienced exposure to the inside of a manufactured home level of $M = 3.78$, $SD = 5.32$. The tests of normality results in Table 35 revealed that the KS and SW tests indicated a non-normal distribution with KS = .000 and SW =.000. The majority of respondents' knowledge of manufactured homes reflected exposure within less than 4 years. The lower and upper bounds results indicated a 95% confidence level that the mean score for the population was between 3.05 and 4.52.

Table 34

*Mean, Standard Deviation, Skewness, and Kurtosis of MHKNOWLE*

| | | | Statistic | Std. Error |
|---|---|---|---|---|
| MHKNOWLE | Mean | | 3.78 | .372 |
| | 95% Confidence Interval for Mean | Lower Bound | 3.05 | |
| | | Upper Bound | 4.52 | |
| | 5% Trimmed Mean | | 3.10 | |
| | Median | | 2.00 | |
| | Variance | | 28.298 | |
| | Std. Deviation | | 5.320 | |
| | Minimum | | 0 | |
| | Maximum | | 25 | |
| | Range | | 25 | |
| | Interquartile Range | | 5 | |
| | Skewness | | 1.843 | .170 |
| | Kurtosis | | 2.954 | .339 |

Table 35

*Tests of Normality for Independent Variable MHKNOWLE*

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | *df* | Sig. | Statistic | *df* | Sig. |
| MHKNOWLE | .179 | 204 | .000 | .899 | 204 | .000 |

[a]Lilliefors Significance Correlation

The graphical representation of the data, along with the skewness number of 1.843, Kurtosis number of 2.954, KS number of .000, and SW number of .000 indicated that the sample was not normally distributed. Rather, the data were skewed right. A possible interpretation included the significance of the relatively long time since some of

the respondents viewed the inside a manufactured home. As displayed in the histogram in Figure 37 and the Q-Q plot in Figure 38, question 16 represented similar results that indicated residuals were greater and trended positively for the higher observed values. The length of time that had passed since a respondent indicated he or she viewed the inside of a manufactured home resulted in a greater the deviation from the norm. The expectation existed for the result of right- or positive-skewed data.

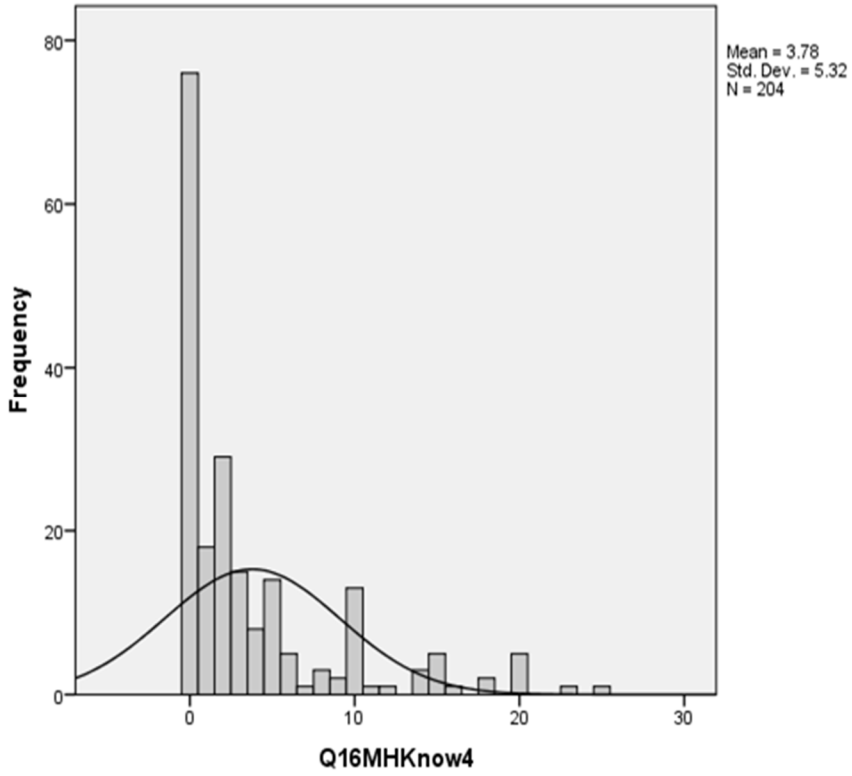


*Figure 37.* Time in years since respondent visited manufactured home MHKNOWLE.

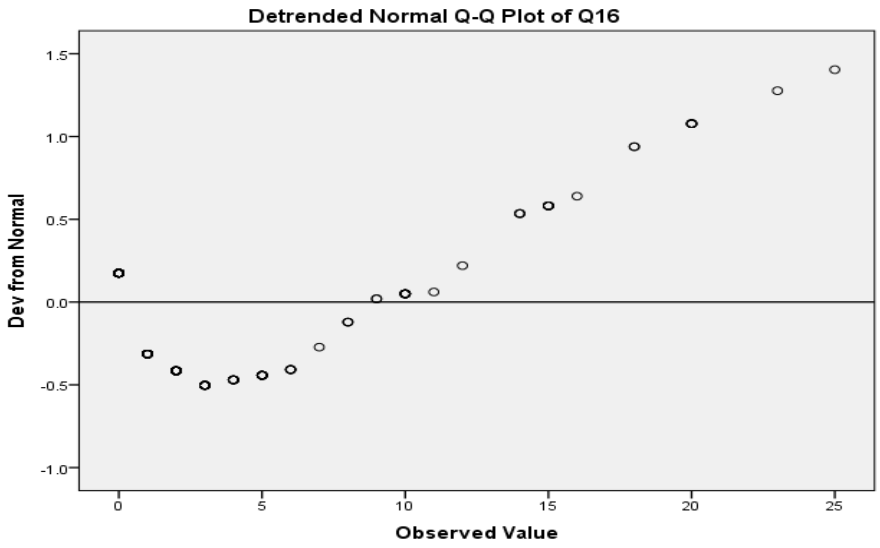


*Figure 38*. Detrended Normal Q-Q Plot of time in years since respondent visited manufactured home MHKNOWLE.

The respondents' answers to Question 16 indicated knowledge about manufactured homes through providing the amount of time (in years) passed since he or she had viewed the inside of a manufactured home. As displayed in Table 36, the responses in number of years indicated the respondents' knowledge of manufactured homes. As shown in Table 36, 71.6% of respondents indicated knowledge based on visiting a manufactured home at some point within the previous 4 years. Approximately 9.8% of respondents disclosed that exposure to manufactured homes occurred within the broad timeframe of 10 to 25 years.

Table 36

*Frequency Distribution of Independent Variable MHKNOWLE*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 0 - 4 | 146 | 71.6 | 71.6 | 71.6 |
| | 5 - 9 | 25 | 12.3 | 12.3 | 83.8 |
| | 10 - 14 | 18 | 8.8 | 8.8 | 92.6 |
| | 15 - 19 | 8 | 3.9 | 3.9 | 96.6 |
| | 20+ | 7 | 3.4 | 3.4 | 100.0 |
| | Total | 204 | 100.0 | 100.0 | |

**County's percentage (%) of existing manufactured homes (MHPCT).** The respondents provided county of residence on completed surveys. As displayed in Table 37, the county of residence provided categories for percentages of completed surveys. The graphical depiction in Figure 39 provides a visual representation of the results. Respondents from Madison County represented the highest percentage (27.5%) of study participants. Respondents from Carroll County represented the second highest percentage (18.6%) of study participants. Interestingly, Madison County represented an urban area and Carroll County represented a rural area. A possible interpretation of results revealed that approximately 46.1% of adult learners enrolled in a non-traditional program attended classes at the campuses in the predominant counties.

Table 37

*Frequency Distribution of Independent Variable MHPCT*

| | County Name | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Benton | 3 | 1.5 | 1.5 | 1.5 |
| | Carroll | 38 | 18.6 | 18.6 | 20.1 |
| | Chester | 2 | 1.0 | 1.0 | 21.1 |
| | Fayette | 2 | 1.0 | 1.0 | 22.1 |
| | Gibson | 18 | 8.8 | 8.8 | 30.9 |
| | Hardeman | 1 | .5 | .5 | 31.4 |
| | Haywood | 5 | 2.5 | 2.5 | 33.8 |
| | Henderson | 3 | 1.5 | 1.5 | 35.3 |
| | Henry | 18 | 8.8 | 8.8 | 44.1 |
| | Humphreys | 1 | .5 | .5 | 44.6 |
| | Lauderdale | 1 | .5 | .5 | 45.1 |
| | Madison | 56 | 27.5 | 27.5 | 72.5 |
| | No Response | 5 | 2.5 | 2.5 | 75.0 |
| | Obion | 6 | 2.9 | 2.9 | 77.9 |
| | Shelby | 26 | 12.7 | 12.7 | 90.7 |
| | Weakley | 19 | 9.3 | 9.3 | 100.0 |
| | Total | 204 | 100.0 | 100.0 | |

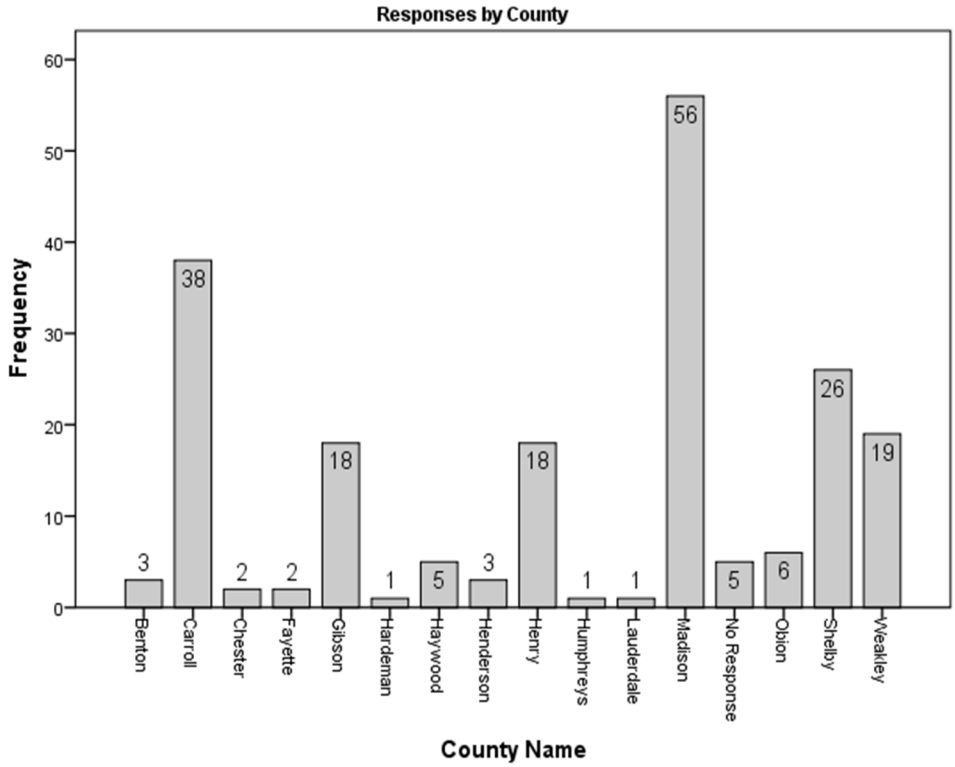


*Figure 39.* Bar graph of the dependent variable MHPCT.

**Manufactured home unit type (MHTYPE).** This categorical variable referred to the characteristics associated with the two prominent types of manufactured housing: singlewide and doublewide structures. A dichotomous variable categorized the manufactured home type as *1* for single-section units and *2* for double-section units. I expected the dichotomous variable of manufactured home type would have 50% equal frequency. Although results indicated the frequency of manufactured home type did not achieve the optimal 50% equality, the 48% of double-section home survey and 52% of single-section survey represented an acceptable assumption of equality. As shown in Table 38, the frequency distribution of respondents by manufactured home survey type

indicated that 52% of surveys completed applied to single-section units and 48% of surveys completed applied to double-section units.

Table 38

*Frequency Distribution of Independent Variable MHTYPE*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Single | 106 | 52.0 | 52.0 | 52.0 |
| | Double | 98 | 48.0 | 48.0 | 100.0 |
| | Total | 204 | 100.0 | 100.0 | |

**Respondents' gender (REGENDER).** This categorical variable represented the respondents' demographic characteristic of gender based on the common social construction of male pertaining to masculinity and female pertaining to femininity. Survey Question 24 measured the independent variable of REGENDER. The Likert-type scale responses were coded in ascending order (0 = *female respondent* and 1 = *male respondent*). As shown in Table 39, results indicated that approximately 78.4% of respondents were female and 21.6% of respondents were male.

Table 39

*Frequency Distribution of Independent Variable REGENDER*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Female | 160 | 78.4 | 78.4 | 78.4 |
| | Male | 44 | 21.6 | 21.6 | 100.0 |
| | Total | 204 | 100.0 | 100.0 | |

A chi-square test assessed the equal distribution of categorical variables' values. I assumed that the dichotomous variable of respondents' gender would have an equal frequency of 50%. As shown in Table 40, the results of the chi-square test were significant, $X^2(1, N = 204) = .086$, $p < .05$. Based on these results, I concluded that the categories of REGENDER represented an uneven sample distribution.

Table 40

*Chi-square Goodness of Fit Test REGENDER*

| | Value | *Df* | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|---|---|---|---|---|---|
| Pearson Chi-Square | .086[a] | 1 | .769 | | |
| Continuity Correction[b] | .015 | 1 | .902 | | |
| Likelihood Ratio | .086 | 1 | .769 | | |
| Fisher's Exact Test | | | | .865 | .450 |
| Linear-by-Linear Association | .086 | 1 | .769 | | |
| N of Valid Cases | 204 | | | | |

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 21.14.
b. Computed only for a 2x2 table

As depicted in Table 41, the cross tabulation of gender and manufactured home type indicated that females represented the majority (78.4%) of respondents for both single- and double-section manufactured home surveys. The bar chart in Figure 40 also depicts the uneven distribution by gender in the sample for both types of manufactured home.

Table 41

*Cross Tabulation of REGENDER and MHTYPE*

| | | Q24REGENDER | | |
|---|---|---|---|---|
| | | Female | Male | Total |
| MHTYPE | Single | 84 | 22 | 106 |
| | Double | 76 | 22 | 98 |
| Total | | 160 | 44 | 204 |

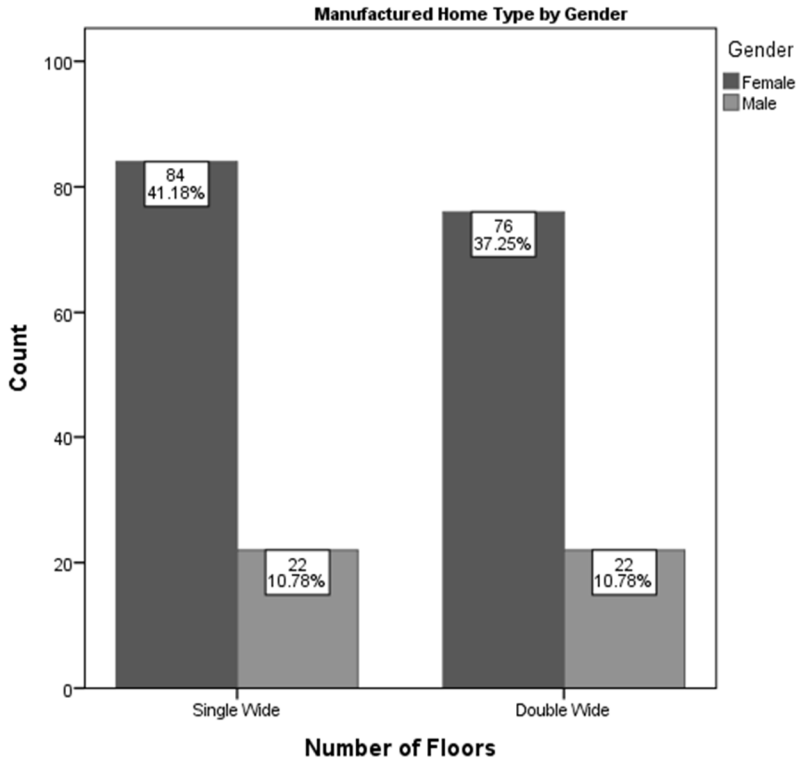


*Figure 40*. Bar graph of manufactured home type by gender.

The *Phi* test and *Cramer's V* tests provided measures of the association between the categorical variables REGENDER and MHTYPE. As revealed in Table 42, the results of the symmetric measures were significant at p = .021. Based on the results of the chi-square test and the symmetric measures test, I concluded that the sample proportions of REGENDER and MHTYPE were not equivalent. The majority of respondents indicated female as their gender.

Table 42

*Symmetric Measures of REGENDER and MHTYPE*

| | | Value | Approx. Sig. |
|---|---|---|---|
| Nominal by Nominal | Phi | .021 | .769 |
| | Cramer's V | .021 | .769 |
| N of Valid Cases | | 204 | |

**Respondents' race (RESPRACE)**. This categorical variable referred to the respondents' demographic characteristic of race. Survey Question 28 measured the independent variable of RESPRACE. The six categories of racial composition were coded as:

1. Black / African-American
2. White / Caucasian (not of Hispanic origin)
3. Latino / Hispanic
4. Asian / Pacific Islander
5. Other (specify)

6. Native American / Indian.

The distribution consisted of a relatively small number of respondents representing the number of Latino / Hispanic, Native-American / Indian, Asian / Pacific Islander, and Other respondents. As indicated by similar results in Mimura et al. (2010), the racial and ethnic distributions represent the student body of the institution. The university used as the research site reported the 2013 student body diversity consisted of 25.29% Black / African American, 57.34% White / Caucasian, 2.36% Latino / Hispanic, .19% Native American, .19% Asian / Pacific Islander, and 14.28% other or unknown (Bethel University, 2014).

As shown in Table 43, 52.9% of respondents indicated a race of Black / African-American, 42.2% White / Caucasian background, 1% Latino / Hispanic background, 1% Other background, and 2.9% Native American / Indian background. None of the respondents indicated a racial background of Asian / Pacific Islander. Therefore, the omission of racial background of Asian / Pacific Islander category from the frequency table occurred.

Table 43

*Frequency Distribution of Independent Variable RESPRACE*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Black (1) | 108 | 52.9 | 52.9 | 52.9 |
| | White (2) | 86 | 42.2 | 42.2 | 95.1 |
| | Hispanic (3) | 2 | 1.0 | 1.0 | 96.1 |
| | Other (5) | 2 | 1.0 | 1.0 | 97.1 |
| | Native American (6) | 6 | 2.9 | 2.9 | 100.0 |
| | Total | 204 | 100.0 | 100.0 | |

A one-sample chi-square test assessed the equality of the distributions of the respondents' racial attributes in the sample. I expected the variable of respondents' race would have an equal distribution (i.e. 100% / 5 = 20%). As depicted in Table 44, the results of the chi-square were significant, $\chi^2(4, N = 204) = 264.235$, $p < .05$. The results indicated unequal distribution of the RESPRACE attributes in the sample.

Table 44

*Chi-square Goodness of Fit Test RESPRACE*

| | Value | *df* | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 264.235[a] | 4 | .000 |
| Likelihood Ratio | 6.693 | 4 | .153 |
| Linear-by-Linear Association | .126 | 1 | .722 |
| N of Valid Cases | 204 | | |

a. 0 cells (0.0%) have expected count less than 5. The minimum expected cell frequency is 40.8.

As shown in Table 45 and Figure 41, the cross tabulation of gender and manufactured home type indicated that African-American respondents were almost evenly distributed between single- and double-section manufactured home surveys and represented the majority of the racial composition (52.9%). The results indicated unequal distributions of Caucasian respondents (42.2%) among manufactured home type.

Table 45

*Cross Tabulation of RESPRACE and MHTYPE*

| | | RESPRACE | | | | | |
|---|---|---|---|---|---|---|---|
| | | Black/ Afrn. Amer | White/ Caucasian | Hispanic/ Latino | Other | Indian / Native Amer | Total |
| MHTYPE | Single | 53 | 47 | 2 | 2 | 2 | 106 |
| | Double | 55 | 39 | 0 | 0 | 4 | 98 |
| Total | | 108 | 86 | 2 | 2 | 6 | 204 |

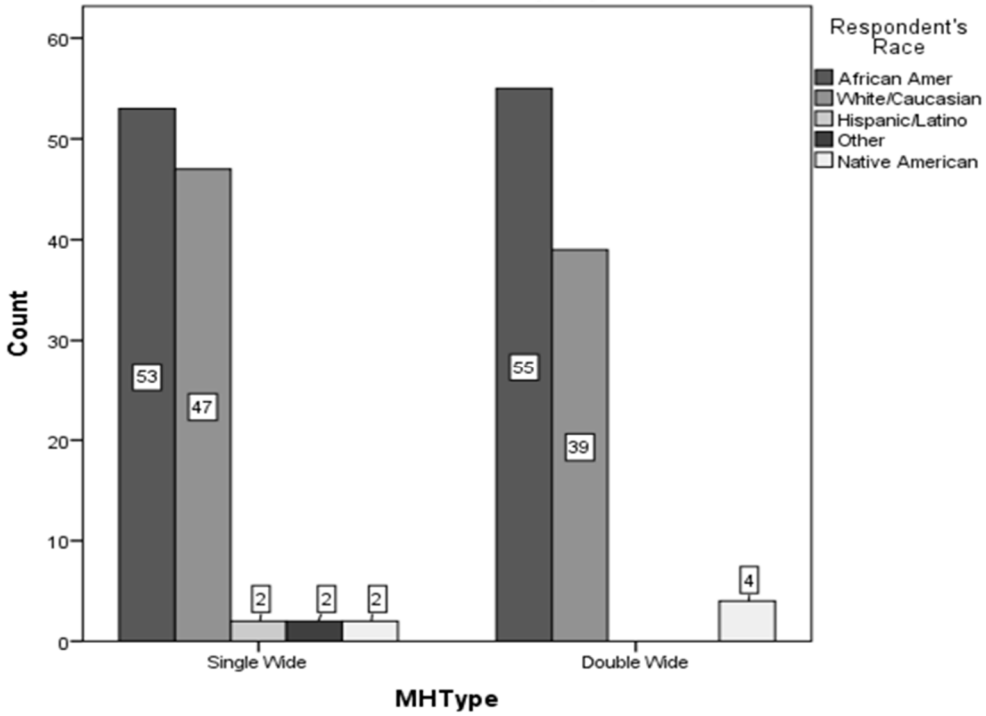


*Figure 41*. Bar graph of manufactured home type by race.

The *Phi* test and *Cramer's V* tests measured the association between the categorical variables RESPRACE and MHTYPE. As revealed in Table 46, the results of the symmetric measures were not significant at p = .273. However, based on the results of the chi-square test and the symmetric measures test, I concluded that the sample proportions of RESPRACE and MHTYPE were not equivalent.

Table 46

*Symmetric Measures of REGENDER and MHTYPE*

| Symmetric Measures | | | |
|---|---|---|---|
| | | Value | Approx. Sig. |
| Nominal by Nominal | Phi | .159 | .273 |
| | Cramer's V | .159 | .273 |
| N of Valid Cases | | 204 | |

**Respondents' comments about manufactured housing.** Survey Question 34 asked respondents to share additional information or opinions about manufactured housing in a narrative format. Appendix F illustrated respondent comments on 47 returned surveys (23% of total sample). The comments reflected sentiments held by study participants in West Tennessee. Of the 47 responses, approximately 19% indicated concerns regarding construction durability and safety during storms that involved damaging winds and tornadoes. These comments were not surprising given the history and likelihood of damaging storms in the geographical area.

Approximately 29.7% of responses addressed perceptions of manufactured home conditions within the respondents' communities. Of the 14 responses, 50% indicated concerns about the maintenance and upkeep of the home and yard area. Respondents viewed newer homes more favorably than older homes, and the perception of condition as related to the age of homes. Two of the responses also included opinions about the manufactured home park owners' responsibilities to maintain the attractiveness of the homes and surroundings. Furthermore, approximately 28.5% of the responses regarding

perceptions of manufactured home conditions included specific references to the appealing interior of homes.

Respondent comments addressed the controversial issue of value depreciation. Approximately 12.7% of responses indicated that the value depreciation of the manufactured home, as well as depreciation on neighboring homes, continued to influence consumer perceptions. The majority of responses reflected negative perceptions of single-section homes regarding value depreciation.

The affordability and convenience of manufactured housing positively influenced the perceptions of 14.8% of respondents who answered survey question 34. One respondent indicated the lack of available financing as a major drawback for consumers interested in affordable home ownership. Approximately 19% of comments that signified high levels of acceptance supported the attractiveness of affordability and convenience. Only one respondent indicated a strong opposition to manufactured housing.

Some of the comments implied that consumers in west Tennessee perceived manufactured homes as conditionally acceptable. The condition of manufactured homes influenced whether perceptions were positive or negative. Likewise, the frequency of severe storms in the area caused concerns regarding the quality and durability of construction materials. Although affordability and convenience influenced acceptance levels, the factors were unable to overcome the issues associated with value depreciation. Approximately 10.6% of respondents commented about the aesthetic appeal of the products' interiors.

**Correlation Analysis**

The correlation coefficient quantified and measured the association between two variables (Boslaugh & Watters, 2008). The correlation analysis permitted a comprehensive evaluation of the relationship between independent and dependent variables (White, 2014). A level of linear association between each independent *X* variable and dependent *Y* variable represented a significant assumption of linear analysis (Ready, 2012). Using the composite scores, I calculated Pearson's Product-Moment Correlation Coefficient (*r*) for each Likert-scaled independent *X* variable and the dependent *Y* variable combination to assess the degree of linear relationship between the variables. As indicated in Table 47, the dummy coding technique transformed the dichotomous categorical *X* variables MHTYPE, RESPRACE, and REGENDER into discrete variables.

Table 47

*Treatment of Categorical Variables*

| Variable Name | Dummy Name | Coding |
|---|---|---|
| Race (RESPRACE) | Dummy1 | 1 = Black / African American<br>2 = White / Caucasian<br>3 = Latino / Hispanic<br>4 = Asian / Pacific Islander<br>5 = Other (specify)<br>6 = Native American / Indian |
| Gender (REGENDER) | Dummy 2 | 1 = male<br>0 = female |
| Manufactured home type (MHTYPE) | Dummy 3 | 1 = single section<br>2 = double section |

Note. For the purpose of the regression analysis, the categories coded 0 represent the suppressed or comparison categories.

I used SPSS to determine correlation coefficients and analyze the significance of linear relationships between the independent variables and dependent variable. I used a two-tailed test at the standard level of acceptability of a Type I error of $\alpha = .05$. A *p*-value of $\leq .05$ indicated a significant linear relationship between the independent and dependent variable by indicating the probability of making a Type I error of $\leq 5\%$. A pair-wise combination of independent variable and dependent variable in which $r_{pbi} = 0$ with a significance $\leq .05$ indicated rejection of the null hypothesis and inclusion of the independent variable in the model (Ready, 2012). A Pearson product correlation for pair-wise combinations of variables in which $r_{pbi} \neq 0$ or a *p*-value > .05 indicated failure to reject the null hypothesis (Ready, 2012).

**Regression Modeling**

I used SPSS to develop the regression model. The independent variables included in the statistical model tested the research hypotheses. I began with a simultaneous multiple regression to test the significance of all possible independent variables. The regression analysis determined if a linear combination of the six independent variables that significantly correlated with the dependent variable predicted acceptance of manufactured homes. I used multiple regression analysis techniques because the research setting included a single outcome and multiple predictors (Boslaugh & Watters, 2008). The results of the correlation analysis identified six independent variables that significantly correlated with the dependent variable at the .05 alpha level.

The variables MHBEHAV1, MHBEHAV2, HSVALUE, REHSHOLD, NEIGPHYS1, and NEIGPHYS2 were significant $p \leq .05$ level. I used this regression model to calculate the $R$, $R^2$, and adjusted $R^2$. As stated in the data analysis techniques subsection of Section 2, $R$ represented the measurement of correlation between the predictor variables and outcome variables that signified the model's accuracy in predicting observed data (Ready, 2012). $R^2$ represented the coefficient of determination that measured the percentage of variation in the outcome that the predictor variables explained (Boslaugh & Watters, 2008). Finally, the adjusted $R^2$ indicated how well the data fit the multiple regression model, accounting for the model's number of independent variables (Ready, 2012). The Model Summary displayed in Table 48 represents the entire set of variables, both significant and insignificant, resulting from the simultaneous regression analysis.

Table 48

*Simultaneous Regression Model Summary*

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|---|---|---|---|---|---|
| 1 | .292[a] | .085 | .081 | .977 | |
| 2 | .367[b] | .135 | .126 | .952 | |
| 3 | .414[c] | .171 | .159 | .934 | |
| 4 | .447[d] | .199 | .183 | .921 | |
| 5 | .473[e] | .224 | .204 | .909 | |
| 6 | .490[f] | .241 | .217 | .901 | 1.692 |

a. Predictors: (Constant), HSVALUE
b. Predictors: (Constant), HSVALUE, MHBEHAV1
c. Predictors: (Constant), HSVALUE, MHBEHAV1, REHSHOLD
d. Predictors: (Constant), HSVALUE, MHBEHAV1, REHSHOLD, NEIGPHYS1
e. Predictors: (Constant), HSVALUE, MHBEHAV1, REHSHOLD, NEIGPHYS1, MHBEHAV2
f. Predictors: (Constant), HSVALUE, MHBEHAV1, REHSHOLD, NEIGPHYS1, MHBEHAV2, NEIGPHYS2
g. Dependent Variable: MHACCEPT

I used the simultaneous multiple regression method to determine the significance of a variable to the statistical model. The simultaneous multiple regression model in Table 48 indicated a significant relationship between the independent variable of HSVALUE, which represented the respondents' socioeconomic status, and the dependent variable MHACCEPT. As shown in Table 48, Model 1 of the Model Summary revealed that house values (HSVALUE) were statistically significant at 95% level of significance ($\alpha = .05$).

The analysis of variance (ANOVA) applied the *F* test to determine whether the model, as a whole, was useful in predicting the acceptance rate (MHACCEPT). As shown in Table 49, the results of the ANOVA analysis indicated statistical significance $F(6,196) = 10.347$. The $F = 10.347$ was well above the *critical F* = 6.607 and indicated the significance of Model 6 with an adjusted R square of .217.

Table 49

*ANOVA Results for Model 6*

| Model | | Sum of Squares | *df* | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 6 | Regression | 50.414 | 6 | 8.402 | 10.347 | .000[g] |
| | Residual | 159.162 | 196 | .812 | | |
| | Total | 209.576 | 202 | | | |

As displayed in Table 48, Model 2 of the Model Summary revealed that the addition of the independent variable MHBEHAV1 resulted in the $R^2$ change = .047, *SE* = .95. The addition of the independent variable REHSHOLD in Model 3 resulted in a change to the model as $R^2$ change = .033, *SE* = .93. Model 4 represented the results of adding the independent variable NEIGPHYS1, which caused the $R^2$ change = .024, *SE* = .92. The inclusion of an additional measurement of the variable MHBEHAV2 in Model 5 resulted in the $R^2$ change = .021, *SE* = .91. Finally, Model 6 indicated the $R^2$ change = .013, *SE* = .90 as the result of including a secondary measurement of the variable NEIGPHYS2 to the model. The simultaneous regression model revealed that Model 6

provided the most explanatory power with six of the variables resulting in an adjusted $R^2$ of .217 or 21.7% explanatory power.

The Durbin-Watson statistic was calculated to test for statistically significant autocorrelation of the linear regression model (Bercu & Proia, 2013). The Durbin-Watson statistical value fell between the range of 0 through 4 (Van de Sompel, Garai, Zavaleta, & Gambhir, 2012). A value of 2 indicated that no autocorrelation existed between the serial error values (Bercu & Proia, 2013). Values considerably less than 2 and approaching 0 indicated positive autocorrelation (Van de Sompel et al., 2012). Values more than 2 and approaching 4 signified negative autocorrelation (Van de Sompel et al., 2012). At sample size $n \geq 100$ and regressors $\geq 5$, the critical $d_L$ was 1.57 and the critical $d_U$ was 1.78. The DW statistic of 1.692 indicated there was no statistically significant autocorrelation present in the model.

As shown in Table 50, the results of the regression model 6 indicated that the overall statistical model, which included six independent variables, predicted 21.7% of the acceptance of manufactured homes (N = 204). The six variables MHBEHAV1, MHBEHAV2, HSVALUE, REHSHOLD, NEIGPHYS1, and NEIGPHYS2 were statistically significant predictors of the dependent variable at $\alpha < .05$.

Table 50

*Regression Analysis for the Prediction of MHACCEPT*

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | | 95.0% Confidence Interval for B | | Correlations | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | Sig. | Lower Bound | Upper Bound | Zero-order | Partial | Part |
| 6 | (Constant) | 1.387 | .357 | | 3.882 | .000 | .682 | 2.092 | | | |
| | HSVALUE | -.197 | .046 | -.275 | -4.284 | .000 | -.288 | -.106 | -.292 | -.293 | -.267 |
| | MHBEHAV1 | .234 | .096 | .165 | 2.441 | .016 | .045 | .423 | .240 | .172 | .152 |
| | REHSHOLD | .124 | .041 | .189 | 2.993 | .003 | .042 | .205 | .136 | .209 | .186 |
| | NEIGPHYS1 | .120 | .040 | .190 | 2.987 | .003 | .041 | .200 | .207 | .209 | .186 |
| | MHBEHAV2 | .230 | .086 | .182 | 2.682 | .008 | .061 | .399 | .231 | .188 | .167 |
| | NEIGPHYS2 | -.109 | .052 | -.131 | -2.093 | .038 | -.211 | -.006 | -.104 | -.148 | -.130 |

a. Dependent Variable: MHAccept

In summary, the resulting regression equation from the regression model was:

$$\widehat{MHACCEPT} = 1.387\,(-.197\,(HSVALUE) + .234\,(MHBEHAV1) + .124\,(REHSHOLD) + .120\,(NEIGPHYS1) + .230\,(MHBEHAV2) - .109\,(NEIGPHYS2))$$

The explanation of each independent variable's contribution to the prediction of manufactured home acceptance comprises the remainder of the discussion of the regression analysis.

**Housing value (HSVALUE)**. This variable measured the socioeconomic status of the respondent. As the value of the respondents' own home increased by one category, the acceptance of manufactured housing decreased .197 points on the scale. This finding supported Nguyen et al. (2012) results regarding NIMBY opposition to affordable housing. Because manufactured housing appeals to low-income families (Wilson, 2012),

decision-makers in higher-income brackets have engaged in creating opposition barriers that create zoning restrictions (Nguyen et al., 2012). The finding also suggested the influence of manufactured homes on adjacent property value. Contradictory study results, including B.Wilson's (2012) study that manufactured homes have no negative influence on adjacent property values and McCarty and Hepworth's (2012) findings that concluded the opposite, helped explain the significant relationship. I used the standardized regression coefficients to identify which independent variables influenced the dependent variable to the greatest degree. Evaluation of the standardized coefficients revealed that housing values (HSVALUE) had the strongest influence on manufactured home acceptance (MHACCEPT). Respondents who owned homes of higher value were more likely to hold unfavorable perceptions of manufactured homes. Burkhart (2010), presented similar results that indicated residents of site-built home neighborhoods perceived manufactured homes as unattractive and occupants as promoting a questionable lifestyle, supported the findings of the relationship between increased housing value and decreased acceptance of manufactured homes. The significance of the finding reiterated the relationship between income level and expected perceptions of affordable housing.

The finding of a significant relationship between respondents' housing values and acceptance of manufactured homes represented a distinct change in consumer perceptions from Atiles et al. (1998) original study. Atiles et al. results indicated no significant relationship between HSVALUE and manufactured home acceptance. The significant level of HSVALUE's influence in this doctoral study represented a direct contrast to the

significance level of the same variable in the Atiles et al. study. The rise in popularity of subprime loan products (Levintin & Wachter, 2013) and predatory loan practices that targeted low-income families (Kothari & Lester, 2012) contributed to the collapse of the housing market. The consequences of the subprime mortgage crisis could possibly have represented a factor that influenced the change in HSVALUE significance. The comparison of various populations before and after the subprime mortgage crisis might yield varying results. The scope of this study does not include the comparison of various populations.

**Perceived social behavior of manufactured home occupants (MHBEHAV1).** Survey question 7 measured the respondents' perceptions of manufactured home occupants' typical behavior. The 5-point Likert-type scale rated perceived level of behavior in ascending order (1 = *very bad* and 5 = *very good*). Regression analysis results revealed that as the perceived social behavior increased by one point, the acceptance of manufactured housing level increased .234 points. A favorable perception of occupants' social behavior signified a favorable perception of manufactured housing. The significance of this variable supported Mimura et al.'s (2010) findings that revealed the manner in which consumers perceive manufactured homes could have influenced their opinion of manufactured home occupants.

According to Nguyen et al. (2012), the negative social construction of low-income families influenced opinions of manufactured housing residents often resulted in unwarranted stigmatization (Saatcioglu & Corus, 2014). Mimura et al. (2010) concluded

that positive media exposure, consumer education, and awareness of the benefits associated with manufactured housing positively changed consumer perception. The significance of perceived social behavior of manufactured home occupants in this doctoral study corroborated earlier findings associated with consumer perception and acceptance of manufactured housing.

The finding of a significant relationship between acceptance of manufactured homes and perceived social behavior of occupants represented consistency with Atiles et al. (1998) original study. The original study results indicated the strongest relationship between MHBEHAV and MHACCEPT. Although the findings of this doctoral study revealed perceived social behavior of manufactured home occupants (MHBEHAV1) as the second strongest predictor of acceptance, the significance confirmed the importance of consumer perceptions. The similarity of results between the studies also indicated the continued negative stigmatization associated with manufactured housing (Saatcioglu & Corus, 2014).

**Respondents' household size and composition (REHSHOLD).** Survey Question 29 measured the respondents' household size and composition. The 6-point Likert-type scale rated household size and composition in ascending order (1 = *single person household* and 6 = *a large 2 parent family with 5 or more members*). Regression analysis results indicated that as the household size increased by one level, the acceptance of manufactured housing level increased .124 points. The larger household and composition size signified a favorable perception of manufactured housing. The findings

supported Kull and Coley (2014) results that indicated a relationship between welfare of families and performance in the housing market. As family sized increased, the change in household needs resulted in adjusted home consumption (Kull & Coley, 2014). The findings also supported H. Anderson (2011) results that exposed the influence of life cycle stages and family situations on housing needs and preferences.

The significance of the REHSHOLD variable also indicated the need for affordable housing among low and moderate-income families (Saatcioglu & Ozanne, 2013). The lower cost of manufactured homes has increased the economic attractiveness to young families and offered a potential solution to the affordable housing crisis (Dawkins & Koebel, 2010). Research conducted by Reyes et al. (2012) and Aman and Yarnal (2010) revealed that manufactured housing cost between 30% and 40% less than site-built homes. With expenditures requiring approximately 30% of household budgets (Kull & Coley, 2014; S. Newman & Holupka, 2014), housing represented the largest expense and investment for most families (Tighe, 2013). The results of this doctoral study supported the need for increased living space that accommodates larger families at affordable prices that meet budgetary restrictions.

The finding of a significant relationship between respondents' household size and composition represented a distinct change in consumer perceptions from Atiles et al. (1998) original study. Atiles et al.'s results indicated no significant relationship between REHSHOLD and manufactured home acceptance. In other words, the significant level of REHSHOLD's influence in this doctoral study represented a direct contrast to the low

significant level of the same variable in the original study. The Great Recession that began in 2007 (Lichenstein & Weber 2014) resulted in a shortage of affordable housing (McCarty & Hepworth, 2012). The change in significance from Atiles et al. (1998) supported Aman & Yarnal's (2010) results that indicated fewer affordable housing choices available to rural residents compared to urban residents. The results also supported Wilson's (2012) study findings that revealed the predominance of manufactured homes in the South because of land supply, lower household incomes, and lack of multifamily affordable housing units.

**Perceived neighborhood physical homogeneity level (NEIGPHYS1).** Survey Question 19 measured the perceived neighborhood physical homogeneity level. The 5-point Likert-type scale rated land-use mix in the respondents' neighborhood in ascending order (1= *houses only* and 5 = *mixture of all listed types of residences*). The responses included houses only, apartments only, manufactured homes only, a mixture of houses and manufactured homes, and a mixture of all types of listed residences. Regression analysis results indicated that as the perceived homogeneity level increased by one point, the acceptance of manufactured housing level increased .120 points. The findings suggested that as the land-use mix increased to include manufactured homes, the perception of manufactured housing improved.

The finding of a significant relationship between respondents' perceived neighborhood physical homogeneity levels represented a distinct change in consumer perceptions from Atiles et al. (1998) original study. The Atiles et al. results indicated no

significant relationship between NEIGPHYS and manufactured home acceptance. Therefore, the significant level of land-use mix (NEIGHPHYS1) influence in this doctoral study represented a direct contrast to the low significant level of the same variable in the original study. The findings supported Burkhart (2010) results that indicated residents of site-built home neighborhoods held negative perceptions of manufactured homes and their occupants. As revealed by the results of this doctoral study, as the exposure and inclusion of manufactured homes in neighborhoods increased, the acceptance level also increased. The findings also reiterated the controversy and disagreement on whether manufactured homes affect adjacent property values (Wilson, 2012; McCarty & Hepworth, 2012). The significance of the NEIGPHYS1 variable, as measured by land-use mix, confirmed Mimura et al. (2010) results that revealed the importance of manufactured home education, positive media exposure, and awareness of benefits used to improve consumers' perceptions of the product.

**Perceived manufactured home household education level (MHBEHAV2).** Survey Question 9 measured the perceived manufactured home household education level. The 5-point Likert-type scale rated respondents' perception of manufactured home household education level in ascending order (1 = *some high school education* and 5 = *completion of a graduate or professional degree*). Regression analysis results indicated that as the perceived education level increased by one point, the acceptance of manufactured housing level increased .230 points. The findings suggested that as the perception of manufactured home occupant education level increased, the acceptance of

manufactured homes increased. This finding confirmed Kolondinsky and Roche's (2010) results that revealed similarity of demographics, income potential, and educational levels between manufactured housing residents and site-built housing residents.

The results of this doctoral study corroborated McCarty and Hepworth (2012) findings that indicated negative stigmatization of manufactured home residents as failing to contribute financially, economically, and socially to the community. The significance of this variable reinforced Atiles et al. (1998) findings that socially undesirable behavior, such as lower-income and education levels, contributed to the rejection of manufactured homes.

**Perceived neighborhood physical homogeneity level (NEIGPHYS2).** Survey Question 20 measured the respondents' perceived neighborhood size. The 5-point Likert-type scale rated the population of the respondents' community in ascending order (1 = *population less than 1,000 people* and 5 = *population more than 50,000 people*). Regression analysis results indicated that as the perceived neighborhood size increased by one point, the acceptance of manufactured housing level *decreased* .109 points. The findings suggested that as the population of the respondents' community increased, the favorable perception of manufactured housing declined. The significance of the relationship between population size and acceptance of manufactured homes supported Wilson's (2012) results of manufactured homes' predominance in rural areas a significant source of affordable housing.

The findings of this doctoral study also confirmed Burkhart (2010), Aman and Yarnal (2010), and Tighe (2013) results that identified manufactured housing as the second largest percentage of all housing units in the United States and typical in rural areas. The lack of subsidized housing availability in rural areas contributed to the need for affordable and unsubsidized housing (Tighe, 2013). The results of this doctoral study revealed that respondents in lower populated rural areas held a more favorable perception of manufactured homes than those in higher populated urban areas. This reflected the rural area respondents' increased level of exposure to manufactured homes.

Although the respondents' perceived neighborhood size indicated a statistically significant relationship with acceptance of manufactured homes in this doctoral study, Atiles et al. (1998) revealed an insignificant relationship between the two variables. During the 16 years since Atiles et al. conducted the original study, zoning laws in urban areas have increased in scope and use. According to Dawkins and Koebel (2010), zoning codes restricted the size, design, and location of manufactured homes in urban areas. In addition to supporting Dawkins and Koebel's findings, this doctoral study results also confirmed the implications of unfavorable zoning regulations in urban areas as identified in the Aman and Yarnal (2010) study. This doctoral study result reiterated the influence of zoning regulations on maintaining a land-use mix at socially acceptable levels. The implications included the negative influence of the deteriorating condition of older manufactured homes that were in high-density areas prior to restrictions and regulations.

**Summary of the regression model's results**. The doctoral study findings indicated significant relationships between six independent variables (HSVALUE, MHBEHAV1, REHSHOLD, NEIGPHYS1, MHBEHAV2, and NEIGPHYS2) and the dependent variable (MHACCEPT). Two of the survey questions measured the MHBEHAV constructs of perceived social behavior and educational level of manufactured home occupants. These independent variables were represented by MHBEHAV1 (perceived social behavior) and MHBEHAV 2 (perceived educational level of manufactured home occupants. Two of the survey questions measured the NEIGPHYS constructs of land-use mix and population size of neighborhood. These independent variables were represented by NEIGPHYS1 (land-use mix) and NEIGPHYS2 (population size). The significance of two independent variables measured by multiple survey questions strengthened the relationships between MHBEHAV and NEIGPHYS with MHACCEPT. Two of the top six indicators of relationship significance represented the construct of MHBEHAV, and another two of the top six indicators of relationship significance represented the construct of NEIGPHYS.

The remainder of the independent variables did not indicate a significant relationship with the dependent variable (MHACCEPT). The variables with minimal to no significance included:

- Perceived appearance and condition of manufactured home (MHCONDIT)
- Perceived social homogeneity level (NEIGSOCI)
- Respondents' gender (REGENDER)

- Respondents' race (RESPRACE)
- Respondents' knowledge about manufactured homes (MHKNOWLE)
- Manufactured home type (MHTYPE)
- County's percentage of existing manufactured homes (MHPCT).

Atiles et al. (1998) indicated the independent variable that distinguished manufactured home type (MHTYPE) was a significant predictor of manufactured home acceptance. Atiles et al. results revealed a higher level of acceptance of double-section homes in comparison to single-section homes. Although the expectation of similar results existed in this doctoral study, the findings indicated a lack of significance between MHTYPE and MHACCEPT. As evidenced by MHTYPE $p = .529$, the result was higher than the significance threshold of $p \leq .05$.

## Applications to Professional Practice

The results of this doctoral study indicated rejection of the following null hypotheses:

$H_{O2}$: A statistically significant relationship does not exist between acceptance of manufactured housing and perceived characteristics of manufactured home occupants.

$H_{O3}$: A statistically significant relationship does not exist between acceptance of manufactured housing and perceived neighborhood physical structure.

$H_{O5}$: A statistically significant relationship does not exist between acceptance of manufactured housing and Respondents' socioeconomic status.

*H*o$_6$: A statistically significant relationship does not exist between acceptance of manufactured housing and respondents' demographic characteristics of gender, age, household size and composition, and race.

The alternative Ha$_2$ that predicted a significant relationship between acceptance of manufactured housing and perceived characteristics of manufactured home occupants used two measurements of MHBEHAV. The respondents' perceived social behavior of manufactured home occupants (MHBEHAV1) and perceived level of manufactured home occupants' education level (MHBEHAV2) were significant predictors of acceptance levels. This variable suggested consumers' perceptions of manufactured home occupants influenced the positive or negative perceptions of the product.

The findings of this doctoral study also indicated the manufactured housing industry's lack of effective marketing strategies that improved consumer perceptions of the product. In the approximately 16 years since Atiles et al. (1998) conducted the original study, the consumer perceptions of manufactured home occupant behavior have continued to represent a primary influence on acceptance level. Despite the innovations in manufactured housing construction technology that have improved the quality of the product (Dawkins & Koebel, 2010), the perception of occupant behavior remained a significant predictor of consumer acceptance of manufactured housing as an affordable alternative to traditional housing. This doctoral study result's application to professional practice revealed the need for improved marketing strategies that included a target market of middle- to higher-income range families. Rather than a continued focus on meeting the

housing needs of low-income families, future strategies may reflect the product's improvements in quality, sustainability, and innovation.

The alternative $Ha_3$ that predicted a statistically significant relationship between acceptance of manufactured housing and perceived neighborhood physical structure used two measurements of NEIGPHYS. The respondents' perceptions of land-use mix (NEIGPHYS1) and population range within their neighborhood or community (NEIGPHYS2) predicted manufactured home acceptance levels. Land-use mix measured the type of housing in a neighborhood, while population range measured the amount of residents in a neighborhood or community. The predominance of manufactured housing in rural settings signified land availability and less restrictive regulations. In comparison, the lack of land availability and more stringent regulations in urban settings hindered opportunities for manufactured home placement. Although the variables represented different angles of perspective, the relationship between them permitted measurement of a similar construct. The importance of this variable suggested that lower populations in rural areas held higher levels of favorable perceptions of manufactured housing compared to their urban counterparts.

This finding's application to professional practice suggested the need for increased consumer awareness and education about manufactured housing, especially within urban areas. According to Aman and Yarnal (2010), Dawkins and Koebel (2010), and Wilson (2012) manufactured housing has represented an essential component of the unsubsidized housing sector, and cost less per unit than any other housing type. Although

affordable housing in urban areas included forms of public housing (Nguyen et al., 2012; Tighe, 2012), the existing shortage of available units resulted in lengthy waiting lists and alternative living arrangements. The 18 million vacancies at the end of 2012 indicated that housing supply has not caused the housing shortage problem (Pattillo, 2013). Instead, the shortage of available housing that low-income families can afford represented the main factor in the housing crisis (Pattillo, 2013). Pattillo (2013) research included findings on the availability and affordability of housing based on the demographic groups most likely to suffer housing-cost burdens and the political, regulatory, and market forces that positively or negatively influenced the supply of affordable housing. Pattillo also referenced research findings that indicated government-subsidized housing held a more positive, rather than negative, influence on surrounding property values. This finding supported Dawkins and Koebel's suggestion that manufactured housing offered a solution to the affordable housing crisis. The professional implication of this finding revealed an opportunity for the manufactured housing industry's leaders to develop partnerships with metropolitan governments and offer subsidies for manufactured home ownership. A partnership would relieve the burden of urban affordable housing issues, as well as increase consumer awareness and bolster the industry's profitability.

The finding of a statistically significant relationship between NEIGPHYS and manufactured home acceptance implicated the influence of zoning regulations in urban areas. According to Aman and Yarnal (2010), unfavorable zoning regulations in urban areas restricted manufactured home placement to outlying and urban areas. Dawkins and

Koebel (2010), and Zhou (2013), agreed that zoning codes restrict the location, design, and size of manufactured homes in urban areas and reduce the affordable housing options for low-income families. NIMBY attitudes and consumer misconceptions influenced lawmakers that determined zoning regulations. Contrasting evidence, such as Burkhart (2012) concluded that manufactured homes function equivalently to site-built homes and that construction setting represented the primary distinction between the two housing types. Burkhart suggested that manufactured home owners and tenants changed residences less than site-built homeowners and tenants, with a 5% annual turnover rate in manufactured home rental communities compared to a 60% annual turnover rate in apartment rentals. Professional implications of this finding included the support of previous research that provides argument for reducing zoning restrictions in urban areas.

I used several measures of socioeconomic status as indicators of manufactured home acceptance. Of those, only the respondents' housing value (HSVALUE) was shown as significant ($p = .000$). The remaining variables used to measure respondents' socioeconomic status, including income level, education level, employment status, housing type, and housing tenure status, did not reveal additional statistically significant relationships with the dependent variable. The relationship between respondents' income level, as represented by HSVALUE, and perception of affordable housing suggested the influence of socioeconomic class differences between high- and low-income consumers. The finding supported Mimura et al. (2010) results that indicated common socioeconomic and cultural stereotypes of manufactured home residents contributed to class difference

issues. The application to professional practice included the need to improve the product's image through positive media exposure and consumer awareness. Marketing strategies that reduce the socioeconomic barriers associated with NIMBY attitudes may increase the acceptability of the product.

I examined several measurements of respondents' demographic characteristics to accept or reject the $H6_0$ that predicted a statistically significant relationship did not exist between acceptance of manufactured housing and respondents' demographic characteristics of gender, age, household size and composition, and race. Only the variable REHSHOLD, which represented the respondents' household size and composition, was statistically significant ($p = .003$) predictor of the relationship with MHACCEPT. The remaining demographic characteristics of gender, age, and race were not statistically significant relationships with the dependent variable. According to the United States Census Bureau (2013), owner-occupied homes represented 63.4% of the housing market. Family households represented approximately 73.4% of the owner-occupied unites (U.S. Census Bureau, 2013). The doctoral study findings indicated that as the family size increased, the acceptance of manufactured homes also increased. As suggested by Pattilo (2013), the increase in household income did not rise as quickly as the increase in housing costs. H. Anderson (2011), and Zavei and Jusan (2012) agreed on the importance of home as the foundation for social systems and reflection of family relationships. This finding reflected a family's need for the stability offered by homeownership at an affordable price.

The application for professional practice included the growing need for high-quality, sustainable, and affordable housing for family households. Wilson (2012) used cost comparisons to show the average cost per square foot of $83.89 for new site-built homes remained almost twice the cost of $43.01 for a similarly sized new manufactured home. Additional research indicated site-built homes cost 128% of the cost for manufactured home (Dawkins & Koebel, 2010), and approximately two-thirds more than manufactured homes (Zhou, 2009). Although the estimated savings amount of a manufactured home compared to a site-built home varies from 28% to 66%, the researchers unanimously agreed that manufactured housing costs significantly less than traditional housing. The industry must capitalize on opportunities to appeal to families of all sizes. The economic shift in employment and consumer spending indicated strong potential to meet housing needs by offering innovative products that compete with site-built homes.

Another application for professional practice revealed the detrimental consequence of unavailable lending options for consumers interested and willing to purchase manufactured homes. The classification of manufactured housing as personal property instead of real property contributed to the problems associated with lack of financing. According to Burkhart (2012), manufactured homes shared the same characteristics as site-built homes and should receive proper classification. The classification of real property would have allowed consumers more lending choices and affordable terms, and encouraged them to engage in responsible spending habits

(Burkhart, 2010). Reclassifying manufactured homes may provide access to secondary mortgage markets, which may mutually benefit consumers and lenders. This finding's application to professional practice supported previous research findings about the importance of reclassification as real property and continued need for increased access to mortgage lending opportunities.

## Implications for Social Change

Although required for human survival, the market price of a home often has exceeded a homeowner's wages (Pattillo, 2013). The inadequate supply of affordable housing represented a challenging predicament for many Americans (McCarty & Hepworth, 2012). Manufactured housing offered a potential solution to the affordable housing crisis (Dawkins & Koebel, 2010). The product's predominance in meeting the housing needs of low- and moderate-income families in rural areas (Dawkins & Koebel, 2010; Wilson, 2012) reflected its use and acceptability as an alternative to traditional housing.

The purpose of this doctoral study included providing manufactured housing industry professionals with insight into factors that may contribute to consumer perceptions and increased consumer acceptance of manufactured housing. Manufactured homes have represented a highly stigmatized form of housing (Saatcioglu & Ozanne, 2013). Manufactured home residents have endured negative and inaccurate perceptions by community members (Kusenbach, 2009; McCarty & Hepworth, 2012; Mimura et al., 2010; Saatcioglu & Ozanne, 2013; Tighe, 2013). Despite unfavorable consumer

perceptions, the Aman and Yarnal (2010) study indicated high satisfaction levels of manufactured home residents.

Increasing awareness of the benefits associated with manufactured homes may improve consumer perceptions of the product. Mimura et al. (2010), and Dawkins and Koebel (2010) agreed that positive media exposure and manufactured home education that focused on improvements in construction processes, durability, and quality positively changed consumer perception. The results of this doctoral study may positively affect social change by providing insight on consumer perceptions to industry decision makers that will improve marketing strategies and increase consumer awareness of manufactured homes. The doctoral study findings may potentially provide a foundation for future research regarding local, state, and federal laws that would increase access to financing options and partially resolve the affordable housing shortage crisis.

The manufactured housing industry served as the focus for this doctoral study. Manufactured housing has represented an important form of unsubsidized housing in the United States (Burkhart, 2010; Tighe, 2013). Despite the contribution to increased homeownership rates and associated benefits, policymakers, and consumers have viewed manufactured housing as inferior (Wilson, 2012). The housing market has influenced the U.S. economy (Kallberg et al., 2014), household wealth and net worth (Levintin & Wachter, 2013), consumer social connections, physical and emotional health, and job opportunities (A. Marsh & Gibb, 2011). The results of this doctoral study may encourage

stakeholder collaboration on future research initiatives with focus on increasing consumer awareness and improving social acceptance of affordable housing.

## Recommendations for Action

The purpose for this study was to determine the statistical significance of the relationship between consumer perceptions of manufactured housing and community acceptance of the product as an affordable alternative to traditional site-built homes. The results partially supported Atiles et al. (1998) findings that indicated the strong influence of manufactured home occupant behavior on consumers' perceptions of manufactured housing. The independent variables of perceived social behavior of manufactured home occupants, perceived neighborhood physical homogeneity level, respondents' housing value, and respondents' household size and composition revealed a slightly significant statistical relationship with the dependent variable. However, the independent variables of perceived appearance and condition of manufactured home, perceived neighborhood social homogeneity level, respondents' gender, respondents' age, respondents' race, respondents' knowledge about manufactured homes, county's percentage of existing manufactured homes, and manufactured home unit type did not indicate a statistically significant relationship with the dependent variable.

The results of this doctoral study revealed the continued need for increased consumer awareness and education. The identified relationships between variables may provide the foundation for the development of effective marketing strategies to improve consumers' perceptions of manufactured housing. As consumers view the product more

favorably, the industry leaders may expect an increase in sales and profit. As recommended by Atiles et al. (1998), the manufactured housing industry leaders must overcome the challenges associated with improving the appearance of the product and reducing the negative stigmatization of manufactured home consumers. Although 17 years have passed since Atiles et al. study, the barriers to consumer acceptance remained unchanged.

The results of this doctoral study may benefit the appropriate audiences of scholars, practitioners, advocacy groups, industry stakeholders, government entities, and potential manufactured housing consumers. Distribution of findings will occur through publications and presentations of results in professional conferences and seminars. Publication of the entire study will occur in the ProQuest/ UMI dissertation database. In addition, distribution of the executive summary will occur through national and state manufactured housing industry associations.

## Recommendations for Further Study

Aman and Yarnal (2010), McCarty and Hepworth (2012), Mimura et al. (2010), and Zhou (2009) agreed that insufficient academic research has existed on the topic of manufactured housing. Although findings from this doctoral study partially filled the gap in literature, the body of knowledge available has remained insufficient. The study participants consisted of adult residents in the geographic area of West Tennessee enrolled in nontraditional, undergraduate, degree-seeking programs who met the requirements as community residents legally and financially able to purchase a home.

Future researchers should include different geographic regions to determine applicability of findings. Potential study participants, who do not reside in West Tennessee, may have different perceptions and acceptance levels of manufactured housing.

Dawkins and Koebel (2010), McCarty and Hepworth (2012), and Pattillo (2013) agreed that the inadequate supply of affordable housing presented challenges for urban and rural residents. Manufactured housing provided tangible benefits and cost-saving advantages (Goulding et al., 2014) that exceed those available through traditionally constructed housing (Wilson, 2012). The results of this doctoral study indicated a higher level of consumer acceptance in rural areas with low population densities. These results supported the idea that rural residents have accepted manufactured housing because of the predominance of manufactured housing in rural areas. In urban areas, where manufactured homes are less prominent, the respondents viewed the product more negatively. Further researchers should address the potential effect of reducing zoning restrictions in urban areas. The influence of more favorable regulations on manufactured home sales and placements in urban areas remains unclear. The inclusion of an independent variable that measured the influence of zoning regulations on manufactured home acceptance levels may contribute to the model fit. Future researchers should include survey questions that determine the existence of a statistically significant relationship between zoning regulations and acceptance levels of manufactured housing.

Burkhart (2012) recommended the reclassification of manufactured homes as real property to increase lending options available to consumers. Manufactured housing

represents 9.05 million of the 128 million housing units in the United States (U.S. Census Bureau, 2013) and has signified the second largest percentage of U.S. housing units (Burkhart, 2010). Future researchers should investigate whether the reclassification would influence consumers' perceptions and acceptance of manufactured homes. The inclusion of an independent variable that measured the influence of manufactured home classification may contribute to the model fit. The results may indicate the viability of reclassification as real property. The future findings may reveal the potential benefits and consequences of manufactured home reclassification for financial institutions, consumers, and the manufactured housing industry. Future researchers should include survey questions that determine the existence of a statistically significant relationship between manufactured home classification and acceptance levels of manufactured housing.

Atiles et al. (1998) results indicated that consumers perceived double-section homes more favorably than single-section homes. Although findings from this doctoral study did not reveal a statistically significant relationship between manufactured home type and acceptance of manufactured homes, the potential has existed for a relationship of significance in different geographical locations and for different populations. Additional researchers should investigate whether manufactured home types influences consumers' perceptions of the product and its occupants. The findings could assist manufactured housing industry professionals to develop products that appeal to middle- and high-income families.

As revealed in participant comments provided in this doctoral study (Appendix F), the safety and durability of manufactured homes during severe weather remains a primary concern among consumers. Retchless et al. (2014) noted the influence of inadequate preparation, age of manufactured home, insufficient shelter availability, and incidents nocturnal tornadoes on tornado related fatalities in the southeast region of the United States. Because the participants resided in West Tennessee, the concerns regarding safety during storms emerged as factors that may influence acceptance of manufactured homes. The inclusion of an independent variable that measured perceptions of safety and durability may increase the model fit in future studies. Future researchers may include survey questions to measure the existence of a statistically significant relationship between perceptions of safety and durability with acceptance levels of manufactured homes.

## Reflections

As a manufactured housing industry professional and advocate for affordable housing options, I separated any preconceived ideas or biases from the research process. The research process was interesting because I had to identify and understand the areas of strengths and weaknesses within the manufactured housing industry. The 58% decrease in manufactured home sales between 1998 and 2008 forced many manufacturers, dealerships, and support organizations out of business. My desire to determine the problem and contribute a solution to the industry represented the motivating factors of the chosen topic.

I examined the social, psychological, and economic influences on consumer purchasing behavior and perceptions of affordable housing. Identification of significant factors that influence consumers' perceptions provided the basis for understanding the reason that manufactured housing sales and profits have decreased. The identification and investigation of statistical data provided a logical correlation between consumers' perceptions and decreased sales. The research results provided insights into problems that may occur when an organization's leaders pursue ineffective marketing strategies that fail to increase consumer awareness and education about a stigmatized product or service.

Moreover, the research results indicated statistically significant relationships between acceptance of manufactured housing and (a) perceived behavior of manufactured home occupants, (b) socioeconomic status, (c) community population levels, and (d) household size. Although some of the results were unexpected, the process and findings created a heightened awareness of the similarities and differences between the original study by Atiles et al. (1998) and this doctoral study. This experience has increased my understanding of the business field and instilled the importance of the research process.

## Summary and Study Conclusions

The results of this doctoral study contributed current knowledge to the body of research about manufactured housing. I implemented a correlation and multiple regression design to determine the existence of a statistically significant relationship between the predictor variables of (a) manufactured home type and condition, (b) occupant behavior, (c) respondent demographics, (d) county characteristics, and (e)

existing knowledge of the product with the criterion variable of manufactured home acceptance. The doctoral study findings revealed statistically moderate factors that predicted consumer acceptance of manufactured housing. The multiple regression analysis model predicted 21.7% of the variation in manufactured home acceptance. As presented in Table 51, the independent variables of (a) perceived manufactured home occupant behavior, (b) respondent household composition level, (c) perceived neighborhood physical homogeneity level, and (d) respondent socioeconomic status emerged as significant predictors of acceptance of manufactured homes.

Table 51

*Research Question Conclusion*

| Research question | Results |
|---|---|
| Does a statistically significant relationship exist between acceptance of manufactured housing and 12 variables representing respondents' perceptions of manufactured homes, respondents' characteristics, county characteristics, and manufactured home type? | 1. The socioeconomic characteristic of housing value had a negative relationship with consumer perceptions and acceptance of manufactured homes. As the value of a house increases, the level of acceptance toward manufactured homes decreases.<br>2. The social behavior of manufactured home occupants' relationship with consumer perceptions and acceptance of manufactured homes. Favorable perceptions of manufactured home occupants' social behavior increased the acceptance level of manufactured homes.<br>3. Respondent household size and composition relationship with the acceptance of manufactured homes. As the size of the family increased, the acceptance level of manufactured homes increased.<br>4. Neighborhoods that included manufactured homes in the land-use mix improved the perception of manufactured homes and had a positive effect on manufactured homes acceptance.<br>5. When the perception of manufactured home occupants' education level included postsecondary education, the perception of manufactured homes was more favorable.<br>6. Population size had positive and negative effects on acceptance level of manufactured housing. As the population increased, the acceptance level decreased. Respondents in low to mid-population ranges held favorable perceptions of manufactured housing. In contrast, respondents in urban settings had low favorability towards manufactured homes.<br>7. Manufactured home type (single-section or double-section) did not have a statistically significant relationship with manufactured home acceptance. |

The research question for this study addressed the existence of statistically significant relationships between acceptance of manufactured housing and 12 variables representing respondents' perceptions of manufactured homes, respondents' characteristics, county characteristics, and manufactured home type. The results of the study revealed that six independent variables held a statistically significant relationship with the dependent variable. Statistical analysis procedures and data interpretation provided the basis for the findings of the study. As shown in Table 52, the results indicated rejection of four null hypotheses and acceptance of five null hypotheses.

Table 52

*Research Hypothesis Conclusion*

| Hypothesis | Results |
|---|---|
| $Ho_1$: A statistically significant relationship does not exist between acceptance of manufactured housing and perceived manufactured home characteristics. | Accepted |
| $Ho_2$: A statistically significant relationship does not exist between acceptance of manufactured housing and perceived characteristics of manufactured home occupants. | Rejected |
| $Ho_3$: A statistically significant relationship does not exist between acceptance of manufactured housing and perceived neighborhood physical structure. | Rejected |
| $Ho_4$: A statistically significant relationship does not exist between acceptance of manufactured housing and perceived neighborhood social structure. | Accepted |
| $Ho_5$: A statistically significant relationship does not exist between acceptance of manufactured housing and respondents' socioeconomic status. | Rejected |
| $Ho_6$: A statistically significant relationship does not exist between acceptance of manufactured housing and respondents' demographic characteristics of gender, age, household size and composition, and race. | Rejected |
| $Ho_7$: A statistically significant relationship does not exist between acceptance of manufactured housing and respondents' knowledge and familiarity with manufactured homes. | Accepted |
| $Ho_8$: A statistically significant relationship does not exist between acceptance of manufactured housing and county characteristics. | Accepted |
| $Ho_9$: A statistically significant relationship does not exist between acceptance of manufactured housing and type of manufactured home unit. | Accepted |

The results of this doctoral study contributed to the existing body of knowledge According to Aman and Yarnal (2010), Dawkins and Koebel (2010), and Wilson (2012) manufactured housing represented an essential component of the unsubsidized housing sector and cost less per unit than any other housing type. The cost comparisons revealed that manufactured homes cost between 28% and 66% less than traditional site-built homes. Although an important factor of housing shortage problem has indicated the lack of available and affordable housing for low-income families (Pattillo, 2013), the manufactured housing industry has continued to endure the risks associated with the decline stage of the product life-cycle (Wherry & Buehlmann, 2014).

To take advantage of opportunities that appeal to families of all sizes and income ranges, the manufactured housing industry leadership should develop marketing strategies that improve consumer perception and overcome the stigma associated with living in a manufactured home. Industry professionals should leverage the advantage of innovation in construction technology that has improved the quality of the product (Dawkins & Koebel, 2010). Long-term strategies that include an expanded target market and focus on the product's improvements in sustainability may improve the consumer perception of manufactured homes. Industry stakeholders should work together to develop a process for delivery of relevant and timely information to consumers.

The doctoral study participants consisted of adult residents in the geographical area of West Tennessee enrolled in nontraditional, undergraduate, degree-seeking programs who met the requirements as community residents legally and financially able

to purchase a home. Further research studies should include different geographical regions to determine applicability of findings because other factors may affect results in different research settings. The results of this doctoral study provided slightly significant information to professional practitioners, scholars, manufactured housing industry stakeholders, and managers of organizations who must identify consumer perceptions that influence acceptance of product alternatives. Organizational decision makers should not wait until industry leaders have implemented strategies that influence profitability. Rather, implementing changes at the organizational level that improve consumer perceptions can result in effective and timely results.

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Appendix A: Original Survey Questions Omitted from the Doctoral Study

The following original Survey Questions 13 through 38 assess innovativeness (Atiles et al., 1998). For each of the following statements, show the extent to which you AGREE OR DISAGREE with the statement:

| | Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|---|---|---|---|
| 13. The unusual house is often a waste of time. | 1 | 2 | 3 | 4 |
| 14. I like to experiment with new ways of doing things. | 1 | 2 | 3 | 4 |
| 15. I like to take a chance. | 1 | 2 | 3 | 4 |
| 16. I enjoy looking at new housing designs in magazines. | 1 | 2 | 3 | 4 |
| 17. Some contemporary housing is stimulating. | 1 | 2 | 3 | 4 |
| 18. I like to try out new ideas even if they turn out to be a waste of time. | 1 | 2 | 3 | 4 |
| 19. When it comes to taking chances, I'd rather be safe than sorry. | 1 | 2 | 3 | 4 |
| 20. Changing technology, especially in housing, is a waste of money. | 1 | 2 | 3 | 4 |
| 21. If builders would quit wasting their time trying to create new housing types, they could build more affordable housing. | 1 | 2 | 3 | 4 |
| 22. I would rather not waste my time with some new ideas. | 1 | 2 | 3 | 4 |
| 23. I like to try new and different things. | 1 | 2 | 3 | 4 |
| 24. I like housing that is a little different. | 1 | 2 | 3 | 4 |
| 25. I often try to find out more about new housing types. | 1 | 2 | 3 | 4 |
| 26. Buying a new housing type that is not widely available costs more than it's worth. | 1 | 2 | 3 | 4 |
| 27. I would like a house that does not require me to learn new ways of doing things. | 1 | 2 | 3 | 4 |

| | | | | |
|---|---|---|---|---|
| 28. I am less interested in the appearance of a house than its comfort. | 1 | 2 | 3 | 4 |
| 29. As long as a heating system works well and meets my needs, I do not really care how it works. | 1 | 2 | 3 | 4 |
| 30. I am very curious about how new things work. | 1 | 2 | 3 | 4 |
| 31. I like to build things for my house. | 1 | 2 | 3 | 4 |
| 32. I never take anything apart because I know I will never be able to put it back together again. | 1 | 2 | 3 | 4 |
| 33. I like to build things for my house. | 1 | 2 | 3 | 4 |
| 34. I would rather make repairs around the house myself than to have someone else make them. | 1 | 2 | 3 | 4 |
| 35. The outside appearance of my house is not important. | 1 | 2 | 3 | 4 |
| 36. I do not enjoy any product unless I can use it to its fullest capacity. | 1 | 2 | 3 | 4 |
| 37. It is always possible to improve upon a house by adding new features | 1 | 2 | 3 | 4 |
| 38. I try to keep up with new products and ideas that could improve my house. | 1 | 2 | 3 | 4 |

Original Survey Questions 46 through 49 addressed respondent housing tenure status (Atiles et al., 1998).

46). Is your neighborhood comprised mostly of

A.) Houses

B.) Apartments

C.) Manufactured homes

D.) Mixture of houses and manufactured homes

E.) Mixture of all the above types of residences

47). Is your neighborhood located

A.) Within town limits

B.) Right outside the town limits

C.) Out in the country

49). How long have you lived in this neighborhood?

A.) Less than 1 year

B.) Between 1 and 5 years

C.) Between 6 and 10 years

D.) Between 11 and 20 years

E.) Between 21 and 30 years

F.) More than 30 years

Survey Questions 53 through 65 address the independent variable about perceived effects of manufactured housing on neighborhoods (Atiles et al., 1998).

For each of the following statements, please show the extent to which you AGREE OR DISAGREE with the statement: IF SINGLE-WIDE/DOUBLE-WIDE MANUFACTURED HOMES WERE IN YOUR NEIGHBORHOOD:

| | Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|---|---|---|---|
| 53. Property values in the neighborhood would increase. | 1 | 2 | 3 | 4 |
| 54. Traffic would increase in volume throughout the area. | 1 | 2 | 3 | 4 |
| 55. I would feel more satisfied with the neighborhood. | 1 | 2 | 3 | 4 |
| 56. Some residents would sell their homes and move away. | 1 | 2 | 3 | 4 |
| 57. The social image of the neighborhood would be better. | 1 | 2 | 3 | 4 |

| | | | | |
|---|---|---|---|---|
| 58. More noise would be created. | 1 | 2 | 3 | 4 |
| 59. The quality of the neighborhood would be better. | 1 | 2 | 3 | 4 |
| 60. They would create a stronger residential character. | 1 | 2 | 3 | 4 |
| 61. They would attract desirable residents. | 1 | 2 | 3 | 4 |
| 62. They would create or maintain a safe environment for my family and myself. | 1 | 2 | 3 | 4 |
| 63. They would make property taxes go down. | 1 | 2 | 3 | 4 |
| 64. They would make the neighborhood look attractive. | 1 | 2 | 3 | 4 |
| 65. They would fit very well into the social and physical character of this neighborhood. | 1 | 2 | 3 | 4 |

# Appendix B: Consent Form

You are invited to take part in a research study of assessing community attitudes toward manufactured housing. The researcher is inviting independent adults who do not presently reside in a manufactured home to participate in the study. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part.

This study is being conducted by a researcher named Lisa Tyler, who is a doctoral student at Walden University. You may already know the researcher as an adjunct instructor, but this study is separate from that role.

**Background Information:**
The purpose of this study is to determine whether the relationship between consumer perspectives of manufactured homes and community acceptance of manufactured housing is positive or negative

**Procedures:**
If you agree to be in this study, you will be asked to:
• Complete one survey.
• The survey will take approximately 15 minutes to complete.
• The survey will be distributed during the last 15 minutes of class. Please complete the survey outside of class.
• A self-addressed stamped envelope will be distributed at the same time as the survey. Please use the self-addressed stamped envelope to return the completed survey.

All questions are multiple choice or Likert-type scale format. Here are sample questions:

1. Most single-wide/double-wide manufactured homes in this county are placed on:
2. The behavior displayed by most single-wide/double-wide manufactured home residents for social conduct, cleanliness, and respect for the community is likely to be:
3. Most single-wide/double-wide manufactured home residents are likely to be:
4. In terms of employment, most single-wide/double-wide manufactured home heads of household are likely to be:
5. Approximately how far do you live from the closest single-wide/double-wide manufacture home?
6. What is your experience living in a single-wide/double-wide manufactured home?

7. Do you consider yourself knowledgeable about single-wide/double-wide manufactured home characteristics, advantages, disadvantages, and/or general design features?
8. What form of housing best describes the dwelling you currently live in?
9. What is your highest level of education?
10. In general, what is your opinion about locating a single-wide/double-wide manufactured home in your neighborhood?

**Voluntary Nature of the Study:**
This study is voluntary. Everyone will respect your decision of whether or not you choose to be in the study. No one at Bethel University will treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind later. You may stop at any time.

**Risks and Benefits of Being in the Study:**
Being in this type of study involves some risk of the minor discomforts that can be encountered in daily life, such as fatigue or stress. Being in this study would not pose risk to your safety or wellbeing.

The study's potential benefits include assisting consumers and members of the housing industry improve awareness of manufactured housing as an alternative to traditional site-built housing, reducing misconceptions associated with the product, and contributing to positive social change by helping decision makers develop more effective housing strategies.

**Payment:**
There is no payment, thank you gifts, or reimbursement provided to participants for participating in this study.

**Privacy:**
Any information you provide will be kept anonymous. In order to protect participant privacy, the researcher is not requesting your name or signature. The return of the completed survey will indicate consent and voluntary participation. Data will be kept secure by storing research related documents in a locked safe at the researcher's residence with only the researcher having access to the key. Data will be stored for a period of at least 5 years, as required by the university. At the end of the 5 years, the data will be destroyed through document shredding or destruction of electronic storage devices.

**Contacts and Questions:**

You may ask any questions you have now. Or if you have questions later, you may contact the researcher via 731-225-1578 or email address lisatylerdba@gmail.com. If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is 612-312-1210. Walden University's approval number for this study is 06-05-14-0298005 and it expires on 06/05/15**.**

**Access to Study Results:**

Access to Study Results:

Upon conclusion of the research study, I will share the results of the study with participants and community stakeholders through the distribution of an Executive Summary. Although the anonymous and confidential nature of study participants prohibits direct dissemination of results, the results will be available through the research organization (Bethel University). After January 1, 2015, you may access a summary of the study results by viewing the Executive Summary that will be available through the Director of Academic Affairs and Curriculum Development of Bethel University's College of Professional Studies.

Community stakeholders, specifically organizations in the manufactured housing industry, will receive an Executive Summary with the option of reviewing the complete doctoral study upon request. Manufactured housing organizations that operate within the sample region of West Tennessee will receive an invitation to a meeting in which a verbal presentation will reveal the study results

Please keep this consent form for your records.

Appendix C: Permission for Use of Data

**From:** Lisa Tyler

**Sent:** Saturday, June 30, 2012 10:06 PM

**To:** Atiles, Jorge

**Subject:** Re: Community Attitudes Toward Manufactured Housing research study

Dr. Atiles -
Thank you so much for your reply and willingness to answer my questions. While I am not planning on an exact replication, I would like more information about the survey tool and framework that you developed. Would it be possible to get a copy of the survey tool that you developed?

I sincerely appreciate any help that you can provide. As I get further along in the process, I will have much more specific questions about your study.

Again, I am truly grateful for any assistance that you can give and am honored that you are interested in my study.

Sincerely,
Lisa Tyler

| | |
|---|---|
| Subject : | **RE: Community Attitudes Toward Manufactured Housing research study** |
| Date : | Thu, Jul 05, 2012 08:59 AM CDT |
| From : | "Atiles, Jorge" |
| To : | Lisa Tyler |
| Attachment | HESFamCons@okstate.edu_20120705_081202.pdf |

Attached is a scan with the instrument you requested form my dissertation. I hope it helps you. Thanks for your interest in this topic.

*JHA*

**Jorge H. Atiles**, Ph.D.

Associate Dean, Extension & Engagement **College of Human Sciences | Oklahoma State University**

| www.fcs.okstate.edu

Appendix C1 (continued): Permission for Use of Data

Dear Lisa:

You have my permission to use an adapted tool of the survey instrument and also to quote from our study. I am copying Drs Goss and Beamish so they can be in the loop.

Thanks and best wishes.

*JHA*

**Jorge Horacio Atiles, Ph.D.**

Associate Dean | Extension and Engagement

**OKLAHOMA STATE UNIVERSITY**

**COLLEGE OF HUMAN SCIENCES**

135 HS, Stillwater, OK 74078-6111

**From:** Lisa Tyler
**Sent:** Monday, September 23, 2013 11:46 AM
**To:** Atiles, Jorge
**Subject:** Permission to use your work

Dr. Atiles:

Hello. As we have previously communicated, I am conducting a replication of your study "Community Attitudes Toward Manufactured Housing in Virginia". I would like to obtain permission to use information obtained in the following article:

Atiles, J., Goss, R., & Beamish, J. (1998). Community attitudes towards manufactured housing in Virginia. *Housing & Society*, *25*(3), 1–22.

Specifically, I would like permission to use the following figure in my dissertation:

"Model for community attitudes to mental health care facilities," p. 3

"Acceptance of manufactured homes theoretical model," p. 4

Appendix C1 (continued): Permission for Use of Data

Once again, I appreciate your kindness and generosity in providing the measurement tool "Opinion Survey about Manufactured Homes". I also want to verify that I have your permission to use an adaptation of the survey tool for my dissertation.

Thank you in advance for your cooperation and consideration. Please contact me if you have any questions.

Sincerely,

Lisa Tyler

Appendix C2: Permission for Use of Data

Dear Lisa,

Permission granted. I am happy to hear that you are delving into the topic of housing, and that you find our paper published in IJCS useful.

I wish you lots of success!
Best regards,
Mateja

2013/9/23 Lisa Tyler

Dr. Koklic:

Hello. My name is Lisa Tyler. I am currently completing and will be publishing my doctoral dissertation. My dissertation is on Examining Community Attitudes toward Manufactured Housing. I would like to obtain permission to use information obtained in the following article:

Koklic, M., & Vida, I. (2011). Consumer strategic decision making and choice process: prefabricated house purchase. *International Journal of Consumer Studies*, *35*, 634–643. doi:10.1111/j.1470-6431.2010.00953.x

Specifically, I would like permission to use the following figures in my dissertation:

"Formation of consideration set of alternatives and choice criteria.", p. 636

"The process of evaluation of alternatives on the applicable choice criteria for a manufactured home purchase.", p.641

Thank you in advance for your cooperation and consideration. Please contact me if you have any questions.

Sincerely,

Lisa Tyler

Appendix C3: Permission for Use of Data

Dear Lisa,

Complements and thank you for your mail. Congratulations in advance for your PhD dissertation that almost through.

With all pleasure, you can use the said article for your work as long as you appropriate cite it in your work. That why the work is not restricted in access on the net. If you require any further assistance in this regard, don't hesitate to contact me.

I wish you all the best in your work.

Zinas, PhD

On 23/09/2013, Lisa Tyler wrote:
>
>Professor Zinas-
>
> Hello. My name is Lisa Tyler. I am currently completing and will be > publishing my doctoral dissertation. My dissertation is on Examining > Community Attitudes toward Manufactured Housing. I would like to obtain permission to use information obtained in the following article:
>
> Zinas, B., & Jusan, M. (2012). Housing choice and preference: Theory and
> measurement. Procedia - Social and Behavioral Sciences, 49, 282–292.
> doi:10.1016/j.sbspro.2012.07.026
>
> Specifically, I would like permission to use the following figures:
>
> “Housing choice and preference: Theory and measurement” p. 284
>
> “Broadened structure of the theory of means-end chain” p. 286
>
>Thank you in advance for your cooperation and consideration. Please contact me if you have any questions.
>
> Sincerely,
>
> Lisa Tyler
>

Appendix C4: Permission for Use of Data

Dear Lisa

Of course, you can use my work for your dissertation work. At the same time I am also interested on your study to see how it works. I can help you in your dissertation work if necessary. After you analysis your data, please send me a copy. Good luck in your studies.

Best Regards

Chaminda Herath, PhD

---

**From:** Lisa Tyler
**To:**
**Sent:** Monday, September 23, 2013 9:18 PM
**Subject:** Permission to use your work

Professor Herath-
Hello. My name is Lisa Tyler. I am currently completing and will be publishing my doctoral dissertation. My dissertation is on Examining Community Attitudes toward Manufactured Housing. I would like to obtain permission to use information obtained in the following article:
Herath, C. (2010). Eliciting salient beliefs are critical to predict behavioural change in theory of planned behavior. *E-Psychologie*, *4*(3), 24–36.
I would like to use your material regarding the three components of behavioral intentions to develop a figure to use in my dissertation.
Thank you in advance for your cooperation and consideration. Please contact me if you have any questions.
Sincerely,
Lisa Tyler

Appendix C5: Permission for Use of Data

Dr. Sandberg-
I apologize for citing the incorrect figure. The correct name of the figure is "The different functions of studied case company". I have made the appropriate change in the dissertation. Again, I apologize for the incorrect citation. Thank you again for your response and permission.

Sincerely,
Lisa Tyler

---

Original E-mail

**From :** Erik Sandberg
**Date :** 09/24/2013 02:44 AM
**To :** Lisa Tyler
**Subject :** Re: Permission to use your work

Hello,

That is perfectly ok, but the text to the figure is not the one you mention below?

Good luck!

Erik

Erik Sandberg, M Sc, Ph D
Associate Professor (Docent)
Logistics Management
Department of Management and Engineering
Linköping University, Institute of Technology
SE-581 83 Linköping, Sweden

**Från:** Lisa Tyler **Datum:** måndag 23 september 2013 18:20
**Till:** Erik Sandberg **Ämne:** Permission to use your work

Professor Sandberg:

Hello. My name is Lisa Tyler. I am currently completing and will be publishing my doctoral dissertation. My dissertation is on Examining Community Attitudes toward Manufactured Housing. I would like to obtain permission to use information obtained in the following article:

Appendix C5 (continued): Permission for Use of Data

Sandberg, E., & Bildsten, L. (2010). Coordination and waste in industrial housing. *Construction Innovation*, *11*(1), 77–91. doi:10.1108/14714171111104646

Specifically, I would like permission to use the following figure in my dissertation:

"Functions of innovations in the value chain management processes," p. 83

Thank you in advance for your cooperation and consideration. Please contact me if you have any questions.

Sincerely,

Lisa Tyler

Appendix C6: Permission for Use of Data

Lisa

Yes that is fine if you want to use it. But I would also check with the journal since they may retain some copyrights to it.

David

---

**From:** Lisa Tyler
**Sent:** Monday, September 23, 2013 11:34 AM
**To:** David E Vance
**Subject:** Permission to use your work

Mr. Vance:

Hello. My name is Lisa Tyler. I am currently completing and will be publishing my doctoral dissertation. My dissertation is on Examining Community Attitudes toward Manufactured Housing. I would like to obtain permission to use information obtained in the following article:

Vance, D., Talley, M., Azuero, A., Pearce, P., & Christian, B. (2013). Conducting an article critique for a quantitative research study: Perspectives for doctoral students and other novice readers. *Nursing: Research & Reviews*, *3*, 67–75. doi:10.2147/NRR.S43374

Specifically, I would like permission to use the following figure in my dissertation:

"The process of quantitative data-generated evidence," p. 68.

Thank you in advance for your cooperation and consideration. Please contact me if you have any questions.

Sincerely,

Lisa Tyler

Appendix D: Survey Instrument

**(Single-section and double-section manufactured home questionnaire)**

# OPINION SURVEY ABOUT MANUFACTURED HOMES

A SURVEY OF RESIDENTS FROM WEST TENNESSEE ENROLLED IN A NONTRADITIONAL, UNDERGRADUATE, DEGREE-SEEKING PROGRAM WHO WERE LEGALLY AND FINANCIALLY ABLE TO PURCHASE A HOME.

Conducted by:

Walden University

Lisa Tyler

June 2014

Please take a few minutes to respond to the questions in this survey and return to the researcher. All information contained in this survey will remain anonymous and strictly confidential. Your name will never be revealed in any way.

*Please do NOT write your name on this questionnaire.*

Please indicate your county of residence_____

If you live in a manufactured home, please discard the survey.

The following picture exemplifies the manufactured home type this survey is referring to:

**THIS IS A SINGLE-WIDE MOBILE/MANUFACTURED HOME.**

MANUFACTURED HOME reflects the term used to refer to a MOBILE HOME produced after 1976. Various types of manufactured homes exist. However, I would like for you to respond to this survey based on **your perceptions and opinions** about single-wide manufactured homes.

Please *circle only the one answer* that most accurately describes your opinion on each of the following statements concerning the characteristics of single-wide manufactured homes and their residents in your county.

1. Indicate the type of foundation used for most single-wide manufactured homes in this county:
    A. A provisional foundation (on wheels and axles)
    B. Blocks and may be skirted
    C. A permanent foundation
    D. Unsure

2. Rate the appearance and condition of most single-wide manufactured homes in this county:

| VERY BAD | BAD | AVERAGE | GOOD | VERY GOOD |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

3. Choose the type of location or neighborhood in this county most likely to have manufactured homes:
   A. Mobile home parks
   B. Mobile home subdivisions (occupant owned land)
   C. Residential neighborhoods
   D. Farms or agricultural land isolated from other residences

4. Choose the age range of most single-wide manufactured homes in this county:
   A. Older than 20 years
   B. Around 10 years old
   C. New or around 5 years old
   D. Unsure

5. Choose the origin of most single-wide manufactured home residents:
   A. Local people
   B. New people / outsiders
   C. Unsure

6. Choose the composition of most single-wide manufactured home household:
   A. Single person(s)
   B. Couples with no children
   C. Small single parent families (2 to 3 members)
   D. Small two parent families (3 to 4 members)
   E. Large single parent families (4 or more members)
   F. Large two parent families (5 or more members)

7. Rate the behavior displayed by most single-wide manufactured home residents for social conduct, cleanliness, and respect for the community:

| VERY BAD | BAD | AVERAGE | GOOD | VERY GOOD |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

8. Choose the income range of most single-wide manufactured home households:
   A. Rich or well off
   B. Middle-class
   C. Low-income
   D. Poor, very low-income

9. Choose the education level of most single-wide manufactured home residents:
   A. Some high school education
   B. High school diploma or equivalent
   C. Some college or vocational school beyond high school
   D. Completed vocational or college education
   E. Completed a graduate or professional degree

10. Choose the single-wide manufactured home household employment status:
   A. Employed full-time
   B. Employed part-time
   C. Retired
   D. Unemployed
   E. Students (in part-time jobs or unemployed)

11. Choose the racial composition of most single-wide manufactured home households:
   A. Black/African American
   B. White/Caucasian (not of Hispanic origin)
   C. Hispanic/Latino
   D. Asian/Pacific
   E. Other:_____

12. Approximately how far do you live from the closest single-wide manufactured home?
   A. Very close (next to or less than 1 mile away)
   B. Close (between 1 and 3 miles)
   C. Not close/not far (between 3 and 5 miles)
   D. Far (between 5 and 10 miles)
   E. Very far (more than 10 miles away)
   F. Unsure

13. What is your experience living in a single-wide manufactured home?
   A. I have previously lived in a manufactured home.
   B. I have never lived in a manufactured home.

14. Do you know someone who is or has been living in a single-wide manufactured home?
   A. No.
   B. Yes.

15. Have you ever been inside a single-wide manufactured home?
   A. No (if NO, go to question #25)
   B. Yes ( if YES, continue)

16. In years please show approximately how long ago you were inside a manufactured home.
    _____ YEARS (if less than 1 year, answer 0)

17. Rate the condition of the manufactured home you visited:

| VERY BAD | BAD | AVERAGE | GOOD | VERY GOOD |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

18. Do you consider yourself knowledgeable about single-wide manufactured home characteristics, advantages, disadvantages, and general design features?
    A. Very knowledgeable
    B. Somewhat knowledgeable
    C. Average knowledge
    D. Little knowledge
    E. No knowledge at all

19. Indicate the land-use mix in your neighborhood:
    A. Houses
    B. Apartments
    C. Manufactured homes
    D. Mixture of houses and manufactured homes
    E. Mixture of all the above types of residences

20. Choose the appropriate population range for your community:
    A. Less than 1,000 people
    B. Between 1,000 and 10,000 people
    C. Between 10,001 and 20,000 people
    D. Between 20,001 and 50,000 people
    E. More than 50,000 people

21. Choose the type of housing that describes the dwelling you currently live in:
    A. House
    B. Apartment
    C. Townhouse or duplex
    D. Other, specify:_____

22. Do you presently?
    A. Own your home
    B. Rent your home
    C. Other, specify:_____

23. If you ***own*** your home, what would you estimate your house and lot would sell for today?
    A. Less than $50,000
    B. $ 50,001 - $100,000
    C. $100,001 - $150,000
    D. $150,001 and above

24. Please indicate your gender:
    A. Male
    B. Female

25. In what year were you born? _____

26. Choose your highest level of education:
    A. Some high school
    B. High school diploma or equivalent
    C. Some college or vocational training
    D. Completed college or vocational training
    E. Completed a graduate or professional degree

27. Choose your employment status:
    A. Full-time job or at least 2 part-time jobs
    B. Part-time job
    C. Retired
    D. Unemployed
    E. Student (part-time job or unemployed)

28. Choose your race and ethnic background:
    A. Black/African American
    B. White/Caucasian (not of Hispanic origin)
    C. Hispanic/Latino
    D. Native American/Indian
    E. Asian/Pacific
    F. Other:_____

29. Choose the composition of your household:
    A. Single person(s)
    B. Couples with no children
    C. Small single parent families (2 to 3 members)
    D. Small two parent families (3 to 4 members)
    E. Large single parent families (4 or more members)
    F. Large two parent families (5 or more members)

30. Which of the following ranges of income best signifies your household's total annual income?
    A. Less than $5,000
    B. $5,000 - $14,999
    C. $15,000 - $24,999
    D. $25,000 - $44,999
    E. $45,000 or GREATER

31. In general, how do you feel about locating a single-wide manufactured home in your neighborhood?
    A. Strongly oppose
    B. Mildly oppose
    C. Neither oppose nor favor
    D. Mildly favor
    E. Strongly favor

For each of the following statements, show the extent to which you AGREE or DISAGREE with the statement:

| | Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|---|---|---|---|
| 32. Most the residents in my neighborhood are socially alike and have similar social characteristics. | 1 | 2 | 3 | 4 |
| 33. Most the houses or residences in my neighborhood are similar in physical appearance, size, and price range. | 1 | 2 | 3 | 4 |

34. Is there anything else you would like to share about what you think of single-wide manufactured homes? If so, please use this space for that purpose.

# OPINION SURVEY ABOUT MANUFACTURED HOMES

A SURVEY OF RESIDENTS FROM WEST TENNESSEE ENROLLED IN A NONTRADITIONAL, UNDERGRADUATE, DEGREE-SEEKING PROGRAM WHO WERE LEGALLY AND FINANCIALLY ABLE TO PURCHASE A HOME.

Conducted by:
Walden University
Lisa Tyler
June 2014

Please take a few minutes to respond to the questions in this survey and return to the researcher. All information contained in this survey will remain anonymous and strictly confidential. Your name will never be revealed in any way.

*Please do NOT write your name on this questionnaire.*

Please indicate your county of residence_____

If you live in a manufactured home, please discard the survey.

The following picture exemplifies the manufactured home type this survey is referring to:

**THIS IS A DOUBLE-WIDE MANUFACTURED HOME**.

MANUFACTURED HOME reflects the term used to refer to a MOBILE HOME produced after 1976. Various types of manufactured homes exist. However, I would like for you to respond to this survey based on **your perceptions and opinions** about double-wide mobile manufactured homes.

Please *circle only the one answer* that most accurately describes your opinion on each of the following statements concerning the characteristics of double-wide manufactured homes and their residents in your county.

1. Indicate the type of foundation used for most double-wide manufactured homes in this county:
    A. A provisional foundation (on wheels and axles)
    B. Blocks and may be skirted
    C. A permanent foundation
    D. Unsure

2. Rate the appearance and condition of most double-wide manufactured homes in this county:

| VERY BAD | BAD | AVERAGE | GOOD | VERY GOOD |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

3. Choose the type of location or neighborhood in this county most likely to have manufactured homes:
   A. Mobile home parks
   B. Mobile home subdivisions (occupant owned land)
   C. Residential neighborhoods
   D. Farms or agricultural land isolated from other residences

4. Choose the age range of most double-wide manufactured homes in this county:
   A. Older than 20 years
   B. Around 10 years old
   C. New or around 5 years old
   D. Unsure

5. Choose the origin of most double-wide manufactured home residents:
   A. Local people
   B. New people / outsiders
   C. Unsure

6. Choose the composition of most double-wide manufactured home household:
   A. Single person(s)
   B. Couples with no children
   C. Small single parent families (2 to 3 members)
   D. Small two parent families (3 to 4 members)
   E. Large single parent families (4 or more members)
   F. Large two parent families (5 or more members)

7. Rate the behavior displayed by most double-wide manufactured home residents for social conduct, cleanliness, and respect for the community:

| VERY BAD | BAD | AVERAGE | GOOD | VERY GOOD |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

8. Choose the income range of most double-wide manufactured home households:
   A. Rich or well off
   B. Middle-class
   C. Low-income
   D. Poor, very low-income

9. Choose the education level of most double-wide manufactured home residents:
   A. Some high school education
   B. High school diploma or equivalent
   C. Some college or vocational school beyond high school
   D. Completed vocational or college education
   E. Completed a graduate or professional degree

10. Choose the double-wide manufactured home household employment status:
   A. Employed full-time
   B. Employed part-time
   C. Retired
   D. Unemployed
   E. Students (in part-time jobs or unemployed)

11. Choose the racial composition of most double-wide manufactured home households:
   A. Black/African American
   B. White/Caucasian (not of Hispanic origin)
   C. Hispanic/Latino
   D. Asian/Pacific
   E. Other:_____

12. Approximately how far do you live from the closest double-wide manufactured home?
   A. Very close (next to or less than 1 mile away)
   B. Close (between 1 and 3 miles)
   C. Not close/not far (between 3 and 5 miles)
   D. Far (between 5 and 10 miles)
   E. Very far (more than 10 miles away)
   F. Unsure

13. What is your experience living in a double-wide manufactured home?
   A. I have previously lived in a manufactured home.
   B. I have never lived in a manufactured home.

14. Do you know someone who is or has been living in a double-wide manufactured home?
   A. No.
   B. Yes.

15. Have you ever been inside a double-wide manufactured home?
   A. No (if NO, go to question #25)
   B. Yes ( if YES, continue)

16. In years please show approximately how long ago you were inside a manufactured home.
    _____ YEARS (if less than 1 year, answer 0)

17. Rate the condition of the manufactured home you visited:

| VERY BAD | BAD | AVERAGE | GOOD | VERY GOOD |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

18. Do you consider yourself knowledgeable about double-wide manufactured home characteristics, advantages, disadvantages, and general design features?
    A. Very knowledgeable
    B. Somewhat knowledgeable
    C. Average knowledge
    D. Little knowledge
    E. No knowledge at all

19. Indicate the land-use mix in your neighborhood:
    A. Houses
    B. Apartments
    C. Manufactured homes
    D. Mixture of houses and manufactured homes
    E. Mixture of all the above types of residences

20. Choose the appropriate population range for your community:
    A. Less than 1,000 people
    B. Between 1,000 and 10,000 people
    C. Between 10,001 and 20,000 people
    D. Between 20,001 and 50,000 people
    E. More than 50,000 people

21. Choose the type of housing that describes the dwelling you currently live in:
    A. House
    B. Apartment
    C. Townhouse or duplex
    D. Other, specify:_____

22. Do you presently?
    A. Own your home
    B. Rent your home
    C. Other, specify:_____

23. If you ***own*** your home, what would you estimate your house and lot would sell for today?
    A. Less than $50,000
    B. $ 50,001 - $100,000
    C. $100,001 - $150,000
    D. $150,001 and above

24. Please indicate your gender:
    A. Male
    B. Female

25. In what year were you born? _____

26. Choose your highest level of education:
    A. Some high school
    B. High school diploma or equivalent
    C. Some college or vocational training
    D. Completed college or vocational training
    E. Completed a graduate or professional degree

27. Choose your employment status:
    A. Full-time job or at least 2 part-time jobs
    B. Part-time job
    C. Retired
    D. Unemployed
    E. Student (part-time job or unemployed)

28. Choose your race and ethnic background:
    A. Black/African American
    B. White/Caucasian (not of Hispanic origin)
    C. Hispanic/Latino
    D. Native American/Indian
    E. Asian/Pacific
    F. Other:_____

29. Choose the composition of your household:
    A. Single person(s)
    B. Couples with no children
    C. Small single parent families (2 to 3 members)
    D. Small two parent families (3 to 4 members)
    E. Large single parent families (4 or more members)
    F. Large two parent families (5 or more members)

30. Which of the following ranges of income best signifies your household's total annual income?
    A. Less than $5,000
    B. $5,000 - $14,999
    C. $15,000 - $24,999
    D. $25,000 - $44,999
    E. $45,000 or GREATER

31. In general, how do you feel about locating a double-wide manufactured home in your neighborhood?
    F. Strongly oppose
    A. Mildly oppose
    B. Neither oppose nor favor
    C. Mildly favor
    D. Strongly favor

For each of the following statements, show the extent to which you AGREE or DISAGREE with the statement:

| | Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|---|---|---|---|
| 32. Most the residents in my neighborhood are socially alike and have similar social characteristics. | 1 | 2 | 3 | 4 |
| 33. Most the houses or residences in my neighborhood are similar in physical appearance, size, and price range. | 1 | 2 | 3 | 4 |

34. Is there anything else you would like to share about what you think of double-wide manufactured homes? If so, please use this space for that purpose.

Appendix E: Measurement of Variables

## Respondents' Socioeconomic Status

This construct was measured through the following variable:

Housing value. Measured by the following question for respondents who are homeowners.

Q 23: If you own your own home, what would you estimate your house and lot would sell for today?

A: (1) less than $50,000; (2) $50,001 - $100,000; (3) $100,001 - $150,000; or (4) $150,001 and above.

## Respondents' Demographic Characteristics

This construct was measured through the following variables:

Gender. Measured by answers to the following question:

Q 24: Please indicate your gender

A: (1) Male; (2) Female

Age. Measured by the following question:

Q 25: In what year were you born?

Household size and composition. This composition is based on the number of household members and the head of household designation. This variable was measure by the score of the following question:

Q 29: Choose the composition of your household:

A: (1) single person(s); (2) couple with no children; (3) A small single-parent family (2 to 3 members); (4) A small two-parent family (3 to 4 members); (5) A

large single-parent family (more than 3 members); or (6) A large two-parent family (5 or more members).

Race/ethnicity. Measured by answers to the following question:

Q 28: Choose your race and ethnic background:

A: (1) Black/African-American; (2) White/Caucasian (not of Hispanic origin); (3) Latino/Hispanic; (4) Native-American/Indian; (5) Asian/Pacific Islander; (6) other (specify).

**Respondents' Knowledge about Manufactured Homes**

Measured by the following variable:

Extent of knowledge about manufactured homes. Refers to how much information the respondent has about manufactured homes. Will be measured by the scores of answers to the following question:

Q 18: Do you consider yourself knowledgeable about single-wide/double-wide manufactured home characteristics, advantages, disadvantages, and general design features?

A: (1) Very knowledgeable; (2) Somewhat knowledgeable; (3) Average knowledge; (4) Little knowledge; or (5) no knowledge at all.

**Perceived Characteristics of Manufactured Homes**

Form of manufactured home. Refers to the characteristics associated with the two more prominent types of manufactured housing: single-section and double-section structures. A dichotomous variable in which manufactured home units will be categorized into

ratings of 1 = single-wide and 5 = double-wide. The front page of the survey indicates the type of manufactured home used as the basis for applicable questions.

Manufactured home appearance/conditions. Refers to the conditions and image that characterize manufactured housing in the respondents' community. Condition of the structure will be measured by:

Q 2: Rate the appearance and condition of most single-wide/double-wide manufactured homes in this county

A: (1) very bad; (2) bad; (3) average; (4) good; or (5) very good.

**Perceived Characteristics of Manufactured Home Occupants**

Perceived manufactured home household social behavior. This variable was measured about how the community residents perceived manufactured home households' typical behavior. They were asked to respond to the following:

Q 7: Rate the behavior displayed by most single-wide/double-wide manufactured home residents for social conduct, cleanliness, and respect for the community:

A: (1) very bad; (2) bad; (3) average; (4) good; or (5) very good.

**Perceived Neighborhood Physical Structure**

Neighborhood physical homogeneity level. Refers to the respondents' level of agreement with the perception of similarities among the houses or residential structures in their neighborhoods.

Q 33: Most the houses or residences in my neighborhood are similar in physical appearance, size, and price range.

A: (1) strongly agree; (2) agree; (3) disagree; or (4) strongly disagree

## Perceived Neighborhood Social Structure

Perceived neighborhood social homogeneity level. Respondents' opinion about the social structure on the neighborhood.

Q 34: Most the residents in my neighborhood are socially alike and have similar social characteristics.

A: (1) strongly agree; (2) agree; (3) disagree; or (4) strongly disagree

## Measurement of Variables not Included in the Statistical Model:

## Respondents' Socioeconomic Status

Income level. Refers to the income level of the respondents. Measured by scores from the responses to:

Q 30: Which of the following ranges of income best signifies your household's total annual income?

A: (1) less than $5,000; (2) $5,000 to $14,999; (3) $15,000 to $24,999; (4) $25,000 to $44,999; or (5) $45,000 or greater.

Educational level. Refers to the level of education of respondents:

Q 26: Choose your highest level of education:

A: (1) Some high school; (2) high school graduate or equivalent; (3) some college or vocational school; (4) completed college or vocational training; (5) completed a graduate or professional degree.

Employment status. Measured by the following question:

Q 27: Choose your employment status:

A: (1) full-time (or at least in 2 part-time jobs); (2) part-time job; (3) retired; (4) unemployed; (5) Student (part-time job or unemployed)

Housing type. Measured by the following question:

Q 21: Choose the type of housing that describes the dwelling you currently live in:

A: (1) A house; (2) apartment; (3) townhouse or duplex; (4) other.

Housing tenure status. Refers to the form of tenure that the respondents have. Measured by scores from the responses to this question:

Q 22: Do you presently?

A: (1) own your home; (2) rent your home; or (3) Other: (specify)

**Respondents' Knowledge about Manufactured Homes**.

Familiarity with manufactured homes. Refers to how much information the respondent ha about manufactured homes. Measured by the scores of answers to the following questions:

Q 13: What is your experience living in a single-wide/double-wide manufactured home?

A: (1) I have previously lived in a manufactured home; or (2) I have never lived in a manufactured home.

Q 14: Do you know someone who is or has been living in a single-wide/double-wide manufactured home?

A: (1) no; or (2) yes

Q 15: Have you ever been inside a single-wide/double-wide manufactured home?

A: (1) NO; or (2) YES

Q 16: In years please show approximately how long ago you were inside a single-wide/double-wide manufactured home:

A: years (if less than 1 year, answer 0)

Q 17: Rate the condition of the manufactured home you visited:

A: (1) very bad; (2) bad; (3) average; (4) good; or (5) very good

Closeness to manufactured homes. Refers to the respondents' perception of closeness or distance from his or her residence to a manufactured house. Will be measured by the following:

Q 12: Approximately how far do you live from the closest single-wide/double-wide manufactured home?

A: (1) Very close (next to or less than 1 mile away); (2) Close (between 1 and 3 miles); (3) Not close/not far (between 3 and 5 miles); (4) Far (between 5 and 10 miles); (5) Very far (more than 10 miles away); (6) Unsure.

**Perceived Characteristics of Manufactured Homes**

Foundation type. Refers to the issue of mobility or "instability" often associated with mobile homes. Measured by assessing the type of foundation most manufactured homes have in the respondents' community.

Q 1: Indicate the type of foundation used for most single-wide/double-wide manufactured homes in this county:

A: (1) A provisional foundation (on axles and wheels); (2) A block foundation and may be skirted; (3) A permanent foundation (made out of blocks or bricks); (4) Unsure.

Manufactured home location/neighborhood type. Location refers to the specific placement of most manufactured homes in the respondents' community. Measured by assigning scores to location alternatives:

Q 3: Choose the type of location or neighborhood in this county most likely to have manufactured homes:

A: (1) manufactured home parks; (2) manufactured home subdivisions; (3) residential neighborhoods; or (4) Farms or agricultural land, isolated from other residences.

Age of structures/year built. Refers to the perceived year of construction for most of the manufactured home units in the community. This variable was expected to correlate with other two variables: manufactured home appearance and type. Because units built before 1976 were not built to meet HUD codes and standards, many assumptions could be made about how these units are perceived by community residents. Measured by the following question about perceived age:

Q 4: Choose the age range of most single-wide/double-wide manufactured homes in this county:

A: (1) older than 20 years; (2) around 10 years old; (3) new or around 5 years old; (4) Unsure.

**Perceived Characteristics of Manufactured Home Household**

Perceived manufactured home occupants' origin. Refers to perceptions about the origin of manufactured home occupants. Measured by the following question:

Q 5: Choose the origin of most single-wide/double-wide manufactured home residents:

A: (1) local people; (2) new people/outsiders; (3) don't know

Perceived manufactured home household composition. Refers to the community residents' perceptions about the composition of manufactured households. This composition is based on the number of household members and the head of household designation. Measured by the score of the following question:

Q 6: Choose the origin of most single-wide/double-wide manufactured home residents:

A: (1) single person(s); (2) couples with no children; (3) Small single-parent families (2 to 3 members); (4) Small two-parent families (3 to 4 members); (5) large single-parent families (more than 3 members); or (6) large two-parent families (5 or more members).

Perceived manufactured home household income levels. Refers to the perceived income level of most manufactured home households in the community. Measured by scores from the responses to, according to form of manufactured home:

Q 8: Choose the income range of most single-wide/double-wide manufactured home households:

A: (1) Rich/well off; (2) Middle class; (3) Low-income; (4) Poor, very low-income.

Perceived manufactured home household educational levels. Refer to the level of education of manufactured home residents as perceived by community residents:

Q 9: Choose the education level of most single-wide/double-wide manufactured home residents:

A: (1) some high school education; (2) high school graduate or equivalent; (3) some college or vocational school beyond high school; (4) completed a vocational or college education; (5) completed a graduate or professional degree.

Perceived manufactured home household employment status. Measured by the following question:

Q 10: Choose the single-wide/double-wide manufactured home household employment status:

A: (1) Employed full-time; (2) Employed part-time; (3) Retired; (4) unemployed; or (5) students (in part-time jobs or unemployed).

Perceived racial composition of manufactured home households. Refers to the race of most manufactured home occupants as perceived by community residents. Measured as follows:

Q 11: Choose the racial composition of most single-wide/double-wide manufactured home households:

A: (1) Black/African-American; (2) White/Caucasian (not of Hispanic origin); (3) Latino/Hispanic; (4) Native-American/Indian; (5) Asian/Pacific Islander; (6) other (specify)

**Perceived Neighborhood Physical Structure**

Land-use mix. Measured by scores from perceived land uses in the area.

Q 19: Indicate the land-use mix in your neighborhood:

A: (1) houses; (2) apartments; (3) manufactured homes; (4) mixture of houses manufactured homes; (5) mixture of all the above types of residences.

Neighborhood size. Measured by scores of perceived size of respondents' community (including their neighborhoods) through the following question:

Q 20: Choose the population range for your community:

A: (1) Less than 1,000 people; (2) Between 1,000 and 10,000 people; (3) Between 10,001 and 20,000 people; (4) Between 20,001 and 50,000 people; (5) More than 50,000 people.

Appendix F: Respondents Comments About Manufactured Housing

The following represents a sample of comments representing some of the opinions held by residents of selected areas in West Tennessee. The researcher obtained 47 comments that represented 23% of the total sample ($N = 204$). Comments that repeated the same sentiment or theme were not included in this summary.

**Comments about Construction and Storm Safety**

"They can be dangerous in this area due to tornadoes and bad weather (high winds). I personally wouldn't put my kids and self at risk."

"I think they need to be made stronger to protect family that live in them for storm purpose."

"They are just as nice as houses, just not safe in storms."

"Yes, they have come a long way with manufactured homes, but they still fall apart."

"My opinion – manufactured home are not built to last long. Thin walls and cheap construction leads to fast depreciation."

"The only downside that I have is that they are not the safest place to be when there are strong winds or tornado. Other than that, the newer models are beautiful on the inside."

"Need to find a way to anchor them in emergency of strong winds."

"They seem dangerous during rough weather… kind of unstable."

"They are not stable / safe during tornado weather."

**Comments about Affordability and Convenience**

"This is an excellent study. Most families can't qualify for traditional homes… makes the process easier for families needing a place to live immediately."

"I think if you made them more affordable and easier to get, more people would be able to be homeowners. I see nothing wrong with living in a mobile home"

"You have to live where you can afford to live."

"Most people I know started out in mobile homes. The cost and convenience was easier at the time. Some have actually built in and around the original mobile home, making it like a house."

"They are affordable most of the time."

"I think the manufactured homes have some good advantages because they are reasonable and you often have the opportunity to decorate them the way you like without it being as expensive as it would be if you had a home built."

"The biggest drawback to manufactured homes is that the banks will not hardly loan money for them."

**Comments about Perceptions of Manufactured Home Condition**

"I worked in the mortgage lending business from 1995-2012. There is nothing wrong with manufactured housing in itself. It is the way they are set-up on / in parks and the types of people that they attract that can give them a bad reputation. A home is what you make it."

"The majority around my house are old and falling apart. The newer ones look great."

"I believe the conditions of a manufactured home are a reflection of ownership, not the occupants."

"I am no better than someone that lives in a manufactured home. I think if you keep a clean yard and take care of what you have, then it can look nice."

"Manufactured homes can be efficient, but should be well-kept as any other dwelling.

"They could become a wonderful place to live…what you put in it is what you get out of it."

"The newer models are beautiful on the inside."

"Manufactured homes are fine as long as they are maintained. When the owner of the mobile home parks let them go and do not take care of them, this creates a problem."

"In today's time, manufactured homes have come a long way. Some are very beautiful and look like a regular home once entering. You do not find as many that set on bricks as opposed to the past."

"The new homes are very nice these days. However, the resale value is not good. I have seen some beautiful homes over the last few years. I have friends who have very nice homes on a brick foundation with beautiful landscaping."

"Some are very nice inside the newer ones."

"I have seen new double-wide manufactured homes that are amazing, but the ones in the neighborhood are run down and old."

"I think they look so good in the inside of the home."

"The manufactured homes are built better than they used to be and with a lot more options. Personally, I think that the factory engineers and designers need to obtain some of their customers or future inquiries ideas on changing some of the house features. Not everyone likes the same lights or paint colors or carpet. Get some different options and don't use the same ones for every house."

**Comments about Perception of Manufactured Home Occupant Behavior**

"Once someone buys a double-wide in my area, the value depreciates heavily. The homeowners do not take pride in their home. Usually within 1-2 years, the double-wide home is trashed and foreclosed."

**Comments about Depreciation**

"They can bring down the value of surrounding homes."

"The value decreases."

"I feel like the value of them depreciates too quickly."

"I think single-wide manufactured homes are nice, but don't keep value."

"The new homes are very nice these days. However, the resale value is not good. I have seen some beautiful homes over the last few years. I have friends who have very nice homes on a brick foundation with beautiful landscaping."

**Comments about Acceptance**

"I would like to own one in the future in the country. That's only if the foundation is good and sturdy."

"I used to didn't want to live in one, but now I would take one over any house."

"I want to get information because I would like to get a manufactured home."

"I don't disapprove of them."

"Actually, I would love to live in one away from people on some peaceful land."

"The new manufactured houses look great. I would buy one now."

"I want to own a modular home…don't want to build."

"I think they are pretty nice."

"Love those things."